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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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Director-General Exp. Pat. Dec. 31, 17

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

VOL. LII.

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LONDON, ONTARIO, APRIL 5, 1917.

No. 1280

PURITY FLOUR

For All Your Baking


PURITY FLOUR Bread
tastes just 
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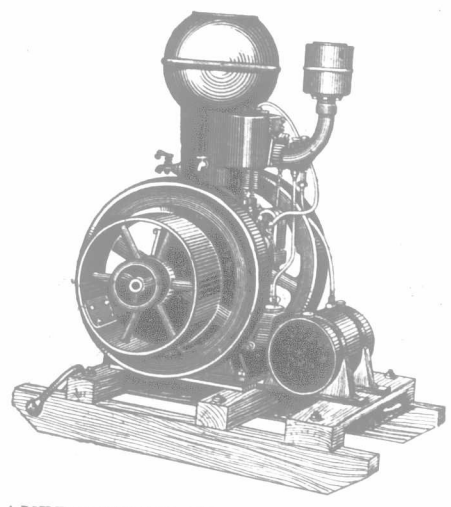
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LISTER ENGINES

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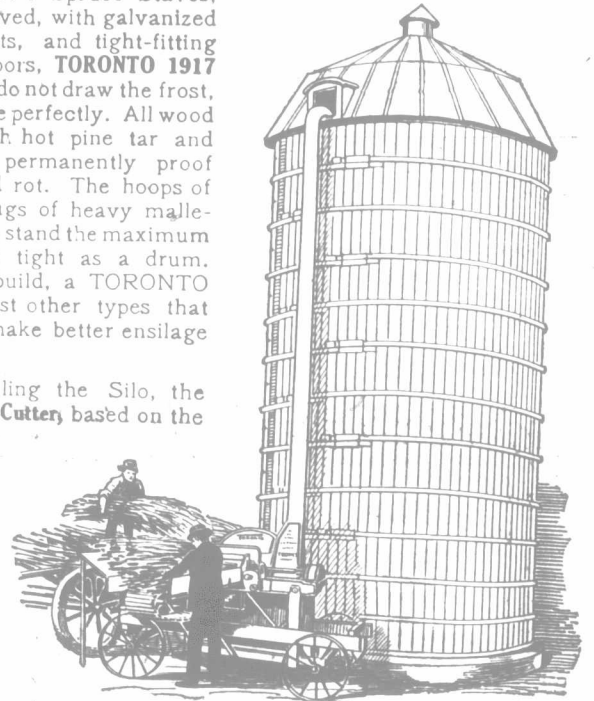
The TORONTO 1917 model SILO with the New HIP-ROOF Makes More and Better Ensilage

This season's TORONTO Silo improvement—the HIP-ROOF—adds several tons capacity to each sized silo, at very slight additional cost, by making it possible to tramp the ensilage thoroughly around the sides to the top of the walls.

Made of 2" x 6" No. 1 Spruce Staves, double tongued and grooved, with galvanized steel splines in end joints, and tight-fitting bevelled and rabbitted doors, TORONTO 1917 MODEL SILOS are air-tight, do not draw the frost, and so preserve the ensilage perfectly. All wood parts are impregnated with hot pine tar and creosote, making them permanently proof against ensilage acids and rot. The hoops of special tough steel, with lugs of heavy malleable iron, are guaranteed to stand the maximum strain, and keep the silo tight as a drum. Easy and inexpensive to build, a TORONTO 1917 model Silo will outlast other types that cost far more—and will make better ensilage every time.

When it comes to filling the Silo, the TORONTO Pneumatic Ensilage Cutter, based on the original Thom's Blower Patents, will do the work with less power than any other Blower on the market.

Write for our Booklet, "Toronto Ensilage Equipment", which gives detailed illustrated information about both Silo and Blowers.



We also manufacture Engines, Windmills, Pumps, Stable Equipment, Etc.
Ontario Wind Engine and Pump Co. Limited
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TORONTO and MONTREAL.

HYLO SILO

Sweet Fresh Ensilage
down to the last forkful

THE HYLO SILO is perfectly air-tight. No frozen or spoiled ensilage around the walls. Convenient and perfect fitting doors, adjustable without hammer or wrench. Made of Guaranteed Long Leaf Yellow Pine. Built to last a life-time. Stands rigid when empty.

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Means \$5 to \$50 extra profit per acre.
Every seed piece in its place
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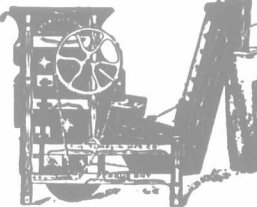
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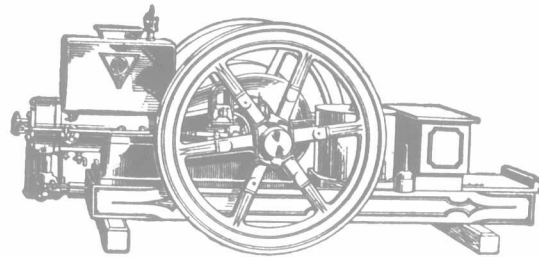
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ONLY \$760 left after the bills are paid. It will not last long. Then, there are the mortgage payments to be met or I'll lose our home. If it were not for the children I could go out to work. But what can I do with *them*? I will have to do something—but what?"

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THE IMPERIAL LIFE Assurance Company of Canada
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You won't find in the ALPHA any of the complicated, delicate parts that cause so much trouble in some engines.

The ALPHA is built for SERVICE. It contains just as few parts as can possibly be used, and every part is strongly made of the best materials obtainable, accurately machined and perfectly adjusted.

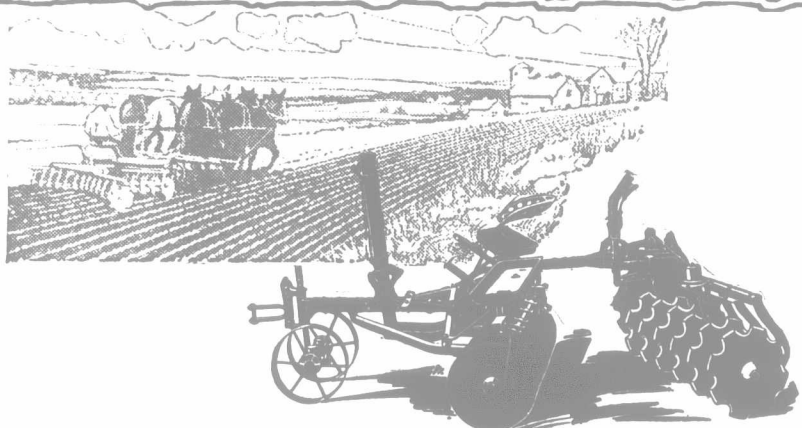
You can always rely on an ALPHA to do its work when you need it. It starts and runs on a simple, low-speed magneto and there are no troublesome batteries to watch or fuss with, or to wear out and require renewing. Simply turn on the fuel, give the flywheel a pull and the ALPHA is good for an all-day run.

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It runs on either gasoline or kerosene, and the sensitive governor prevents any waste of fuel due to changes in load.

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 LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
 Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Catalogues mailed upon request.
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 50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



Money In Your Pocket

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For such work as this there is no better harrow made than the **Deering** disk. It is a bumper type harrow with a rigid, one-piece steel main frame. The frame, with the adjustable snubbing blocks, and bowed set lever bars, holds the gangs level at every cutting angle and in every kind of soil. The disks cannot work loose, and they can be so set as to cut down deep into the soil, or to pulverize the top soil.

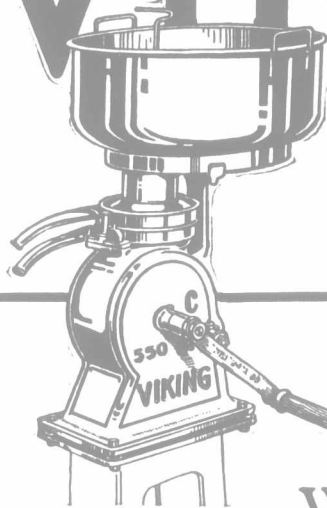
Before you buy a disk harrow, peg, or spring-tooth harrow, drill or cultivator this spring, see the **Deering** line that some local agent handles, or write us at any branch house address below for catalogues showing the complete line. It will be money in your pocket to know the **Deering** line of tillage tools.

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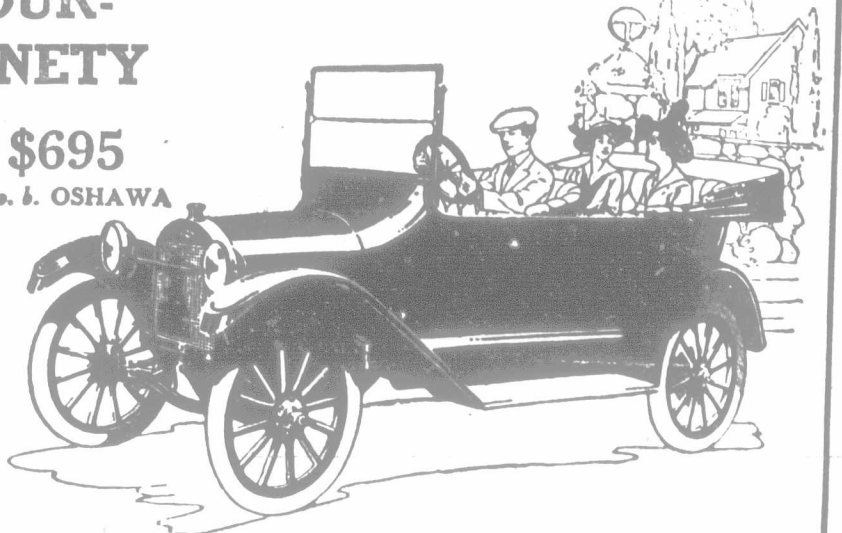
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Use C.X.L. Stumping Powder
 the one effective and economical means of clearing your land.

C. X. L. Stumping Powder blows out your stumps, digs your ditches and tree holes and is the quickest and cheapest means of doing excavating work on your farm.

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These tools do the work of 3 to 6 men

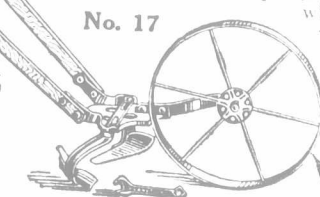
One man can cultivate 3 to 6 times the usual acreage with Planet Jr implements. They are so ingeniously designed and scientifically constructed that with greatest ease they do thorough, rapid cultivation. Fully guaranteed.

"I'd rather have my Planet Jr Seeder during the season than an extra man," writes one user.

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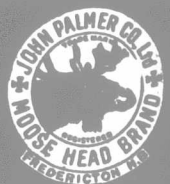
Ideal Fence

Notice how the Ideal lock takes a "grape-vine" grip of the upright and cross wires in a strong, even, uniform pressure. There are no sharp angular turns to break the surface of the wire and weaken the grip of the lock. Yet it grips, as you see, the wires in *five* places—twice on the upright, twice on the horizontal and again where the two wires cross. Thus, while it positively prevents either wire from slipping, it allows just enough play so the fence can be erected on hilly ground without kinking the line wires. At the same time, it keeps the uprights perfectly straight. You wonder why Ideal Fences are so free of broken or bent uprights; well, that's the reason.

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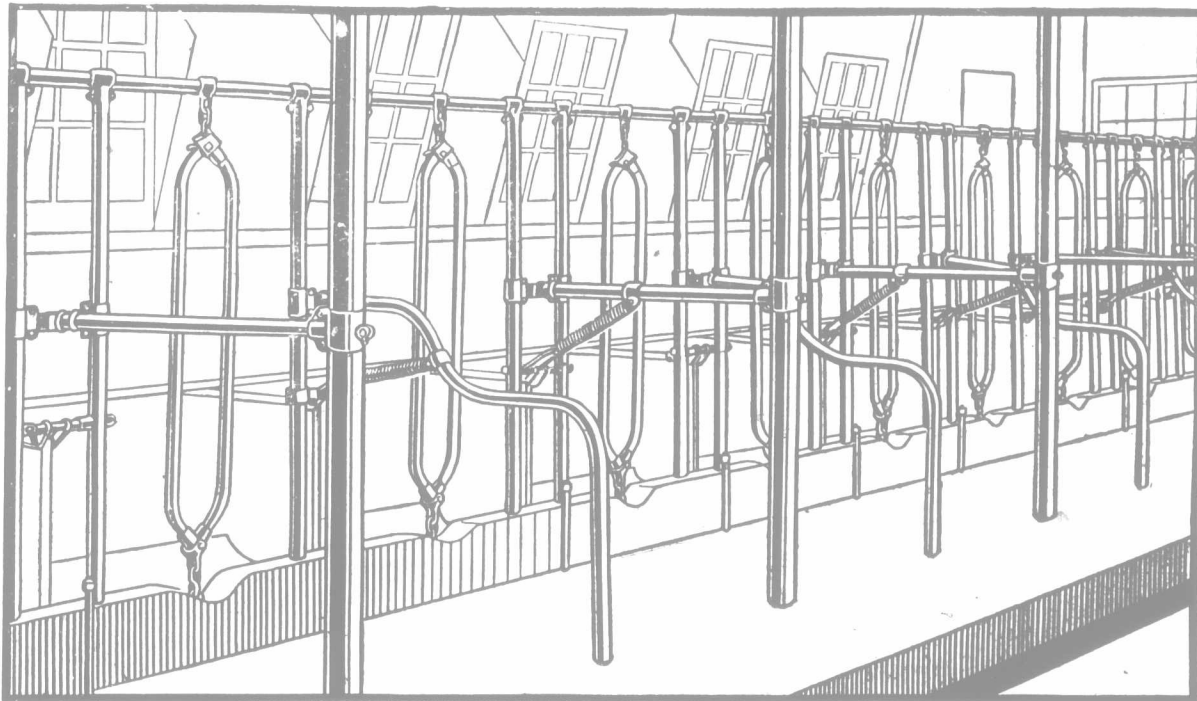
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Increased milk production, no waste feed, and increased profits.

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More sunlight and fresh air, the great germ destroyers.

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Highest feeding value. The easiest to grow, to harvest, and to keep.
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If YOU are not yet acquainted with the Great-West Policies, inform yourself by writing to
THE GREAT-WEST LIFE ASSURANCE CO.,
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The Annual Report is now in print. Ask for a copy.

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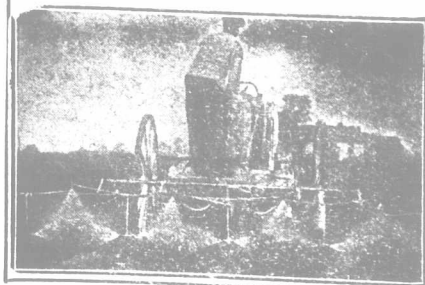
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LII.

LONDON, ONTARIO, APRIL 5, 1917.

1280

EDITORIAL.

In the long run Democracy wins in war as in peace.

Clover seed may be dear but sowing it is just about the cheapest way to increase soil fertility.

Are you keeping cows or are the cows keeping you? The only way to be sure is to weigh and test.

This will doubtless be a great year for weeds, judging from the prominence given to backyard gardening.

When the government of all the nations of the world is left to the people of those nations, world wars will be things of the past.

It is easier to prevent sore shoulders on horses than to cure them. Fit the collars to the horses, not the horses to the collars.

If the German retreat means, as stated by German military experts, defeat for the Allies, why didn't it take place a year ago?

When pork packers pay a premium for the bacon hog, farmers will produce that hog. There is room for some more educational work.

When Lloyd-George and Bonar Law begin to place food production first in importance, it is time the matter was better understood in Canada.

Again we say put in good seed and sow it in a thoroughly prepared seed-bed. Do not sacrifice yield and quality to acreage and slip-shod methods.

A farmer recently remarked in our hearing: "We don't want men to come out from the city to tell us what to do and how to do it. We want men to help us do it. We know how."

As a warning we would like to state again that communications to this office, if they are to receive attention, must bear the name and address of the person by whom or for whom written.

The city man who tells the farmer how to operate his farm is something like the civilian recruiter. Both are safety-first men. The former doesn't want to farm and the latter doesn't want to fight.

When you buy fertilizer be sure that it contains available plant food, not merely a number of non-essentials with big sounding names. There are many good commercial fertilizers sold in this country. Stick to them.

Some Toronto business men and manufacturers have offered employees three weeks holidays if they will go out and help farmers with hoeing, haying and harvesting at \$1.10 per day with board. The idea is a good one.

Some closer relation between the work of some of the branches of the Dominion Department of Agriculture and the work of some of the branches of the Provincial Department might avoid duplication of effort and confusion of results.

Underdrainage and line fence disputes are the most common sources of trouble between neighbors and all could be settled satisfactorily were people only a little more reasonable, and it is not always the other fellow who is the most unreasonable.

No Peace Without Victory.

No peace can come without victory—no peace was ever established without victory. For what do nations fight but for liberty and freedom? In the end victory must come for the people. Democracy will overthrow autocracy and that is victory—victory for the people of all civilized nations. Already there has been victory in this war. Nations which slumbered in sloth; nations which galloped for gold; nations which rolled in wealth, lolled in leisure, pirouetted from innocent play to questionable pleasure and revelled in it; nations which were drunk with wine as well, and nations which lived in the darkness of a bureaucratic night have awakened and have shaken themselves clear of many of these trammels—idleness is no more. The race for pleasure and for gold has been forgotten in the rush to overthrow militarism and absolutism and maintain freedom. King Alcohol has lost many of his domains forever and a large part of the civilized world enjoys greater freedom than it ever did. The people are busy in the righteous cause of defending and promoting liberty and justice, and their efforts are being daily crowned with victory. The first autocracy to meet the doom which awaits all absolute monarchies of Europe was that of the Romanoffs of Russia. The birth of a new Russia was victory for the people of Russia and for the people of the world, and more such victories will surely follow. The Hapsburgs and Hohenzollerns totter. Their fall will be more victory. The war has brought one victory after another and peace will come to the world only after greater and still greater victories of the armies of democracy. Peace without victory! There is no such thing.

Farm Survey Needed Now.

There is something unprecedented in the anxiety shown by certain city business men and manufacturers to get acquainted with agriculture and the men engaged in that noble calling, but there is good to come of a getting-together if the proper steps are taken. We are pleased to see city Boards of Trade taking an interest in the problems of the farmer. It is gratifying to note that agriculture is beginning to be looked upon as the real "backbone" of Canada, not the political wishbone—that agriculture is the real "basic industry" upon which all the superstructure rests, not the industry to be "sat upon" by all others. The war is bringing to light some heretofore dimmed facts. When the fight is over what will happen? Canada is essentially an agricultural country and this fact is beginning to dawn upon the minds of a few more people. Perhaps the price of potatoes had something to do with the dawning, but at any rate more people than ever before are commencing to realize that without a prosperous, populous and stable agriculture, Canada cannot develop into a great nation—large cities and busy towns cannot exist. After the war it will be our fertile fields which will be looked to to pay the debts, to keep the wheels of industry and commerce turning. The manufacturer will need a prosperous and increasing farm population to ensure his business. The business man will depend upon the stability of Canada's agriculture in the great "re-construction period" of which we hear so much and it is well that agriculture, business and manufacture should be closely related, but agriculture must be made more profitable and so more attractive. We have contended that, in the past, the farm could not pay as high a wage as the factory and that interest returns from agriculture were infinitesimal when compared with the percentages made by some manufacturing and city businesses. We have held that higher wages, bigger opportunities and better returns have been the reasons for rural depopulation—that the rural problem is one of finance. Have we been right? There is a way

to prove or disprove our contention and at the same time to obtain considerable first-hand and valuable information on farm management—information sorely needed in this Province and this Dominion—and that is for the Department of Agriculture to make an analysis of a number of farms, do a little expert accounting on them, find out what the returns are, and show what is necessary to greater success. If the farms are paying big dividends on investment, then farm wages should go up and prices come down, but if, as we believe, the cost of production is so high that farmers are making comparatively small returns on investment and cannot afford to pay wages which will keep the men in the country, then what can be done? It appears that the manufacturer and business man are ready to do a little co-operating with the man on the land. Would it not be good policy to encourage this? A good start would be to show by a careful analysis of a number of farms what is wrong and how to right it. The city man and the man on the land are now both desirous of seeing agriculture prosperous. It may be that an extensive farm survey would help. It might show that the city man so far had the best of the deal and changes might follow. It would also reveal other sources of weakness in production and particularly in marketing. More co-operation is needed. Every Province in the Dominion should get busy on this farm survey work. Let the Department of Agriculture take it up immediately. We believe the plan is already under consideration in Ontario.

Hints Which May Help.

The problem of the Canadian producer at this time is how to produce more with less labor. It looks difficult and yet there are many places in the year's effort which offer opportunities for getting higher returns without greatly increasing labor. Not a kernel of poor seed should go in the ground this spring. If the seed isn't pure and plump, clean it until it is. This may mean extra work, but it is the work that brings results and compared with the increased returns is a distinct saving of labor. Sow early. Plan to get the seed in the ground as soon as the land works well. Use wide implements, and ride. Save your legs, for there are generally chores enough to be done morning and night to give them sufficient exercise. Work three or four horses instead of two and on wide implements wherever possible. Of course, the narrow implements in good condition cannot be thrown away, but, in the case of harrows, two narrow sets can sometimes be made into one set, by using a long doubletree. Then fasten a cart behind the harrows. It is not an indication of laziness, but rather of ability to use your head in place of your feet. Some, also, will drive the grain drill and lead a team behind to do the harrowing. This is quite practicable and is a means of making good use of rather narrow implements. If the harrows are twice as wide as the drill a double stroke would be given after the sowing. Sow the grass seed in front of the drill. Save time by sowing it from the seed box on the drill, rather than with a hand seeder. If it is necessary to roll, give a stroke with a light harrow afterwards. It might be possible to lead a team on the harrows behind the roller. No matter how you do it, save time and make the horses do the work. Most farmers have too many horses; make them all work. Ride the drill, the cultivator, the cart behind the harrows and make seeding as fast as possible. Where more horses are kept than can be used at one time by the men available, work them in shifts and increase the speed. It is necessary to be careful of the horses on the start, but if worked half-a-day about they can be fairly well "pushed" from the start. Treat seed for smut. Take no chances. Smut may be bad this year or it may not. Play safe and give the seed the dose of formalin recommended in this paper last week. Sow all the plowed

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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JOHN WELD, Manager.

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land. If it gets late, prepare a field or two for buckwheat which can be sown late in June or early July. Leave a field for corn, the biggest yielder of all crops where it can be successfully grown. Success this year will come from making the best of what we have at our disposal and we cannot start too soon.

Better Mating Will Increase Returns.

In the 1917 breeding operations do not use a scrub sire whether your females are pure-breds or grades. It never proves profitable and this year, above all others, must the breeder plan to make his live stock increase the money returns from his farm. He can do only so much work. He cannot hire the help he would like. But by using better sires on his breeding females he can increase returns not only for this year but for future years. The other day a sale was reported in these columns where breeding ewes had averaged \$50 each. They were by good sires. One-third or one-half the amount would have been a big price for them had they been the progeny of a scrub or only fair sire. A colt from a first-class, pure-bred heavy draft sire mated with that grade mare of good type may be worth from \$50 to \$100 more at three years of age than if less care were taken in selecting the sire. The heifer from the best type of bull is worth double in the herd that the poorly-sired heifer is and for the butcher will show the profit in good breeding. You cannot breed milk into the herd unless the sire of the females has records behind him. The bacon hog is not produced by chance crossing and haphazard breeding. The sire must be of the right sort. The mating of the farm stock is one place where improvement can be shown without extra labor and the dividends will be increased.

Those who farm not say that there is much money in farming. Those who farm fail to see it. A good move for the Government would be to show by the example of a number of average Ontario farms exactly what it costs to produce in Ontario, and whether or not there is a real financial reason why people leave the farm. Get some facts on the matter.

The Sudden Spring.

BY FETER MCARTHUR.

Hail Spring, etcetera, I'd like for you the sounding lyre to strike; to write a lyric or an ode or in verse libre to explode, but you came back with such a rush—and filled the world with mud and slush—that I'm at least a week behind in doing things I had in mind so this year you must hike along without the customary song. The orchard needs a pruner's care, the fences I should now repair; that pile beside the stable door should have been hauled a month before; the dormant spraying is to do, I should be started plowing too! and sugar making drags along while other jobs upon me throng. I don't know how I'll do it all. I should have started in last fall! Or better still, when I was born I should have planned for planting corn!

There is an old saying that "A peck of March dust is worth a king's ransom." I suppose that means that an early spring means a good harvest. Anyway, there are spots on the gravel road where a man could sweep up a peck of dust in March, if he wanted it, and I have met weatherwise people who say they believe that spring is really with us. Perhaps it is, but as I am not quite ready for it I am taking some consolation out of another bit of folk lore wisdom. I have heard it said that the frogs will have their mouths closed at least three times before spring comes. If that is true there is still some rough weather ahead for the frogs began croaking for the first time only a couple of days ago. They should have two periods of frost and silence ahead of them before they settle down to provide us with spring music. Then there is a saying that we always have a snowstorm after Easter. While I am not exactly hoping that Spring is not yet with us I shall not be terribly disappointed if it is delayed a week or two. From this you may gather that I am not entirely ready for the annual spring rush. I am afraid that I maintained too strict a neutrality towards the farm work during the winter, and did not get started with my program of preparedness early enough. Still we will do the best we can and the summer will doubtless be long enough, and busy enough and hot enough, no matter when spring starts.

Every day it is becoming more evident that the fate of humanity depends on what will be done within the next few weeks—not only on the battlefields of Europe, but on the grain fields of the world. According to the papers there is a great drive starting on the battlefields, whose results no man can foresee and every day the cry is becoming more urgent for a similar drive on the farms. Food is going to be needed urgently whether the war is won this year or not, and the amount of food we shall have will depend almost entirely on the amount of crops that are put in this spring. It is up to the farmers as never before in history. And I like to think that the farmers of Canada are going to meet the situation a little better than the farmers of any other part of the world. The news that is leaking out of Germany shows that the farmers are the weak part of the German system. They evade the laws that have been devised to regulate their work and are showing an amount of selfishness that may defeat the plans of the Kaiser. While this is not a matter for regret from our point of view it carries a lesson by which we should profit. It shows how important the work of the farmer is in this world crisis and we should make a spring drive that will give our government and the armies the strongest support possible. It will be much better to put in more crops than we can harvest than not to put in enough and let the enemy win. If the harvest weather is right all the crops can be harvested somehow and it is better to err on the side of over-production than to take chances of not having enough. This is a time when it will profit us more to help the country than to make individual profits. Our big farm—the Dominion—is the one that needs our attention this year.

Moreover, I think the time has come when the farmers are more likely to win just treatment than ever before. The public mind is in the right state to put through far-reaching reforms. Just look at what has happened already. Prohibition went through with a rush just because the public felt that it was a valuable war measure. Woman's suffrage was granted almost without the asking—at least without a highly organized demand. The attitude seemed to be,—it may do some good, so let us have it. And I am of the opinion that other reforms will go through in the same way in the near future. People are feeling everywhere that our system of distributing products of all kinds is inefficient and criminally unjust and some fine day the matter will be put to rights with a rush. In spite of the horror of the war humanity is really moving forward and if we show proper public spirit wonderful things may be done to better our condition. Governments as institutions apart from the people are losing their hold and the people will probably take a much larger part in the direction of affairs for some time to come. If there is danger ahead it is that too many schemes for the betterment of humanity will be proposed and some may be put through without proper consideration. A fool killer may be needed as much as a Prime Minister.

Nature's Diary.

A. B. KLUGH, M. A.

Among our early spring birds are some of our most familiar and most beloved feathered friends. A species which is known to everyone, however little they may know about birds, is the Robin. We welcome the Robin for itself; its rich carol, its cheerful call-notes, its jaunty and familiar mien. But still more do we welcome it for what it stands for—the arrival of spring. The call of the Robin is filled with promises of the awakening of nature, of spring blossoms, of the full-throated melody of bird-song, of flitting butterflies, of the green and golden summer days. How great is the power of the song of a bird to carry us into the past, to soothe the tumultuous feelings of the present, to take us on quivering pinions into the hopes and fears of the future. A Robin sings from the leafless bough of a maple—we are back in the old day, the faces of our friends of the long-ago rise up before us, friends now scattered to the ends of the earth, some of whom have passed along the "long, long trail" from which there is no returning. A Robin sings from the leafless bough of a maple—the petty annoyances of to-day sink into insignificance as we contemplate the infinite. A Robin sings from the leafless bough of a maple—what of the future does he sing? Does he sing of spring to come when peace shall once more reign on the troubled earth—a lasting peace bought by the blood of our heroes who shall have crushed the tyranny of war-mad Hohenzollerns and Hapsburgs? So we hope, so we trust and so we believe!

Another bird which shares with the Robin the distinction of being one of the earliest species to arrive is the Bluebird. Though not so generally known as the Robin, the Bluebird is one of our common birds, and is a species which is an inhabitant of cultivated districts rather than the less settled parts of the country. It frequently takes up its abode in the orchard, and a very favorite nesting-site is a hole in an old apple tree. Now I suppose a progressive horticulturist would say that apple trees ought not to have holes in them, and that trees in this condition should be eliminated from the orchard. He is probably right, but at the same time if he thus removes the nesting-places of the Bluebirds he should provide them with nest-boxes placed in the trees or he will find that this brilliant-plumaged, gentle-voiced and beneficial bird will forsake his domains. A rather similar case is the quite general replacing of the old "snake" and "picket and cap" fences by the modern wire fence, and the destruction of the tangles and shrubbery which grew along the old fences. Such replacement undoubtedly marks good farming since it involves the economizing of arable land and the eradication of weeds. But if our valuable insect-eating birds are to be maintained in undiminished numbers in cultivated districts, some provision must be made for their shelter and nesting-sites. This provision could very well take the form of groves and thickets on land unsuited for tillage, such as rocky land, the borders of water-courses, etc.

The male Bluebird is uniform sky-blue above, and reddish-brown beneath, while the female is duller in coloration. In the young Bluebirds the breast is spotted, and the young thus show one of the characteristics of the family to which they belong, the Turdidae or Thrush Family, which is not shown by the adults.

The Bluebird when feeding usually sits on a fence post or the low branch of a tree, keeping a watchful eye on the ground beneath, now and then dropping suddenly on an insect whose movement has arrested its attention, and returning to its perch. The food of the Bluebird consists of sixty-eight per cent. of insects and thirty-two per cent. of vegetable matter. The largest items of insect food are grasshoppers, beetles and caterpillars, and the vegetable food consists chiefly of fruit pulp. Only an insignificant portion of this pulp is derived from cultivated varieties, the rest being from wild species, among which the Elderberry is the kind most frequently eaten.

The summer range of the Bluebird is from the middle States north to Nova Scotia, Ontario and Manitoba, and its winter range is from the middle States south to the Gulf States.

The Song Sparrow is another species which is an early spring arrival. This gay little musician, who puts his whole heart into his song, may be known by the streaked breast with a dark blotch in the centre. It is often termed "Gray-bird", a name which it shares with many other sparrows and several other birds which are not particularly brilliant of plumage or strikingly marked.

This species is well worthy of our affection, not only because of its familiarity and its cheerful refrain, but because it not only does no harm to farm products but consumes much weed-seed and many injurious insects. It is very partial to cut-worms, click-beetles (which are the parents of those noxious larvae known as wire-worms) weevils, and grasshoppers.

The Song Sparrow has a wide range in Canada, being found from the Atlantic coast to the Rockies, and in British Columbia it is replaced by a race much like our eastern bird in song, habits and appearance except that it is larger, and darker in coloration.

THE HORSE.

What Our Best Trotters Owe to the Thoroughbred.

EDITOR "THE FARMER'S ADVOCATE":

As a breeder and owner of the Standard-bred trotter I was somewhat surprised at a few of the statements made by "Fair Play" in March 15th issue under the heading "Likes the Trotters", especially at these words—"The Thoroughbred horse is of no use except as a racing tool while the high standard of the Standard-bred is without question due to trials of speed."

Great as the Standard-bred trotter undoubtedly is, we cannot but admit that many of his sterling qualities are due to infusion of "hot" blood and all honor to the breeders and owners, past and present, who have produced and are still producing such great Thoroughbred

horses as Messenger, Boston, Langford and Waller, to mention but a few of the greatest whose blood comes down through some of the best trotting families to many notable performers on the turf in 1916, such as, Lee Axworthy 1.58 1/4 fastest stallion, The Real Lady 2.04 1/4 fastest two-year-old filly, Volga, 2.04 1/2 fastest three-year-old filly, Mary Putney, 2.04 3/4 fastest four-year-old filly, and Wilkes Brewer 2.08 1/2 fastest 5-heat race on one-half mile track.

Then we have that marvellous trotting sire "Peter the Great" 2.07 1/4 who for three years in succession heads the list as a sire of Standard Performers (2.30 list). He is a direct male line descendant of Hambletonian 10, and Hambletonian 10 was strictly inbred to Imported Messenger (Thoroughbred), his grandsire, barring the one cross with Imported Bellfounder, the famous "Norfolk Trotter", sire of Hambletonian 10's dam.

Next let us name four of the leading brood-mare sires—Baron Wilkes 2.18, Nutwood, 2.18 3/4, Wilton, 2.19 1/4, and Predigal, 2.16. All are descendants of

Hambletonian 10. Baron Wilkes and Wilton being grandsons of his.

And lastly, of the 44 leading stallions included in the 1916 American list of leading sires (of five or more standard performers) all but two are male line descendants of Hambletonian 10. They are divided as follows among the different speed producing families: Twenty to Wilkes, 16 to Electioneer, 3 to Happy Medium one each to Abdallah 15, Artillery and Strathmore.

Great was Hambletonian 10, but greater still is the undying influence for good of his blood in our present day best trotters. May there always be loyal breeders of running horses, who will unselfishly as in the past give of their best knowledge and generous purse to the breeding and racing of the Thoroughbred, one of the oldest established breeds in existence to-day, and the one to which many of our most successful breeders of light horses, go for fresh blood as needed from time to time.

Northumberland Co., Ont. UNCLE ELI

What to Do at Foaling Time.

Care of the Pregnant Mare.

As the period in which a large percentage of breeding mares will produce their foals is near at hand, a discussion of the subject may be considered seasonable. As all breeders know, the results of attempts at reproduction in all classes of stock are largely in proportion to the care the dam has received during pregnancy. It requires little thought to convince a breeder that the pregnant animal requires more food in proportion to the amount of labor performed than her mate that is not pregnant. In addition to requiring sufficient food to sustain herself, she has to sustain a foetus of lesser or greater size. Towards the latter stages of pregnancy she has to sustain a foetus that is nearly matured. When we observe the quantity of nourishment that is required to sustain a foal after birth, we can form an idea of the amount of nourishment the foetus requires during the last few months of gestation, and of course the nourishment can be provided only from the food consumed by the mare. During the whole period of pregnancy care should be taken to feed only food of good quality and in quantities according to the amount of work or exercise given the dam. We wish to particularly emphasize the necessity of regular exercise or ordinary work during the whole period of gestation, but more particularly during the later months. The food should be of first-class quality, plentiful, and of an easily digested nature. The water must also be of first-class quality. She should be fed a reasonable quantity of good hay. Of course, when on pasture the grass takes the place of hay and is preferable to hay. She should be fed liberally on bran, with a reasonable supply of oats (preferably rolled), a cupful of linseed meal, and a couple of carrots or a turnip or mangel daily (when grass cannot be given) tend to aid digestion and prevent constipation and at the same time would be highly relished. The too common practice of feeding solely on dry hay and oats, while giving fair results in working horses, is not suitable for breeding mares. The bran and succulent food mentioned tend to keep the digestive organs normal, and also to stimulate the lacteal apparatus to the desired activity.

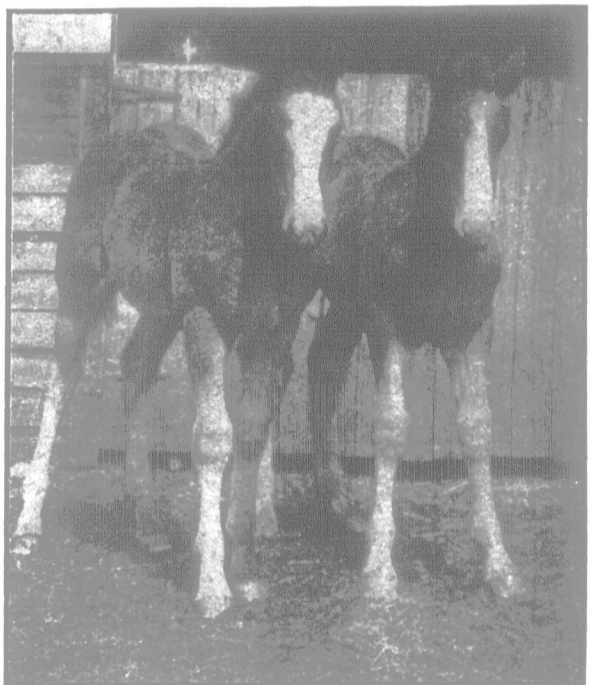
While pregnant mares should receive some special care, they should not be pampered and kept in idleness, from the too common idea that sustaining themselves and their foetuses is sufficient labor. They should be given regular but gentle work or exercise. Ordinary driving or regular ordinary work is much better than idleness. Of course they should not be asked to perform heavy labor that will entail excessive muscular or respiratory exertion, as there is danger of such producing abortion. Slipping on icy surfaces, plunging through deep snow, soft ground, etc., should also be carefully avoided. The mare that is kept in only fair condition, and regularly exercised during the whole period of pregnancy, will, with few exceptions, produce a stronger foal than the one that has been pampered and kept in idleness during the whole or greater part of that period. This applies particularly to the last few months of gestation. If not practicable to give exercise in harness, under saddle, or on the line, she should be turned into a paddock or yard for at least a few hours every day, when the rough weather is not too cold or rough, and the ground not too slippery. Care should be taken to not let her out with strange or vicious horses that might worry or kick her, but some safe method of forcing regular exercise should be observed and continued until she shows symptoms of approaching parturition.

As Parturition Approaches.

As the period of gestation varies in different animals, and often in the same animals in different years, we cannot tell with reasonable certainty when parturition will take place. In round numbers we say that eleven months is the average period, but observation and experience teach us that this is by no means constant, and that the period varies from ten to thirteen months, and in some cases we notice even a greater variance. Hence it is wise to be prepared for the event at any time after the ninth month. After this time she should be kept in a large, comfortable box-stall, or, if during the warm season, in a comfortable paddock, where she can be carefully watched. The stall should have no mangers or feed boxes into which the foal might drop in case the act is performed while the mare is standing, as is sometimes the case. It is unsafe to allow a mare to foal while tied in a stall, as she is unable to give the

foal the necessary attention and it may perish from this cause, or, if it be strong and able to rise and walk around without assistance or attention from either dam or man, it is as likely to walk into the stall of another horse as that of its dam, and, in its endeavor to obtain nourishment, is liable to be injured or killed.

The stall should be cleaned daily, and it is good practice to sprinkle slacked lime on the floor each time before fresh straw is supplied. It is a great mistake to allow manure, both solid and liquid, to accumulate



Good Feed, Care and Breeding Make this Class of Foals.

(with the idea that such removes the danger of slipping) as by heating it vitiate the air and favors the multiplication of microbes and germs of different kinds. If the stall be cleaned regularly and especially if lime be used as stated, there will be little danger of accidents occurring to either dam or offspring by slipping. The lime performs a two-fold function; it keeps the floor dry, and destroys and prevents odors and microbes, which, if present are very likely to cause trouble. Probably the most dangerous of these germs is that which gains entrance into the circulation of the foal through the

navel opening, and causes that serious and generally fatal disease known as joint-ill or navel-ill. In addition it is wise to give the whole stall a thorough sweeping and dusting, and follow by a scrubbing with a hot five per cent. solution of crude carbolic acid or other good disinfectant, in water, or a thorough coat of hot lime wash with five per cent. crude carbolic.

When the usual symptoms of approaching parturition are noticed, the mare should be carefully watched. These symptoms usually are, a more pendulous condition of the abdomen, an apparent shrinking or drooping of the muscles of the croup, a well marked fullness of the mammae and teats, at the points of which in many cases, a small lump of inspissated colostrum (the first milk) which is commonly called "wax" appears. There is usually an enlargement of the lips of the vulva, and often a parting of the same, with a discharge of a small quantity of a viscid substance. It must however be remembered, that in many cases these symptoms are not well marked, and that a mare is liable to foal without having shown any well-marked symptoms indicating that the act is about to take place. On the other hand it is not uncommon for any or all of the symptoms noted to be well-marked and then pass off and the mare not foal for a considerable time afterwards. In some cases the symptoms noted are followed by reasonably well marked labor pains, which pass off without results. These are known as "False Labor Pains," which fortunately are not often seen.

Immediate Symptoms.

The immediate symptoms usually are, the appearance of labor pains. These are exhibited by uneasiness, and a nervous, excited state, especially in primiparae (mare producing her first young). The mare walks around the stall or paddock, stamps, lies down, usually strains. (If at large in many cases she will seek solitude.) This is usually followed by a period of ease, which in turn is followed by another attack. The attacks become more pronounced, severe and prolonged, and the periods of ease shorter, until the pains become almost, or quite continuous, when, in normal cases, parturition takes place. As stated, in rare cases false labor pains are well marked for a time and then pass off, to reappear in a variable time. In many cases parturition is completed in a few minutes after the first appearance of pains while in others, even though everything is normal, they continue for hours. While the majority of mares apparently prefer solitude during this period, becoming more excited by the presence of man, even her own master, there are cases in which the presence of her master or usual attendant has a salutary effect.

The man who is about to watch a mare at this period should be a careful, reliable man, and the more he understands about the anatomy of mare and foetus and the phenomena of parturition, the better. He should



When Grass Comes Let the Brood Mares and Foals Run on Good Pasture.

be provided with a knife, a bottle containing a five per cent. solution of carbolic acid, or other good disinfectant, in which is soaking a rather soft, but strong cord; an 8 oz. bottle of water containing 15 grains of corrosive sublimate (or other strong antiseptic solution) and a pail or basin containing a quantity of antiseptic fluid, as a five per cent. solution of carbolic acid or one of the coal-tar antiseptics. There are many reasons why a mare about to bring forth young should be carefully watched.

Care Necessary.

While in a large percentage of cases the act is performed in a normal manner, without the intervention of man, cases in which this does not occur are so numerous that we consider it wise to keep a close watch on all mares at this stage. The more knowledge the attendant has of obstetrics, the manner in which parturition takes place, the forces that cause it, the various conditions that tend to prevent or complicate it, and the manner in which these obstacles are removed, of course, the better. Even though he may have no special knowledge as an obstetrician, if he has an intelligent idea of the act when it takes place in a normal manner, he will be able to recognize abnormal conditions, and, if not able to rectify them himself, he can promptly send for an obstetrician. A very important point with the veterinary obstetrician is to know when to interfere, as much harm is as often done by premature interference as at other times by being too late. In most cases it is wise for the attendant to keep as well out of sight as possible, but in such a position as to enable him to observe the actions of the mare. As already mentioned there are exceptions to this, and of course the attendant should act as indicated by the actions of the mare. He should not be too anxious to help, should be content to allow nature a reasonable length of time to perform her functions, and when things are making fair progress he should remain an interested, but non-interfering observer. Care must be taken that the surroundings do not interfere with delivery. While in most cases the mare appears to exercise a marked degree of intelligence, we sometimes notice that during the excitement caused by the pains, she appears to have lost the intelligence or instinct usually shown, and may lie down with her croup so close to the wall that delivery cannot take place, and if left alone the foal will perish and more or less serious complications be caused in the dam. In such a case the attendant should interfere promptly and cause her to rise or shift her position to give room for delivery.

Danger of Smothering.

It is not uncommon in cases of easy birth for the foal to be born enclosed in the membranes, that is, the water bag has not been ruptured; hence, the foetus is enclosed in a complete sac totally impervious to air. So long as the circulation between the mucous membrane of the womb and the foetal membranes (after-birth) continues the blood of the foetus is purified by a supply of oxygen from that of the dam, but so soon as the membranes become disconnected from the womb the foetus must receive oxygen from the air, hence if the membranes remain intact it will perish unless these be promptly ruptured. Instinct is supposed to teach the mare to at once rupture them with her teeth, but we observe that even where birth has been easy, and not preceded by any considerable pain or distress, she will generally lie for a few minutes after delivery, and in the meantime the foal will perish. When this condition exists the attendant should at once make an opening with his knife and expose the foetus to the air.

Disinfect the Navel Cord.

In this, as well as in all cases where the navel cord is not severed, he should at once disinfect it with the antiseptic solution with which he has been provided, and with the string that has been soaking in the carbolic solution, tie it tightly about an inch from the abdomen, and sever it by a scraping motion of the knife about an inch below the ligature. When the cord is severed in this manner, even though the ligature should become severed or removed too soon bleeding will not be nearly so great as if it had been severed by a straight cut with a sharp knife. Again, instinct, is supposed to teach a mare to sever the cord with her teeth, but she frequently fails to do so, and unless the attendant does it, the membranes remain attached to the foetus by the cord, and materially interfere with its actions. He should remove all mucus from the mouth, nostrils and eyes of foetus, and, unless the dam rises and attends to it, he should rub it with cloths or wisps of hay or straw until it is dry. When it struggles to get on its feet he should help it, and if necessary hold it up to nurse, but if the foal be strong and smart and the dam giving it the proper attention, the less interference given the better. This especially applies in cases where the dam is cross with the attendant, but it must be understood that if the foal be not strong enough to rise and nurse, in at most two hours after birth, it is necessary to assist it even though it be necessary to secure more help in order to control the dam.

As soon as practicable the attendant should remove the membranes and all wet or soiled litter and provide dry, clean litter. In some cases the dam is unnatural and vicious with her foal, and if not prevented will injure or probably kill it. In such cases it is necessary for the attendant or attendants to control her, (this can usually be done by the use of a twitch) to allow the foal to nurse. Some claim that sprinkling salt upon the foal will prevent any trouble of this kind; others claim that spraying the foal and the face and nostrils of the dam with brandy has never been known to fail to reconcile the dam to the foal, but we have known cases where all

methods have failed. In most cases the dam becomes normal after she has been forced to allow the foal to nurse a few times, but it is often necessary to watch her closely, or remove the foal from her between nursing periods, at least for a time. In cases where she cannot be taught or forced to at least tolerate the foal, it must be reared by hand. As soon as possible after birth the attendant should dress the foal's navel with the strong antiseptic solution with which he has been provided, and repeat the dressing several times daily until it is thoroughly healed, which is usually two or three days. This, in most cases, is effective in preventing joint-ill.

See that Meconium is Expelled.

The attendant should also watch carefully to see that the meconium, (the contents of the intestines at birth) which exists in blackish lumps of different sizes is expelled. When the foal makes ineffective efforts to do this, he should remove all that he can with the oiled forefinger and then give an injection of warm soapy water or oil and warm water. This should be repeated at intervals of a few hours, until the faeces that are voided are yellowish in color. The administration of purgatives to cause expulsion of the meconium should, with rare exceptions, be avoided. The attendant should also note whether the foal voids urine by the normal channel, and if not he should at once secure the services of a veterinarian.

Difficult Parturition.

In some cases of parturition, labor pains are frequent and severe for a considerable time, yet no apparent progress is being made towards delivery. In such cases the attendant must decide that some abnormal condition exists and that there is some cause operating to prevent delivery. It is then his duty to ascertain if possible what the cause is and remove it if he has sufficient skill. He should oil his hand and arm, insert the hand into the vagina and womb if possible. Then, by careful manipulation ascertain the cause of delay. In most cases it is mal-presentation (the foetus in an abnormal position). In some cases it is an excess in volume of the foetus, in others a non-dilation of the entrance to the womb, or it may be some other abnormality. Having discovered the existing abnormal condition, he should carefully consider whether he has sufficient knowledge and skill and the necessary instruments to rectify it. If he decides that he has, he should proceed to do so promptly, but carefully, as this is a case in which things hurriedly done are seldom properly done, and is a very critical period in the lives of both dam and foetus. If he decides that the case demands greater skill than he possesses, or the use of instruments that are not in his possession, he should not spend time in vain endeavors to rectify matters, but at once send for a veterinary obstetrician, who, if promptly called, can, in most cases, succeed in saving the life of the dam, and in many cases that of the foetus also. If unskillful interference has been carried too far, or too much time has elapsed before assistance has been given, complications which he cannot overcome may have arisen, and one or both may perish.

Care of Dam and Foal.

In normal cases all the care that is required is to provide comfortable sanitary quarters, and see that both get regular exercise. The dam should be well fed on laxative, easily digested food, and, even in cases where the mare is required for work, she should be given at least two weeks' rest after parturition. The foal should be taught to eat rolled oats or bran, or both as soon as possible. This applies particularly to cases where the dam is required for work. In such cases the foal should be kept in a comfortable box-stall while she is in the field, and if it has been taught to eat it will be more contented and thrive better than otherwise. By petting the colt and holding a little rolled or chopped oats to its mouth by the hand, it is surprising how soon it will commence to eat. Then a little can be put in a box especially placed for the purpose in the stall. With very rare exceptions it is safe to allow all that it will eat. If any diseases or abnormal conditions arise in either dam or foal, they should be treated as symptoms indicate. We have not space to discuss these matters in this article.

Raising an Orphan.

Sometimes, by reason of death of the dam, lack of milk (called agalactia), viciousness of the dam, or other causes, it is not possible or expedient to raise the foal in the normal manner. Of course, if a foster mother can be found she should at once be accepted, but such fortunate conditions are not often met with. Hence, artificial means must be adopted. In order to be successful in hand-raising a foal, a great deal of care must be exercised for at least a few weeks. Cow's milk is substituted for the dam's milk. The milk of a freshly-calved cow is preferable, but at all events, where possible, the foal should be given the milk of one particular cow. We have known foals to be successfully raised in town on milk bought from the ordinary milk-vendor, but we prefer the milk from the same cow all the time. It is also better when the milk can be got fresh from the cow for each feed. In any case the milk should be given in about the proportion of two parts milk to one part water, heated of course to about blood heat, say 100 degrees Fahrenheit, and a tablespoonful of sugar should be added to each pint of milk. The foal can soon be taught to drink out of a basin or pail, or maybe fed out of a bottle, to the neck of which is attached a rubber nipple which can be purchased from almost any druggist. For the first few days the foal should be fed a little, say one-half to one pint, according to size and breed, at least every two hours. Care should be taken to prevent constipation. In some cases it is necessary to give

a tablespoonful of castor oil occasionally. The amount of milk given can be gradually increased and the intervals between meals gradually increased, until at the age of between four and five weeks, four times daily will suffice. The foal should be taught to eat as soon as possible and supplied with rolled oats, and grass when in season. It should, of course, be kept in a comfortable box-stall when in the stable, and as soon as the weather permits should be allowed to run in a paddock, where it can get grass, at least during the daytime in the early season, and both night and day later on until the flies become troublesome, when it should be kept in the stable for a few hours each day.

WHIP.

The Dunure Mains Clydesdale Sale.

There were upwards of 3,000 people present at the sale of Clydesdales selected from the far-famed stud of Wm. Dunlop, Dunure Mains, Ayr, Scotland, on Tuesday, March 6. Readers will remember that this event was advertised in the columns of this paper, but for some unaccountable reason the catalogues never came through. The offering numbered 47 horses, and they were led out in splendid form. Fifteen of the stallions, including five three-year-olds, were let for this season and two were let for the season of 1918. Dunure Tower by Revelanta, made the highest price, going to Geo. McDowall for 960 guineas, or about \$4,900 (counting a guinea equal to \$5.11 our currency). Dunure Recollection, a four-year-old, sired by Baron of Buchlyvie and out a Marcellus dam, fell to John Hastie at 900 guineas. The same purchaser also took the choicely-bred four-year-old, Dunure Footline by Dunure Footprint, at 880 guineas. Dunure Footline was first at the Royal last year and is the Glasgow senior premium horse for 1917. Dunure Vortex and Dunure Topping, both by Revelanta, sold for 700 guineas each; Dunure Peer by Baron of Buchlyvie went at 620 guineas, and Dunure Freshfuel was considered a bargain at 580 guineas. Of the three-year-olds the highest price was made by Dunure Agitator by Dunure Footprint. He went to Mr. Niven, The Loan, Errol, at 480 guineas. W. Grice, Bootle, got a very fine brood mare in the five-year-old Dunure Voice, by the noted horse, Apukwa, and out of a Revelanta dam. The price paid was 780 guineas. She has won many prizes and is descended from a race of good horses. Mr. Grice also took Balcain's Primrose by Footprint, at 390 guineas. The yearling filly, Dunure Belle, by Footprint and out of an Everlasting dam, went for 200 guineas. Two geldings averaged \$262.80 each.

Following is a summary of the sale with the prices translated into Canadian currency, calculating a pound sterling as \$4.86.

General Summary.

	Highest	Average
15 hired stallions.....	\$4,898.88	\$2,692.08
6 three-year-old colts.....	2,394.38	990.78
5 two-year-old colts.....	1,591.90	775.62
5 yearling colts.....	2,306.32	882.78
9 brood mares.....	3,980.34	1,593.22
3 two-year-old fillies.....	1,123.66	833.46
4 yearling fillies.....	1,020.60	631.44

LIVE STOCK.

Conditions Governing Co-Operative Wool Sales in Ontario.

The Secretary of the Ontario Sheep Breeders' Association, R. W. Wade, is issuing application forms to those wishing to sell their wool clip through the Association, and with these forms go the following instructions:

1. Application forms should be received in the Secretary's Office, Parliament Buildings, Toronto, not later than April 23, 1917.
2. Shearing should be completed so that wool may be received at the Winter Fair Building, Guelph, between May 15 and June 11, 1917.
3. Wool must not be tub-washed, but shipped in the natural grease condition.
4. The fleece should be placed with the clipped surface down. Then fold in the sides and roll from each end to the centre after having carefully removed the dung locks, and then tie with paper wool twine. Never tie fleece with sisal or ordinary binder twine, and avoid tying with neck portion. The dung locks should be placed in a separate sack from the fleeces.
5. The fleeces should then be packed in wool sacks, which, along with the twine, shall be supplied by the Association through the District Representatives, or some central agency.
6. The wool must be kept in a dry condition, both before and after placing in the sack, or otherwise it will be refused by the Association.
7. Shipping tags shall also be supplied by the Association, with consignor's name typewritten upon tags, and also destination of consignment. These tags must be firmly attached to the wool sacks before shipping, extra tags to be placed inside sack for identification purposes.
8. The wool is to be sent by freight, prepaid, addressed to R. W. Wade, Winter Fair Buildings, Guelph.
9. The wool will be graded by wool experts of the Live Stock Branch, Ottawa, and will be sold by tender or otherwise through the medium of the Ontario Sheep

Breeders' Association as early as possible after grading is completed, which should not be later than June 13.

10. The Grader's grades and the Association weights must be accepted.

11. A charge of 5 cents per fleece will be retained by the Ontario Sheep Breeders' Association to cover expenses.

Raising Orphaned Young or Dis-owned Young Animals.

At this season of the year when the increase takes place, many new-born animals are orphaned through the death of their mothers, or disowned by the dams that gave them birth. The outcome is almost as much to be regretted in the one case as in the other, for it entails no small amount of trouble on the part of the attendant if the young thing does not get its nourishment during the first few days or weeks of its career in the natural way. Oftentimes if we look at the new-born motherless pig or lamb from a dollar-and-cents point of view absolutely, we might proceed to look for the axe, but happily, blended with human nature is an innate feeling of pity for the orphan or the weak, be it human or brute, and we hasten to the house for the nipple and the bottle full of good warm milk. This is as it should be and it is the practice on all profitable well-regulated stock farms.

The first milk of the dam (colostrum) is so constituted as to be laxative in its effect and beneficial to the digestive organs of the progeny, and it is very important that the offspring acquire some of the first milk at least.

If anything should happen to the dam during parturition or soon after, the colostrum would not be available, but when the parent refuses to own her young she should be constrained to allow the offspring to suck two or three times, after which other methods may be adopted if thought advisable. Calves are of course frequently taken from the cows after birth, and it is little trouble to raise them from the pail. An orphan lamb can often be foisted on to another ewe or raised on the bottle, in which case it is a nuisance. Young pigs are just about twice as stubborn, pound for pound, as grown pigs, but if one understands them and handles them properly, orphans can be reared successfully. It is not frequent that foals must be cared for and nourished by human agencies, but if such an emergency should arise it will pay well indeed to equip for the task and be painstaking for a few weeks in order to sustain life and develop the young thing by artificial means.

In order to better understand the composition of mares', cows', ewes' and sows' milk, we herewith reproduce a table compiled from information taken from "Feeds and Feeding", which compares them from the viewpoint of the ingredients they contain.

Composition of Normal Milk.

Animal	Water per ct.	Protein per ct.	Fat per ct.	Sugar per ct.	Ash. per ct.
Cow.....	87.3	3.4	3.7	4.9	0.7
Mare.....	90.5	2.05	1.14	5.87	0.36
Ewe.....	80.8	6.5	6.9	4.9	0.9
Sow.....	84.1	7.2	4.6	3.81	1.1

Milk is nature's food for the young of mammals and when the paternal supply of the little lamb or pig fails, we naturally turn to the cow for the life-sustaining fluid. For this reason it is well to compare the milk of the mare, sow and ewe with that of the cow in order to prepare the orphans' "bottles" in such a way as to be as nearly as possible similar to the milk they would have received had Providence dealt more kindly by them.

Mares' milk is white or bluish in color, with a sweetish but slightly bitter taste. As the table shows, it is more watery than average cow's milk. It contains considerably more sugar, but it is decidedly poorer in casein, albumen and ash.

The ewe's milk has a peculiar and somewhat unpleasant odor and taste. It is thicker than cow's milk and sours more slowly. The fat content is extremely variable, ranging from two to twelve per cent. In protein (casein and albumen) it is richer than the milk of the cow and the sugar content averages somewhat higher.

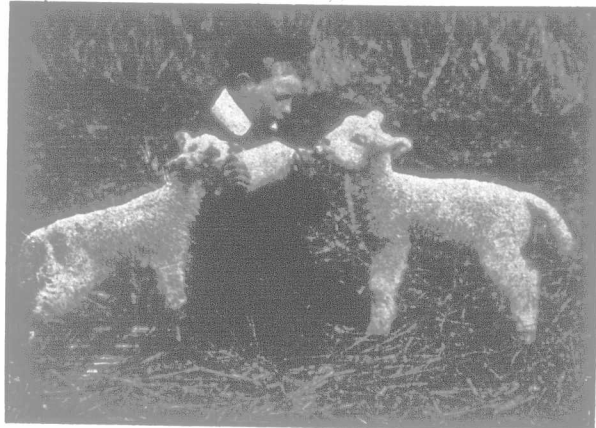
The table shows sows' milk to be richer than cows' milk in all ingredients except sugar, but even in this the milk of the porcine tribe often excels.

Raising the Orphan Foal.

When through the death of the dam or absence of milk the young colt is cast upon the tender mercies of man, get out the old china teapot and tie the thumb of a kid glove over the spout. Pierce this two or three times with a darning needle, but leave the holes small enough so the contents of the pot cannot be taken too quickly. This method obliges the foal to work for what it gets and prevents the ingress of large quantities of air. Another satisfactory feeding utensil is a good-sized nursing bottle, to which a large nipple is attached. Whatever is used should be kept scrupulously clean with hot water or steam. Cleanse it thoroughly before and after each feeding.

As feed for the foal choose the milk from a fresh cow, if possible, and better from one which gives milk low in fat. To a tablespoonful of sugar add warm water to dissolve, then three to five tablespoonfuls of lime water, which tends to correct digestive troubles, and enough fresh milk to make a pint. Feed about one-quarter of a pint every hour for the first few days,

always warming to blood heat. As the foal grows the supply of milk may be gradually increased. Whole milk may be substituted later and the periods between feedings lengthened. After a few days six feedings a day will suffice, and later four will be ample. At three to four weeks of age sugar may be dropped from the mixture, but it will be well even then to continue the use of the lime water. In five or six weeks sweet skim-milk may be gradually substituted for whole milk and after three months the colt may be given all it will drink three times a day. The bowels should move freely, but if scours occur at any time give two to four tablespoonfuls of a mixture of sweet oil and pure castor oil, shaken up in milk, and stop the feeding of milk for two or three meals, allowing instead only sweetened warm water with a little lime water added. As soon as possible get the foal to eat such solid feeds as oatmeal, crushed oats, bran, a little oil meal and clover or alfalfa hay. Of course it should be where it can nibble at grass as soon as it is so inclined.



The Foster Mother.

The Pet Lamb.

What farm where sheep are kept has not had its pet lamb? There might be fewer of them however, if sheep raisers were a little more painstaking in trying to get ewes to own their lambs, and in transferring the young things from one parent to another. When a ewe refuses to own her lamb, she may be induced to attend to it by shutting her in a small pen with the lamb and sprinkling her own milk over its back. Sometimes by sprinkling bran on the back of the lamb the mother can be induced to accept it. The old-time practice of tying the skin of a still-born or dead lamb on the back of one which has no mother often works very well, and effects the adoption of the orphan lamb by the ewe which has lost her young.

In rearing pet or "cosset" lambs a fresh cow's milk, fed at blood heat, usually is quite satisfactory. According to the analysis shown in the previous table, sheep's milk is much richer in fat than cow's milk, but it is not often that good results accrue from the strengthening of ordinary cow's milk with cream to bring it up to the



"Team Work."

ordinary consistency of ewe's milk. The milk from a fresh cow, fed at blood heat, at least every two or three hours (more often if possible) at first throughout the day seldom fails if everything is kept clean. A nursing bottle and nipple answer the purpose very well as a utensil. The teapot and glove finger tied over the spout also serve the purpose, and many a good cosset lamb has been raised on a liniment bottle, the mouth of which was covered with a piece of leather through which a quill was passed. The bottle and nipple perhaps are more easily cleansed and on this account more satisfactory. Bran and crushed oats should be placed before the lambs at an early age and they should be allowed to run in a yard where there is good grass. If a pet lamb has its liberty it will be constantly underfoot.

Rearing Motherless Pigs.

It is a question whether it is time well spent in attempting to rear young pigs by hand. They are more difficult to bring along than either the lamb or foal, yet in many cases whole litters have been saved and developed into profitable shotes. The milk of a fresh cow should be fed and this diluted about one-quarter to one-third at first with water. A little brown sugar should be added, but one must watch constantly or their bowels will become deranged. Constipation or over-looseness of the bowels are both almost always fatal if allowed to continue for any length of time.

Some time ago a correspondent sent us a report on one litter that was reared by hand and we reproduce it here:

"Twelve hours after giving birth to a litter of ten fine pigs our sow died suddenly and as it seemed a shame to allow such a profitable lot of youngsters to die, I determined to do my best to save them. I let them get good and hungry before experimenting with them; then, taking each separately, I poured a little warm milk down their throats. This seemed to satisfy them, but in a little while they were hungry again. For their feed I took about three parts milk and one part water and sweetened this slightly with a little brown sugar. I rigged up two boxes with clean, dry bedding in each, and put them beside a stove which we had in an outside kitchen and put the pigs in one of these. Every 1 1/2 hours, night and day, I fed them, taking one at a time and, as it was fed, putting it in the other box. I had a small round dish, and the little fellows would keep their noses pressed against the side of the dish and would soon drink greedily. After getting them in the second box, the first one was cleaned out and dry bedding put in ready for their next feed. I kept this up for 10 days, and at the end of that time I added a little well-cooked porridge made from corn meal and rolled oats in equal parts. Then I gradually lengthened the time between feeds from 1 1/2 hours to 3 hours, and by this time they were thriving and living in a pen of their own and drinking from a trough as pig-like. I then left off feeding them at night, but would feed them the last thing before going to bed.

"A nicer family of pigs never lived. They knew me and came at the slightest call, and would follow me everywhere if allowed. To my delight they grew and grew, getting greedier and greedier until I knew my experiment was proving a success. Between six and eight weeks they were growing so nicely that I found we could feed them any sort of pig feed. My troubles were over, and at five months my porkers averaged from 125 to 150 pounds each."

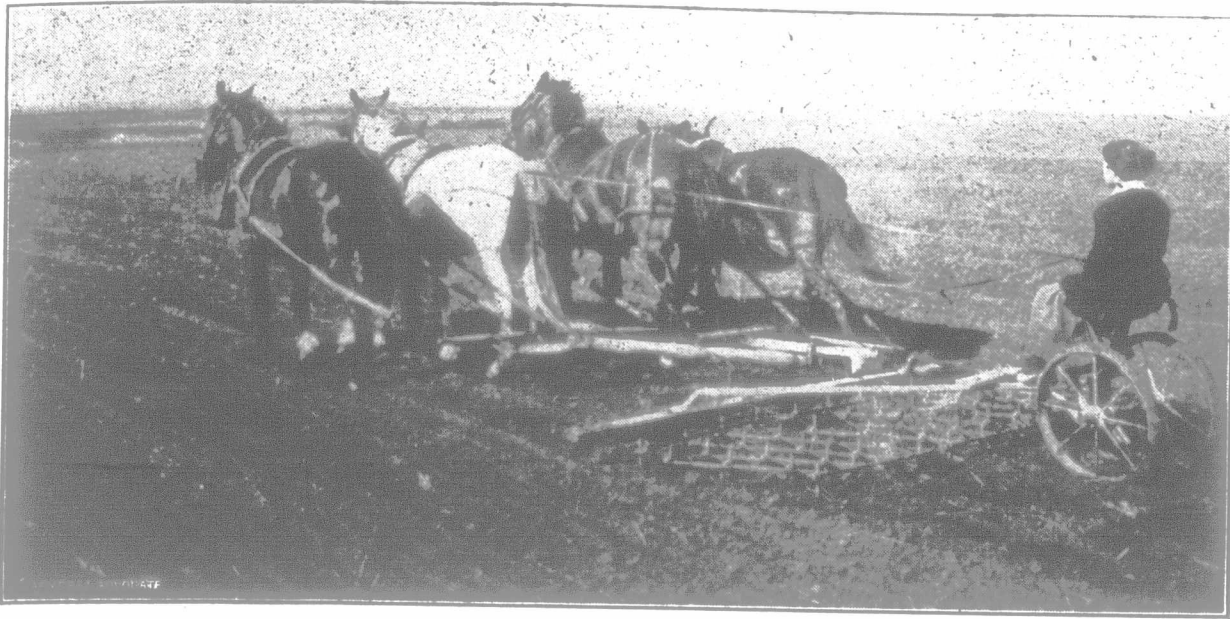
Brandon Winter Fair Revived.

After two years of suspension the Brandon Winter Fair was revived in its home city last month and everything was brought back to the oldtime swing, so far as the great shortage of feed and labor would permit. Some of the exhibitors of former days were present as spectators only, but new names appeared on the entry list and helped to bring the quality of the Exhibition up to a position somewhere approaching its former standing. In the classes for breeding horses Clydesdales, Percherons and Belgians were forward, and the strength

of the different breeds is indicated by the order in which they are named. John A. Boag, Queensville, Ont., and Alex. Galbraith, Edmonton, Alta., made the awards; Mr. Boag judging the Clydesdales and Mr. Galbraith the Percherons and Belgians. The fat cattle and the Boys' Calf Competition came under the decisions of A. R. Speers and J. A. Giles, of Winnipeg, while Prof. A. M. Shaw, of Saskatoon, officiated in the sheep and swine classes. The latter two classes of stock were out in only fair numbers, but the fat cattle made a good showing.

In judging the Clydesdales, Mr. Boag placed more emphasis on substance than has been common in events of this kind in Western Canada during late years. He did not,

however, disregard quality and a horse was obliged to combine quality and substance before he could win. In the aged-stallion class, where 23 horses were forward, Ben Finlayson, of Alberta, was first with Edward Garnet, by Royal Edward. His keenest competitor was Belleisle by Baron's Pride, shown by O. J. White, Hamiota, Man. The winner in this case was ultimately made grand champion with reserve going to Golden Youth by Fyvie Baron, shown in the three-year-old class by Thos. Heggie, Condie, Sask. Three good horses came forward in the yearling stallion class, where Buchlyvie's Grandson, shown by Finlayson; Burnside King's Stamp, shown by Hugh Gilmour, Pasqua, Sask., and Enterprising, also shown by Ben Finlayson, were placed in the order named.



Doing Her Bit.

THE FARM.

Farmers Meet to Unite in British Columbia.

EDITOR "FARMER'S ADVOCATE":

The latest big movement in British Columbia in the line of agriculture is the formation of the United Farmers of British Columbia. The organization has for its aim the same principles as the farmers unions on the Prairies and in eastern provinces.

At Victoria, on February 17, 200 delegates from practically all parts of the Province, assembled and organized to protect the interests of agriculturists. It is hoped that this organization will be able to make itself felt when it comes to speak on behalf of the producers on the many questions which vitally concern agriculture in the Province, and that it will act in sympathy with the other Western and Eastern Provinces in these matters. Mr. Palmer was elected chairman at the first sitting of the convention. He remarked, on taking the chair, that the farmers interests were likely, owing to existing conditions of life in this Province, to be more or less disregarded in some, at least, of their larger aspects in the clash of party conflicts. While there were already in existence well organized agricultural institutions none of them could deal effectively with many questions of primary importance, probably because they had not been able to bring to bear that influence and power which their place in the life of the community in both Provincial and Federal affairs justly entitled them.

Mr. Paterson, the Provincial Secretary, was quite worked up over the "Patriotism and Production" slogan. He claimed that the call had come to the B. C. farmer and along with this he was deprived of the very means required, by the establishment of artificial barriers between him and every conceivable source of labor supply. He went so far as to say that other industries, far less important to the nation's welfare at this time, had organized their forces with material benefit to themselves, but without regard in the least for the situation they thereby created for the farmer, and then criticized him for his lack of patriotism and production; and further, they fixed the price he must pay for the things he buys and dictated the price for the things he had to sell. He threw out the warning that in his opinion the war will give rise to taxation in many forms and every organized body will make an effort to carry less than its share of the common burden, and he believed that the result would be that the heaviest taxation would fall on those who were least prepared to defend their interests.

Mr. Trengo, the Second Vice-President of the United Farmers of Alta., gave a splendid address and was heard with a great deal of interest. He urged that the new organization adopt the slogan of "equity". The farmers could hardly demand assistance of parliament unless they were willing that other interests should receive equal treatment. It had been suggested that Chinese labor should be permitted to farmers while we attempt to shut off the railways, mines, etc., from the same source of help. That was not an equitable proposition and certainly did not display the spirit of justice upon which any farmers' organization should be based. The square deal in all business relations was imperative if an organization were to survive and prove a success. It was the opinion that up to the present the practice of patronage at the hand of pirates in power had tied the hands of all farmers' organizations in the Province and that this movement should not accept government aid and then it could dictate instead of being dictated to. The strongest force in politics should be the endeavor to enlist the support of the candidates of the existing parties in behalf of the platform the Union would support.

The Hon. Mr. Oliver was very pointed in his remarks. He claimed that the convention had been wise in making partyism a secondary matter. It had been a standing disgrace to British Columbia politics that the farmers had not had enough confidence in themselves to send representative farmers to the Legislature. Farmers

were not fools, nor were the legislators all Solomons. That a University education only, can fit a man to represent a community was, the Minister believed, a fallacy all too common. His experience was that University training and book knowledge were but a part in educating a man. He urged that they be deliberate in their action and that once they made up their policy to put it into effect by unanimous support.

These addresses to the convention were much appreciated by the delegates and the messages from them were taken to the various locals throughout the province that are at this time in the process of organization. It is at these locals that the testing of the organization is going to take place. One instance will serve to see how it is working. Two delegates from the coast, convention met the farmers at their local in an

apple-growing district, and the day before the meeting was called the papers announced the placing of the embargo on apples to the British Isles. British Columbia has been a protectionist Province for years, and these farmers could hardly wait till the officers were elected till they had a motion put and supported asking the Government to put on a duty prohibitive to foreign apples. One of the speakers with whom I discussed this motion said: "It is the easiest thing in the world for the Canadian apple growers to get the Government to pass such legislation and no doubt it would keep the United States product out, but look at the impression the recent tariff created on the Prairies. They are not over the effects of that yet. In fact last season they went right past us and paid a higher price to Eastern growers because they thought B. C. was at the bottom of the placing of that duty increase. "Now here," he said "is the way I believe an increase would work. They would buy Canadian apples on the Prairies just till the war was over and the embargo lifted from foreign stuff, and then they would shut down on us so quick we would be utterly swamped." This is a serious question to the apple growers and if we look at it in the light of Mr. Trengo's urgings that we should use the slogan of "equity" there seems to be an opening for the doubt in the minds of some for the success of an organization that will not consider their brother farmer on the Prairies. A better solution of the matter would be to get a cooperative understanding among the apple growers in Canada, they to get the Prairies and cities to consent to use Canadian apples; get this consent either by use of contracts from distributors or otherwise and supplement this by a united advertising campaign. A raising of the tariff would do more harm than good, for even though it was put on to keep the others out there is little doubt but that the wholesalers, not the growers would take advantage of the protection to boost the prices.

Raising the tariff is not the solution of it. The question is a bigger one than tariff, and if rightly handled can be made the means of starting a brotherhood among Canadians, especially among Canadian farmers, that will solve more problems than the mere marketing of one crop or one season's crop.

British Columbia. WALTER M. WRIGHT.

Making the 1917 Seed Bed.

The warm March and April sun and the call of birds have aroused old Mother Earth from her winter slumber, and the apparently inert soil is showing signs of life. Although the north wind may still carry a reminder of ice and snow, the grass is becoming green and the buds are bursting on the southern slopes. Spring is here, and every living creature feels new life pulsating in its veins. It is the time of year when the call of the country is strongest. It is the time of sowing and planting. With faith in the promise that "seed time and harvest shall not fail," the progressive agriculturist has for many weeks been preparing for the spring opening in order that he may do his share towards the fulfilment of the promise. The best variety of grain and seeds available have been carefully cleaned of fowl seed, dirt and small kernels, and are ready to be sown. Formalin is on hand to destroy any smut spores which might later prey on the life of the oat crop. Harrow and cultivator teeth have been sharpened in order that the best possible work with the least waste of time may be accomplished. Implements used in the spring work have been carefully gone over to tighten up any loose bolt or nut, and in many cases adjustments have been made to permit the use of four-horse teams. The implements stand ready, the teams are in fine mettle for the work, and the farmer anxiously waits for the soil to become firm enough for cultivation, as he knows full well that, other things being equal, the early seeding yields the heaviest crop. Owing to the nature of the soil, or to the extent of natural or artificial drainage, some fields can be worked much earlier than others.

All soils cannot be given the same treatment at the same time, thus judgment must be exercised in doing spring work. No matter what the nature of the land, it is essential that a good seed-bed be prepared by the use of some implement and the seed sown at the proper

depth. This may require more work on a clay soil than on a sandy loam, but it must be done if the greatest returns are to be reaped. Nine cases out of ten the man who is slipshod in his seeding operations does not get full returns from his land. True, we have seen grain sown broadcast, on fall plowing, from a seed box attached to the cultivator, followed by a single stroke of the harrow, give equal returns with the grain drilled into a carefully prepared seed-bed, but in the unfavorable season, which invariably comes when least expected, the man who puts his soil in good tilth reaps his reward. The labor problem is more acute than ever this spring, and some may be tempted to take less pains than usual with the seeding operations. However, good seed in a well-prepared seed-bed has a much better chance of withstanding adverse climatic conditions than seed improperly put into the ground. Spend a day longer in the field preparing the seed bed rather than skimp the work. It will pay.

Early Spring Cultivation.

Whatever implements are used in preparing land should be sharp and properly adjusted so that they may break up and pulverize the soil. A dull implement never does satisfactory work and is always harder on the team than one which is in good working order. With many crops a limiting factor to heavy production is moisture. While sufficient water may fall on the land during the year to grow and mature a crop, it often happens that when the crop most requires a drink the rainfall is lightest. The earth should be looked upon as a large reservoir for the holding of moisture and plant food to sustain whatever crop is grown. The plant food is largely held in bond by soil particles, but by cultivation, action of air, bacteria, and soil acids it is released as the crop requires it. With moisture



Using Wide Implements and Riding.

it is different. By capillary action it is brought to the surface, and unless there checked by a mulch a good deal evaporates and is lost so far as the crop is concerned. This loss of moisture is heaviest in early spring when the ground is bare and after a heavy rainfall. The effects are most noticeable on undrained land. The moisture which escapes in the atmosphere is oftentimes sorely needed by the crop in order that it may give an abundant yield. True, it is necessary that surface water be carried away so that cultivating operations may be proceeded with. However, it is possible to put many of the soils in a condition that they will hold a large proportion of the water which they receive during the fall, winter and spring and release it through the growing season as the crop requires it. No doubt all have noticed how moist a well-cultivated summer-fallow is an inch or two below the surface, even after a prolonged drought, while in an uncultivated field the land is baked and filled with large cracks. This latter is due to contraction of the surface with the escape of moisture. As soon as a team can be put on the land it is good practice to give a stroke with the harrows. Very often all the ground to be sown with a spring crop can be harrowed before one field is ready for the cultivator. In this way a large portion of moisture is held and a better seed-bed is made later on than if the harrows had not been first used. In fact, many successful farmers find that it pays them to not only harrow for their spring crop, but to go over the corn and root fields before they commence seeding. It does not take long to perform this operation. With three or four horses and a wide harrow, to which a cart is attached, twenty-five to thirty acres can be gone over in a day. Not only will this check the evaporation by forming a dust mulch, but it will be found that better work can be done afterwards with the cultivator and drill. While farmers in general are slow in adopting this practice, they seldom neglect the early harrowing after having done it one season.

The real preparation of the seed-bed begins when cultivator or disc is put into operation. It is essential that the soil be put in good tilth, so that the tiny particles which comprise the earth surface and hold plant food and moisture may come in close contact with the seed. The smaller the seed, the finer the seed-bed should be. It is advisable to give the necessary work before, rather than after sowing. There is a limit to the amount of work that can profitably be put on any field. Once the soil is in good tilth another stroke of the harrow or cultivator may be largely a waste of time. However, for obvious reasons, very few agriculturists spend too much time in preparing the seed-bed. It is generally believed that insufficient cultivation fall and spring is responsible for some of the low yields. Nature has made provision for conserving plant food, and demands that the tiller of the soil do a certain amount of work before some of the essentials to plant growth are unlocked.

Necessity is said to be the mother of invention. This fact is becoming more evident on our farms every year. A few years ago only two horses were used on practically all the cultivating implements; three or four-horse teams were the exception. Now, owing to the extreme scarcity of help, they are fast becoming the rule. Wide implements are taking the place of narrow ones. If equipped with narrow implements it is not necessary to discard them if they are in good repair; hitch three or four horses to the cultivator and attach the harrows behind. We have seen several farmers preparing a seed-bed in this way, and the soil was left in excellent condition for drilling. It is not so convenient to attach the harrows to the drill on account of the danger of covering the wheel track, but some overcome the difficulty when small implements are used by putting a team on the drill and leading another team on the harrows. Twice over the field for the man and cultivating, drilling and two harrowings are done. On most soils this amount of work, besides the early harrowing, makes a good job—considerably better than some fields are fitted. The same principle applies when preparing the land for all crops. Do not be afraid to apply pressure, if necessary, to the cultivator. Some soils are run together and require tearing up. For spring crops it is well to cultivate at least three inches deep, and deeper would do no harm with some crops. However, we have seen the grain practically lying on the surface when seeding operations were over. The process of preparing the seed-bed and sowing the grain was gone through, but, owing to improper implements, lack of pressure, or insufficient horse-power, the stiff soil was merely scratched. There was not enough loose soil to even cover the grain. Under such conditions the kernels might germinate but there is danger of the sun's rays scorching the struggling plant before its roots grasp the soil firmly. Use the harrows early, thus practically sealing the reservoir and conserving the moisture for the growing crop, then make a sufficient seed-bed to properly cover the grain. Make it so that air and water may move freely in the soil, so that the root fibers and root hairs may spread out, and also that micro-organisms may make the nitrogen available for the use of the plants.

Drilling the Grain.

Drilling the grain has several advantages over broadcasting; the chief being that the grain is sown at a fairly uniform depth. Less grain is also required per acre. When the grain is broadcasted some of it is covered so deeply that the kernels do not contain strength enough to force new growth to the surface, where in contact with the air it is enabled to convert plant food into the plant structure. Some of the kernels are left on the surface where they may be picked up by birds or else fail to germinate owing to the lack of moisture. Some farmers are particular about the way they drill their grain, claiming that by drilling east and west there would

not be as much loss of moisture by evaporation during the time the crop is heading out, consequently, by drilling in this direction they obtain a heavier yield. When the drills run north and south the sun's rays shine directly between them during the growing season and drink up the moisture. The other way one drill shades the other. When using the hoe, disc or shoe drill it may be necessary to put considerable pressure on in certain parts of the field and to relieve it in others. It is almost impossible to prepare a seed-bed to an even depth over an entire field where the soil varies in texture. In order to do the best work the driver must watch the nature of the soil and adjust his machine accordingly. The aim should be to drill as straight as possible; not that it materially improves the crop, but it certainly looks better and shows that pride is taken in the work.

Grass seed is very often sown the same time as the grain. These seeds are very small, and it is essential that they fall on soil that is in good tilth and not covered too deeply. The custom has been for the grass seed to be sown behind the drill, and then covered with a stroke of the harrows. Observation has proven that the seeds falling in the drill marks are covered too deeply; in fact, many are unable to send new growth to the surface. Failure to secure a satisfactory catch of clover has been attributed to this fact. Experiments have been tried in the same field, sowing part in front of the drill and part behind. In an average season the best catch has been secured where the seeds were scattered in front of the drill. It stands to reason that the seeds are not covered so deeply. The drill pushes the soil on which the seed is scattered, into a ridge, and when this is levelled down with the harrows the seeds are near the surface. Care should be taken not to plant too deeply, especially with the smaller seeds.

Using the Roller.

The general custom is to harrow after sowing, partly to cover the seeds and partly to smooth the soil. The lever harrows can be used very satisfactorily for this purpose. The teeth can be tilted so they do not catch and drag anything over the field and do not dig into the soil. This type of harrow is particularly serviceable where straw manure has been applied. The roller has a place on every farm, but in many cases it is used to poor advantage—probably not so much of recent years as in the past. It is quite customary in some sections to hitch the team to the roller immediately after seeding is finished and proceed to roll the entire spring crop; the purpose being to *smoothe* the soil. The fields are left in this smooth state and if the soil is at all sandy, clouds of dust can be seen rolling over the field on a windy day. It has been proven that, while soil left with the smooth surface heats up more quickly than a rough soil, thus hastening germination, it also causes excessive evaporation of moisture. If the soil is rough, use the roller before sowing the grain, or if used after the drill it is advisable to follow with the harrows within two or three days. Some attach the harrows to the roller and complete the two operations at once. An experiment under field conditions proved that it pays to harrow after the roller. The field was sown to oats and was rolled; after three days one-half the field was harrowed. The season turned out to be a dry one, and, when cutting the grain it was quite noticeable from the binder seat and in shocking that there was considerably more crop on the part that had been harrowed than on the part that had been left with a smooth surface. Possibly results would not have been so marked in a dry season. The roller is a valuable implement on the farm but must be judiciously used.

Very often the weather permits of plowing sod for corn when seeding operations cannot be proceeded with. By the time seeding is completed a large portion of the corn field may be turned over. The ground is more or less damp and has a tendency to bake. Men have experienced considerable difficulty in working down this surface which had not been touched until several weeks after it was plowed. If the harrows and disc had been used at the end of each day to work down what had been freshly plowed, a good deal of work would have been saved in the end.

Judgment must be used in tilling the soil. It is folly for Smith to try cultivating his wet, clay field just because Brown is working on his sandy-loam ridge. The crop yield counts for more than being first in the neighborhood to finish seeding. The harrows can often be used a day or two before it is advisable to put the cultivator on the land. If you haven't made a practice of giving all plowed land a stroke of the harrows the first thing in the spring, try it this year.

Canada's Relation to the Empire.

EDITOR "THE FARMER'S ADVOCATE":

Among other questions which the great war has forced upon us is one of tremendous and far-reaching importance to all Canadians, that, namely, of Canada's relation to the Empire. "After this war the relations between the Dominions and the Mother Country can never be the same again," said Mr. Bonar-Law in December, 1915; and other public men, on both sides of the Atlantic have repeatedly given expression to the same thought. An Imperial Council has been convened in England, at which this question will receive consideration, and a number of prominent Canadians have lately issued a manifesto in which they urge that this question be immediately and fully discussed. A book entitled "Defence and Foreign Affairs," by Mr. Z. A. Lash, has appeared, in which is proposed a solution of the problem of Empire. One would have preferred to suspend discussion of the matter until after the war, but it is evident that the issue is being

forced upon us, and unless all signs fail the question will take definite shape in the near future.

Now in the settlement of this question matters are involved which affect the very foundation of our Democracy; and it would be supremely disastrous if any mistake were made. It is indeed quite possible that so far as the interests of Canada are concerned, the question may be decided without consulting the Canadian people. Under our system we give absolute power to a body of "representatives" for a definite period, during which the Canadian voters have no legal power to check or restrain. This extraordinary undemocratic system carries with it tremendous risks, for questions may arise, and be settled, during the parliamentary term, in connection with which the Canadian people have absolutely no voice whatever. It therefore behooves all Canadians to give serious thought to this great question, so that when the matter comes up for settlement we may at least have such trifling moral influence as is permitted a "sovereign people" under our political system. "Eternal Vigilance is the price of Liberty," and it would be humiliating, to say the least for us to discover that, in our efforts to overthrow tyranny in Europe, we had incidentally lost the very liberty which we had been fighting for. As, therefore, the war is likely to precipitate the solution of the Imperial Problem, let us bestir ourselves, so that when a decision is reached we may do what we can to make that decision intelligent, reasoned and essentially popular.

The real issue, as seen by Mr. Lionel Curtis, one of the most influential of British Imperialists, is that between Independence and Imperial Partnership. He believes that there is no middle way, and that a choice must be made in the very near future. If we accept his dictum we should see clearly what is involved in each of these alternatives.

First, however, let us recognise frankly that the "Dominions" are in fact separate sovereignties, the autonomy of which is restricted only in the matter of "foreign affairs," and in this respect only restricted because these Dominions have not insisted upon their right to exercise authority as they have done with respect to taxation and immigration. Further let us recognise frankly that the whole course of events has witnessed a growth of independence on the part of the "Dominions," and that in so far as their military obligations are concerned they have been free to contribute or not, as they saw fit. Their participation in the present war has been entirely voluntary; they had the right, if they chose to exercise it, to declare their neutrality and stand aside. But they have not done so. They have taken an aggressive part in the war, and the burden which they have assumed has carried with it an undoubted right to share the Imperial authority—to have some voice in Foreign affairs. If the Dominions wish to remain in the Empire, and preserve their dignity and liberty, they must, according to Mr. Curtis and others, obtain a voice in Foreign affairs, and have full control, in partnership with the United Kingdom, of Imperial finances. The issue therefore, as thus presented to us, is plain. Some scheme of Imperial Federation must be worked out, or the "Dominions" must assume the status, privileges and obligations of independence.

In comparing these alternatives no question of the "Dominions'" attachment to the Mother Country need be raised. No binding obligation of a legal or constitutional character could have compelled Canada to take a more definite, wholehearted and aggressive part in the war than she has taken voluntarily under virtual independence. The essential question is whether it would be better for Canada and the world that the bond which unites her—and the other Dominions—to the Mother Country shall be the informal, intangible one of sentiment, or the formal, legal one of constitutional obligation. Imperial Federation involves a definite constitutional obligation; Autonomy involves only the obligation of friendship and sentiment. The issue may be perceived more clearly by the following illustration. Consider a father and son. Just as the latter has attained manhood and virtual independence the father gets involved in a serious quarrel with one of his neighbors. Although the son had no direct part in bringing about the quarrel he thinks his father is in the right, and rushes to his assistance. Together they win a victory. Shall this be made the occasion for drawing up a legal contract between father and son, by which they share jointly in the making and settling of their "foreign affairs," or would it be better for the son to manage his own affairs so that each may take upon himself the same obligations, with respect both to the beginning and settling of disputes, co-operating when they felt so disposed, and refraining if so inclined? This is the issue, and it is entirely irrelevant to introduce any question of loyalty or disloyalty to British connection. British connection may be maintained in two ways—by bonds of sentiment merely or by additional constitutional obligations. Which is the better way?

Having thus perceived clearly the exact nature of the issue, we may proceed to an examination of the two alternatives. First, however, we ought to lay down the imperative obligation to maintain the principle of democracy or self-government, which is the very genius of British institutions, and for which oceans of our best blood are now being shed. Any renunciation of this principle would be unpardonable.

Therefore any proposed scheme of Imperial Federation must reconcile the principle of self-government with the absolute necessity for one supreme control over questions of general interest—over "Foreign Affairs." Real Federation must of necessity imply one army, one navy, one budget, under the control of

one Imperial Parliament, responsible to the whole electorate. What does this involve?

In the first place it involves taxation. On what basis is this to be levied? On the basis of population or income, or what? Here is a question of supreme difficulty, in whose solution we must remember that any injustice will inevitably produce bad feeling. The several parts of the Empire, are very differently situated, exposed to differing risks, and composed of greatly different populations. This is a staggering problem, rendered all the more difficult because of the public works undertaken by the "Dominions" for their own defence.

In the second place there is the problem of race, and that of dependencies. A very large percentage of the inhabitants of the British Empire are "colored". For the most part these are not self-governing. What is to be done with them, and for them? Are they to constitute part of the Imperial Electorate? If not why not? What of immigration? Will the Hindus be content, after they have shed their blood in Europe for "British Liberty", to remain with no voice in the government of the Empire, and to be excluded, as they are now, from various sections of that Empire? The British Parliament can now, at all events, excuse themselves to the Hindus by saying that The "Dominions" are sovereign states, and exercise complete control over immigration; but no Imperial Parliament, composed in part of Canadians and Australians could so excuse themselves. If Hindus are to be permanently denied the right to migrate there is at once the beginning of trouble and disintegration. And if, on the other hand, an Imperial Parliament should over-rule—by majority vote—the present opinions and desires of the "Dominions", and sanction complete freedom of migration, trouble will be immediate and serious. In fact the government of the great dependencies—chief of which is India—presents, so far, an insoluble problem. Lincoln is reported to have said, prior to the American war of Secession, that the Union could not endure, "half slave and half free." How much more unstable would

be an Imperial Federation in which the minority, professing allegiance to democratic principles, governed the majority without their consent! Inevitable as it may be at present, one must admit that England rules her great dependencies in contradiction to the fundamental principles of her own constitution, and this dangerous situation would undoubtedly be aggravated by a scheme of Imperial Federation which excluded these dependencies. A national party is now arising in India, which will make any subordination of that country an even more difficult task than it is now.

In the third place there is the whole question of fiscal relations. At present the various parts of the British Empire profess and practise diverse fiscal policies; and on no question have the "Dominions" insisted more emphatically upon their own authority than on this. Imperial Federation does not, of course, involve necessarily the abandonment of this authority; but it is not at all unlikely that it would involve practically some modification of it. If so, would not another serious bone of contention spring into existence, about which there would be everlasting friction and bickering. Nothing seems to me more likely to cause bad feeling between the different parts of the Empire than the imposition of a uniform fiscal system upon sections opposed to that system, even if one could imagine the satisfactory devising of such a system by an Imperial Parliament.

There is, finally, the relation between Imperial Federation and World Peace. This is a question on which, perhaps, there may be the most diverse views, all of them quite honest. Some look forward to the scheme of Imperial Federation as bringing into existence a military and naval power which can dominate the world and enforce peace. National conceit could surely go no farther. We are now engaged in a life-and-death struggle to prevent world domination by one power, intoxicated and made arrogant by its past successes. Is this struggle to end with the domination by another power? World Peace will never come in that direction. So far as this matter is concerned it seems to me that

a voluntary federation, in which all the British Dominions, the United States, and other civilized powers; may join, would be infinitely preferable to a binding constitutional contract which, at times, might leave immense power in the hands of a very few politicians.

As contrasted with the scheme of Imperial Federation complete autonomy seems to me to involve much less insuperable practical difficulties. It is the goal towards which all the "Dominions" have been moving. It is in conformity with the genius of British democratic government; and it avoids all those legal obligations which are likely to cause friction and bad feeling. It is quite true that it will involve further obligations on our part, for our own defense; but these may, on further examination, prove to be less onerous than a cursory view, taken at this time of stress, might estimate. Finally it seems to me that complete autonomy might be achieved without sacrificing those legitimate worthy purposes which many imperialists have in view. Alliances are quite possible, for certain purposes, between "sovereign powers" and, for the purpose, of preventing military or naval aggression, is there any reason to believe that very satisfactory alliances might not be made between Great Britain and the self-governing "Dominions"—including, probably, other powers? The maintenance of British connection is favored rather by the absence of legal obligations. An elaborate legal contract between father and son, setting forth their mutual obligations, is generally much more likely to produce bad feeling than is that state which leaves each free to help the other at the dictates of his own judgment and affection. So it seems to me, though much may be said on both sides, that the consummation of our evolution towards complete autonomy is much more likely to produce happy results than any scheme of Imperial partnership which I can imagine. But why force the issue now? Let the war be ended first and then let us take plenty of time to discuss this tremendous question.

Brant Co., Ont.

W. C. Good.

Canada's Young Farmers and Future Leaders.

Have You a Vegetable Garden?

EDITOR "THE FARMER'S ADVOCATE":

I would not be without a vegetable garden on the farm. Last season I was almost without one owing to the wet weather, and missed it very much. A garden does not take much land, and the time required in planting and caring for it is time well spent. Any money invested in the garden is bound to bring satisfactory returns.

My garden is mostly a clay loam, with one patch in it a little inclined to be sandy and another spot rather heavy land. This gives a little variety in the soil, and the crops can be planted to suit the land. I have an acre in my garden and it is located just back of the yard at the rear of the house so it will be handy to work and many an hour is spent in it in the evening in the summer. Part of the land is planted to small fruits. About 100 cherry trees are set out in two rows, and in between these are raspberries, currants, black caps and gooseberries. A patch of strawberries is grown. About 500 plants are set every year. The plants are fruited the following season and then plowed up.

What classes of vegetables do I grow? Practically all kinds needed in a farm house. First thing in the spring radishes and lettuce are planted, followed by potatoes, beans, corn, cucumbers, cabbage, cauliflowers, squash, pumpkins, musk and watermelons, parsley, sage, celery, citrons, onions, etc. Rows are made 30 inches apart so as to permit working with horse cultivator. Corn is planted at different times, about four short rows put in at a time, and then in the centre row at end of corn I plant twenty or thirty feet of melons or squash, and then a space is left for more corn, and then citrons and corn again, etc. This allows the scuffer to work while corn and melons are small, but when corn is too big to put the horse through the vines of melons, etc., are beginning to spread so you have the four rows to hoe by hand, but the rest of the garden can be worked with a horse as long as necessary, or the most of it at any rate. Probably the tomato plants will get too big and will fill up the row. Put your cucumbers in the same row. My rows are 40 rods long, so I can get all the above two kinds I want in one row. Probably by putting them at one side of garden you can train the cucumbers to run toward fence and so when they get quite a growth you have only the one row that you cannot scuffle.

I use both hot-beds and a homemade 10 feet by 12 feet greenhouse. This gives a chance to get vegetables started early, and if there is any surplus a top price may be had especially for early stuff. During the summer

the garden is scuffled at least once a week and the hoeing done at odd times, quite a bit being done after supper. It is fun to get out and hoe for an hour in the cool of the evening. I try to arrange the rows so that I have vegetables somewhat alike in a row, and big plants in one row and smaller ones in the next. Thus I plant cabbage and cauliflowers in one row, and carrots and parsnips in the next. The cabbage take up more than their share of the space between the rows, but with small-leaved kinds in the next row you can still put the horse through to cultivate. I plant late cabbage and turnips where I have had early radish, lettuce or beans. and sometimes make two plantings of the same crop. Late and early cabbage can be put in 18 inches apart, and the early ones marketed before they become too crowded. This leaves 3 feet for each late cabbage. It is rather hard to give exact value of crops. Garden stuff is used all summer and fall, and plenty stored away for winter, and still have sold nearly one hundred dollars' worth from one acre. The garden truck is either sent with huckster or else taken direct to market.

By all means have a garden and enjoy fresh vegetables grown at home. They can be grown far more cheaply than you can buy them, and they will taste better.

York Co., Ont.

A. C. HICKEN.

A Garden for Women to Hoe.

EDITOR "THE FARMER'S ADVOCATE":

When we moved to our present farm three years ago the house sat in a large field, without a tree or shrub, with a rail fence along the road. The land around the house was a rich, sandy loam, ideal for a garden but had been uncultivated for years. First we removed the old rail fence, then levelled the lawn and roadside, then fenced in, with chicken-tight wire fencing, about 1½ acres of land, that being the only size we could make it under the circumstances. The lawn was then seeded and a cedar hedge planted at each side and along the back, and a good gravel road made from public road around the house and to the barn. Then a wind-break of spruce was planted along the north fence and a few maples near the house. This took considerable time to accomplish, and not all farmers could or would not take the time to do it, although it has added dollars to the appearance of the place. However, few farmers would need to do as much as we did to make their farms attractive.

Next came the fruit and vegetable garden. It is directly back of the house and takes up about three-

eighths of the ground enclosed. In every locality there are some farms with a wilderness of raspberries, plum trees or other small fruits, and their owners will tell you you are welcome to dig up all you wish, as they are just a pest and never amount to anything. We spent a half day in early spring, two years ago, visiting some such farms and returned with a load of almost everything one could desire in a garden in the line of roses, peonies, syringas, currants, gooseberries, plums, etc. The cherry (bought at a nursery) and plum trees were planted in two rows about 25 feet apart, then two rows of raspberries 8 feet apart between the rows of trees and 8 feet from the trees. Between each two trees are three red, white or black currant or gooseberry bushes. Then there is a row of rhubarb and two of asparagus and two of strawberries. Then 2½ feet apart were rows of carrots, beets, parsnips, onions, beans, peas, lettuce and other small stuff. A row of tomatoes was planted between the trees and raspberry bushes. Last year we put in one hundred plants in that way, and had several bushels of ripe and green tomatoes for ourselves and neighbors. Near the fence was left a space of twelve feet for squash, pumpkins, citrons, cucumbers, etc. The remainder of the land fenced (½ acre) is used each year for early potatoes or mangels, and when cultivating them I also cultivate the fruit and vegetable garden. The hoeing among the vegetables last year was all done by the women folk, owing to lack of help on the farm, and I might add it was the cleanest part of the farm's hoed crop last year.

From our garden we had all the strawberries and currants we could eat raw and canned, also an abundance of rhubarb and asparagus and several boxes of raspberries. And in the fall I bushel of onions, 1½ parsnips, 1 of carrots, 1 of beets and a quantity of squash, citron, pumpkin, cabbage and salisfy, besides having all the fresh vegetables we could use all summer.

I plow the garden every fall, manuring well, then cultivate and harrow as early as possible in the spring. By plowing deeply between the raspberries and cultivating well in the spring and summer I keep them in two neat rows and transplant in a fresh part of garden every three years. The strawberries are set in a fresh, clean, well-manured place every year. I never use a hot-bed, but sow tomatoes, cabbage and celery seed in a 3 by 6 foot space surrounded by four 1-foot boards in a sunny, sheltered part of garden as early as the frost will permit and keep covered with two old windows for a few weeks and at nights till the small plants get a good start and are ready to transplant.

Ontario Co., Ont.

A YOUNG FARMER.

Automobiles, Farm Machinery and Farm Motors.

Knocking.

Even the most inexperienced boy frequently uses the expression, "there is a knock in your motor;" and with those who have had considerable experience with cars, it is possible to detect the slightest noises, although they do not come intelligently to the ears of an amateur. When a man buys a new car, he has only one method by which to determine the efficiency of the engine, and that

system is the hearing of it in operation. When we use the word "knocking" we do not include what is commonly known as "missing." The latter term is applied to the uneven sound which comes from a power plant when one of the cylinders is not operating. In two, four, six and twelve-cylinder motors there should be continuous power, but if a single cylinder is not effective, the gap in the sound becomes distinctly audible. It is possible to have a miss and a knock in the same

motor, but the miss is uneven while the knock is more or less uniform.

If you have a miss in your motor, it generally comes from faulty ignition or a sticky valve. A knock, however, can originate from a number of different causes. When it arises from carbon, it generally gives out a clear hollow sound, and this unwelcome noise will be particularly noticeable going up hill or when the engine is superheated. A knock of this description comes from

the carbonizing of cylinders. In other words, from a collection of foreign matter upon the walls of the chambers, such as occurs from burning of oil or too much gasoline. This carbon knock may not be continuous, in fact, if it is, it shows a very aggravated condition. You may only find it immediately after advancing the throttle or at the brow of a hill that has proven particularly steep and difficult to climb.

Perhaps everyone is familiar with the fact that the water in certain parts of Canada creates a scale when used in steam boilers. This scale does not immediately effect the efficiency of an engine, but if it is allowed to accumulate will soon result in very decreased power. A steam engine, however, only gives this indication of foreign matter by refusing to deliver the amount of horse-power for which it was built. A gas motor is different, and in fact, more human, because when it finds it is suffering from an access of foreign stuff in the cylinders, it immediately proclaims the disease in the same way that a headache gives to a human being, a warning signal of ill health.

A spark which is too far advanced gives a dull knock in the motor. Should you hear this blurred sound, retard the spark until the noise has entirely disappeared. There is no definite rule that can be laid down for spark control, because motors vary. There is always what is called the "personal angle" in motor car driving. The best chauffeurs cannot explain just exactly how they obtain maximum results, because in an indistinct sort of way they manage to make all the parts of an engine co-ordinate in procuring the highest degree of efficiency. Old car drivers know the exact points at which the spark and throttle levers should be placed under any and all conditions. It might be well, if you are a new driver, to take the car out alone on a number of different occasions and sort of practice with it until the actions which result from different movements have made an indelible impression upon your mind. It may be said, in a general way, that for hill climbing the gasoline and throttle levers should be about one-third up or down the sector or advanced in this proportion where they are placed along notches, but do not take this as advice to be followed in every instance. You must determine for yourself, the little idiosyncrasies of the machine in your possession and cater to them as carefully as you would to the whims of a lady.

When your ear is greeted with a clear sound like that of steel meeting steel, you can almost immediately decide that you have developed a connecting rod knock. Under these conditions slow down the motor. Perhaps your first indication of this unfortunate fault will come to you as you pull up very quickly in front of some building. Connecting rod knocks usually follow the slowing down that, in turn, follows high speed.

Other knocks that are perhaps a little more difficult to distinguish, emanate from the timing gears, the main bearings of the crank shaft and from loose pistons. We always advise consultation with an expert repair man, but in some instances this is not possible, and so if you require carbon removed from your cylinders and there is no Oxo-acetylene plant handy to burn it out, you will find it necessary to scrape out the carbon with some instrument similar to a screw driver. In carrying out this operation make sure that the separated pieces of foreign matter do not get into any working part, where they might subsequently cause trouble. A noise from a too advanced spark lever will be remedied obviously by you. Those grating sounds that come from other instances already mentioned, must be dealt with by a mechanic if complete success is to be assured.

While we are on this subject of knocking, we can profitably advise that the springs should be frequently attended to with oil or graphite, and that if they are being subjected to very hard usage, should be bound at vital points with tape. If a fender develops a squeak, oil will sometimes act effectively, but if such is not the case, the loosening and replacement of the fender may be found the surest system for relief. If a squeak comes from the body and refuses to yield to ordinary measures, jack up the body so that it is perfectly free and use felt or rubber at those points where wood and metal are meeting and creating friction. AUTO.

Dynamos For Heating.

1. How large a dynamo would I require to generate enough electricity to give as much heat as an ordinary coal stove?
2. How many horse-power would it require to run it?
3. How large would the electric heater need to be?
4. What would such a dynamo cost?
5. What would such a heater cost, or could I buy the material and make it myself?
6. How fast is it necessary to run a dynamo before it will generate any electricity?
7. What effect would it have if it is run too fast? Would it harm the dynamo?

Ans.—1. This question is very indefinite. The amount of coal consumed by an ordinary coal stove varies with the stove and with the way it is run. However, "Subscriber" knows how much coal his stove uses, and knowing this will be able to figure his own answer from the following: Making due allowance for the heat lost up the chimney when coal is burned, it is found that 1 horse-power of electricity used full strength all day every day for one year is only equal to 1½ tons of coal. Now stoves for heating do not run all year, possibly not more than about 6 or 7 months, and some stoves burn four tons in that time. It would take a 5-h.-p. dynamo running steadily for seven months to give as much heat as 4 tons of coal, but the 5-h.-p. dynamo would not be equal to the stove in heating capacity,

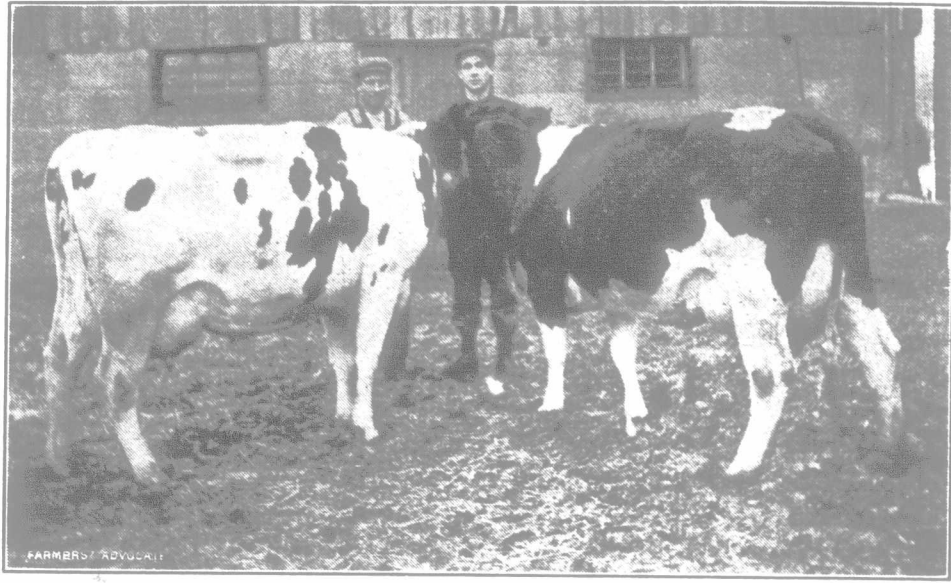
as at night and during mild weather the stove is run light, but in the day-time and during severe weather it is forced and burns two or three times the average. Consequently it would require at least a 10-h.-p. dynamo to give the capacity of a stove which would burn 4 tons in 7 months, and a still larger one would be safer.

2. It would require at least a 6-h.-p. engine to run a 5-h.-p. dynamo, and preferably a 7-h.-p.

3. About 30 inches long by 2 feet high by 7 inches deep.

4. The cost will vary with requirements, ranging from say \$150 to \$250.

5. About \$22.50 at present prices. Unless an electrician you had better leave the making of heaters alone.



Homestead Susie Colantha 14273 and Stable Mate.

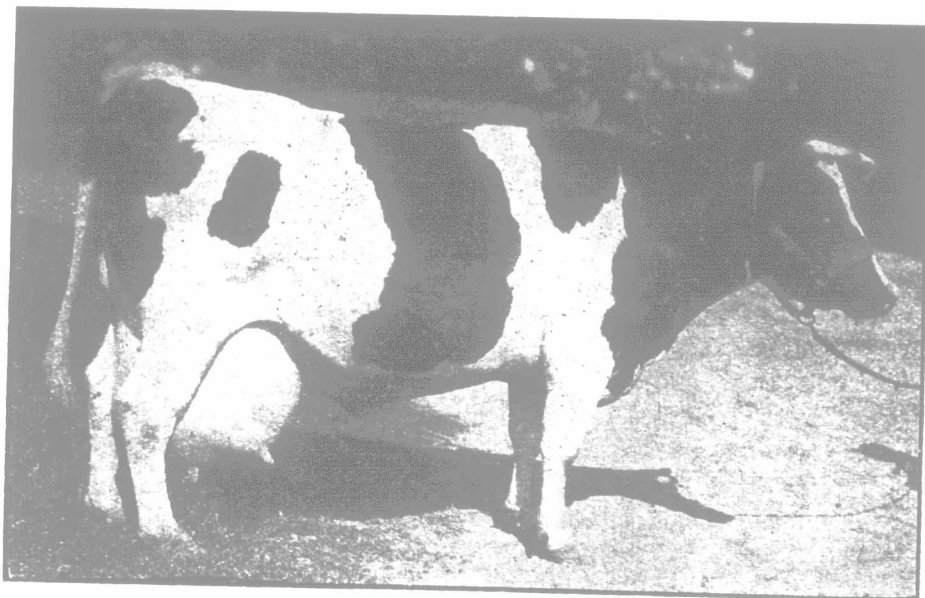
Seven-day record at 3 years—milk, 586.7 lbs.; butter, 26.50 lbs. Year's record at 2 years—milk, 15,376.0 lbs.; butter, 608.75 lbs. Ourvilla Susie Abbecker 18702, seven-day record at 3 years—milk, 527.1 lbs.; butter, 26.02 lbs. Year's record at 2 years—milk, 11,170.0 lbs.; butter, 485.0 lbs.

6. A dynamo will generate some current as soon as it begins to run, but the speed at which it should run for its rated load depends entirely on how it is wound. They are made to run anywhere from 250 to 2,500 r.p.m.

7. If the dynamo exceeds its proper speed only slightly it will not seriously injure it—only heat it a little—but if run continuously at very much too high a speed it is likely to heat so badly as to burn out the armature.

The above answers may seem inconsistent with the notions some have regarding heating by electricity. Heating is the most extravagant way of using electricity. In a certain Ontario city tests have recently been made to determine at what price of coal it would be cheaper to heat by electricity. At present prices for electric energy coal is the cheaper until the price per ton reaches \$38. With coal at higher prices electricity would be the cheaper.

Subscriber can only hope to obtain cheap heat by electricity if he has a water power of his own so that



A Foundation Cow of a Good Herd.

The type of foundation cows in the herd of A. D. McGugan, Rodney, Ont. Complete dispersion sale on April 10. See ad.

his electricity would cost him nothing but overhead and operating charges. He cannot heat by electricity if he has to buy his fuel to run his dynamo. Not only is electricity itself inefficient for heating purposes, but the gasoline engine wastes 65 per cent. of the fuel it burns, and the steam engine wastes 85 per cent. W.H.D.

Keep wearing points well oiled; it will conserve power, whether emanating from a team of horses or from an engine. It costs more to produce power this season than it has done for a long time and we cannot afford to waste it.

Know the mechanism of your engine. A little trouble will cause a delay the same as a serious one, if the principle of operation is not understood.

THE DAIRY.

Plan to Supplement the Pastures this Summer.

The prolonged drought of last summer, which parched the pastures, thus reducing the sole feed supply for many herds, and incidentally caused a big reduction in the milk yield, was an experience few dairymen care to have repeated. Cows which had only been milking a few months went down to less than half their normal production. Even the heavy feeding of grain in conjunction with the pasture failed to keep up the milk flow and

the majority of dairymen suffered a loss, at least their returns were much smaller than they would have been had an abundance of succulent feed been available. A slight falling off in the milk yield is generally looked for in mid-summer and is attributed to the cows being worried by flies, coupled with short grass rations, but many dairymen never considered the loss serious enough to provide supplementary feeds. Those who had a summer silo filled with corn or had a spring-sown pasture crop to turn the cows on to, were well repaid for their preparedness, as prices for milk products were unprecedented for the summer months. Of course the shortage in milk supply and the heavy demand for dairy products were in a measure the cause of advanced prices. Had production been normal, prices might not have been so high. Be this as it may the men who were prepared for the emergency profited, and the experience of 1916 should be a warning to all dairymen to make some provision to cope with like conditions should they again occur. The cows which fall off in their milk during the summer due to shortage of green feed, never come back to normal in that lactation no matter how abundant the fall feed may be. The yield can be kept up fairly well by supplementing the pastures. Concentrates will help, but they do not entirely take the place of succulent fodder.

There are different ways of making provision for the stock during the shortage of pasture which occurs practically every summer. Many have built a second silo and claim that it has paid well. If corn can be grown it generally gives a heavier yield per acre than any other farm crop, and as it requires considerable cultivation during the growing period it serves as a partial summer fallow in cleaning the land of noxious weeds.

If the corn is fairly mature, and is properly ensiled, it will keep almost indefinitely. While it is too late now to make provisions for silage this summer, a larger acreage could be set aside for corn this spring so as to fill an extra silo in the fall to be used in 1918. For this coming summer a spring crop can be sown that will afford fresh pasture when the regular pasture field has become bare. Oats and peas are commonly sown for this purpose, in the proportion of about a bushel of peas to one and one-half bushels of oats per acre. This crop is more generally cut and fed the stock, rather than turning the stock on it. It is advisable to sow a small amount at different times so as to prolong the feeding period. If the crop heads out before it is all fed off,

it can be cut and cured for hay so that there will be no waste. Cutting the crop and feeding it to the cows night and morning entails a good deal of labor, and, while it may be more economical of feed than pasturing, the labor problem must be considered. A spring pasture crop composed of a bushel each of wheat, oats, and barley, sown at the rate of three bushels to the acre, and 6 lbs. of red clover, has given exceptionally good results in both a wet and dry summer. It will carry practically double the stock that ordinary grass will in the summer; thus, instead of leaving the usual acreage in grass for pasture, a portion can be broken up this spring and a field sown to the grains mentioned. Sown at the regular seeding time, the crop will be ready for pasture the latter part of June. It is essential that it be prevented from heading out, if feed would be procured during the remainder of the

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season. When these grains do not head they continue growing up fresh as they are picked off. The red clover also comes on for fall feed and may be left for hay or pasture the following season. Those who have tried this mixture speak fairly highly of it as a pasture crop, and claim that they have never failed to get an excellent catch of clover. The tramping of the stock even in a wet season does not seem to seriously injure it. By this means scarcity of fresh succulent feed can be overcome for this summer.

Later in the season corn can be cut and fed to the cows to aid in keeping up the milk supply, but there is not much use feeding it until it begins to tassel out at least, as there is very little body to it and large quantities must be consumed before the requirements of the system are met.

In order to make a large profit from a cow it is necessary to have her keep up a fairly heavy production of milk for about ten months of the year. When the cows freshen in the spring it is impossible to do this without in some way supplementing the pastures. If silage or green feed has not been provided, grain may be fed, but as a rule it is more expensive. Cured alfalfa and clover hay are also used to good advantage, although it necessitates practically the same labor as a soiling crop. It has to be cut, cured, drawn to the barn and then fed. The spring-sown pasture crop, or silage, appears to be the most satisfactory means of keeping up the milk flow during the shortage of grass in the heat of summer.

Don't Neglect the Spring Crop of Calves.

In the spring of the year with the rush of work it very frequently happens that the same attention is not given to the calves and young stock that they receive during the winter months when practically all the time is devoted to chores. Consequently, calves are more subject to ailments and particularly to scours than during the winter months. It is very discouraging to go to the stables some morning and find a valuable calf either dead or beyond hope of recovery, because they sometimes die very quickly from the effects of this disease. It may be due to a germ, although it frequently is caused by indigestion. The latter is brought about by various causes which set up inflammation in the stomach. It is frequently the result of overfeeding, irregular feeding or giving milk that is too cold or using unclean pails. It is rather difficult to be regular with the feeding during the rush of spring seeding, and possibly it is not convenient to feed the calves as soon as the separator is run. However, with even grade calves, at the price they are this spring the aim should be to prevent any disorders of the calf's system if possible. The calves should be watched closely so that at the first sign of ailment, treatment could be administered. The first thing to do is to cut down the ration. About one-half the regular feed of milk might be given, and in severe cases it might be advisable to withhold the feed entirely for a day and then start with a small amount and gradually increase the quantity until the calf appears normal. In obstinate cases it often becomes necessary to administer a physic as two or three ounces of castor oil in the milk, and then feed lightly for a few days. Adding a little lime water to the milk also tends to correct the trouble. Lime water can be secured by slaking a piece of burnt lime in water and then using the clear liquid. A teaspoonful night and morning of a mixture of powdered chalk two ounces, powdered catechu one ounce, ginger one-half ounce, opium two drams, peppermint one pint, is recommended by some breeders.

Care should be exercised not to overfeed the calf on milk. It is practically impossible to satisfy a calf's appetite for milk without overfeeding it; therefore the amount should be either weighed or measured out at each feeding. Weighing is preferred, as it is more accurate than measuring on account of the foam which frequently occurs on separated milk. If one person is feeding the calves continually, he might be able to guess the amount to feed, but when the feeding is done by different persons the scales or measure become essential if the calf's health is to be considered. The calf pails should be scalded and receive the same treatment and attention given the regular milk pails. Feed the milk at as near blood heat as possible, especially to the young calf. Cold milk is very often responsible for setting up digestive troubles. Warm milk one meal and cold the next may cause serious trouble. Do not neglect the calf, because the stunted calf will never make the mature animal that it would have had it received proper attention when young.

White scours or calf cholera is an infectious disease and has caused serious loss in many herds. The germ of the disease is believed to enter the blood of the calf soon after birth through the freshly severed navel cord. This disease always attacks very young calves, often appearing within three days after birth, and generally proves fatal. Therefore, every effort should be made to prevent infection. The surroundings of the new-born calf should be in a sanitary condition and it is advisable to disinfect the navel cord as soon as the calf is dropped. Three per cent. carbolic acid solution is commonly used. Some bind the cord after disinfecting it, with a strip of cotton to avoid later infection. Formalin is sometimes used inwardly. For internal administration mix one-half ounce of formalin with fifteen and a half ounces of distilled or freshly-boiled water. Keep this in an amber colored bottle to prevent chemical changes taking place. Of this mixture add one teaspoonful to each pint or pound of milk fed to affected calves. It may be mixed with skim-milk in the same proportions and serve as a preventative. Epidemics of this trouble are not uncommon and once they break out the entire crop of calves may be

lost in spite of all the owner may do to cope with the situation. The common scours or indigestion is largely the result of carelessness on the part of the feeder. The scours caused by the contagious germ, however, may occur even in the herd where the utmost care is given regarding feeding and sanitary conditions.

Oxford County Holstein Breeders' Club Had a Successful Sale.

At Woodstock, Ontario, on Wednesday, March 23, the Oxford District Breeders' Club held their semi-annual sale of Holsteins, receiving a total of \$11,395 for the seventy-four head sold, an average of \$154 per head. The year-old and two-year old heifers made the best average; the twenty-two head selling for \$4,080 an average of \$185.45, while the thirty-seven mature cows averaged only \$142.30. Fifteen young bulls, all around one year, made the very good average of \$130, only one selling below the hundred. Taken all round the prices realized were not quite as good as those received at the fall sale. The animals were not brought out in quite as good fit, and cows near freshening were not nearly so numerous. However, the heifers went at exceptionally fast bidding and, as the young bulls also sold well, the officers of the Club have every reason to feel that they had a successful sale. Ladoga Veeman Mercena 2nd, a three-year-old heifer from A. E. Hulet's consignment, brought \$370, the top price of the sale, being purchased by W. A. Clemons, Secretary of the Canadian Holstein-Friesian Association, for J. A. Holmes, of Sudbury, Ont. W. G. Bailey, Paris, Ont., was the purchaser of Villa View Ella Abbekerk, the highest priced heifer. She was consigned by Arbogast Bros., and the selling price was \$310. Among the contributors to the sale were: M. L. Haley, McGhee Bros., A. Dunn, Arbogast Bros., Peter S. Arbogast, W. E. Thomson, Fred W. Lee, M. H. Haley, Wm. Stock & Sons, George Oliver, W. G. Roth, Oswald Wallace, Geo. T. Prouse, Jas. G. Currie & Son, Geo. R. McCombs, Walburn Rivers, M. & W. Schell, Frank J. Griffin, Fred Row, T. J. Lammiman & Son, M. McDowell, Noah S. Bender, W. C. Prouse, A. T. Walker, and A. E. Hulet. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Aaggie Cornelia Posch, John Winer, Guelph.....	\$180
Duchess Colantha Fayne, J. P. Griffin, Freeman.....	130
Nettie Winsumer, Harry Long, Burlington.....	155
Homewood Butter Baroness, W. H. Easterbrook, Burlington.....	145
Grace Johanna Belle, J. R. Masters, Woodstock.....	205
Butter Baron Sir Kornylke, Wm. George, Putnam 185	
Kathleen Canary Posch, J. Innis, Woodstock.....	230
Janet Calamity Posch, G. H. Cross, St. Thomas.....	165
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Cross-Breeding is not Constructive Breeding.

There is a certain class of people who cannot content themselves for long with any one line of farming or class of live stock. They are continually changing farms, trying out the different breeds of stock, or else crossing two distinct breeds, and, incidentally, getting nowhere. These men exist in practically every community; one year they go strong for one crop, and the next year for another. They may have a splendid herd of one breed of stock now, but in a year's time it may be of an entirely different color. It takes time to build up a herd of live stock, but by selection and breeding a vast improvement can be made in a few years. The top-notchers to-day are the result of consistent breeding and using the best sires which were available. Dairymen who breed promiscuously do not produce the winners in either the show-ring or test; those honors go to the men who follow a definite plan in their breeding operations. They know full well that a common-place pure-bred or grade mated with a high-quality animal, even of the same breed, is not likely to produce progeny equal to the better of the two. On the other hand, when two high-quality animals are mated it is reasonable to expect that the offspring will be superior to its parents and ancestors. Our best herds to-day are the result of adhering to this principle generation after generation. The world's champion cows have reached their high production by having the blood gradually improved. They are not freaks, but the result of a definite plan of breeding.

Dairymen have been known to raise their herds of a particular breed up to a fairly high standard, when they realized that one of the other breeds was a little superior in certain points. Thinking to combine the desirable characteristics of both breeds, they resort to cross breeding. However, when it is too late they find out that cross-breeding is a poor plan to follow. Combining the rich milk of one breed with the large yield of another does not work out in practice. Some animals may show this combination but just as many will combine the low yield of one with the low percentage fat of the other. Crossing two distinct breeds breaks the chain of inheritance, and every possible combination of the characteristics of the two breeds appear. Select the breed that best meets your requirements and stick to it unless it is found, after sufficient trial, that a mistake has been made. Grade herds predominate and they have made money for their owners, but if it is grade Holsteins stick to that breed, do not introduce Jersey or Ayrshire blood. If Ayrshires or Jerseys meet your requirements better than the Black and Whites, then start with one of these breeds and aim at improvement through the use of a sire from a good strain of the same breed. The mongrel stock which are boarders on the farm are largely the result of crossing the breeds. True, there are inferior pure-breds, but they are the exception not the rule. The breeder of well-bred animals has an idea of what the progeny will do in the way of milk and fat yield before it reaches the producing age while the breeder of cross-breeds is working in the dark. Sometimes the offspring of the first cross proves satisfactory but deterioration of quality follows sooner or later if crossing of breeds is continued. All breeds have their good qualities but it is difficult to combine all the good points in one animal by crossing. Decide on the breed which suits your conditions and stick to it.

HORTICULTURE.

Up to March 24, 1917, Nova Scotia exported 387,305 barrels and 2,703 boxes of apples of the 1916 crop.

Scab is the great obstacle apple growers have to contend with. It can be combatted most successfully by spraying thoroughly at exactly the proper time.

Are the spraying stocks complete. Repair the spraying machinery and see that nozzles, hose, and rods are in proper condition. Delays are costly.

According to a recent telegraphic report issued by the Dominion Fruit Commissioner, Nova Scotian Golden Russets sold in Liverpool at 45s., for No. 1's and 37s., for No. 2's during the latter part of March. Ontario Ben Davis, best packs, sold in the same market at 50s. for No. 1's and 40s. for No. 2's. Other packs sold at lower figures. The home markets have been very firm quoting as high as \$7.50 to \$8 for No. 1 Spys.

Pruning Cane and Bush Fruits.

A great number of farmers have never planted currants, gooseberries, raspberries, etc., in their gardens and they have been the losers through their negligence, but their is a considerable number who have berries and small fruits growing about the premises and do not understand the principles underlying the growth of

same, and consequently do not prune and care for them properly. Gooseberries, currants and raspberries all produce fruit on wood of a certain age peculiar to each kind, and keeping this in mind it is easy to comprehend how a bunch of old raspberry canes left standing in the row will be a detriment when the berries are produced on year-old growth. It is also outstandingly plain that gooseberry bushes will not do their best if left unpruned from year to year, when the majority of the good fruit is borne on wood that is one year old and on spurs sent out from older wood. The same idea applies to currants. Here the crop is found on two and three-year-old wood, in the case of red and white varieties, and on the previous season's growth in the case of black varieties. The age of the wood on which the crop is borne governs all pruning operations in cane and bush fruits. A further word about pruning these kinds of fruits is very timely now, and we shall be brief.

Raspberries may be pruned in fall or spring. If the work is still to be done, go through the patch and remove all the old canes leaving only the wood produced during the season of 1916. It is on this growth that the fruit will be found this season. Take out all diseased canes, and cut back to healthy wood all tips that have been winter killed or have been girdled by the cane borers. Five to eight good canes are enough to leave in each hill, and the healthiest and most vigorous of course should be spared. In rows, the canes should not be closer than six to eight inches and the rows should not be more than a foot wide in a commercial plantation.

The fruiting habits of red and black currants differ somewhat and consequently we must prune them in accordance with their respective peculiarities. In the red and white varieties the two and three-year-old wood is most productive; four and five-year-old wood should be removed. Do this work at once. Leave the young, vigorous growth to bear later on and cut out the old wood that has done its bit.

The pruning of black currants is necessarily more severe than is the case with the red varieties. Look to a complete renewal of the wood each year, and do away with the old growth.

Gooseberries are found on year-old wood and on spurs sent out by older wood. It is not wise to retain growth more than three years old. The bush must be fairly open to facilitate picking, but excessive sunlight leads to scalding, so a reasonable amount of shade must be provided by the foliage produced. Bushes too open or too dense do not produce the best quality of fruit.

In all cases burn the wood removed from the gooseberries, raspberries and currants. This destroys insects and diseases.

Who Should Plant Apple Trees?

The time seems opportune for the planting of more apple trees and such a practice is being advocated by some of our leading horticulturists. Why the time is ripe for an extension of our orchards we shall not discuss here. Mention has been made relative to that matter in former issues, and we intend now to interpret, if we can correctly, the advice being handed out to farmers regarding further plantings.

There is no law, civil or moral, intended to discourage any man from planting trees; on the contrary it is a philanthropic and public-spirited action to beautify the country with trees of any kind, but farmers who are in the habit of growing grain, roots, corn, etc., and feeding them to live stock, should think twice before they move once in the direction of a semi-commercial farm orchard. We are entirely in sympathy with the farm orchard for domestic purposes. No home in the country should be without its fruits and berries, and a young farmer would act wisely to plant, early in his career, a few trees of the different varieties, covering the entire season. However, commercial orcharding is gradually drifting away from the farm plantation to fruit holdings covering a considerable area and where they are the main branch of the business with grain and live stock subsidiary to them. In other words fruit-growing is becoming centralized, like all enterprises of the present era. The old axiom "Don't keep all your eggs in one basket" has not on the whole been satisfactory advice. Andrew Carnegie said: "Keep all your eggs in one basket and watch that basket." This motto, too, has its weak points, but the modern precept "Keep your eggs in several baskets but watch the basket with the most eggs in it" has a wider range of application. If the farm orchard represents more "eggs" than the grain and live stock, the farmer must watch it with fertilizer, cultivators, pruning tools, spraying equipment, and spray material; in fact, he becomes an orchardist instead of a mixed farmer.

The stern necessity of scientific and practical methods in the production of fruit, and the application of the most up-to-date ideas in marketing, entails the devotion of one's time absolutely to the growing and selling of fruit. It leaves a farmer little time to attend to other matters about the place, and nowadays there is no halfway system that will bring results. There are some homesteads of course that derive considerable revenue from the orchard and the combination seems to work admirably, but on the whole the thousands of neglected farm orchards, the country over, which are doing little more than encumbering the ground recommend a centralization of the industry in the hands of those adapted for it and in districts or on soils best suited to the production of high quality fruit.

Be careful with the waste after wiping engines and oily machinery. A little heat is liable to cause a flame and much loss.

THE APIARY.

Advantages of Keeping Bees on the Farm.

Many people have a great dislike to bees and possibly that is the reason more are not engaged in the business. However, it is estimated that in the neighborhood of 10,000 people in Ontario are beekeepers. It is a business which requires particular attention at certain seasons of the year and it can be worked as a sideline very satisfactorily. Some farmers claim that for the amount of capital invested bees yield a larger revenue than anything else on the farm. While it does not require a very great amount of time to manage an apiary, it is essential that the person looking after the business knows what to do and when to do it. The life history of the bee should be studied in order to have a working knowledge of how the nectar is gathered from the flowers and stored in the hive in the form of honey. It is claimed that Canadian honey is unsurpassed in quality and that there is an abundance of honey-yielding flowers with favorable weather for the production and ingathering of honey in most seasons. A well managed colony of bees will produce a large amount of honey in an average season. The yield depends on the strength of the colony, the flora and the weather conditions during the time flowers are in bloom. One year a beekeeper may find it necessary to pay out money to feed the bees rather than have a revenue coming in. This does not often happen, and when it does it is offset by the good year when a colony may pay for itself in one season.

In bulletin No. 26 on "Bees and How to Keep Them", written by F. W. L. Sladen, and issued by the Dominion Department of Agriculture, the writer claims that "the peculiar advantages of bee keeping are not sufficiently recognized. Without investing in land or expensive equipment a man or woman who has the aptitude can learn to make money in the production and sale of an article of food which one is never compelled to sell at temporarily depressed prices, because it will keep in good marketable condition even from year to year if necessary. A crop of honey and a little wax does not represent all that is to be gained by keeping bees. To the fruit grower bees may be more valuable for ensuring the crop of fruit than for honey production. It has been experimentally proved that the production of most kinds of apples, pears, plums and cherries, and also raspberries and gooseberries, depends upon the transmission by insects of the fertilizing pollen from blossom to blossom of different trees or varieties. The industrious and methodical honey bee is by far the most efficient insect for this work, and in regions or seasons where wild bees are scarce, or where, frequently, unfavorable weather during the blossoming period demands that pollination be accomplished quickly, a few hives of bees in or near the orchard become a necessity. Bees are also useful pollinizers of several farm and garden crops. In the alsike seed growing districts of Ontario, many farmers are glad to have a specialist beekeeper locate his large apiary near their fields, because an abundance of bees increases the seed crop and bees are a recognized item in the equipment of those who grow cucumbers in hot houses."

The man who makes a business of beekeeping keeps several hundred colonies. If he has sufficient land, and the flora is satisfactory, these may be kept at one place. However, many divide their colonies and keep one or more out-apiaries, believing that higher returns could be secured in this way than by having all the colonies in one yard. From 100 to 150 colonies can be kept on a very small piece of ground; in fact, we have known that number to be kept on a good sized town or village lot. A few colonies on a farm not only supply the household with a palatable and healthy article of diet but the bees tend to ensure a larger crop of fruit and clover seed.

The spring is a very good time to start beekeeping, and colonies complete in their hives may be obtained in May, or swarms may be secured in June or early July. The former method of starting in bees is to be preferred as, if the season is favorable, each colony should give a fair amount of surplus honey, or a swarm or two. Endeavor to secure a strong colony that has a young, fertile queen. Care should be taken when purchasing bees to see that the colonies are free from disease. It is a mistake to go into the business too strongly without a good working knowledge of the business. Begin with one or two colonies, as the successful handling of bees must be learned by experience. If the season is favorable, the number may be increased by two or three colonies the first season without any out-lay other than for the hives. Mr. Sladen recommends a ten-frame Langstroth hive. Equipment for the beginner consists of a bee smoker, bee veil, No. 30 tinned wire, spur wire imbedder, and for each colony one spare ten-frame hive with self-spacing frames, and 1½ pounds of medium brood foundation to take a possible swarm. For extracted honey production two ten-frame hive bodies and a queen excluder will be necessary. Additional articles for extracting honey are a honey extractor and an uncapping knife.

The apiary should be sheltered from high winds, and especially from cold winds in the spring. A wind-break is very serviceable. Some beekeepers claim that it is advisable to have the hives partly sheltered during summer. For this reason they locate them in the orchard. It is a mistake to place the bees near a public highway or where small children are likely to run about in front of the hives. At the same time it is advisable that the hives be within sight and hearing of the dwelling house, especially when only a few colonies are kept and a

person's whole attention is not given to them during the swarming season. The ground around the hives especially in front of the entrances should be kept clean, and the grass cut short, in order that the bees returning laden with honey do not become lost or exhausted in long grass at the entrance to the hive.

The black bee and the Italian bee are two races of bees which prove satisfactory. With the former the skin under the hair is black, whereas in the Italian the abdomen is striped with yellow. The Italian is considered to be the more prolific, less excitable and easier to handle, and is claimed to be a little harder worker than the black bee. This is possibly the reason why Ontario beekeepers prefer the Italians. They also resist foul brood more satisfactorily than the Blacks. By replacing the Black queens with fertilized Italian queens an apiary of Black bees may be Italianized. A few colonies of bees to look after may prove intensely interesting work for some members of the family. It does not entail much heavy lifting, and when one becomes accustomed to the ways of the tiny workers stings are not frequent. If just starting in beekeeping it is advisable to visit some successful beekeeper in the neighborhood from whom practical pointers may be secured. Information of value may also be gleaned from books on apiculture. Bees gather a product, that would otherwise be wasted and in doing so aid in increasing the yield of fruits and clover seeds. More bees would undoubtedly increase the average yield of the crops mentioned.

POULTRY.

High Quality Poultry Products Command the Best Price.

It is generally conceded that there is a heavy loss, each year due to poultry products being carelessly packed and handled. A large percentage of this loss could be saved by the producer if more care was taken of the eggs. There is also a heavy loss from carelessness in the dressed poultry trade. All have seen thin, scrawny chickens placed on the market that did not entice the purchasing public. Consequently, if they were bought at all it was at a low figure. It pays to carefully fatten the birds, dress them properly and then pack them in clean boxes for shipment. In a bulletin on preparing poultry produce for market, written by F. C. Elford, Dominion Poultry Husbandman, and issued by the Dominion Department of Agriculture, the method of preparing poultry produce and placing it on the market is plainly set forth. The time it takes to prepare the produce is time well spent, no matter what line of farm products is being sold. They should never be sent from the farm until they are in first-class condition, especially when they are intended for table use. Mr. Elford states that well-finished broilers or roasters cost less per pound to the producer than those that are poorly fleshed, and that they are much more palatable to the consumer, though he may have to pay considerably more per pound for such, the edible portion as a rule costs less. Dirty eggs, stale eggs and eggs of different sizes and shapes do not bring as high a price on most markets as do the clean, fresh eggs put up in neat, attractive crates or cartons. Under the old system of marketing eggs there was little encouragement for the production of a good article. Unless the poultryman is paid according to the quality of his produce he will not take the pains necessary to furnish the consumer with a first-class article. From the poultry yard to the consumer's table is a long, tedious trip, and in warm weather it is a wonder that the loss is not heavier than it is. Very often the eggs are stale before they leave the farm. They are held some days at the grocer's in a temperature not conducive to keeping eggs in the best condition. From the grocers to the wholesalers, from there to the retailers, and then to the consumer necessitates considerable handling and time. Eggs that were fresh when they left the farm may come through all right, but the producer who hunts the eggs every day and markets them regularly does not receive any more than the man who is careless about gathering and handling the eggs. This latter man's system tends to keep the price down. The buyers are in a measure to blame for conditions that exist. If they would refuse to accept all eggs that are not strictly fresh, as shown by candling, the farmers and poultrymen would soon furnish fresh eggs. They would see that the eggs were hunted regularly and those found in stolen nests would not be offered for sale. After the eggs were gathered they would also be kept at the proper temperature. A system of candling, and grading as to size would certainly tend to increase the consumption of eggs, and the price would no doubt be higher. Warm weather and rough handling in transit depreciate the quality. Every off-flavor egg put on the consumer's table hurts the industry; every package of eggs or dressed poultry offered either helps or hurts the selling.

A system of improving the methods of handling poultry products outlined in the bulletin, is to the effect that more care should be taken to have healthy flocks, sanitary houses, clean nests, more frequent gathering of the eggs, better care until shipped, prompt shipments and all eggs guaranteed new-laid and infertile. Flocks that lack in constitution should be disposed of, as they are unprofitable to keep for reproduction purposes. As a rule they fail to lay a sufficient number of eggs to pay for their keep. The eggs hatch poorly and there is a large mortality in the chicks. The healthy, vigorous birds fatten up quickly, if properly fed, while those lacking vigor fail to respond to feed and attention. The poultry houses should be kept clean and well ventilated and

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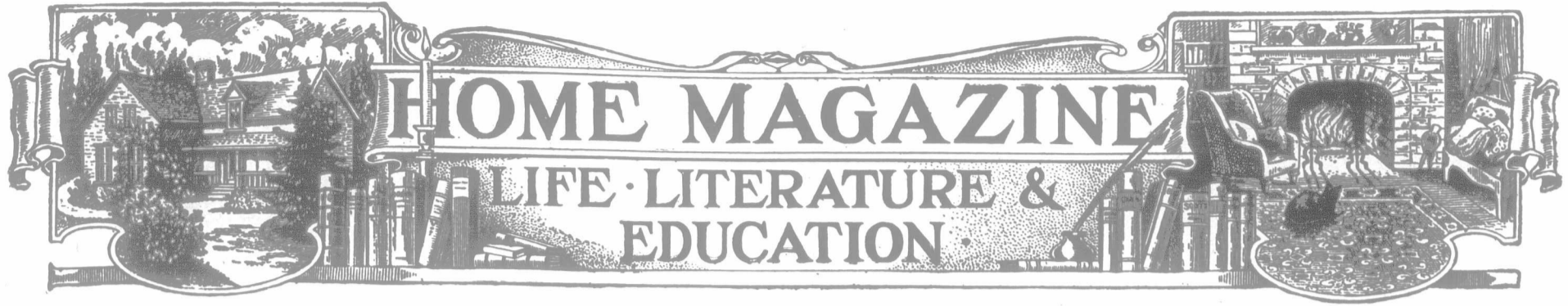
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Professor Miliukoff.

The Man Who Organized the Great Russian Revolution.

Deo Jubilate.

Day of the Crucified Lord's resurrection Day that the Lord by His triumph hath made; Day of Redemption's seal of perfection; Day of the Crown of His power displayed; Beautiful Easter, dazzlingly bright— Sun-Day that filleth all Sundays with light!

Queen of all festivals; glad culmination Of the bright feasts that encircle the year; Glimpsing the life in a transfiguration, That shall at length in its glory appear. Beautiful Easter; day in its height; Sun-Day that filleth all Sundays with light!

He who redeemeth, consoleth, forgiveth, Who His own body raised up from the dead; Holdeth all evil in bondage, and liveth, Source of all blessing, our life and our head. It is His glory that maketh thee bright, Sun-Day that filleth all Sundays with light!

—HARRIET M. KIMBALL.

Miliukoff, Leader of the Russian Revolution.

Professor Paul Miliukoff, the man who engineered the Russian revolution, a few weeks ago was obliged to fly from Petrograd. To-day he holds the most important position in the present Ministry of Russia, that of Minister of Foreign Affairs, and his opponents are in prison. For some time Professor Miliukoff has been much in the limelight because of his very frank and daring declarations in the Duma, where he was a member of the progressive party. In private life he was the editor of a paper—if that can be called private life—and, in addition, lectured throughout the Empire on educational topics. A few years ago he came to New York to deliver a single lecture, and in a few days was on his way back to his many duties in Russia. His subject at that time was "Constitutional Government in Russia."

Some years before he lectured in New York he was invited to lecture in Chicago University, but in reply said that he had not learned English, but that if they would allow him one year he would undertake to give the course. Not long after this he was arrested for some political offence and sentenced to prison for six months. "Now", he said, "is my chance to learn English", and so assiduously did he apply himself to the task that in three months he could both read and write the language. He obtained a three months' leave of absence to go to England to learn to speak it, promising to finish his sentence on his return. Promptly at the expiration of the time he returned

to confinement, but was set at liberty after a very short time.

Professor Miliukoff is one of the most profound scholars in Europe, and is regarded as the greatest living authority on all subjects connected with the Balkans and with international law and politics in Russia.

Travel Notes.

BY HELEN.

Vevey, Switzerland. February 13, 1917.

Switzerland has had exceptional opportunities to hear good music this winter, owing to the fact that it has been overrun with artists from the neighboring countries, who came—presumably—to make money. I did hear that the Leipzig orchestra—but, of that later.

German-Switzerland has been especially blessed musically as two of the finest orchestras in Germany have toured in that section, giving sometimes several concerts in one city. In Berne it was almost impossible to get seats for the Leipzig orchestra, as the entire house had been sold out weeks in advance. Hundreds of ardent music-lovers stood up during the entire performance. Never have I seen such wild, such frantic enthusiasm. Flowers simply rained on the stage, and Arthur Nikisch, the conductor, said to be the finest orchestral leader in Germany—was presented with so many huge floral tributes—those awful wreaths so dear to the German heart—that it took several men to carry them off the stage.

Apropos of the Leipzig orchestra, a pro-German American told me that the object of these musicians in coming to Switzerland was not mercenary, as is generally supposed; they came, he said, to promote the cause of peace. "Then why didn't they go to French-Switzerland?" I asked him. "Because they wouldn't have them," he replied.

Well, perhaps peace was their object, but they wrung a lot of money out of Switzerland, just the same.

The Mannheim orchestra came next, led by the great Richard Strauss. There was the same scramble for seats, the same mad excitement, the same enthusiasm and the same rain of flowers.

The Mannheim orchestra finished its tour and departed—with its pockets jingling with Swiss coins. But at the frontier something happened. The Swiss Custom Officials noticed a very unaccustomed odor about the musical instruments. They investigated. They discovered that the trumpets, cellos, bass-voils, etc., were stuffed with meat, sausages, chocolate, and other delicacies. All the stuff was confiscated, much to the chagrin of the musicians. They were also heavily fined for trying to smuggle contraband goods out of the country.

Think of the feelings of these poor men! No doubt some of them had the noble intention of presenting their wives with strings of sausages when they reached home—little highly-flavored souvenirs of Switzerland, much more acceptable in these hungry times than Swiss embroidery or Swiss wood-carving.

In spite of the horrors of the war and the fact that Switzerland is a little neutral island sticking up in the middle of the European conflict, and that from many parts of it the cannonading can be plainly heard, and the trembling of the earth plainly felt,—in spite of the nearness of the carnage, in spite of the financial distress of the country, the crippling of its industries, the poverty, the general deadness,—in spite of everything, Switzerland has actually been gay this season—on the heights. The anti-joy rules do not seem to be en-

forced above a certain altitude. This has been the best winter season since before the war. The snow came early, and stayed late—it is still lingering, although the primroses are peeping shyly out here and there. At the leading winter resorts the hotels were crowded and the "sports" an entire success. For ski-ing winter has been ideal owing to the heavy snow-falls and the cold weather. Ski-ing is a comparatively recent sport in Switzerland, having only been introduced about 20 years ago. It is of Scandinavian origin, the Norwegians being the greatest exponents of the art. Since its introduction into Switzerland, winter mountaineering has become a great fad. It is said that before the war 10,000 Englishmen came here annually for ski-sport. I suppose they liked it because it is so exciting and so dangerous. It requires tremendous skill, strong nerves, quick judgment and a good knowledge of snow conditions. On the level a ski-runner plugs along at about seven miles an hour, but he shoots down slopes at a speed which may be anything up to 60 miles an hour. I went to Gstaad a few weeks ago along with three or four thousand other people to see the ski-jumping competition. It was a marvellous sight. A day superb, not a cloud in the sky. Bands playing, sleigh-bells jingling, and everybody in a tingle of excitement.

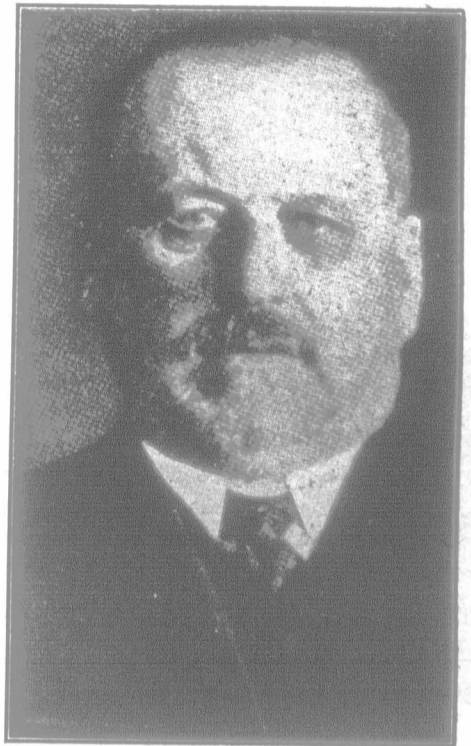
Ski-jumping is a special form of the art. The ski-runner slides down from the heights to a specially prepared platform, leaps from it into the air and alights on a very steep slope below. But to see him coming! To see him in the air! To see him drop! It's a perfectly breathless experience. I wouldn't have missed it for anything. The longest jump on record is 150 feet. At Gstaad the longest jump without a fall was 139 feet.

But it is a horribly dangerous sport, and a fine source of income to doctors and undertakers, as it offers such magnificent opportunities to the novice to smash himself to pieces. The interned war prisoners have been trying it, and some have been badly injured. One of them—a Canadian at Chateau-d'-Oex—was killed.

Owing to the recent scare about the threatened "invasion" of Switzerland, there has been quite an exodus from the country. Many French people fled to France. A great many English have also gone away. The Americans thought they were quite safe but recent developments have made them uneasy too. There is a great deal of discussion as to which country is going to do the invading: the pro-Germans say France, the pro-French say Germany.

Miss Bennett, (she arrived here a few days after we did, said Berne was so cold she couldn't stay there)—got rather nervous about the future, so she went up to Lausanne to consult the American Consul there. He said he did not anticipate anything serious, but in case of any emergency he would insert a notice to Americans in the Lausanne papers advising them what to do.

Meanwhile we are all sitting on the anxious seat and reading the daily reports with great interest. Haven't even unpacked our trunks. We have decided what to take with us in case of sudden flight, as refugees are only allowed to take what they can carry. Uncle Ned has decided on a rucksack and two hand-bags; Aunt Julia is to carry the medicine chest—which is really a basketful of bottles. I wish she would drop half of them in the lake. I am to have a rucksack also, but nothing else, so that my hands will be free to do the thousand and one things required of me. Miss Bennett's great problem is which shoes to take. She can only carry three pairs and she's mortally afraid she'll take the wrong three. She can't sleep for think-



Rodzianko, President of the Duma.

ing about it. I asked an American gentleman who is staying here how he was going to arrange things in case of a sudden summons. He said he was going to take his violin. That seemed to be a queer bit of baggage for a refugee, but he said it was his greatest comfort and most valuable possession. Clothes, he said, he could buy any place.

So here we are—waiting, waiting, waiting!

Meanwhile the stale bread order has gone forth and we are now reduced to munching a chip-like substance of a grayish color, which sometimes seems to be all crust and holes. For breakfast we are allowed two flat, depressed-looking rolls, two small slices of bread; three lumps of butter, (the lumps are growing visibly smaller); honey (the manufactured kind that has nothing to do with bees); and coffee or tea or chocolate.

One of my slices of bread this morning wore such a woe begone, human sort of expression, owing to the various air-holes with which it was perforated, that I felt like a cannibal when I was eating it. It seemed to look at me like this:



Think of Eating Bread That Looked at You Like This?

We only get butter once a day now, and cannot have cheese if we have butter. No one can buy sugar, rice, or macaroni without a card. Italy has cut off the orange supply because they discovered they were being sent to Germany. The number of railway trains has been reduced and the prices of tickets advanced.

Eggs are a great luxury now. Seems to me the barnyard fowls have assumed a more important air since the rise in the price of eggs. But perhaps it's just my imagination. Uncle Ned says my imagination is always running away with me. He says he can't see any difference in the behavior of the fowls, that they always did act idiotically, but

that he really thinks the "chickens" served to us at meals died from old age. Aunt Julia frowned at him reprovingly when he said this, and then smiled. And Miss Bennett remarked that talking about chickens reminded her of a philosophical old darkey she knew down south who said to her one day:

"Chickens is de most accommodatinst kin' o' buds. Dey's so accommodatin' yo' can eat 'em befo' dey's bawn, an' yo' can eat 'em ahftah dey's dead".

But more stringent food rules are yet to come. They commence on the 5th of March. From that date, the consumption of meat—beef or veal, pork, mutton or lamb, poultry of all kinds, and horse-flesh, game, and fish—is prohibited on Monday and Friday of every week in hotels, restaurants and private houses. On other days, in hotels there must not be consumed at any meal more than one dish of meat or one dish of eggs, but this rule does not apply to private houses. For special occasions the Cantonal Governments may make exceptions to these rules; also for hospitals and sanitariums. The sale and delivery of cream or whipped cream in any form is prohibited. In hotels and cafes, not more than 15 grammes (a little less than half an ounce) of sugar may be served with each cup of tea or other drinks. Ice cream is prohibited. Butter may be served only at breakfast, or at lunch when no meat or eggs are served. Butter and cheese must not be served at the same meal. The manufacture of cakes containing eggs is prohibited.

Hotels and restaurants may serve every day: liver, kidneys, brains, sweet-breads, hearts, lungs, tripe, black pudding and liver sausages.

The last paragraph makes me perfectly sick. It contains all the things I particularly loathe. But some of these days I may be glad enough to get liver sausages. Ugh!!

Through the Eyes of a Canadian Woman in England.

The Midlands, England, February.

England is only now realizing what war means. Recently we have been asked "on our honor" to conform to food rations of meat, bread and sugar, —and as the quantities prescribed are quite sufficient for our needs—unless we are gourmands—I am sure no compulsion will be necessary. Every month a halpenny has been added to the price of bread; the four-pound loaf is now eleven pence, and the shilling loaf is on its way. Meat, too, has soared beyond the people of small means, and sugar is among the luxuries. The columns of the daily papers are filled with recipes without sugar, and vegetarian menus. The standard flour in use now is not very coarse, but millers will have produced a much darker kind by March. The price of meat does not affect the very poor, for bread and a scrap of jam is—and always has been—their breakfast, their tea, and very often their dinner. Of course the necessity for all this cutting down of rations is caused by the difficulty of sea-carriage; for, within the last week or two of ruthless submarine warfare by the Huns, we wonder that seamen can be found to run the risks. The army and navy must be considered first, for are they not our *only* refuge now? And every day must be supplied to each battalion: 500 loaves of bread, 80 pounds of oatmeal, 448 pounds of potatoes, 100 cans of milk, and 600 pounds of meat, besides bacon and sausages, with all other necessary foods in proportion! Think what the total consumption must be! Land heretofore used as parks (including the fashionable Regents Park in London) lawns, and playgrounds is being taken up to be ready for the early spring planting and everywhere is disseminated literature with directions for amateurs in growing potatoes and other vegetables. The humble potato never looked so attractive to our eyes; we buy them from the grocer by the pound and seven pounds cost a shilling! No one complains. For my part I consider careful living will be good for us all morally and physically—and what else matters if we can in this way, or any other, help to shorten the war? When I speak of coal I do not mean to convey the impression that it is particularly scarce, but the difficulty is in regard to the labor required for its distribution. Many orders are six weeks

behind normal delivery. I heard of a gentleman who got tired waiting for his the other day, so went down to the yards and loaded his luxurious car up with the black diamonds. I am told that in London the variety of means used by some of the purchasers to "keep the home fires burning" is a sight. Bath-chairs, push-carts, egg-boxes, hip-baths, bags, hammocks, and baby-carriages are pressed into the service, and one sees well-dressed people cheerfully lugging it along in baskets to the suburbs. Women have a finger in every pie now. Every-time I go out I see them engaged in some new pursuit. The girl who delivers groceries from one of the big shops



Ski Sport.—The Jump.

looks very trim and business-like in her warm belted coat, close hat and warm gloves, sitting up in the cart laden with parcels, and guiding her sturdy pony in and out among passing taxis and motor-trucks.

In April, the private automobile, which has been getting scarcer and scarcer (but not so much so as on P. E. Island), will disappear as the supply of petrol is to be further limited and no more licenses are to be issued for the present. Joyriding will become a happy memory. What a change war makes in all things! The mighty will be put



Ski Sport.

down from their comfortable (cushioned) seats and will be obliged to buy tickets—omnibus and railway tickets—and travel beside the humble and meek. People of high degree will mingle with office men and working girls in houses and in "tubs", and will have to grow used to the strange world of common people, and who knows but that the mixing will be the better for us all!

Have you seen that that one-time idol of the stage, Mary Anderson, made her appearance again as Juliet one night lately at the Coliseum in London, in aid of the Red Cross and other charities? It is thirty years since her conscientious

scruples—aided and abetted by Cardinal Manning—for she is a devout daughter of the Roman Catholic Church—caused her retirement from the theatrical world. Of course the world of fashion gave their former favorite a great reception, and found that her beauty, grace, and wonderful ability had not waned, and it was difficult to believe that the curtain had been down so many years. In 1885 she dazzled America and then conquered London. No such perfect loveliness, people said, had ever been seen on the stage before—and now she reappears to gain fresh laurels. The packed audience which applauded again and again, and called and recalled, was thickly sprinkled with men in khaki, and khaki was an unknown color thirty years ago! Scarcely a day passes without some function at which our gallant soldiers are the honored guests. They need a measure of lightness in their serious lives. There was a great gathering of Scottish soldiers at the annual Scotch entertainment recently. Lord Derby addressed them in his characteristic patriotic and common-sense manner, and told them that "they were there to enjoy themselves, and he was glad to see them", adding, "Let those who came home on their well-earned leave be met with cheerful faces, and let them feel that their time away from the trenches is an amusing time, that will distract them from all the anxieties and dangers they have undergone, and fit them for further exertions to be made with renewed vigor". All of us will, I hope, recognize the soundness of this advice. There are always some distressful critics who would object to theatres and other amusements in time of war. But now is the time for such things. After long hours of anxious watching and perilous situations, which so often result in breakdowns, there is no antidote like laughter and song. Nor is this need confined to men in khaki alone. We are all more or less war-worn. It is said that France, in the time of the revolution kept all theatres at full swing, and we must imitate her in our day of national trial when the spirit needs relief from its cares.

Some of the big shops in London are showing cuts, in their advertisements, of new spring gowns in which a tendency to the "hobble skirt" is shown. This brought forth almost immediately letters of angry protest from women who contended that no new fashions were called for, and that people to be patriotic must wear their old clothes. Personally I think a tighter skirt would be much more suitable to present needs as it takes less cloth, and would not be so cumbersome for wearing in the work which women are doing to-day. Now

and leggings, and natty tweed coat, the combination being completed by a white stock and soft felt hat. Does not the picture appeal to your common-sense?

We are proud to see that subscriptions to the great War Loan are not wanting to swell this great undertaking from "overseas nations" as the new Premier (carefully avoiding the former patronizing word "colonies") refers to us now. By the way, has your attention been called to William Watson's tribute to Mr. Lloyd-George, in which he has given him a name which will follow him as the "grand old man" did Mr. Gladstone? He calls him "The man who saw", and draws an analogy between the Romance of the Celtic legend of Merlin and the coming of Lloyd-George as a Deliverer in time of trouble.—

Time adds yet another name to those the world Salutes with an obeisance of the Soul; The name of him, the man of Celtic blood Whom Powers unknown, in a divine Caprice Chose and did make their instrument wherewith To save the Saxon; the man all eye and hand, The man who saw, and grasped, and gripped, and held. Then shall each morrow with its yesterday Vie, in the honor of nobly honoring him.

This poetry was presented him on the day that he spoke for the first time as Premier, in his own Carnarvon, the proudest day in the history of little Wales, when one from among them had risen to the highest place in the government of Britain.

I hoped to have been able to give you a personal description of this year's memorable opening of Parliament, but the Fates having conspired against my being in London on that day, I shall be unable to do so, except by hearsay. It was a unique opening of Parliament, this wartime function! The scene which has been the same from time immemorial was changed! In past years the seats in the Royal Gallery were occupied by the privileged persons of influence in high quarters. Not one of these was to be seen there on this occasion. In their places sat men in khaki—from Canada, Australia, Newfoundland, New Zealand, and all the Britains "overseas". From every corner of the globe they had answered the call of their Mighty Mother and had come to her succor, and everyone bore the mark of wounds on their arms (the gilt "glory stripe")—for the King's orders were that men who had been wounded on the battlefield were this day to have the seats of honor as his guests. They were welcomed by the Marquis of Lincolnshire, a fine figure in khaki, who praised them for their valor, their happy wounds, and ended by extending to them the King's wishes for their speedy recovery and their happy return to "the great and glorious countries from which they had come". All eyes were turned upon the King and Queen as they entered, the former in Admiral's uniform and the latter in simple black—both having abandoned this year their gorgeous robes of state. But before they appeared the Grand Chamberlain called for three cheers for the King, and the men rose up with such shouting and cheering as were never before heard in these historic halls.

It will be chronicled in history, and in the years to come, children will tell with pride of the time when their forbears, soldiers of the King, were the guests of honor of His Majesty at the opening of Parliament during the great European war.

Our soldiers continue to keep Canada in the limelight with their almost daily raids on the enemy's trenches. The Canadians were, as a matter of fact, the originators of the trench-raid, a form of warfare which keeps the Hun in a continual state of worry. We have heard of several lately resulting in heavy casualties to the enemy, and the capture of many prisoners, with no losses to the raiders; and the phrase "over the top with the best of luck" has become a very familiar one in England as well as France; on all occasions of farewell. May their luck continue "till the boys come home!"

SYBL.

Fashions Dept.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Price fifteen cents PER PATTERN. If two numbers appear for the one suit, one for coat, the other for skirt, thirty cents must be sent. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

Positively no pattern will be sold under 15 cents each, regardless of date published, owing to advance in cost of same.

When ordering, please use this form:—
Send the following pattern to:

Name.....
Post Office.....
County.....
Province.....
Number of Pattern.....
Age (if child or misses' pattern).....
Measurement—Waist..... Bust.....
Date of issue in which pattern appeared.....



9293.—Blouse, 16 and 18 yrs.
9237.—Skirt, 16 and 18 yrs.

9266 A.—Bag pattern, with embroidery design.



9327.—Dress for Misses and small women, 16 and 18 yrs.



9196.—Coat for Misses and small women, 16 and 18 years.

9298.—Skirt, 16 and 18 years.



9305.—One-piece gown, 34 to 42 bust.



9345 Eton Coat 34 to 42 bust. Price 10 cts.

9341 Tunic Skirt 24 to 32 waist. Price 15 cts.



9334 Girl's Dress. 4 to 10 years. Price 10 cents.

9364 Gown with Four-piece Skirt, 24 to 42 bust. Price 15 cts.

Hope's Quiet Hour.

Why Weepst Thou?

Jesus saith unto her, woman why weepst thou?—S. John XX. 15.

When our beloved rise
To gird them for the ford, and pass
From wilderness to springing grass,
From barren waste to living green,
We weep that they no more are seen,
And that the River flows between.

Ah, could we follow where they go,
And pierce the holy shade they find,—
One grief were ours—to stay behind!
One hope—to join the Blest Unseen!
To plant our steps where theirs have been
And find no River flows between.

C. F. TYTLER.

How astonishing was the first question of our Risen Lord! The horrors of Good Friday were still fresh in Mary's memory. She had—only a few hours ago—seen her dearest Friend hanging, bruised and bleeding, upon the cross. Every taunt hurled at Him had gone through her heart. She had seen that tortured Body gain the sad relief of death. He—who claimed to be "The Life" had, in apparent helplessness, yielded up His own strong young life. What could the future hold for this loving woman but hopeless submission or miserable despair? Spring sunshine and the joyous songs of nesting birds only mocked her grief. How could life go on when hope—with JESUS—had died!

She was weeping beside a newly-made grave. Why should anyone ask the unnecessary question, "Why weepst thou?"

If you should be passing a grave, piled high with wreaths of flowers, and should see a woman weeping beside it, you would not need to be told that the earthly remains of one she loved had been buried under that freshly-turned sod. "The heart knoweth his own bitterness: and a stranger doth not intermeddle with his joy," said the wise man. It is not an easy matter to say words of comfort to a heart-broken mourner. Job called his three friends "miserable comforters," saying: "I also could speak as ye do: if your soul were in my soul's stead." But—when they sat silently beside him upon the ground for seven days and nights—he probably did gain some help from their unspoken sympathy.

When Mary Magdalene stood weeping beside a sepulchre she was addressed by One who was no stranger, by One who spake as no other ever spake, by One who would never mock deep grief by empty and useless words of superficial comfort.

The first words spoken by our King after He had won His great Victory over death—as recorded in the Gospel—are not to be lightly regarded. Mary wept because she thought He was dead—but what a mistake she made! She loved her Lord, and thought she trusted Him, yet He had told of His approaching death and had promised to rise again on the third day. The first part of the prophecy had been fulfilled, and the third day was now breaking. Why was she not eagerly watching for the Living Master to appear? Is it easier to believe in sorrow than joy? On Thursday night Jesus had said to His sorrowing disciples: "I will see you again, and your heart shall rejoice."

The Living JESUS is standing in our midst now, as really as He stood in the midst of the disciples on the first great Easter evening. As He cheered the heart-broken woman in the morning, so His glad greeting to the bewildered disciples was: "Peace be unto you!"

"Why weepst thou?" He is gently saying to many millions of mourners today. Why should not the mourners weep? He who wept beside the grave of His friend Lazarus does not, we may be sure, wish men and women to bear trouble stoically. When He said to the widow of Nain, who was following the bier of her only son: "Weep not!" the words were not a harsh rebuke but a promise of coming joy. So it was on that first Easter morning. "Woman, why weepst thou?" was a reasonable question. There had been good cause for strong crying and tears on Good Friday, while her Friend was enduring shame and agony—but, if she could only weep away the blinding tears and see the truth, the bitterness of death was now overpast. Life had come out victorious in the great battle. The tomb was empty and, instead of the dead

Body she sought, her Living Friend was tenderly calling her by name.

Christianity is the religion of good cheer. The Light of the world is not to be quenched by the blackest darkness. Read the words of agnostics and atheists, and you will find them almost invariably tinged with sad pessimism. If death be the end of life, then what a poor, broken, unfinished thing life must be! It is so stained with sin and so full of trouble. "Man is born unto trouble, as the sparks fly upward," said one of Job's friends. If that was all the comfort he could offer it was no wonder Job shrank away from his doleful sympathy. When a heart is quivering with pain the well-meaning words of friends seem almost as crushing as the British "tanks", which unfeelingly flatten down everything that lies in their path.

Christ has won the title: "The sublimest Optimist in history." But He did not go through life with the easy optimism of a man who shuts his eyes to horrors. No words of fiery indignation could be more scorching than His open condemnation of hardened hypocrites and oppressors of the poor. He did not try to avoid the sorrow of the world, but spent His days in relieving it and then voluntarily shared its agony.

Yet that joyous Easter greeting was the message of His whole life. "Let not your heart be troubled," He said to the disciples when trouble pressed hard upon Himself. "Why are ye fearful?" He asked, when a storm was breaking over their ship. A sinful woman, whose tears of penitence fell like rain, was forgiven and sent out to begin life over again with new hope. The prodigal who had wasted every opportunity, found a father's arms thrown around him and discovered that he might redeem the past. Sinners—ashamed and despairing—gained new strength for the conflict when they were told that God and the angels cared greatly for their redemption. St. Peter, who had fallen headlong from his high position as the Rock-Apostle, received a special Easter message of good cheer, which set him once more on his feet: "Tell His disciples and Peter," said the angel to the women. St. Thomas, cherishing the love of a master whom he thought to be dead, was given the proof he hopelessly demanded.

The Easter message of good cheer is sounding in our ears in this time of worldwide sorrow. The grief of a mourner is natural and right—Jesus wept beside the tomb of Lazarus—but it must not be nursed and cherished selfishly. The friend who has gone out of your sight is not dead. Christians must not sorrow as those who have no hope, but must bear witness in their lives as well as with their lips to the everyday power of their Living Master. You—like the first disciples—must bear daily witness to His Resurrection. The fruit of the Spirit is not only love, but also Joy and Peace.

Mary's tears—her uncontrolled grief—blinded her eyes so that she failed to recognize the Friend who stood close beside her—she thought He was dead, you see. Shall we make a similar mistake, and so cut ourselves off from the gladness we might have?

An American, writing from "the front," said that the British had thoroughly learned one lesson: "They know how to die!" As a dying officer said: "Isn't our native land worth more than this scrap of life?"

We also, are enlisted as soldiers in the army of our King, For His Sake we are expected to face death bravely, or cheerfully to face life. Though heaviness may endure for a night, joy should come in the morning. In this time of distress and gloom let us keep the lamp of faith uplifted high.

"Blessed are those who die for God,
And earn the martyr's crown of light—
Yet he who lives for God may be
A greater conqueror in His sight."
DORA FARNCOMB.

A Well Wisher.

"A sincere well-wisher" has sent a dollar for the "Advocate purse." Yesterday the last bill went out of that magical purse, to buy needed comforts for a sick child. Did I not say that the miracle of the widow's cruse was being repeated?

Thank you, my unknown friend and "well-wisher."

HOPE

Easter Gifts.

One of our readers—"A. G. S."—sent two dollars for some little quarantined children. It turned out to be a birthday gift, and was very gratefully received by the mother whose newest baby (the fifth) is just four days old.

Your dollar—"Dorris"—and the packet of picture postcards will be passed on as you desired. Won't you send me your address, so that I can put you in direct communication with the "shut-in" whom your Christmas and Easter gifts have cheered?

HOPE.

The Ingle Nook.

[Rules for correspondence 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.]

In my note book I find this text, quoted from somewhere, without name or date: "Every world movement has been started by one person with enthusiasm."

I suppose the article from which it was taken was a dissertation on enthusiasm, but the subject brings up another reflection as well, viz. the queer kink in the minds of so many humans that leads them to deride or belittle anyone who "starts anything." Some of you will not have to look far back or far around to realize that this is true. Recollect when someone first tried to work up a Farmers' Club, or a Women's Institute branch, or a Literary Society or League for Neighborhood Improvement in your district: were there not then in evidence the "kickers" who tried to "throw a wet blanket over everything"—to use a mixed metaphor? Worst of all were there not those who—laughed?—You can do something with people who conscientiously object to a thing, but you have a poor chance with those of the derisive laugh.

Now let us come back to our text, which is very true—"Every world movement has been started by one person with enthusiasm,"—and let us think a minute. Where would the world have been without, for instance, Alfred the Great, Chaucer, Giordano Bruno, Galileo, Copernicus, Columbus, LaSalle, Cartier, Newton, Jenner, Darwin, Lister, Simpson, Watts, Pasteur, Marconi? Where would it have been?—And every one of these men started something.—Where would it be to-day without David Lloyd George and other men of similar type who started things? Isn't it suggestive to reflect, too, that not one of these men got through without meeting "kickers" and "wet blankets" to no end—some even to the losing of their lives—Think of Columbus dying in poverty! LaSalle murdered near the mouth of the Mississippi! Even Jesus, murdered outside of Jerusalem!

Surely the lesson is plain enough—that we should be very interested and kindly towards the people who start things, weighing long and well before condemning, helping rather than hindering if, after due and unbiassed reflection we find the germ of something worth while. For the case applies to neighborhood movements just as well as to world movements—and neighborhood movements are the ones with which the most of us are concerned.

Very few things or places are good enough just as they are. To stand "stock still" anywhere means death to soul and to progress. The whole urge of the Universe is forward.

If then we realize some day that we are becoming ranged on the side of the kickers, absolutely imprevous to the reception of a new idea, may the kind Fates provide that we get the worst fright that we ever had in our lives. For there is nothing more fatal than just that—to become incapable of receiving or harboring a new idea. We must go on if we are to grow. And if we don't grow there is nothing for it but to decay. That is a law of the Universe.

Another quotation in my note book which may well follow here, is this, from Robert Louis Stevenson, the dear "R. L. S.": "What a man truly wants that will he get, or he will be changed in trying."

It is then not enough to start something, in our own lives or in the life of the neighborhood, it is also necessary to keep

on with persistence, with a definite aim in view. Should one thing absolutely fail there is always the possibility of starting something else, and keeping on at that with bull-dog tenacity until its possibilities are exhausted. Sometimes a little changing about is necessary in order that one may find one's very own niche,—and of this I, for one, am absolutely assured: that it is impossible to do one's best work, or even to be reasonably happy unless one has found one's niche. We were not made with certain abilities and powers of usefulness only to throw them away; we were intended to use them, and the result of disobeying the law of our nature is to be restless and dissatisfied, and less effective in the world than we might be.—Yes, I do think that we should search about with all our might to discover our very own corner, even though the searching entail a dozen experiments at "starting something."

Upon the other hand, present dissatisfaction does not invariably indicate that absolute change of occupation is necessary. Sometimes it merely indicates that the resources of the present occupation have not all been tapped. For instance, many a housekeeper who thinks she "hates housework", but is tied to it by husband and children, might find it very interesting indeed if she took to making an art and science of it—buying books on Domestic Science, the Education of Children and Household Decoration, writing to magazines to ask questions, essaying to grow flowers in the windows and in the back yard, making an artistic study of clothes, undertaking scientific handling of dairy products or poultry. Is this list suggestive?

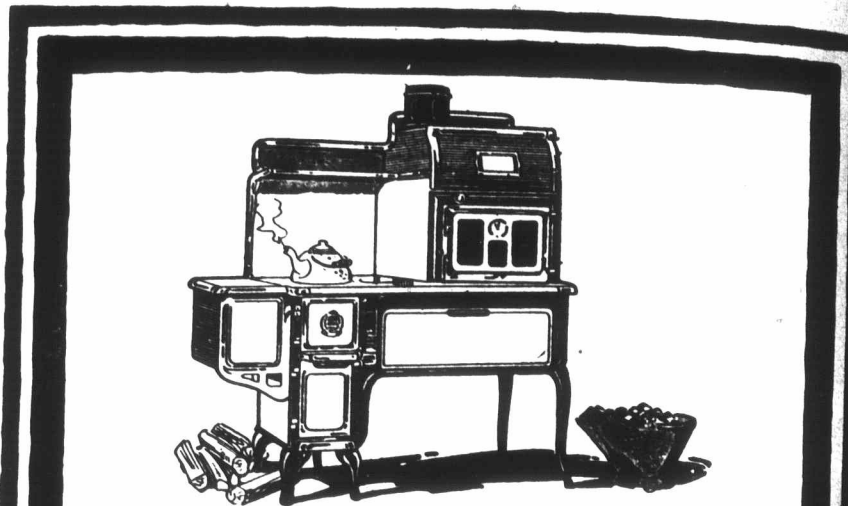
Sometimes, too, the rural housewife is just lonely. She needs people. Then possibly, it is her opportunity to "start something" of a different order, in the neighborhood, some excuse for social gatherings. But she must do it tactfully, cheerfully, distributing the honors freely, if she would escape the charge of "trying to run things", and so find her little venture a success.

When all has been said, in one's efforts for one's own life, for the neighborhood, or for the world, there is the possibility that one may seem to fail. But again dear R. L. S. brings a word of cheer: "If we do not get what we want we will be changed in the trying." It is the same thing that Browning expressed otherwise: "What I essayed and was not, comforts me." Out of the effort we shall have gained, if we do not give way weakly, strength and character that may bring us yet to some good that we have little idea of at present. It must. And any kind of progressive change is better than the change of decay.

Don't you think that one of the most hopeful signs of the times is the increasing tolerance—perhaps one should call it vision—that is being manifested in various ways of late years? Not so very long ago, for example, the most of us thought that China was, on the whole, a very "no-account" nation; to-day we are beginning to see in the Chinese the elements of a great nationhood, and to realize very strongly that even now the "Celestial Empire" of yesterday is taking its place among the modern powers of the world. Again, not so very long ago we were very sectarian as regards church; to-day there are signs in the air that, on the whole, people are thinking much less of sectarianism,—and the war will extend that idea. A war nurse said to me the other day—"One thing the war has taught me: that one church doesn't matter an iota more than another. When you saw those boys over there in the hospitals you realized that."

To come nearer home—something I saw the other day illustrated the same idea. I was in our neighboring city of Stratford, and one of the most pleasant episodes of my stay was a visit to a very beautiful new church—Knox church, under the pastorate of Rev. Dr. Martin. It is not over-reaching the mark in the least to say that never before have I seen a Presbyterian church so beautiful; more expensive ones, I have seen, more elaborate, but not one that struck me as so splendid in design, so perfect in proportion, so harmonious in coloring, so suitable for the purpose for which it has been built. When it is finished, when the walls have been tinted and all the stained glass windows in place as they will eventually be, the building will be a dream of architectural beauty realized.

Now to my point although a Pres-



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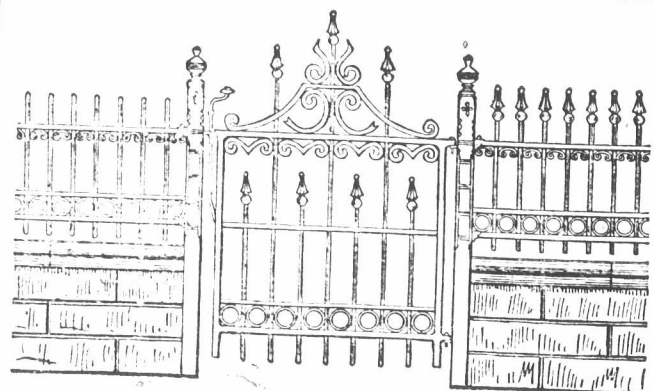
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W. H. HEARST, Minister of Agriculture
Parliament Buildings, Toronto

byterian church, the plan is *cruciform*, as that of all churches should be, and in this very detail the pastor and congregation have shown their "bigness", if I may use a word of which I am very fond. They have shown themselves big enough to get away from the old prejudice of early revolt which, in the farthest swing of the pendulum, led dissenting zealots not only to renounce the cross-shaped church, but to set their faces against all objects of beauty in sacred edifices. It was that first farthest swing, it will be remembered that destroyed, in the churches of Britain, paintings, windows and statuary that can never be replaced. But pendulums swing back—they always do—and so it is that we see the churches of all denominations beginning to admit again the beautiful old forms and decorations debarred from them for so long.

As I stood in that beautiful Stratford church, with its chancel and its transepts, its stained glass windows, its fumed oak furnishings, its carpets of soft artistic blue, its fine organ,—above all as I looked at its chancel arrangement, the communion-table in the center as symbolic of Christianity, the pulpit at one side and baptismal font at the other, the choir a little to the rear instead of filling the whole front as though the most important thing in the church—as I looked at all these I thought them a visible sign of tolerance, a sign that we are becoming big enough to recognize and hold to things that are lovely and true, a sign that we are becoming big enough to throw far behind us those that are narrow, and ugly and prejudiced.

If we look all about us I think we can see many such signs.—Don't you?

* * * * *

I wonder if you are to have a garden this year,—and what you will put in it. Have you ever started a few seeds in the house—for very early things? And have you ever tried taking two or three crops off the same ground?—early lettuce and radishes followed by tomatoes, cucumbers or corn; early peas by celery, and so on.

A very successful gardener gives the following directions for a good garden: Work up the soil as soon as possible to get it warmed up and ready to absorb the spring rains. Richness is essential to a good growth, but avoid raw manure, which is fatal, as it *burns*. Be sure to plant seeds according to size. Beans may be 2 inches deep; beets and melons half an inch deep; while smaller seeds require less covering, the very smallest needing only to be pressed into the ground. This is very important, as some kinds of seed—celery e.g.—will not come up at all if covered too deep. Another very important thing to remember is that crowded plants never do well. Many a garden has been ruined because the seed was planted too thickly and the thinning out was not done sharply enough. Each plant needs plenty of room to develop. . . . If shrubs or bushes of any kind are to be set out it may be well to soak the roots thoroughly before planting.

So much for garden talk.

JUNIA.

Bulbs—Prince of Wales Cake.

Dear Junia.—I have got a lot of help from your corner in the Farmer's Advocate I would like to ask if you or any of the readers could tell me if hyacinths will bloom a second year and if they will how to keep the bulbs? Thanking you very much, I will enclose a recipe for Prince of Wales cake which I find very good. 1 cup of sugar, 1 cup of chopped raisins, butter size of an egg, 1 teaspoon of cinnamon, nutmeg and cloves, 2 tablespoons of molasses, 1 teaspoon soda, 1 cup of sour milk, 2 eggs added last, well beaten.

Muskoka, Ont.

M. E. G.

So far as I know bulbs that have been forced in the house are not very satisfactory afterwards. If planted in an out-of-the-way place some kinds may develop enough to bloom in a few years.

Orange Peel, Plants, Etc.

Dear Junia.—Could you please tell me, through your Nook, a good recipe for candied orange peel? I have tried several ways of my own but none of them seem good.

Do you know any way in which I could get the name of some Japanese girl in Japan with whom I might correspond? Are there any Missionary Societies there through which one could get a name?

What book on "growing house and garden flowers" would be most useful for

an amateur flower-grower to get? Where could I get it, and what would it cost? Thanking you in advance.
Muskoka, Ont.

MADGE.

Try the following recipe for candying orange or grapefruit peel. Cut the peel into quarter sections, remove each carefully, then weigh all and let stand overnight in salted water, a teaspoon of salt to a quart of water. In the morning drain the peel and cook in fresh water. When the water boils drain and add a fresh supply, and let cook until tender. Take the weight of the peel in sugar and half the weight in water; let these boil skimming as needed, to a syrup. Add the peel and let simmer until the peel takes up the syrup. Spread on plates to dry.

Perhaps some reader can answer in regard to the Japanese girl—we have some subscribers to our paper in Japan. In the meantime I will try to find out.

Ida Bennett's "The Flower Garden," published by McClure, Phillips & Co., Pub. Co., New York, is as good a book on the general culture of flowers as I can think of. I am not sure about the price. You can get it by writing to the Company. By the way, all sorts of outdoor books are sold by McClelland, Goodchild & Stewart, Toronto, and the Musson Book Co., Toronto.

Homemade Cheese.—Cleaning a Hat.

Would like to know a sure method of making homemade cheese. I have several methods but have never tried any of them, I would prefer to hear from some one who has made the cheese themselves. And would also like to know a good method for cleaning white Java hats.

Hoping someone will be so kind as to answer.

Parry Sound, Ont.

MRS. D. J.

I find the following method for making cheese in my note-book. Perhaps some reader who has experience will send another.

To make cheese you must have at least 100 lbs. milk for each cheese. Warm the milk to 80 degrees then put in a tablespoonful of rennet from a calf's stomach or a single rennet tablet from the drug store. Dissolve the tablet in 1 cup warm water and stir well into the milk. Cover with a blanket to keep warm. In an hour or less the curd will be made. Cut it with a long knife into pieces not bigger than an inch. Draw off the whey and leave the curd to harden a little, then dip out with a strainer into moulds about 8 inches in diameter and as much deep. These are best made of tin and have no bottom. Heap the curd above the top 2 inches and as it settles down press it into the mould. When level with the top of the mould put a thin circle of board over and a weight on top. Before the curd is put in the mould, a thin cheese cloth should be put in it so that when the cheese is formed into shape it may be slipped out without breaking. It is then left on the piece of board and the cloth is removed carefully, a fresh strip being sewn around it, leaving a border top and bottom, of an inch or two. This is plastered down on to the top and bottom of the cheese with butter and the cheese is set away to ripen. It should be well rubbed with fine salt; and turned daily, for ten days; then every other day. The turning keeps the moisture evenly distributed. Several times the cheese is rubbed with butter to prevent cracking of the crust. The cheese should be kept in a fairly moist place, and if mould appears it should be scraped off. If there is no moist place it may be coated with melted paraffin, or buttered occasionally. It will be fit to use in two months.

There are many very good hat-cleaners sold at the druggists. A thorough scrubbing with Ivory soap will often make a Panama hat presentable. Put a little glycerine in the rinsing water and dry in the hot sunshine.

Seasonable Cookery.

Oatmeal Fruit Cake.—1 cup brown sugar, 1/2 cup butter, 1 teaspoon allspice, 1 1/2 cups flour, 1 cup sour milk, 1 1/2 teaspoons soda, 1 1/2 cups oatmeal, 1 cup chopped raisins.

Angel Cake.—1 cup of sweet milk, 1 cup flour, 1 cup white sugar, 3 teaspoons baking powder, pinch of salt, whites of 2 eggs. Heat the milk to boiling point, and sift dry ingredients five times. Into this pour the hot milk, stir smooth, then add the stiff whites of the 2 eggs. Fold them in carefully. Do not grease the tin or

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flavor cake. Bake in a moderate oven.
Scrambled Eggs.—Break the eggs into a saucepan adding a bit of butter and a tablespoonful of cream for each egg. Add a tablespoonful or two of stock or warm water to the whole, season to taste. Stir the whole over boiling water until they begin to thicken, then beat well. Serve very hot.

Baked Eggs.—Butter a shallow pudding dish and drop into it 5 or 6 eggs. Season, pour over a small cup of gravy or butter mixed with warm water, and bake until the whites are firm.

Pineapple Jelly.—Now that pineapples are in and so many fruit jars are empty the following recipe may be of use. Pine apple, owing to the absence of pectine the principle that makes other fruits jelly, does not go into a jelly readily, but the nearest approach is as follows: Peel and grate fine. Allow 1 lb. sugar to a pound of fruit and let stand over night. Cook half an hour, then put through a sieve or colander. Return to the kettle and simmer, stirring almost constantly for half an hour or more, until the result is a clear amber-colored paste. Pack in small glasses.

Graham Gems.—1 cup Graham flour, 1 cup pastry flour, 2 rounding teaspoons baking powder, 1/2 teaspoon salt, 1/4 cup sugar, 1 egg beaten light, 3 or 4 tablespoons melted butter, 3/4 to 1 whole cup milk. Sift together all the dry ingredients. To the egg add the milk and stir into the dry ingredients. Beat in the butter. Bake in greased muffin tins about 25 minutes.

Soft Ginger Cookies.—Two-thirds cup butter, 2/3 cup boiling water, 1 pint molasses, 1 level tablespoon (small size) soda, 1 similar tablespoon ginger, 1 teaspoon cinnamon, 1/2 teaspoon salt, flour for drop batter. Melt the butter in the boiling water; add the molasses and other ingredients sifted together. Drop from a spoon on to a buttered baking pan, having the cookies some distance apart. Bake in a moderate oven.

A new steamed Pudding.—1 cup figs chopped fine, 1 cup bread crumbs, 1 cup hot milk, 1/4 cup sugar, 1 cup seeded raisins, 1/2 cup currants, 1/4 cup almonds, 1/4 cup chopped peel, 1 teaspoon cinnamon, 1/4 teaspoon nutmeg, 1/4 teaspoon cloves, 1/4 teaspoon salt, 1/4 cup chopped suet, 3 egg yolks, 3 egg whites, 1/4 cup fruit juice. Soak the crumbs in the hot milk. Mix ingredients in the order given; turn into buttered moulds and steam 2 hours.

The Scrap Bag.

To Stone Raisins.

The quickest and easiest way to stone raisins is to place them on a tin plate and heat them in a hot oven. The heat makes them split easily and then the stones can be removed.

To Keep Meat Choppers Secure.

Before fastening the chopper to the table place a piece of sandpaper large enough to go under both clamps, with the rough side up, on the table. When the chopper is screwed on tight the sandpaper will prevent the clamps from slipping.

Cleaning Granite.

When granite ware has become black from the fire or brown from use take boiling suds on wash day, add a handful of washing powder to each gallon of water and put the article in. The water should completely cover them. After boiling a few minutes the articles will come out bright and clean. Rinse in clear water.

Get Ahead of the Moth

Before you suspect it in the spring, moths begin their mischievous work, so do not delay safeguards until it is time to put away winter garments. Occasionally shake and brush all woolen clothing; clean off spots of grease or sweet liquid, as these are the first places that moths attack. Do not wait to make one big field day of putting things away, for a cold spell may come when you will need some of them. As each article is done with, clean, air and brush it well, especially about seams and pockets, wrap small articles in newspapers or put them in paper bags. Waste no money on ill-smelling camphor balls. They are unnecessary and will not kill moths already in an article. In fact, moths sometimes eat holes right alongside of the most malodorous preventive, as if to show their scorn of it; but if you wrap a mothless

article in newspaper, it will remain so. It is well to wrap things separately, so that if a moth has escaped your vigilance it can only injure what is in its own compartment. Woolen suits or dresses are best hung on a coat hanger, then wrapped in a large cloth, lined with newspapers pinned to overlap each other. This not only keeps moths away, but the stiffness of the paper prevents crushing if other clothing is hung over the dress.—Sel.

The Beaver Circle

Why Not?

If a female duke is a duchess,
 Would a female spook be a spuchess?
 And if a male goose is a gauder,
 Then would a male moose be a mander?

If the plural of child is children,
 Would the plural of wild be wildren?
 If a number of cows are cattle,
 Would a number of bows be battle?

If a man who makes plays is a playwright,
 Would a man who makes hay be a haywright?

If a person who fails is a failure,
 Would a person who quails be a quailure?

If the apple you bite is bitten,
 Would the battle you fight be fitten?
 And if a young cat is a kitten,
 Then would a young rat be a ritten?

If a person who spends is a spendthrift,
 Would a person who leads be a lendthrift?
 If drinking too much makes a drunkard,
 Would thinking too much make a thunkard?

But why pile on the confusion?
 Still I'd like to ask in conclusion:
 If a chap from New York's a New-Yorker,
 Would a fellow from Cork be a corker?
 Life.

Little Bits of Fun.

"Charles," said the teacher, "do you know what the word 'celerity' means?"
 "Yes'm," said Charles. "It's something you put hot plates down with."

In the course of a lesson in natural history a teacher asked one of the little pupils if he knew the difference between himself and a big brown bear. The little fellow bit the end of his pen in silence. "Well, now," said the teacher encouragingly, "you can take your coat off for one thing, but a bear cannot take his coat off, can he?" "No," agreed the boy somewhat grudgingly. "And why cannot a bear take his coat off?" asked the teacher. "Because," was the answer, after a good deal of deep thinking—"because no one knows where the buttons are!"

Sine Qua Non.—The Sunday-school teacher was talking to her pupils on patience. She explained her topic carefully, and as an aid to understanding she gave each pupil a card bearing the picture of a boy fishing. "Even pleasure," she said, "requires the exercise of patience. See the boy fishing; he must sit down and wait. He must be patient. And now can any little boy tell me what we need most when we go fishing?"

The answer was quickly shouted with one voice: "Bait!"—Selected.

Senior Beavers' Letter Box.

Dear Puck and Beavers.—Thank you most kindly for your second cheque for \$2.50. It pays to work for you. This makes \$15 in cash, and two handsome premiums besides. I wish to thank all those who subscribed. I know they will like the Advocate. I like to read the Beavers' Circle. We live a mile and half from school. Our teacher's name is Miss Henderson; we all like her fine.

VERA COSTELLO.

R. R. 2, Branchton, Ont.

(11 years old).

Little Miss Vera, who is one of our girl agents, some time ago won a cash prize cheque for sending in ten new subscriptions at \$1.50 a year in advance. She went right along with the work, and her parents helped her. Now she has won another cash prize, in addition to the cash commission she receives on each



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Golden Glow.....	3.15	2.50	No. 2 or 3 (No. 1 for purity).....	\$13.00 to 14.00
Bailey.....	3.15	2.50	Sweet Clover, White Blossom.....	20c. and 22c. lb.
White Cap.....	3.15	3.00	No. 1 Timothy.....	5.50
Longfellow.....	3.25	3.00	No. 2 (Extra No. 1 purity).....	\$4.25 to 4.50
N. Dakota.....	3.25	2.75	Timothy No. 2 (No. 1 for purity).....	\$3.90
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Quebec No. 28.....		3.25	Montana Grown No. 1.....	15.00
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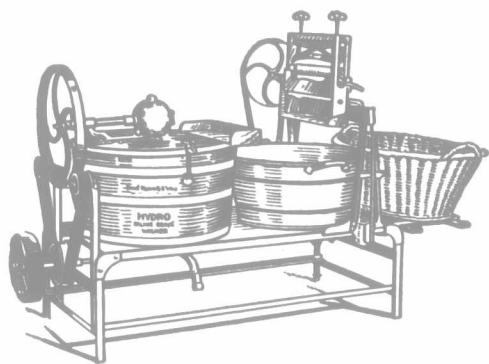


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new subscription. Altogether, she has secured twenty-two new subscribers for us to date, and we believe she is not through yet.

Any other Beavers wishing to do likewise, please write in a little letter, telling age, whether their folks subscribe, etc., and if they are willing to work conscientiously in their district, and we will send them sample copies and blanks to go to work with. Any boy or girl willing to work earnestly can succeed at this work.

Dear Puck and Beavers.—We are chums and would like to join your Circle if there is space for us to do so. We both go to school together. We are in the third and fourth classes. We like our teacher fine. We are ten and eleven years old. It will soon be spring again, with all its water flowing down the little valleys. We enjoy the winter as we can skate and sleighride down the big hills. We like reading the letters that other Beavers write. We will close with some riddles, hoping the w.-p. b. is gone to war when this arrives.

If butter is 26 cents a pound, how much would you get for a cent and a quarter? Ans.—One pound.

As I was passing by a store I saw a box full of heads and eyes. Ans.—Pins and needles.

Yours truly,
MARION BROWN and EDNA HALL.
Shelburne, Ont., R. R. No. 2.

Dear Puck and Beavers.—This is my second letter to your charming Circle. In my other letter I sent a question. I received a great many answers to it, all of which were correct and nicely explained. I thank the Beavers very much for them. Do any of you like to read? I do. I have read a number of Alger and Henty books, also a few of Pansy's. I guess I will close, hoping the w.-p. b. has just dined.

MARION MUNDLE.
Mundleville, Kent Co., N. B.

Dear Puck and Beavers.—I am going to write you a story entitled, "The Autobiography of a Hand-sleigh."

I was once in a store and looked very nice indeed. Many people inquired about me, and thought me the nicest sleigh they ever saw in their life. One day a little boy and his father came in and saw me in the corner. The little boy begged his father to buy me. This he did, and the little boy went home very happy.

Next day I was taken to school and many people had a ride on me. One fellow jumped on and we went down the hill "a-zip!" He struck a stick and went heels over head and hit his head on a stone. Then they took me to a home to play with some other boys and I got bad usage. I had a few chips knocked out and a board blown off. A piece was also taken off my front runner. The boys went home then, and I was very glad because I was quite tired. Next day my master took a nail and drove it into my back. He then took me to a blacksmith who put my feet in the fire, and when he took me out my toes were red hot. He then took a hammer and crushed my toes until they were very, very sore. Next day the little boy took me out, and when we were coming down a bridge I ran into a stone and sent him sprawling over the fence. Then he got mad at me, smashed me up, and put me into the stove. My toes got very warm sometimes, but I reckon I had a better time there than knocking around with the big ruffians. I will close with a few riddles.

As I went through a garden gap whom did I meet but Dick Red Cap! A stick in his hand, a stone in his throat. If you tell me this riddle I'll give you a groat? Ans.—A cherry.

Black we are but much admired, men seek for us till they are tired; we tire the horse but comfort man. Tell me this riddle if you can? Ans.—Coal.

Black within, red without; four corners round about? Ans.—A chimney.

What shoemaker makes shoes without leather, with all the four elements put together? Fire and water, earth and air, every customer has two pair. Ans.—A horseshoer.

JOHN A. CAMPBELL.
(Junior IV. class, age 12.)

P.S.—I hope the w.-p. b. is chucked full when this arrives.

Dear Puck and Beavers.—My father has taken "The Farmer's Advocate" for the last thirteen years, and we find it a very interesting paper. I enjoy reading the letters very much. This is the third letter to your charming Circle. Our school is closed now because most of the scholars have the whooping cough, and my brother and I have it. It is a very disagreeable thing. I occupy some of my time in knitting and reading. I have knit one scarf and part of another. This is an awful war that is going on now. I hope it will stop soon. One of the fellows I know has been shot in France. We have been having some awful cold weather. I have been trapping for rabbits this winter, and have had very good success. There are quite a number of them around our place. They have been barking some of our young trees. Some of the books I have read since I have been sick are: "Wild Animals and Their Ways," "The Cornet of Horse," "Cecil and His Dog," and many others. As my letter is getting long I will close with a few riddles.

Five hundred begins it, five hundred ends it, five in the middle is seen; first of all letters, first of all numbers have taken their places between? Ans.—David.

What smells most when you are going past a drug store? Ans.—Your nose.

Clinton, Ont. STUART MIDDLETON.
(Age 12, S. III Class.)

Dear Puck and Beavers.—I have never written to your charming Circle before. My father has taken "The Farmer's Advocate" for years, and we all like it fine. I go to school nearly every day. Our teacher's name is Mrs. Huggard. I think she is lovely. I like dictation, literature and composition. There are about 30 on the roll. The average attendance has been low this winter, because there was whooping cough and cold in the school. I do not know whether I will try my entrance in June or not.

The Battle of the Somme was shown in Lindsay (a town about 12 miles from home). I thought it was very interesting. The scenes were so real. I think my letter is getting rather long, so will close wishing the Beaver Circle every success.

EVELYN THURSTON.

Dunsford, Ont.

P.S.—I wish some of the Beavers would write to me, and I will answer all letters.

Junior Beavers' Letter Box.

The Junior Beavers have us almost snowed under with letters. There are about a hundred on hand, so some of the little Beavers will have a long time to wait before seeing their letters in print.

Dear Puck and Beavers.—This is my second letter to "The Farmer's Advocate." I like reading the letters. Am in the third book. We have had a new teacher ever since summer holidays. We have new library books. The books I have read are "Robinson Crusoe," "Tales From Hans Anderson," and I am reading now "Uganda's White Men of Work." I like it the best of all. Well, I will close with some riddles.

Spell dry grass with three letters. Ans.—H-a-y.

Spell mouse-trap with three letters. Ans.—C-a-t.

What is it that has teeth but does not eat? Ans.—A comb.

Dear Puck and Beavers.—This is my first letter to your interesting Circle. My father has taken "The Farmer's Advocate" as long as I can remember, and I always take pleasure in reading the letters. I go to school every day and I like it fine; I and my sister and two brothers. We live on a farm and have a quarter of a mile to go to school. In winter-time, even this winter, there were some rough days; then papa drives us to school. We enjoy the drive. We have three rooms in school. I am in the second rooms. There are about one hundred and twenty-four scholars in all. In winter-time we have games inside, such as "Fig-mill," "What Next?" "Old Maid," "Sister's Pet," "Dominos." I guess I must close as my letter gets rather long.

JEROME P. MEYER.
St. Clements, Ont. (Age 9 years.)

Dear Puck and Beavers.—As my father has taken "The Farmer's Advocate" for some time, I often thought I would like to enter in the Circle. I do not go to school in winter, but I do in summer. I have about one mile to go. My papa likes to read Peter McArthur's letters and Sandy Fraser's, and my mother likes Hope's Quiet Hour by Miss Farncomb. Now, as my letter is getting quite long I will close, hoping to see this in print.

MURIEL R. WRIGHT.
Adderley, P. Q. (Age 10.)

Dear Puck and Beavers.—This is my first letter to your charming Circle. My father has taken "The Farmer's Advocate" for a number of years. I like reading the interesting stories in it. I go to school every day. Our teacher's name is Miss Laura Cavell. I have about a mile to go to school. I have a dog. He draws me on the sleigh. His name is Sport. Well, as my letter is getting long I will close. Hoping to see it in print.

WILLIE TRIMBLE.
R. R. No. 1, Laurel, Ont. (Age 11.)

Dear Puck and Beavers.—It is a long time ago that I wrote to your Circle. I have three pets, one pair of Canary birds, a cat and a dog. The name of my cat is Kaiser, and the name of my dog is Rover. We had an awful storm here the other day. The train that passes at seven o'clock didn't pass until twenty to twelve. I have two brothers and one sister. My oldest brother is seventeen, and my other brother is two years older. My letter is getting long so I will close with a riddle.

Why didn't they bury King George in New York? Ans.—Because he isn't dead yet.

What kind of lions are not allowed in public parks? Ans.—Dandelions.

EMMA DE-JARDINE.
(Age, 8 years old.)

P.S.—I would like if some one of my age would write to me.

Honor Roll.—Arthur Mitchell, Bessie Dalton, Bessie Hillen, Kenneth Stewart, Mary Boyes, Hector McBain, Hazel Bellamy.

Beaver Circle Notes.

Lloyd Wilcox, Eganville, Ont., R. R. 1, (2nd class) would like some of the Beavers to write to him. Also, Violet McCrae, R. R. 2, Kingsville, Ont., (age 9); Jean Mustard, R. R. 2, Uxbridge, Ont.; Hazel Chapman, Seeley's Bay, Ont.

The Dollar Chain

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for the soldiers and all who are suffering because of the war.

Contributions from March 23 to March 30: O. A., Charlton, Ont., \$5; Albert Trott, Mt. Brydges, Ont., \$5; Women's Institute, Belgrave, Ont., \$40; A Friend, Lucan, Ont., \$5; Mrs. A. K. Avery, Knowlesville, \$1; Mrs. Martyn Shaw, Vars, Ont., \$1; Mrs. G. W. Maunsell, and Miss T. C. Maunsell, Macleod, Alta., \$2; Jennie McCallum, R. 1, Wilksport, Ont., \$1; A Friend, Moorefield, Ont., \$10; A Friend, London, Ont., \$10.

For Byron Military Hospital: J. H. Morrison, Walton, Ont., \$5; A. A. Rogers, R. 3, Woodford, Ont., \$2; Evelyn Sleightholm, Alliston, Ont., \$2; Mrs. T. H. M., Lambeth, Ont., \$1; Mrs. Ursula Laidman, R. 1, Binbrook, Ont., \$2; Thos. S. Peacock, Dobbinton, Ont., \$1; Mrs. Martyn Shaw, Vars, Ont., \$2; Pupils of S. S. No. 3 Tilbury East, Ont., \$8; A Friend, London, Ont., \$10; Jennie McCallum, R. 1, Wilksport, Ont., \$1.00.

The time for collecting money for the Byron Hospital for tubercular soldiers has been extended to June. So far the amount received for our Farmer's Advocate Readers' Ward is \$220.50, leaving \$279.50 still to be added.

Total amount previously acknowledged	\$1,140.00
Total to March 30	\$4,253.00

Kindly address contributions to "The Farmer's Advocate and Home Magazine," London, Ont.

Current Events.

The opium traffic in China was closed on March 31st.

In the town of Welland, Ont., the town men are being asked to put in their vacation working on farms.

Premier Lloyd-George and his Government have promised the vote at an early date to the women of Great Britain.

The Chinese Foreign Minister directed the Chinese Minister at Vienna to ask the Austro-Hungarian Government if it approves of the German submarine policy, because of which China has severed relations with Germany. If the reply is not satisfactory diplomatic relations with Austro-Hungary will also be severed.

By the sinking of the British hospital ship Asturias, torpedoed without warning in the Channel on March 20th, it is now known that upwards of 40 people lost their lives.

Four thousand German troops, who, it is said, crossed the border in search of food, have been interned in Holland.

A British force in Palestine, under command of Sir Archibald Murray, won a victory over 20,000 Turks at Gaza, and is now advancing on Jerusalem.

Russian workmen have appealed to the workmen of Germany and Austria to throw off the yoke of autocracy.

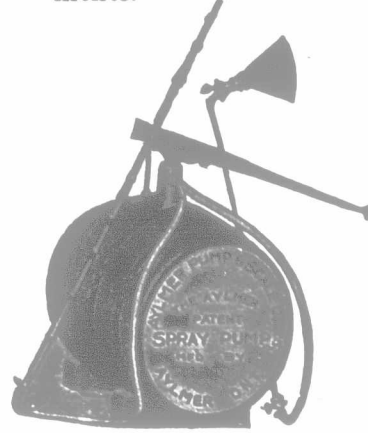
There has been bad weather on the Western war front; also operations have slackened somewhat while the Allies have been bringing up heavy guns and munitions for the great drive that is expected soon on the Hindenburg line. Nevertheless, several advances have been reported, notably that of the Gen. Nivelle's troops in the Champagne region, and that of Gen. Haig's forces east of Bapaume. Some Canadian raids have been reported from Neuville St. Vaast. Fighting has again taken place in Roumania, where the Germans captured an important ridge in the Uzul district. Near Monastir, on the Macedonian front, the French have taken 2,000 prisoners during the week. But the most important news from the Balkans is that Field Marshal von Mackensen has arrived in Constantinople, and is organizing the Turkish forces there for the defence of the city. At this place, no doubt, the last stand of the Turks will be made.

Smiles.

The Draft in the Range.—American people have a very high appreciation of the humor of Englishmen, and have been specially tickled by a story Colonel Cody used to tell. He said that some years ago an Englishman, who had never been in the West before, was his guest. They were riding through a Rocky-Mountain canyon one day, when suddenly a tremendous gust of wind came swooping down upon them and actually carried the Englishman clean off the wagon-seat. After he had been picked up, he combed the sand and gravel out of his whiskers and said: "I say! I think you overdo ventilation in this country!"—Tit-Bits.

Little Tooty was up before the medical board for examination. "Any special identification-marks on the body?" asked the doctor. "No, sir!" "Here, wait a minute! What are all these bruises on the back of the neck?" "Them? Oh, they're nothing! I've been subject to them for years! You see, I'm a clarinet-player in an orchestra." "I don't see how that can produce bruises on the back of your neck." "It doesn't produce them exactly, but it places me in a position where I am liable to get them." "How is that?" "I sit directly in front of the man who plays the slide trombone."

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For Sale—TWO IMP. CLYDE STALLIONS Acme, No. 6187, a Brown; the only horse in Canada that stood as high as 8th in the breeding list in Scotland. Broken to harness. Lord Stanley, No. 9424, a bay, weighs a ton, full of quality and good action. Both sure and quiet. Will take work horse or some stock in part pay. Must sell. Geo. Taylor, Creemore, Ont.

Buy "Seed Oats" Now—Now is the time to get your seed oats to make sure of getting good Ontario-grown seed. I have a limited amount of good, clean seed oats left, which I will sell reasonably. Samples and prices sent on request. Apply soon. BENJ. J. WAECHTER, Gold Medal Farm R. R. No. 3, Walkerton, Ontario.

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For Sale—A limited quantity of Irish Cobbler and Rapid Transit Seed f. o. b., Bancroft Station, C. N. R. H. D. LANCASTER, Bronson P. O., Ont.

TRAPPERS! 5,000 muskrats wanted. Write and get my flat price before selling. ERNEST HOWELL, St. George, Ont.

Advocate Ads Pay

Please mention The Farmer's Advocate

Gossip.

Silver Stream Holsteins.

It was a good little herd of heavy producing cows that our representative inspected recently at Silver Stream Farm, the property of Jacob Mogk & Son, of Tavistock, Ont. In so far as live stock are concerned Holsteins are the only specialty at Silver Stream Farm but the farming operations apart from the herd are carried out according to a system that would do credit even to many of the Demonstration Farms in the Dominion. It was however, of the Holsteins we started to write; the farm must wait until another time. The herd at present comprises 50 head and the sires in service are King Lyons Hengerveld and King Lyons Colantha. Both bulls are owned by the Tavistock Breeders' Syndicates of which Mr. Mogk is a member. The former is a son of King Pietertje and Blanche Lyons Johanna while the latter is sired by King Lyons and has for dam Princess Walker Segis, a daughter of King Walker and Princess Segis, Princess Segis being a 30.43 lb. daughter of King Segis. King Lyons Hengerveld has 6 daughters in the herd including Silver Stream Blanche Lyons which made 12,450 lb. milk and 473 lbs. of butter in the R. O. P., starting her test at 1 year and 9 months of age. There are 15 daughters of King Lyons Colantha, a large percentage being yearlings and 1917 calves. The three bulls now advertised are all by this sire. The 28-months bull and the 2-months bull calf are out of Silver Stream Sadie Vale, a 10,890-lb. junior 2-year-old, while the 14-months calf advertised is out of Silver Stream Blanche Lyons the daughter of King Lyons Hengerveld, mentioned above. There are of course several other younger bulls by each of the above sires, and all are from Mr. Mogk's R. O. P. cows. There are over a half dozen in the herd that have qualified with from 12,000 to 15,155 lbs. of milk for the year and any of our readers who are looking for a young bull from long distance producers should write Messrs. Mogk & Son at once, who are pleased to receive and will answer correspondence at all times.

A Visit to Green Grove Farm.

Recently a representative of this paper spent a few hours at the Green Grove farm situated a few miles from the village of Erin, Ont., and the property of Geo. D. Fletcher, breeder of Shorthorn cattle, Clydesdale horses, Oxford Down sheep, Yorkshire swine, and S.-C. White Leghorn chickens. Every thing kept at Green Grove farm from the dog to the seed that is put in the ground must, under the careful management of Mr. Fletcher, carry a certificate of registration. Of the live stock in particular the pedigrees too, must be the best and in every case the individual must also be as good as the pedigree. Taking the Shorthorns, one needs only to glance over the long list of good sires that have been used in the past to see how closely these two great factors, so essential in successful stock breeding have been combined. Spicy Robin = 28259 =, Imp. Joy of Morning = 32070 =, Imp. Benachie 69954, Royal Bruce by Winning Hope = 80283 = are all noted sires and have all been used in the past. It is doubtful if a better lot have ever done service in any one herd in Canada and then again these are followed by the present sire, Victor Stamford 95959. He is a young sire of show-ring calibre, a thick, good quality, low set roan and was got by Mildred's Royal, while his dam, Scottish Beau Imp., is a direct descendant of the imported Stamfords which constituted one of the very best families in the foundation of the Watt Herd. The 1916 calves are all sired by this bull as is also the calves that are coming now, and a more uniform lot were never borne on the farm. In most instances their dams are descendants of the herd sires mentioned above and of Orange Blossom, Marr Missie, Cruickshanks Mysie, Jealousy and Clementina breeding and notwithstanding their strong Scotch pedigrees, nearly all are splendid milkers. The calves that are now offered from these should meet with good demand. In Clydesdales the offering is made up of about the usual number, several fillies and one or two good year-old stallions. They have quality and breeding and it seems almost useless to add that they are well grown, everything around the farm has this advantage, and is no where more marked than in the Yorkshires and Oxfords.



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winter the road is just as good when the snow melts as in the fall.

It is expensive folly nowadays to build roads in Canada which are not frost-proof and automobile-proof.

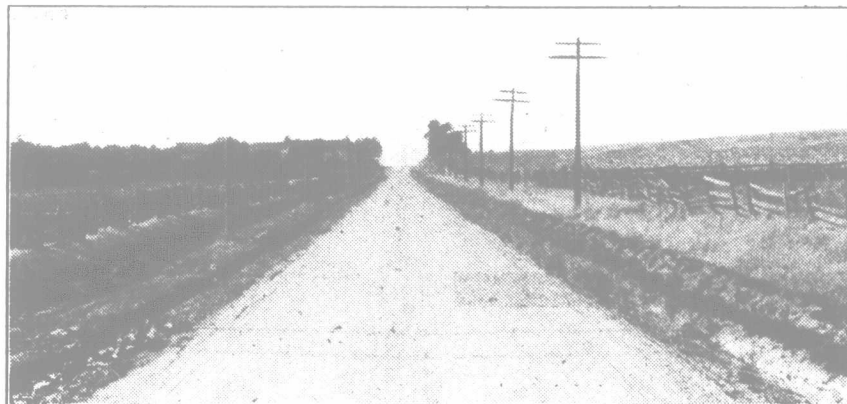
The Tarvia adds nothing to the ultimate cost. It makes the road a little more expensive to construct but very much cheaper to maintain, with the result of a net saving in the end.

Are you paying high rates and getting poor roads? Perhaps your road authorities are not up-to-date. Look into Tarvia!

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O. A. C. 21 Barley.....	\$1 60
O. A. C. 72 Oats.....	1 65
Goose Wheat.....	2 75
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Red Clover, No. 1, \$14.00 bush.; bags extra, 30c. Alsike, No. 1, \$14.00 bush.; bags extra, 30c. Alfalfa, No. 1 (Northern-grown), \$13.00 bush.; bags extra, 30c. Timothy (No. 1 for purity), \$4.00 bush.

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WHEREVER you see a road annually closed to traffic—you may know that the taxpayers of the community through which it passes are paying for somebody's folly. For it is folly—nothing short of it—to build a road that has to be continually repaired. You cannot excuse it on the plea of ignorance—for we now know a better way. We know the economy and satisfaction to be derived from

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"CONCRETE FOR PERMANENCE"

A Plan for the Assistance and Encouragement of Urban Poultry-Keepers.

The present year will see a great increase in the number of urban poultry keepers. The almost prohibitive prices of eggs and poultry during the past winter have caused many consumers to seriously consider the home production of these very necessary and useful commodities. It is important also that any efforts put forth in this direction result satisfactorily.

Many difficulties present themselves in attempting to rear chickens successfully on a small city lot. Experience has shown that the best way for urban poultry keepers to enter the poultry business is by the purchase of pullets in the fall. Well-matured pullets are the most reliable winter-egg producers, and if well cared for will not only produce plenty of fresh eggs for the breakfast table but also return a reasonable profit on the expenditure entailed.

Ordinarily, well-matured pullets are rather scarce and difficult to obtain in the fall of the year. It is believed, however, if the matter were taken up systematically by poultry Associations that the difficulty could be overcome, and, incidentally, serve as a means of increasing interest in the poultry industry. Practically every large town and city has its local Poultry Association. It is suggested that each Association give some publicity to the suitability of thrifty, well-matured pullets for profitable winter egg production, and advertise the fact that the Association is prepared to constitute itself a medium to arrange for the hatching and rearing of pullets this spring for their delivery in the fall. It could be announced that orders would be taken during the month of April and the first part of May. All those de-

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VERA COSTELLO has got 22 new subscriptions so far.
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Do your people subscribe? _____ How old are you? _____
State Yes or No. State Age.

siring pullets in this way could be required to join the Association and make a small deposit covering the number required.

The Association could then make such arrangements as might be necessary with nearby Co-operative Associations, farmers and breeders for the growing of the pullets, a minimum price to be decided upon for the different breeds and varieties. In the fall these could be assembled at some central depot in each locality and the distribution made in time to permit of the proper housing of the stock in permanent winter quarters before the severe weather set in, say by the last of October.

Federal Assistance.

In order that greater effectiveness may be given to this proposal, the Dominion Live Stock Branch is prepared to extend, to all Associations qualifying under these provisions, the same assistance that is given to Associations desiring to purchase other kinds of pure-bred live stock, namely, the payment of reasonable travelling expenses, during the time required to conclude the purchase and transport the stock to destination, of representatives of Associations, in any section of Canada, desiring to purchase pullets in lots of 300 or more. Should it be desired, the Live Stock Commissioner will also nominate a suitable person who will be directed to accompany this representative and assist him as far as possible in the selection and shipping of the pullets.

In the general interests of the poultry industry throughout the Dominion and the urgent need this year for increased production of eggs and poultry, and the releasing thereby of a large surplus for export to Great Britain, it is hoped that as many Associations as possible will take advantage of this proposition. All Associations desiring to become active in this direction are requested to write the Live Stock Commissioner, Ottawa, at once for further advice and instruction in the matter.

JOHN BRIGHT,
Live Stock Commissioner.

Incre

EDITOR

The in is being are told is very are be produc Wide former by arm material The foot ingly ser followi of recent

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Increased Crop Production.

EDITOR "THE FARMER'S ADVOCATE":

The importance of increased production is being emphasized as never before. We are told that the food supply of the world is very low. The producers of farm foods are becoming less numerous, and the non-producing consumers are increasing. Wide sections of country which were formerly productive are being trampled by armies and large quantities of food materials are now being lost in transit. The food situation is becoming increasingly serious. This is emphasized by the following quotations from the public press of recent dates:

Bonar Law, Chancellor of the Exchequer, stated in the House of Commons on Friday, March 16th, that "The British Government regards the production of food of greater importance at the present time than the sending of additional men into the army."

Lord Devonport, Food Controller for Great Britain, stated in the House of Lords on Thursday, March 22nd, that "It might be necessary to resort to compulsory rationing which would be a national calamity."

The Duke of Devonshire, Governor-General of Canada, stated in Brandon on March 6th, that "The supply of food was not only important but perhaps the most important problem which the Empire had to solve."

R. B. Bennett, M.P., Head of the National Service Board of Canada, recently declared that "The crisis is not a military one but one of food supply."

Hon. Martin Burrell, Dominion Minister of Agriculture, stated in January last that "A vital factor will be an ample and unfailing flow of food to England and to France."

N. W. Rowell, Leader of the Opposition in the Ontario Legislature, when speaking to the Legislative Assembly on March 9th "Urged that steps should be taken to insure that the lands of the Province were made to produce every ounce of food possible."

More than one-half of the cropping lands of Ontario is now in grass, and the grass lands of the Province have been increasing at the rate of fully one hundred thousand acres annually during the last four years. During this time there has been a decrease in Ontario and in the whole of Canada of live stock, including dairy cattle, beef cattle, sheep and swine. In the last four years there has been an actual decrease in the acreage in Ontario of twenty-three per cent. in beans, fifty-seven per cent. in peas, seven per cent. in winter wheat, ten per cent. in turnips and twelve per cent. in potatoes. In 1916 eighty-three per cent. of the beans, eighty-four per cent. of the peas, eighty-two per cent. of the fall wheat and thirty per cent. of the potatoes of Canada were produced in Ontario.

It is estimated that an average acre of beans produces as much real food material as is usually obtained from five to fifteen acres of pasture land in the production of either meat or milk.

With slight exceptions, the most economical sources of food materials in Ontario in the past winter were obtained from the following groups: 1st, farm crops—oats, wheat, corn, peas, beans, potatoes; 2nd, dairy products—milk, butter, cheese; 3rd, meats—beef, mutton, pork; 4th, fish—salmon, cod; and 5th, eggs. According to recent determinations and prevailing prices, as much valuable food material for human consumption could be obtained from the purchase of beans with twenty cents as from the purchase of cheese with forty-three cents, of beef steak with seventy-nine cents, and of eggs with one dollar and sixty-one cents.

Field beans approach animal foods in nutritive value. They contain a high percentage of protein, and in this respect surpass the cereals commonly used as food, such as wheat and oats. There is a higher percentage of protein in beans than in the best cuts of meat, but it is not quite so completely digested. Protein is a nutrient which serves to build and repair body tissues as well as to furnish energy. It performs essentially the same part in nutrition whether it is from beans, peas, wheat, meat, milk or cheese.

Skilled labor throughout the Province is very scarce. The farmers of Ontario have an exceedingly difficult task ahead of them if they are to increase the production of the most valuable kinds of food materials in 1917. The following suggestions are offered in the hope that they may prove helpful:



Wearing Rubber Footwear Will Defy Farm Mud and Slush



You can keep your feet dry and comfortable, no matter how bad the day or the footing—

You can escape colds, rheumatism, and similar "wet feet" ills—

You can avoid tracking up the house with the dirt which leather shoes bring in—

By wearing rubber boots or rubber farm shoes in spring and every other time when it is wet and slushy.

Pick out your rubber footwear by one of the famous Trade Marks illustrated here, and you'll be sure of long wear and splendid value for your money.

"MERCHANTS" "JACQUES CARTIER" "GRANBY"
"DOMINION" "MAPLE LEAF" "DAISY"

Canadian Consolidated Rubber Co.

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28 "SERVICE" BRANCHES AND WAREHOUSES THROUGHOUT CANADA

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SEEDS

J. A. SIMMERS Limited
Bulbs, SEEDS, Plants
Toronto, Ont.

If you are in need of a
Cream Separator

Let us ship you a
"Sanitary King"

Six Sizes—135—200—250—375—600 and 800 lbs. capacities.

DETACHABLE SPINDLE, OIL SPLASH and loose discs. We GUARANTEE these machines to be built of the best material, first-class workmanship, skim clean, easy to turn and wash. Cash prices very low. Must satisfy or money refunded. Sold on easy terms if desired. Write to-day for catalogue and local agent's address.

King Separator Works of
Canada
Bridgeburg, Ontario



BRUCE'S RECLEANED FARM SEEDS

THE BEST OFFERED IT PAYS TO BUY THE BEST
OUR LONG ESTABLISHED REPUTATION THE BEST GUARANTEE
OF RELIABILITY

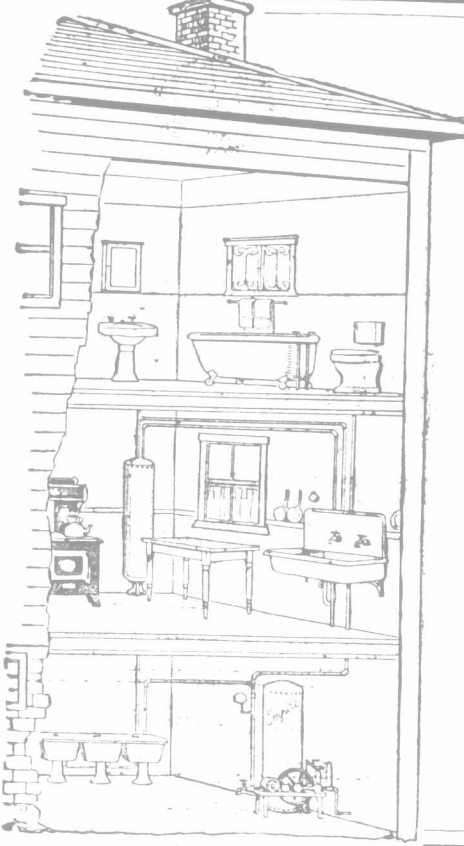
Clovers and Timothy must be marked No. 1, No. 2, or No. 3. Number of weeds allowed in No. 1 is so few that it makes it difficult to procure this grade, except in Timothy, consequently price for this grade is high. Our No. 2 grades are excellent value, in some cases very close to No. 1 in purity, but not equal in color. We mark the Government test number on each bag. We solicit your order, which will have the best of care. Our samples of Seed Corn are splendid and of very high germination.

We offer for immediate orders, as the market fluctuates, subject to being unsold, prices here, cash with order, as follows: March 15, 1917.

SEED GRAINS, ETC.		SEED GRAINS, ETC.		SEED GRAINS, ETC.	
	Bushel.		Bushel.		Bushel.
Barley, Mandshœuri	\$1 65	Peas, Golden Vine	\$3 75	Lucerne, Regal, No. 1 G.S., Amer.	\$13 50
" " No. 21	1 70	" Canadian Beauty	4 00	" Choice, No. 2 G.S., Amer.	12 00
Beans, Soja, or Soy	4 50	" Marrowfats, White or Black	4 50	" Turkestan, No. 2 G.S.	11 50
Buckwheat, Silverhull	2 25	" Early Brittany	3 50	Red, Regal No. 1 G.S.	14 00
Corn, Compton's Early, 12 Rowed	2 50	Potatoes, Eureka	2 70	" Choice, No. 2 G.S.	13 50
" Angel of Midnight, 8 Rowed	2 50	" Early Chicago Market	2 70	" Prime, No. 3 G.S.	13 00
" White Flint, Dakota, 8 Row	2 50	" Delaware	2 70	Mammoth, Choice, No. 2 G.S.	15 00
" Longfellow, 8 Rowed	2 50	" Noroton Beauty	2 70	White, Regal	35 00
" King Philip, 8 Rowed	2 50	" Sir Walter Raleigh	2 70	" Choice	34 00
" Australian, Extra Early	2 50	" Empire State	2 70	" Prime	33 00
" Improved Leaming, Bruce's	2 20	" The Dooly	2 70	White and Alsike, Mixed	13 00
" Butler Dent	2 20	" Green Mountain	2 70	Sweet Clover, White Blossom	12 00
" Cloud's Dent	2 20	Rye, Spring	2 70		
" Cuban Giant Yellow	2 20	Speltz or Emmer, per 40 lbs.	1 35		
" Reid's Dent	2 20	Tares, Black	3 75		
" Wisconsin White No. 7	2 20	Vetch, Hairy	15 00		
" Leaming	1 80	Vetch, Hairy, mixed with Rye	8 50		
" White Cap Dent, Bruce's	2 20	Wheat, New Marquis	3 00		
" Selected Giant Red Cob	1 80				
" Selected Mammoth White	1 80				
" Evergreen Ensilage, 40 lbs.	3 20				
" Peas, Whippoorwill	4 00				
" New Era Early	4 00				
Oats, Scotch Black Tartarian	3 00				
" Canadian Black Tartarian	1 35				
" Bruce's Leader	1 75				
" Green Mountain	1 35				
" Siberian	1 25				
" Bruce's Conqueror	1 50				
" Scottish Chief, Bruce's	1 35				
" Silver Mine, Early	1 35				
" American Banner	1 35				
" New O.A.C. No. 72	1 35				
" Abundance, Regenerated	1 35				

Remit 25 Cents Each for used, 30c. for New Two-bushel Cotton Bags.
POULTRY SUPPLIES—Oyster shells, 85c.; Pearl Grit, 75c.; Granulated Bone, \$2.60; Beef Scraps, \$4.00; Blood Meal, \$4.00; Beef Meal, \$4.00; Chick Food, \$3.50; Scratch Food, \$3.10; Developing Food, \$3.25; Pigeon Food, \$3.65; Mash, \$2.70; Alfalfa Meal, \$2.75. All per bag of 100 lbs. Bags free.
The Letters G. S. after Clovers and Timothy stand for Government Standard.
Bitter Lick Salt Brick.—A splendid conditioner for horses. Bricks, 25c. each. Holder for fastening in stall so it cannot be wasted, 20c. each.
Our Beautifully Illustrated Catalogue of Vegetable, Flower and Root Seeds, Bulbs, Plants, Implements and Poultry Supplies—128 pages—mailed FREE to all applicants. Write for it at once.

JOHN A. BRUCE & CO., Ltd., Seed Merchants, Established 1850 **Hamilton, Ont.**



Have Your Own Water System

Have running, hard, soft and hot water on every floor of your home—in the basement for laundry purposes, in the kitchen, in the bathroom. Then a tap outside for watering the lawn or flowers, and another for the stock in the yard, also water in the barn, poultry house, garage.

The water supply is constant, and always under good pressure when you use an

Empire WATER SUPPLY System

Empire Water Supply Systems are simple in design, compact, powerful. There is an Empire system suited to the needs of every home, and priced so reasonably that no home need go without it.

Send to-day for our Free Catalogue and Information Blank.

Fill in the latter, mail it to us and we will select a system suited to the needs of your particular place, and estimate its cost without charge or obligation.

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Advocate Ads. Pay

AN HUNDRED-BUSHEL CROP of comfort will be the yield if you invest now in an Old Age Endowment OF THE

EXCELSIOR LIFE INSURANCE COMPANY

For Pamphlet and Memo. Book, write Dept. F.

- Carefully plan the crop production for the season at an early date.
 - Thoroughly clean and grade the grain so as to procure the large, plump, sound and well-matured seed.
 - Test the germinating power and the vigor of the seed before time to sow.
 - Overhaul implements and machines so as to be ready to start seeding early and to sow each class of crop at the best time for highest results.
 - Arrange for at least a small amount of such cultivated crops as beans, potatoes, turnips and corn.
 - Watch and destroy the weeds before they are able to make much headway.
 - Economize man labor by using three and four-horse teams when possible.
 - Plan so as to make the best use of the unskilled labor which is available. Copies of bulletins on "Farm Crops," "Field Beans" and "Potatoes" may be obtained from the County Agricultural Representatives or from the Ontario Department of Agriculture, Parliament Buildings, Toronto.
- Let us do our part as best we can for the good of humanity and for the prevention of a world famine in essential food materials.
- C. A. ZAVITZ, O. A. C., Guelph.

Gossip.

Cleanings From Oak Park Farm.

Beautifully situated on the main road about half way between Brantford and Paris, Ont., lies some 500 acres of choice sandy loam known to Canadian live-stock men for more than a quarter of a century as Oak Park Farm; the home of many a champion on both this and the other side of the border. In the old days, however, Shorthorn cattle, Yorkshire swine and Shropshire sheep were the chief lines, but five years ago, when the present owner, W. G. Bailey, purchased the entire establishment, the Shorthorns were disposed of and replaced by the splendid herd of Holsteins which brought so many new laurels to Oak Park on the Ontario show circuit in the fall of 1916. The Shropshires and Yorkshires, while they are no mean side lines, were at the time of our visit sold down exceptionally low, so that most of our time was spent in the dairy barns amongst the Holsteins. In all, the herd, at present, numbers almost 100 head, including, of course, the 1917 calves, of which there are a large number. These, as are also the majority of the one and two-year heifers, are all sired by their grand champion Toronto and London winner, Lakeview Dutchland Hengerveld 2nd. The senior sire in service, Lakeview Dutchland Hengerveld 2nd, should need very little introduction to Farmer's Advocate readers. To say that he is a 27.18 lb.-bred son of that great sire Colantha Johanna Lad seems almost sufficient in so far as his breeding is concerned, but to say that he was first, as a two-year-old, at Toronto in 1915 and the grand champion bull again at both Toronto and London, 1916, seems to leave no room for doubt as to his worth among the best sires of the country to-day; many of his get were also prominent winners in 1916, and the majority of these are still in the stables. They all have their sire's same great depth and smoothness, all are exceptionally well grown, and the majority are from the good record cows that are now in the Oak Park herd. These records run up to 26.15 lbs. of butter in 7 days for 5-year-old cows, while the highest 3-year-old record is 22.28 lbs., and the highest 2-year-old, 20 lbs. The management are, however, expecting to be able to announce several excellent new records within the next few months. For use on the heifers sired by Lakeview Dutchland Hengerveld, Mr. Bailey has just recently purchased the young sire, King Sylvia Keyes, which is without doubt one of the best individual young sires in the country. He is sired by Inka Sylvia Beets Posch, the sire of the world's champion milk cow, May Echo Sylvia; while his dam, Helena Keyes, is a show ring champion winner and is fully expected to materially increase her 26.26 lb., 7-day record when freshening within the next few weeks. King Sylvia Keyes carries 62½ per cent. of the same blood as May Echo Sylvia, 92½ per cent. the same as Helena Sylvia Posch, the only heifer in Canada to make 100 lbs. of milk in one day with second calf, and, still better, 20 of his nearest relatives average 20.97 lbs. of butter in 7 days. Mr. Bailey is leaving very little "to chance" in following up his champion senior sire with such record breeding as has King Sylvia Keyes.

Questions and Answers
Miscellaneous.

Beans Per Acre.

How many beans will it require to drill an acre of ground with rows 2½ feet apart? N. A. D.

Ans.—It depends on the size of the beans. It varies from 3 to 5 pecks per acre, the latter amount for the Marrow-fat variety.

Blackleg.

1. At what age will calves take blackleg?
2. How long will blackleg vaccine insure against the disease? H. C.

Ans.—1 Cattle between the ages of six months and two years are most subject to blackleg, but calves younger than six months old will contract the disease. There appears to be no definite age limit that will ensure immunity.

2. It is believed that vaccine will establish an immunity that will last for 18 months, but calves vaccinated before they are six months old and other cattle in a badly infected district should be inoculated each year before the blackleg season arrives.

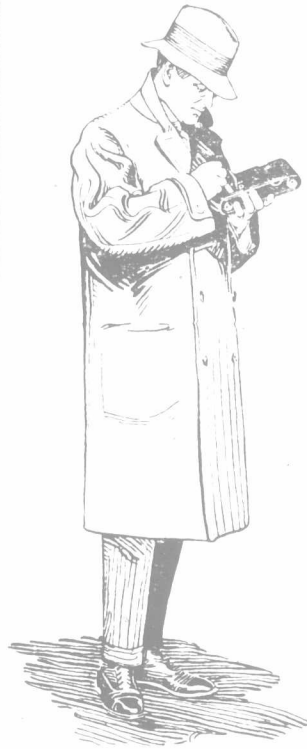
The McGugan Holstein Sale.

Attention is again called to the Holstein sale of A. D. McGugan, at Glenora Stock Farm, Rodney, Ont. Unfortunately for Mr. McGugan he is located in a district where dairying is not carried on to any extent, and the 50 head of heavy producing Holsteins will not bring the prices they would if located in any of the leading dairy districts. Although no official testing has been done in this herd a system of selection has been followed from the first, and only the heavy producers and high testers have been retained. The foundation cows were the very best, and none but high-class sires have been used. Many of the cows in this herd, with ordinary dairy care, have produced yearly from 12,000 to 14,600 lbs. of milk. The young stock is particularly attractive, including heifer calves, yearlings and two-year-old heifers. The 30 mature cows—only three of which are aged—are large and of good type; just the kind a good Holstein judge would select as money-makers. The five-year-old herd sire, Ourvilla Calamity Abbekerk, will be sold. This is one of the best show bulls in the Province and a great sire, as his stock will show. His dam was grand champion at London, and his sire, Dutchland Colantha Sir Abbekerk, has more officially tested daughters than any other bull in Canada. Owing to Mr. McGugan's continued ill health everything must be sold. His fine farm of 185 acres is also to be sold. The cattle have not been fitted for sale but are in A-1 working condition.

Riverside Holsteins.

Among the recent sales of Holsteins from the Riverside herd of J. W. Richardson, Caledonia, mention might be made of the disposal of the 5-months-old male calf, Riverside Mercedes Korndyke. He is sired by King Johanna Pontiac Korndyke, which had over 20 daughters in the R. O. M., with an average test of over 4 per cent. butter-fat. The dam of this young bull is Inka Mercedes De Kol 6th, butter 26.40, which is a sister of Toitilla of Riverside, Canadian R. O. P. champion, and Jemima Johanna Wayne, butter 30.23. J. M. Mussen, Niagara-on-the-Lake, is the purchaser of this calf. John D. McKae of Apple Hill secured Riverside Sir Hartog, sired by Francly Bonerges Hartog and out of Riverside Lady Pontiac; butter as a junior two-year-old, 14.35. She is a daughter of King and a granddaughter of Toitilla De Kol Sarcastic, butter 29.42, the dam of Toitilla of Riverside, Canadian R. O. P. champion. John A. McKay, of St. Mary's, purchased a son of Riverside Mercedes Korndyke, butter at one year eleven months, 17.42. This heifer is likely to increase her record at next freshening. Two heifers went to Paul Merritt, Beamsville. They had just completed a seven-day test with creditable records as two-year-olds. Wm. E. Boughner, also of Beamsville, purchased Aaggie Zenobia, a daughter of Roebuck's Beauty, butter 28.33. This cow has dropped a fine heifer calf, and Mr. Boughner is highly pleased with her. The young calves on hand at Riverside are strong, well-marked, straight individuals, and it will pay you to inspect them. A few more must be sold at once to make room.

M A D E I N C A N A D A



Those things that need your attention on the farm:

You, Mr. Farm Owner, who are about to make your first trip of the season to the farm, will find a score of things that need attention. Whether it is rented or "worked on shares," or whether you employ a superintendent, you, the owner, have certain things that you want done, will order done. And you want a record of how things look now:

- Certain old fences.*
- The south porch.*
- The land that needs tiling.*
- The foundation to the corn crib.*
- The broken hoops on the silo.*
- The condition of the orchard.*
- The condition of the horses and cattle and hogs.*

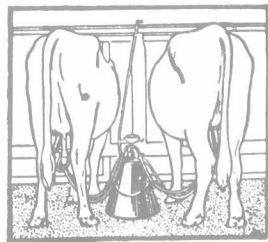
And one obvious thing to do is to make an auto-photo-graphic record. Make pictures of the things that don't please you, as well as pictures of the things that do please you. And alongside of each picture make a brief memo, —at least a date and title, an authentic, indisputable record written on the film at the time. It's a simple and almost instantaneous process with an

Autographic Kodak

Catalogue, free, at your dealer's or by mail.



CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



"With your Milking Machine I can Produce Milk of Superior Quality"

The writer of the letter below is known throughout his district as a keen and rather critical judge of dairying methods and equipment. They say he is a "crank" on quality! Certainly the John D. Duncan Co., of Montreal, are most particular about the purity of the milk they get for their patrons.

RIVERFIELD, QUE., Jan. 25, 1917

Gentlemen:— I have noticed some of the testimonials you are publishing and thought I would let you know how I like the Empire Milking Machine and Empire Engine which I purchased from you in the month of April, 1916. It has given entire satisfaction. I have had considerable experience with engines for many years, and am consequently in position to appreciate the merits of the Empire, and recommend same as one of the most reliable for milking machine and general farm work.

With your Milking Machine I can produce milk of superior quality, according to the statement of the John D. Duncan Co., to whom I have been shipping. I find that the machine is in no way injurious to the cows or teats, and no other trouble has been experienced. The speed at which the machine can milk is regulated by the class of cows and the quickness of the operator.

J. R. McKELL

EMPIRE Mechanical Milkers

produce milk of high quality, at the same time that they save time, reduce expense, increase profits, and make it possible to keep up and even increase the number of cows milked, in spite of the growing scarcity of help. They certainly are worth investigation.

Write for Booklets explaining the correct natural principle on which the Empire works, and giving the experience of prominent Dairymen who are using it. Address Dept. "C"

THE EMPIRE CREAM SEPARATOR CO.
of Canada, Limited.

MONTREAL TORONTO. WINNIPEG. 63



Better Be Sure Than Sorry
Your profits depend upon the health of your flock.

Pratt's POULTRY REGULATOR
Regulates the blood, bowels and digestive organs. Keeps fowls active and makes them lay more eggs. Prevents disease.

Write for FREE Book, "Poultry Wrinkles."

PRATT FOOD CO.
of Canada, Limited
68 J. Claremont St.
TORONTO

P-16

Mutual Life Companies are on the same sound basis as other legal reserve companies and have the great feature of mutuality to boot.

Post Holes Cost Money

You can save this labor and expense by using Standard Steel Tube Fence Posts. Write for prices.

Standard Steel Tube & Fence Co., Limited
Woodstock, Ont.

DR. BELL'S Veterinary Medical WONDER. 10,000 \$1.00 bottles FREE to horsemen who give the Wonder a trial. Guaranteed for Colic, Inflammation of Lungs, Bowels, Kidneys, Fevers, and Distempers, etc. Send 25 cents for mailing, packing, etc. Agents wanted. Write address plainly **DR. BELL, V.S., KINGSTON, ONT.**

In a letter advising a change of advertisement in this issue, Alex. Hume & Co., of Campbellford, Ont., writes that their herd of Ayrshires have come through the winter in good condition and their crop of calves from the champion, Hillside Peter Pan, is a very promising one.

When Writing Please Mention Advocate

"The Ontario Farmers' Own Organization"

If our coal estimate is large enough, we hope to quote most attractive prices on this commodity for summer delivery. We have heard from a number of farmers, but there are still a great many we would like to receive estimates from before setting our prices.

As anticipated, coal oil has advanced 2c. and gasoline has advanced 1c. per gallon. The oil market is strong.

We are now in a position to handle your butter and eggs. Get our prices before disposing of same elsewhere. When shipping your produce, always send us a statement of same by mail.

Farmers having seed grain or potatoes for sale may forward samples to this office, stating varieties, price and quantity.

We have about 600 bushels of American White Beans at \$7.60 per bushel; also some White Normandy Oats at \$1.02, and O.A.C. 72 at \$1.05, all f.o.b., Goderich, Ont. Bags extra. Could you give us any idea as to your probable requirements in potatoes?

We are in a position to supply groceries, fertilizers, ground limestone, oils, etc. Get our prices.

Our supply of Seed Corn is entirely sold out. Sugar has advanced 20c. per cwt.

We are having considerable trouble lately with delayed freight. The railways refuse to call for small shipments only on certain days, owing to embargoes, but we hope this difficulty will soon be overcome.

THE UNITED FARMERS' CO-OPERATIVE CO., LIMITED
110 Church St. Toronto, Ontario

Wanted CREAM

We pay highest market prices for churning cream of good quality. We—
Remit promptly,
Test accurately,
Supply you with cans,
Give you a square deal.
Enough said, write for fuller particulars to
ROSEDALE CREAMERY CO.
Kitchener, Ontario.

Cure the horse while he works



Bickmore's Gall Cure is the C.I.-time reliable horse remedy. Heals and cures Hives and Saddle Galls, Rope Burn, Cuts, Scorches, Grosse Heel, etc.—while the horse works! Money refunded if it fails. Keep it on hand. Demand the genuine, with "Work-Horse" trademark. Price 25c, 50c or \$1 at your dealer or sent postpaid by us. Tell Bickmore's valuable Farm Account Book for 15c. Write for both today.

Wingate Chemical Company
679 Notre Dame St. West, Montreal, Can.

Bickmore's Gall Cure

CREAMO
Cotton Seed Feed Meal
FOR
DAIRYMEN and FEEDERS
Ask your dealer or write for prices.
Fred Smith, 32-34 Front St. W., Toronto

MORE HORSE-POWER
if your teams are equipped with



These pads prevent Sore Shoulders and cure Gall Sores. Your dealer will supply you, or write BURLINGTON BLANKET CO., LTD., 793 KING STREET WEST, TORONTO, CANADA.

MAKE YOUR OWN GENUINE
LAGER BEER
at home with
Hop-Malt Beer Extract

Ask for particulars and prices—Hop Malt Company, Dept. 18, Beamsville, Ont.

HEREFORD BULLS. In 1913 to 2,175. All year, cow, calves, and piglets, a herd of 100, a herd of 200, and a herd of 300. Write for particulars.
ARTHUR F. O'NEILL & SONS,
Denfield, Ont. R. No. 2.

Questions and Answers Veterinary.

Difficult Breathing.

Lamb three days old seemed to have a cold when born. It holds its head high, staggers and breathes short.

H. H. B.

Ans.—This is probably due to goitre. Get an ointment made of 2 drams each of iodine and iodide of potassium mixed with 2 ozs. vaseline, and rub some of this well into the throat once daily.

V.

Miscellaneous.

Pasture—Seeding With Clover.

I have 10 acres of fall rye on a light piece of land. I would like to seed it down with clover. When is the best time to sow the clover, and would you advise harrowing it?

2. Is wheat, oats and barley a good mixture to sow for pasture? Will it pasture one head of stock to the acre through the summer?

G. L.

Ans.—1. Clover may be sown any time. Some like to sow it on a fall of snow which frequently comes the latter part of March or early in April. The moisture from the melting snow gives it a start, and in this case harrowing is not necessary, as the slight freezing and thawing of early spring tends to cover the seed. If seeding is delayed until the ground is dry it might be advisable to harrow it, especially if the ground is any way hard.

2. A mixture of one bushel each of wheat, oats and barley sown at the rate of 3 bushels per acre, with about 6 lbs. of red clover added has proven to be a very satisfactory pasture crop. Sown at the regular seeding time it will be ready for pasture the latter part of June. It is essential that the stock be turned on it before the grain heads out. The amount of stock which it will carry depends a good deal on the season. We have known a crop from this mixture carrying one animal to the acre for the summer months.

Sub-soil Plow—Sweet Clover.

1. What quantity of alfalfa seed would you advise sowing per acre on a clay loam soil?

2. What is meant by a sub-soil plow? Can one be purchased in this country? The way I understand it, sub-soiling means breaking of the smooth surface which the plow leaves in the bottom of the furrow. Do you suppose that a cultivator tooth fastened in a casting just behind the mold-board of a plow would do?

3. I purpose seeding some land to white-blossomed sweet clover this year for the purpose of building up the soil. If it grows satisfactorily do you suppose that if I plow it under this fall I will have any trouble in keeping it down next year? Would plowing it under the latter part of May or first of June a year from this spring be more satisfactory. How many pounds would you sow per acre?

A. R.

Ans.—1. From 18 to 20 lbs. of alfalfa seed is usually recommended per acre.

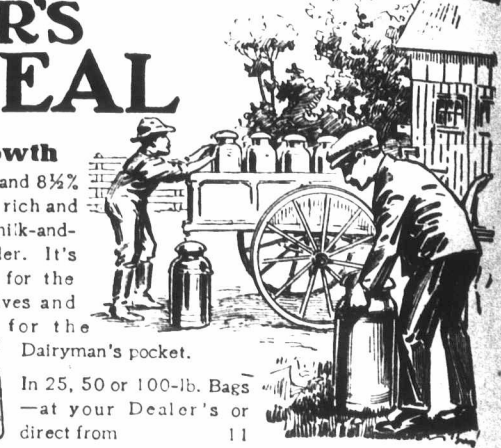
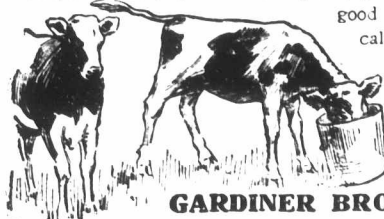
2. A sub-soil plow is an implement used to loosen a layer of soil underneath that generally cultivated. These plows can be purchased from implement manufacturers in this country. Sub-soiling is more than simply scratching the soil underneath the furrow. It is loosening it up to a depth of four inches or more; the deeper the better, but it takes considerable horse-power to pull it through a stiff soil. The sub soil seldom proves satisfactory for growing crops until it is weathered. In certain soils a hard layer is formed just beneath the plow furrow, which is difficult for the roots to penetrate. The sub-soil plow follows along behind the regular plow and simply loosens the hard strata. It does not bring it to the surface. A cultivator tooth would not make much impression. With only certain types of soils, and under certain conditions, is sub-soiling followed.

3. Sweet clover is a biennial crop, and if prevented from going to seed it would die out naturally the second year. Plowing it under this fall or next June would, no doubt, add considerable humus to the soil, and the only danger there would be of plants coming up in the next crop is from seeds which might fail to germinate this year. However there is little difficulty from this source. From 18 to 20 lbs. is considered a fair seeding.

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Saves the milk and Speeds the Calves' Growth

With its guaranteed 19% to 20% of Protein and 8½% to 9% of Fat, Gardiner's Calf Meal makes a rich and nourishing ration with separated milk, milk-and-water, or water only as the calf grows older. It's good for the calves and for the Dairyman's pocket.



In 25, 50 or 100-lb. Bags
—at your Dealer's or direct from

GARDINER BROS., Feed Specialists, Sarnia, Ont.

PERCHERONS ANNOUNCEMENT EXTRAORDINARY!

We have, and are going to sell in the next four weeks, the seven best imported Percheron stallions to be found under one roof in Ontario. Every horse is guaranteed sound and a proven foal-getter, and has been a prize-winner at either Toronto or Guelph Exhibitions. Ages run from four to seven years; colors blacks and grays; weights from 1,800 to 2,100 lbs. We are making substantial reductions in the price of these horses in order to make room for another importation. Terms to suit purchasers. Call, write, or phone.

HODGKINSON & TISDALE, Beaverton, Ontario

On the 26th day of APRIL, Mr. J. E. Arnold is offering his entire stock of 25 STALLIONS AND MARES

for sale by Public Auction, including his champion Percheron stallion "Loin", champion Belgian "Duc", champion mares, Percheron, Clyde, and Standard bred; also 60 HEAD OF HOLSTEIN CATTLE, registered and grade. This is one of the best opportunities ever offered in the Province of Quebec to get prize-winning stock, as no reasonable offer will be refused. Mr. Arnold is renovating both horse and cow barns and has no place to house stock while construction is going on. Watch for a more detailed account of sale in later issues. J. E. ARNOLD, GRENVILLE, QUEBEC

FOR SALE A Very High-Class Belgian Stallion

COMING 7 YEARS

Color, Strawberry roan; weight between 1,900 and 2,000 lbs. Son of the Sweepstakes Draft Mare, Chicago Horse Show, 1907. Come and see his colts. Address: W. C. HOUCK, R. R. No. 1, CHIPPAWA, ONT.

Clydesdales and Ayrshires—Two Canadian-bred stallions, two years old ported dam; other's dam is Dolly Murray, the Canadian-bred champion mare at Toronto, 1913. Come and see them. They are priced to sell. We are offering some choice young bulls and a few females. LAURIER BROS., AGINCOURT, ONTARIO

Clontarf Farm Manning W. Doherty, Est. 1820

Breeders of Clydesdale Horses, Holstein Cattle, Yorkshire Hogs. We can now offer Holstein bull (Pontiac Artis Thekla 30395), twelve months old, and every inch a bull, one-half white, dam Empress Thekla; has a record at two years and two days old of 16.54 butter. Sire, Pontiac Artis Canada. This is a beautiful animal and the first cheque for \$100 gets him.

Bell Telephone HILLSDALE FARM Farm 3, miles east of Ottawa

B. ROTHWELL

BREEDER OF HIGH-CLASS CLYDESDALES

Write me for prices on champion mares R. R. No. 1, OTTAWA, ONT.

OUR LATEST IMPORTATION OF CLYDESDALES

arrived at our barns late in November. A number of them since have been prominent winners at both Guelph and Ottawa. But we have others (both stallions and mares) that were never out; the majority of the stallions weigh around the ton, and better quality and breeding were never in the stables. Come and see them, we like to show them. SMITH & RICHARDSON, COLUMBUS, ONTARIO

ANNOUNCEMENT Southdowns and Shropshires

Mr. John D. Larkin has recently added to his flock at Larkin Farms by purchasing from Mr. J. C. Duncan, Manager of the Niagara Stock Farm, Lewiston, N. Y., their entire flocks of Southdown and Shropshire sheep. The breeding and management of these long-established and well-known flocks will continue along the same lines as in the past. The continued patronage of those who have drawn from these flocks and those who require Southdowns and Shropshires of merit is solicited and complete satisfaction is assured. Address:—

LARKIN FARMS, QUEENSTON, ONTARIO

The Manor Stock Farm SHORTHORNS

Bulls all sold, except the four listed in the London Sale, March 28, a Rosemary, a Wimple, a Mina and a Julia.

John T. Gibson,

Denfield, Ont.

BRANT COUNTY SHORTHORN BREEDERS' CLUB

Many of Ontario's leading herds are represented in Brant County. Write now for our Sales List. GEO. L. TELFER, Secretary, PARIS, ONT. JAS. DOUGLAS, President, CALEDONIA, ONT.

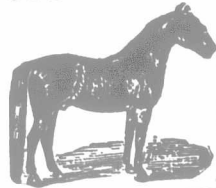
Glengow Shorthorns, Cotswolds

For the present, we have sold all the Cotswolds we wish to spare, but we have a choice offering in young bulls fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple. WM. SMITH, Columbus, Ont., Myrtle, C. P. R., Brooklin, G. T. R., Oshawa, C. N. R.

EVERGREEN STOCK FARM—High-class Registered Holsteins

To breeders who wish to make secure their future success we are offering some extra choice bull calves at living prices. Two of these are from daughters of a son of Lulu Keyes, 36 lbs. butter 7 days, and 21 lbs. milk per day, and sired by Prince Colantha Abbecker, whose dam made 32 lbs. butter 7 days and 104 lbs. milk per day. A. E. HULET, NORWICH, ONT. BELL PHONE 46-7. 3

Horse Owners! Use GOMBAULT'S



Caustic Balsam

A Safe, Speedy, and Positive Cure

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

\$1. for a Horse

Save a horse and you won't have to buy one. Don't sell or destroy any horse on account of Spavin, Splint, Ringbone, Curb, Sprains or Lameness. Spend one dollar for a bottle.

KENDALL'S SPAVIN CURE

It has saved a great many horses—has put them back to work, even after they have been given up. Over 35 years of success have proved its value.

Mellen Crivea, Marenco, Sask., wrote last February—"I have used your Spavin Cure for many years and thus far have never known it to fail."

Get Kendall's Spavin Cure at any druggist's. Price \$1. a bottle, 6 bottles for \$5. "A Treatise on the Horse," free at druggists or from Dr. B. J. Kendall Co., Enosburg Falls, Vt., U.S.A.

Heaves

AND HOW TO CURE

—A Standard treatment with years of success back of it to guarantee results is

Fleming's Tonic Heave Remedy

Use it on any case—No matter what else has been tried—and if three boxes fail to relieve, we will refund full amount paid. Further details in

Fleming's Vest Pocket Veterinary Adviser

Write us for a Free Copy BEST EVER USED

Dear Sirs:—Enclosed find \$1.00 for 1 package of Tonic Heave Remedy. I used a package last year and completely cured a case of Heaves of some 3 yrs' standing.

H. B. BURKHOLDER, Lillooet, B.C. Per Box, \$1.00; 3 for \$2.50

FLEMING BROS., Chemists
75 Church St. Toronto

Clydesdale Stallions FOR SALE

Shawano King (imp.) (18708) Brown, with star and white hind feet; foaled, May 31, 1913.

Baron Knight (14176), Chestnut, stripe, legs white; foaled June 29th, 1909. Imported sire and dam. Both inspected and enrolled, form one.

J. SOCKETT & SONS,
Rockwood, Ont., R. R. No. 5

Alloway Lodge Stock Farm

Angus—Southdowns—Collies

SPECIAL this month:

CHOICE BULLS

ROBT. McEWEN, R.R.4, London, Ont.

MESSRS A. J. HICKMAN & CO., (late Hickman & Scruby), Court Lodge, Egerton, Kent, England, exporters of

PEDIGREED LIVE STOCK

of all descriptions. Specialty made of draft horses, beef and dairy breeds of cattle, show and field sheep. Illustrated catalogues and testimonials on application. All enquiries answered with pleasure. Now is the time to import. Prospects were never better, and insurance against all war risks can be covered by payment of an extra 1% only.

Beaver Hill Aberdeen-Angus bulls, from 15 to 24 months; cows with calves at foot, and bred again; females all ages. Rosecomb Rhode Island Red cockerels from good winter laying strains, \$2.50 each. Write ALEX. MCKINNEY, R. R. No. 1, Erin, Ont. L.-D. phone.

BALMEDIÉ ABERDEEN-ANGUS

Get a high-class Angus bull and breed the champion steers. I have show-ring quality bulls from 10 to 24 months of age; also choice 1 and 3-yr.-old heifers. T. B. BROADFOOT FERGUS, ONT.

Brownlee Shorthorns.

Offers a choice lot of young bulls, ranging in ages up to nine months and sired by the Nonpareil bull, Royal Saxon. See these before buying elsewhere. Could also spare a few females. Douglas Brown, Bright, Ont., R. R. 3. Ayr Station, G. P. R.

Questions and Answers. Miscellaneous.

Milk Fever—Garget

I have a valuable milk cow which is due to freshen about May 15. She had milk fever five years ago and again last spring. The oxygen treatment was used, but shortly afterwards garget set in in two quarters. Mixtures of oil were applied but the quarters never regained their original state. Is the trouble likely to occur again this season? What could we do in the way of preventing it?

J. McL.

Ans.—Milk fever occurs more frequently with heavy milkers than with the average cow. Preventive measures are: do not feed too heavily on milk-producing feeds for a few days previous to freshening, and do not milk the cow out dry for a day or two after calving. Draw a little milk at frequent intervals and the trouble is not likely to occur. Garget is very often caused by a chill, or the udder coming in contact with the cold floor. Sometimes it occurs without apparent cause. If it becomes hard rub with goose grease or camphorated oil. In some cases the quarter does not secrete milk after a severe attack.

Alsike—Beans—Oats Per Acre.

1. Will alsike do well on rich, black loam soil and on sandy soils?
2. Men who take the four-year course and graduate from the Ontario Agricultural College have B. S. A. to their names. What does this stand for?
3. As a rule how many pecks of Yellow-eye beans should be sown per acre?
4. When is the best time to visit the experimental grounds at the Ontario Agricultural College?
5. Are people entitled to registration papers for pure-bred stock if they join the Live Stock Breeders' Association?
6. Do you think barley should be planted shallow on sandy land or on wet, cold land?
7. My O. A. C. No. 72 seed oats have been well screened and cleaned and are the largest and plumpest I have ever had. How many pecks per acre would you advise sowing on rich, black sand loam?
8. A fertilizer association claims that the land requires three times the amount of plant food that the plant takes from the soil in order to keep up the fertility. Is not this all bosh? We have seen farms built up just by feeding the grain and roughage grown on the farm and plowing under a little clover. There is a lot of unavailable plant food in our soils which will be made use of by the plant only after thorough cultivation. Does a plant waste double the plant food that it consumes?

J. W.

Ans.—1. Alsike does not do very well on sandy loam, but should do all right on a black loam. As a rule it does better than other clovers on low-lying land.

2. Graduates from the Agricultural College are given the degree of Bachelor of Scientific Agriculture.

3. The amount of beans to sow per acre depends a good deal on the size of the bean. About 4 pecks is a very good seeding of the Yellow-eye.

4. About the middle of June is a very satisfactory time to visit the experimental grounds at Guelph. Most crops are well under way at that time and a comparison of the different varieties can be made.

5. Members of a breed association get a reduction when it comes to registering pure-bred stock. Communicate with the secretary, or with the Accountant, National Live Stock Records, Ottawa, regarding the breed which you wish to register.

6. It is not advisable to sow barley too deeply on any kind of soil, but it can be sown deeper on sand than on wet, cold land.

7. Ten pecks would be plenty, provided the germination is good; in fact, on rich soil a good stand might be secured with a peck or two less.

8. The plant does not waste the fertility, but there is always more or less waste of any fertilizer by leaching and by particles which are not available the first year. As the plant food in the fertilizer dissolves it goes down by force of gravitation and a portion may be held in the sub-soil, which would possibly be taken up when a deep-rooted crop was grown. Feeding stock and plowing under is the ideal way of keeping up the fertility of any soil; not only is plant food added but a large amount of humus is incorporated in the soil when clover or barnyard manure is plowed under.

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RAISE HEALTHY CHICKS

If in the past you have had trouble in raising your chicks through any stage of their growth, try

Caldwell's Chick Feed

With it you can raise healthy, lively chickens, because the food is pure, clean, sweet and balanced. Caldwell's Chick Feed contains just the food elements Baby Chicks require—everything is there.

Order a 100-lb. sack from your feedman, and try it on your Spring hatch.

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Makers of all kinds of stock and poultry feeds.

STANDARD FEEDS

GREAT PUBLIC SALE OF SHORTHORNS

Comprising fourteen head of pure-bred females, one young bull and a number of extra good grades.

The majority of the females are of breeding age, several being mature cows that are extra-heavy milkers, and have always been hand milked. The families are Duchesses, Snowdrops and Louisas. The sire in use is the 4-year-old Wedding Gift bull, "Broadlands", by Broadhooks Prince. Everything in the herd is thrifty, but none are in high fit. Someone is sure to buy them worth the money on

Tuesday, April 10th, THE FARM Newcastle, Ont.

At the same time there will also be sold:—one Reg. Clydesdale mare (in foal), one matched span of general-purpose horses (4 and 5 years), and a large number of pure-bred Tamworth swine, including five brood sows, several near farrowing.

TERMS:—On pure-bred stock will be cash or 6% on bankable paper.

A. A. Colwill, Prop., **GEO. JACKSON AUCTIONEER** **Newcastle, Ont.**

ESCANA FARM SHORTHORNS

Herd numbers 100. Sire in use, RIGHT SORT (imp.). His get has won numerous first and special prizes at Toronto. Newton Grand Champion (imp.), a Marr Clara, a great calf recently imported by us for sale, seven bulls, choice individuals, at reasonable prices, a dozen cows and heifers, some of them bred to our imported herd sires.

MITCHELL BROS., Burlington P. O., Ont.
Jos. McCrudden, Manager. Farm one-quarter mile from Burlington Jct.

ROBERT MILLER Pays the Freight on his Shorthorns

I have six Lavender bulls over a year old, two Duchess of Gloster bulls over a year, four other bulls from good families, all have good bone and good feeding qualities, and they are naturally thick-fleshed, but not highly fitted in some cases. They are half reds and half good roans. I have some heifers in calf and some to be bred soon

You can get the right kind from me at reasonable prices.

ROBERT MILLER, **STOUFFVILLE, ONT.**

Pleasant Valley Farms

We have for sale (at prices that will move them in the next 30 days) the following exceptionally good bulls, 1 ROAN LADY, 1 BROADHOOKS, 1 ROSEWOOD, 1 WIMPLE, 1 STAMFORD, 1 MERRY LASS, 2 DUCHESS OF GLOSTERS and several others. Also equally well bred cows and heifers bred to (imp.) Royal Scott and BEAUMONT BEAU. Inspection invited. Our cattle will interest you. 90 head to select from.

GEO. AMOS & SONS, Farm 11 miles east of Guelph, C.P.R., **MOFFAT, ONTARIO**

Shorthorns, Shrops., Clydesdales

If you want a good young bull, a promising stallion colt, or a young cow or heifer of Scotch breeding and beef type, having dams eligible or good enough for R.O.P. Come, see, and satisfy yourself and please the owner. Prices reasonable, that they may be sold. Visitors welcome.

Wm. D. Dyer, R. No. 3, Oshawa, Ont.
Brooklin, G. T. R. and C. N. R., Myrtle, C. P. R.

Welland District Shorthorn Breeders' Club

are in a position to supply Shorthorns in any number—from one animal to carload lots. Our herds represent some of the strongest blood in Canada. Get our Sales Lists. Write or phone

Chas. Gainer, Secretary, Box 607, Welland, Ont. **A. E. Howell, President.**

Maplewood Farm Shorthorns and Lincolns

Present offering—10 young bulls, ranging in age from 7 to 18 months. Most of them are of the most fashionable Scotch breeding, others of the dual-purpose. All are priced to sell. Also a number of ram lambs. Woodlee Station, M. C. R. L.-D. phone. **GORDON SMITH, WOODSLEE, ONT.**

SHORTHORNS AND SHROPSHIRE—T. L. Mercer, Markdale, Ont.

Have sold all the Shropshires I can spare this season. Present offering in Shorthorns—ten really choice young bulls, sired by Broadhooks Golden Fame =39018= (imp.), and 1 out of such noted families as Campbell-bred Clarets, Nonpareils, Marr Missies, Stamfords, Crimson Flowers, Village Girls and Charming Gems, ranging from 9 to 16 months old. All are good reds and roans.

IMPORTED SHORTHORNS

Have just received from Scotland some very superior Shorthorns. All cows and heifers have either calves at foot or are close up to calving. Also four imported bulls and a number of good Canadian-bred cows. These cattle will strongly appeal to the most exacting. Visitors can be most notified.

A. G. FARROW, **OAKVILLE, ONTARIO**

PARKHILL SHORTHORNS

Herd comprising over 70 head, representing noted Scotch families. Bulls all sold except those listed in London sale, March 28th next. A few heifers well in calf will be sold right. Visitors always welcome to this herd of long-established reputation. **R. & S. Nicholson, Parkhill, R. No. 2, Ont.**

IMPORTED SHORTHORNS

35 imported cows and heifers, forward in calf to service in Scotland. Our 1916 importations are all choicely bred. Have also home-bred bulls and females. Farm half mile from Burlington Junction. Write or call and see us.

J. A. & H. M. PETTIT, **FREEMAN, ONTARIO**



Scientifically Made

EUREKA HARNESS OIL is a scientific preparation.

It is a pure mineral oil, therefore cannot turn rancid. It contains no acids, and so does not destroy stitching. Eureka tones up all black leather—makes it bright, shiny, pliable—new looking.

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Fistula and Poll Evil

Any person, however inexperienced, can readily cure either disease with FLEMING'S FISTULA AND POLL EVIL CURE—even old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and smooth. All particulars given in

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Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durable, bound, indexed and illustrated.
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78 Church Street, Toronto, Ont.

GLENFOYLE SHORTHORNS

Seven bulls, big, straight, smooth, fleshy fellows, some from cows milking 40 to 60 lbs. a day. Also a few outstanding heifers that are bred. Three young cows. Prices right. Bell phone.

Stewart M. Graham, Lindsay, Ont.

Dual - Purpose Shorthorns

Plaster Hill Herd—Five young bulls, seven to fifteen months old. A number of cows in our herd with high records. Visitors always welcome.
F. MARTINDALE & SON, Caledonia, Ont.

Mardella Shorthorns

Bulls; females; size; quality; breeding dual purpose cattle over 40 years. The Duke—dam gave 13,599 lbs. milk, 474 lbs. butterfat—at one heifer. THOMAS GRAHAM, Port Perry, Ont., R. R. 3.

Questions and Answers. Miscellaneous.

Legal Holidays.

1. What are the legal holidays for a hired man in Ontario?

2. Is Easter Monday a legal holiday?
Ans.—1 and 2. Sundays, except for necessary chores, New Year's Day, Good Friday, Easter Monday, Victoria Day, Dominion Day, Labor Day, Thanksgiving Day, Christmas Day, and any other day or days proclaimed by the Governor-General or the Lieutenant-Governor as a public holiday.

Collecting Wages—Tile Drains Not Working.

1. Can you tell me where I can get a well-trained Collie dog?

2. Can a man collect wages if he comes to my place and just lies around? Sometimes he does a few odd jobs until he can get steady work. Whenever he is out of work he comes back again.

3. T buys a farm from R with the understanding that 40 acres are tiledrained. When T plows the land he finds that the tile are only five or six inches underground and mostly all broken. Can T compel R to put in tile or to pay damages?

T. E.

Ans.—1. We do not know where a mature, pure-bred Collie could be procured at present. Write some of the breeders of pure-bred Collies who advertise in these columns.

2. If there is no agreement that the man is to be paid for what work he does, he cannot collect wages.

3. Unless R guaranteed the drains to be working satisfactorily, no damages could be collected.

Scab on Potatoes—Silage

1. Is there any danger from using an instrument to enlarge the milk duct in cows' teats when they are hard to milk?

2. A neighbor had a touch of scab on his potatoes last season. In November he scattered 200 bushels of lime on two acres, thinking to destroy the scab before he seeded there again this season. An expert, lecturing here a few days ago, said that lime was bad for scab. An argument followed. Who was right?

3. At the same meeting a farmer claimed that when he grew several varieties of potatoes side by side they would not come true to type, and in three years would develop into a poor quality with very deep eyes. The expert claimed they would not mix, that one variety would not affect the other. Who was right in this case?

4. What is the relative feeding value of silage made from oats and vetches compared with corn?

5. A stallion was treated and cured of gonorrhoea, but the following season he left no foals. Had the disease any effect on him as a sire?

H. K.

Ans.—1. An operation might be performed when the cow was dry. It would be necessary to use a plug in the teat during the healing. The operation has been performed with success when the cow was milking.

2. Alkaline fertilizers, such as wood ashes and lime should be avoided, as anything pertaining to alkali favors the production of scab on the tubers. Immersing the seed potatoes for two hours in a solution of one pound of formalin to thirty gallons of water is recommended for the destruction of the scab spores adhering to the tubers. Treatment should be made before the potatoes are cut.

3. Varieties of potatoes will rarely mix in the rows. Occasionally cross-fertilization may take place.

4. We have no records of the oats and vetches being ensiled alone. However, in the Maritime Provinces, oats, peas and vetch are used for silage purposes. At the College at Truro oats, peas and vetch silage appeared equal to the ordinary corn silage that farmers can mature in Nova Scotia, but it is not considered as good as the well-matured corn silage which can be grown in Ontario.

5. It is possible that the disease was the cause of the failure to get foals. There may have been some other trouble which was not apparent.

Why You Should Insist on Getting

O. K. EQUIPMENT

can be easily seen if you will study these three pictures for a minute. They show three great big advantages of O.K. Stanchions.

Just notice the construction of the lock. The wide mouth makes it easy to insert the swing bar. The catch is simple yet secure. Made of the best malleable iron and constructed on the combination spring and gravity plan. This ensures perfect service, even after years of use—one of the main reasons for the popularity of

OK CANADIAN

U-BAR STANCHIONS & STALLS

The swing-bar on the O.K. Stanchion is hinged high. The bar cannot sag and is easy to fasten. Can't fall to the floor, because the small clevis at the hinge holds it.

O.K. Stanchions are attached to the stalls at top and bottom, by electrically welded steel chains. Experience proves that this is the most serviceable method.

O.K. Stalls are made of 2-inch iron tubing. All main joints have "T" clamp of malleable iron, fastened by two bolts. Strong, rigid, easy to set up anywhere, according to space available. Regulate the cost to suit yourself—eight designs to choose from.

Send the coupon to-day for your copy of our FREE Book.

Canadian Potato Machinery Co., Limited.

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You can make big money handling this line. Write to-day for our attractive proposition.

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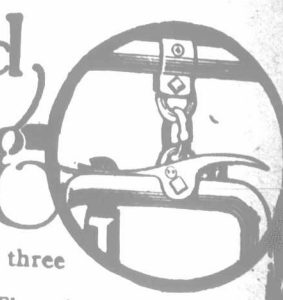
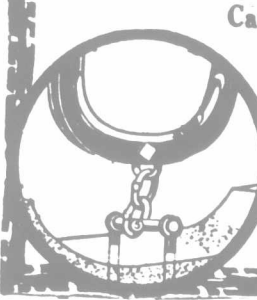
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When will you build or remodel?

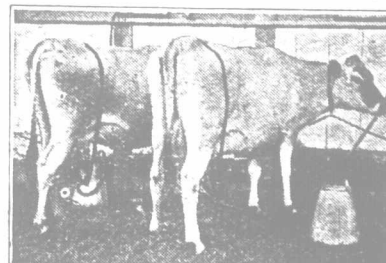
How many cows?

Name.....

Address.....



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Hinman Milkers

are bought by the shrewdest buyers because—

The *Hinman* is a *Safe and Simple* machine.

Simplicity means low cost—both to install and operate.

It saves where the only saving is possible in a dairy—Hand Labor.

No Gauges, Safety Valves or Pulsators.

There is a reason! Write for free booklet "H" which explains.
H. F. Bailey & Son, Galt, Ontario
Manufacturers under HINMAN Patents

A Choice Offering Shorthorn Bulls—We have several good, thick, low-set bulls that are now just ready for service, all reds and roans, and mostly of Booth breeding. We would like to have you see these. **THEY ARE PRICED TO SELL.**

GEO. E. MORDEN & SONS, Halton Co. Bell Phone. **Oakville, Ont.**

BLAIRGOWRIE SHORTHORN OFFERING
Imported and Canadian Bred. More bulls to select from than any herd in Ontario, all of serviceable age; also a large number of females, which are bred right and priced right, all the stock for sale.
JOHN MILLER, ASHBURN, ONTARIO Myrtle Station, C.P.R. and G.T.R.

Spruce Glen Shorthorns—of such popular strains as Minas, Fames, Miss Ramada's, Florences, Emils, etc. Present offering, our stock bull, Earl Derby 2nd, 5 yrs. old, a show bull, hard to beat. Also a few young, thick, mellow fellows, fit for service.
JAMES McPHERSON & SONS, DUNDALK, ONTARIO

ONE 7-MONTHS' ROAN BULL
from a heavy milking dam, and another red bull the same age. These are the dual-purpose kind, and will prove their worth; also females. In Clydesdales, 1 fully rising three years, and 1 stallion colt, one year. Yorkshire pigs, either sex. Everything priced to sell.
ALLAN B. MANN, R. NO. 4, PETERBOROUGH, ONTARIO

ELDERS for BULLS
This herd of about 60 head is one of the most healthy and prolific herds in Canada, and of the good, dual purpose kind. Present offering is 7 bulls, 10 to 18 months of age, at \$125 to \$185. Cows bred or with calf at foot, at \$100 to \$300. All reg'd.
Jno Elder & Sons, Hensall, Ontario

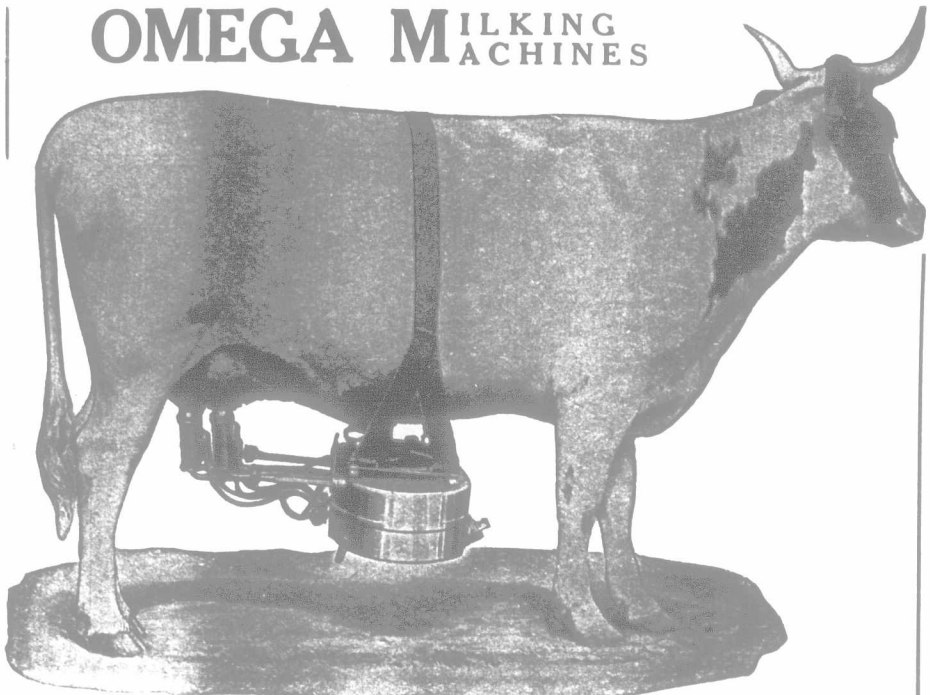
SALEM SHORTHORNS
Herd headed by Gainford Marquis (Imp.), undefeated in England and Canada. Sire of the winning group at Can. National, 1914, 1915 and 1916. Can supply cattle, both sexes, at all times.
J. A. WATT, ELORA, ONT.

Spring Valley Shorthorns
Herd headed by the two great breeding bulls, Newton Ringleader (Imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.
Kyle Bros., Drumbo, Ont. Phone and telegraph via Ayr.

IMPORTED SHORTHORNS
Cows and heifers in calf, or with calf at foot. Yearling bulls and bull calves. One of the best importations of the year. You will be surprised when you see them.
Will A. Dryden, Maple Shade Farm, Brooklyn, Ont.

MEADOW LAWN SHORTHORNS
F. W. EWING, ELORA, ONT.
In order to make room for the crop of calves coming on, attractive prices are being made on the offerings of bulls ready for the trade. They are of extra quality and choice breeding, by that great sire, Escarp Ringleader, by Right Strid Imp. Few bulls their equal are to be had.

OMEGA MILKING MACHINES



**Omega Milks Fast and Clean
No Tainted Milk. No Rubber Connections.**

The Omega milking machine draws the milk from the teats by a gentle, alternating motion, similar to hand action, and conducts it to the pail through short, stiff, transparent celluloid tubes. The pail and the teat-cups are suspended from the back of the animal. The pail cannot be knocked over and the milk spilled, and the teat-cups cannot fall on the stable floor and suck up straw or manure. The Omega is

Sanitary, Efficient, and Easily Cleaned

There are no corners and no rubber tubes to harbor fermenting particles of milk in the Omega. The Omega has few parts, and is as easily and quickly cleaned as a milking pail. At official government tests the Omega was the only machine that milked faster and cleaner than by hand. The Omega in a 17-day test on 10 cows, compared with the 17 previous days, increased the total amount of milk given by 3%. This test was conducted by Prof. Leitch, of O.A.C., Guelph.

Users Prize the Omega

Mr. R. R. Ness, of Howick, Que., the noted breeder and importer of Ayrshire cattle (whose cow is shown above) writes, us regarding the Omega as follows:—"In my opinion it is the greatest boon which has ever struck our country, in the interest of the Dairy Farmer. This machine, in my mind, eliminates all the troubles and objections found in other milkers which I have had the privilege of seeing. It certainly has all other machines beaten, in point of cleanliness, with those celluloid tubes instead of rubber, the pail hanging on the cow's back, never touching the floor, the position in which the teat cups are held, insuring the most cleanly way of milking known to-day."

The Health Departments of some large cities demand the use of Omega milking machines, (and them only) as they supply milk with a minimum bacterial count. Learn more about the Omega.

Write to-day

for free booklet which fully describes the Omega and its wonderful records.

C. RICHARDSON & Co., St. Mary's, Ontario

ABSOLUTE DISPERSION
HEAVY PRODUCING
50 HOLSTEINS 50

Tuesday, April 10th, 1917

at Glenora Stock Farm, Rodney, Ontario

Owing to the continued serious illness of the proprietor, everything on the farm must be sold. There are forty registered Holsteins, including the great five-year-old herd sire, Ourvilla Calamity Abbekerk (12821) a show bull from the ground up, and a great sire. There is one extra choice bull calf three months old. There are 38 registered females. This is a strictly business herd—every cow had to pay or she could not stay. The policy followed for years at Glenora has been to retain only the best workers and eliminate the light producers and low-testers. High-class sires only have been used, and the herd is right in size, type and color and an inspection will convince anyone that they are heavy producers. Shipping cream to Toronto and Detroit has been one of the important sources of income. Several of the cows have given yearly from 12,000 to 14,600 lbs., with ordinary dairy care. There is a grand lot of one and two-year-old heifers. There are also ten grades to be sold. These have been retained only because they are heavy milkers.

All the farm horses will be sold, together with a pair of Hackneys, 2 and 4 years old. These are a handsome pair—chestnuts with white markings, from imported sire and dam, and have been winners at many of the fairs, including London and Guelph. The fine Cadillac automobile will also be sold. Send for large bill. Terms:—Six months' credit on bankable paper. All trains will be met at Rodney. Connections from London and all points east can be made at St. Thomas with M.C.R., Express No. 23 leaving St. Thomas 11.40 a.m., arriving at Rodney 12.15.

MOORE AND DEAN AUCTIONEERS A. D. McGUGAN, Proprietor.

HOW DOES THIS BREEDING SUIT YOU?

Sr. sire LAKEVIEW DUTCHLAND HENGERVELD 2nd, Grand Champion C. N. E. and Western Fair, 1916, 75 per cent. blood of L.D. Artie, Can. Champ. Sr. 3, with 34.66 butter in 7 days. Jr. sire, KING SYLVIA KEYES, born Dec. 12, 1915; faultless individual. Sire, Inka Sylvia Beets Posch, the sire of MAY ECHO SYLVIA, world's greatest dairy cow, milk 1,005 lbs., butter 41 lbs. in 7 days, best day 152 lbs. Dam, Helena Keyes, milk 1 day 100 lbs. At 3 years 25.13 lbs., mature 28.20 will be tested again shortly and should easily make over 30 lbs. A daughter of Helena DeKol's DeKol at 16 years, 20.69 lbs., Can. Champ. 20 of "KING'S" nearest relatives average, 7 days, 29.97 lbs. butter. "KING" is open to service to a limited number of approved cows. Write at once for terms, prices, etc. W. G. BAILEY, OAK PARK STOCK FARM, R. R. NO. 4, PARIS, ONTARIO.

CLOVERLEA HOLSTEINS

Our entire lot of bulls, fit for service, as advertised are sold. We still have a number coming on, eight months and under, which will be priced right for immediate sale. Write quick, for they will go fast—as the others did. **GRIEBACH BROS., COLLINGWOOD, ONT.**

Dumfries Farm Holsteins

175 head to choose from. We have on hand at present about 20 young bulls by De Kol Mechthilde Prince, a son of Prince Aaggie Mechthilde. Can also spare a few fresh cows. Visitors always welcome. **S. G. & ERLE KITCHEN, St. GEORGE, Ont.**

KING SEGIS WALKER'S

Oldest daughter with first calf made 456 lbs. milk and 24 lbs. butter; with her second calf, 660 lbs. milk and 29 1/2 lbs. butter. His first granddaughter, through his son at 2 yrs. 2 months, made 440 lbs. milk and 23 1/2 lbs. butter. Young stock for sale. **A. A. FAREWELL, OSHAWA, ONT.**

Questions and Answers. Miscellaneous.

Sugar Sand in Syrup.

1. Is the sugar sand which comes from maple syrup of any commercial value. If so, where can it be disposed of?
2. Is there anything paid for articles written in the Young Farmers' Department?

Ans.—1. We are not aware that sugar sand has much commercial value. The precipitate is calcium malate, and may have a slight value from the lime which it contains.

2. Any article which is accepted for publication and used by this paper is paid for at our regular rates.

Gravel for Stable Wall and Floor.

1. I purpose building a barn 38 by 52 feet, with basement underneath. I wish to put in a cement footing 2 feet high. How much gravel and cement will the footing take? Will it be necessary to go below the ground level with the foundation? The site is high and dry. How would you lay out the stable to accommodate 15 cows, a box stall, one double and five single stalls for horses, and a small harness room? The horses and to be separated from the cows by a tight partition.
3. How much gravel and cement will it take to put a floor in this stable?
4. Does stain or paint tend to preserve shingles?
5. Which is better to use, wire or cut nails?

Ans.—1. Building the footing 18 inches wide, 2 feet deep, it will require about 20 cubic yards of gravel and 16 barrels of cement. It is advisable to have the foundation a little in the ground; in fact, it should be below the frost line. It is advisable to lay a drain around the foundation to remove the surplus water.



BUILD A STURDY STAVE SILO

10% Cheaper and 100% More Durable

Our Preservative Process is an Exclusive Feature.

A 50-page Fully Illustrated Descriptive Catalogue free on request. Territory still open to live Agents.

THE ADIRONDACK SILO CO. OF CANADA, LIMITED
425 Atwater Avenue - Montreal, P.Q.

TWO HOLSTEIN BULLS FOR SALE

We have for sale two Holstein bulls, 10 months old, sired by Schuiling Posch Prince, whose dam, Olive Schuiling Posch, has an official record at 5 yrs. of 533.5 lbs. milk and 27.5 lbs. butter in 7 days. Her average test was 4.12% fat. They are growthy, typey animals and from large framed cows which are heavy producers. Inspection solicited, prices right. **W.T. Whale & Sons, Goldstone, Wellington Co., Ont.**

SILVER STREAM FARM offers two HOLSTEIN BULLS fit for service

They are both sired by King Lyons Colantha. The dam and granddam of these bulls gave 11,000 lbs. at two years, and 17,500 lbs. milk at four years, respectively. If you want bulls of this breeding, ready for service, see these. We have others younger; also females.

JACOB MOGK, R. R. NO. 1, TAVISTOCK, ONTARIO
2 ONLY ORCHARD LEIGH HOLSTEINS ONLY 2
We have only 2 young bulls fit for service left. No. 1—Born November 7th, 1915. His dam was first-prize mature cow at Guelph Dairy test, 1915, R. O. M., 7 days, 27.96 lbs. butter and 514 lbs. milk. Price \$200. No. 2—Born October 18th, 1915. His sire's 7 nearest dams average over 30 lbs. butter in 7 days. His dam, at 3 years, made 25.81 lbs. butter and 559.5 lbs. milk in 7 days. Price \$175. **JAS. G. CURRIE & SON, (Electric car stops at the gate) INGERSOLL, ONT.**

Riverside Holsteins Herd headed by "King Johanna Pontiac Korndyke", a brother of Pontiac Lady Korndyke, 38.02 lbs. butter in 7 days, 156.92 in 30 days—world's record when made. His ten nearest relatives have official records that average 34.94 lbs. butter in 7 days. His daughters have made good in official test. The present R. of P. cow of Canada was bred here. Choice young bulls for sale. **J. W. RICHARDSON R. R. No. 2, Caledonia, Ont.**

2. It is difficult to economically lay out a stable of the size mentioned, so as to accommodate the number of stock which you desire. The horses and harness room will take one end of the stable, and it requires about 24 feet for rear passage, stall, manger and feed passage. This will leave a space 28 by 38 feet for cattle. It is generally considered that a stall should be from three to three and one-half feet wide, and five feet must be allowed for length of stall. About 7 feet for rear passage and the gutter, 2 feet for manger and 5 feet for feed passage. Twelve cows could be tied across one end of the stable, although, considering the feed passage, we do not think this would be economical with space. The other solution would be to tie the cows along one side and across the end facing towards the centre of the stable. There would then be room left for a box stall, and the feeding could be done from the one passage. This would allow the litter carrier to work fairly satisfactorily in both horse stable and cow stable.

3. The floor of the stable would require about 24 cubic yards of gravel and 20 barrels of cement, providing it is laid 4 inches thick and mixed in the proportion of one to eight.

4. Stain or paint is believed to prolong the life of shingles.

5. Both are extensively used, and we are not prepared to state which is the better of the two. Some favor one kind and some another. We have noticed, however, that in exposed places, such as shingling and siding, the wire nails appear to rust out quickly.

Mating Turkeys.

What is the proper time for mating turkeys? **B. F.**

Ans.—Early in the spring. The hens commence laying some time in April, depending on the season.

GREAT DISCOVERY!
Remarkable Cloth that won't wear out or tear! Samples free by post to any reader.

Just fancy, readers! Whether a blacksmith, carpenter, engineer, laborer, farmer or clerk, could you by solid hard grinding wear, every day in the week—not just Sundays—wear a small hole in a \$2.25 pair of Pants or a \$6.50 Suit in six months? Could any of your boys wear a small hole in a \$2.27 Suit in six months? Remember, six months of solid grinding wear and tear—not just Sundays—but every weekday and Sundays too! If any reader can do this, he can get another garment free of charge!

A remarkable new, untearable cloth has been discovered by a well-known firm in London, England. These new Holeproof Cloths are amazing! You can't tear them, you can't wear them out, no matter how hard you try. Yet in appearance, they are exactly as finest tweeds and serges sold at \$20. But the price is only \$2.25 for a pair of Trousers, Breeches \$2.60, and for a well-made, smart, stylish Gents' Suit, delivered by post, with no further charge whatever \$6.50 only. Boys' Suits from \$2.27, Knickers from \$1.00. Readers are reminded that the above sums cover cost of postage and all charges, and there is nothing more to be paid on delivery. Full particulars of these remarkable cloths, together with a large catalogue of patterns, fashions, and a simple measure chart, with which readers can measure themselves at home, will be sent absolutely free and postage paid to all those who just send a postcard to (Agents Dept. 7), The Holeproof Clothing Co., P.O. Box 104, Toronto. The firm's London address is 56 Theobalds Road, London, W.C., Eng., but all applications for samples should be sent to Toronto, Ont.—Advt.

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Upward
American
FULLY GUARANTEED CREAM



SEPARATOR

A SOLID PROPOSITION to send you, well made, easy running, perfect skimming separator for only \$16.95. Closely skims warm or cold milk. Makes heavy or light cream. Bowl a sanitary marvel, easily cleaned. Different from picture, which illustrates larger capacity machines. See our easy

Monthly Payment Plan
Shipments made promptly from Winnipeg, Man., Toronto, Ont. and St. John, N. B. Whether dairy is large or small, write for handsome free catalog and easy payment plan.

AMERICAN SEPARATOR CO.
Box 3200
Bainbridge, N. Y.

CREAM

We are open to buy cream both for churning and table use.

ASK ANY SHIPPER about our service and prompt returns. Ask for prices.

The figures for yesterday may be too low for to-morrow. We furnish cans.

The Toronto Creamery Co. Limited
CHURCH STREET, TORONTO

LIVINGSTON BRAND

The purest and best.

OIL CAKE MEAL

THE DOMINION LINSEED OIL CO., Ltd.
Manufacturers, Baden, Ont.

18 HOLSTEIN BULLS FOR SALE

Eleven months and under. Also 1 cow, 8 heifers, freshening from March till September, from tested and untested dams.

R. M. HOLTBY, PORT PERRY, ONT. R. 4

Willowlea Holsteins Offers a 20-months son of Sir Natoye Oakland. Others younger by Siepkje of Lakeview 2nd. Ask us also about our females.

A. E. MIGHT, BRAMPTON, R.R. 6, ONT.

RIDGE DALE HOLSTEINS offers three young bulls (one ready for service) at special prices. One is by Pontiac Hengerveld Pietertje, and the others are by King Segis Pontiac Duplicate. Can also supply a few females. R.W. Walker & Sons, Port Perry, R.R. 4, Manchester, G.T.R., Myrtle, C.P.R.

Experiments With Flax for Fibre at Ottawa.

EDITOR "THE FARMER'S ADVOCATE":

During the year 1915 a number of plots of flax were grown at the Central Experimental Farm, Ottawa, the seed having been obtained from Holland. The samples were pulled at various stages of ripeness, retted under water and afterwards scutched by the Ontario Flax Co., Ltd. They were valued by an expert of the York St. Flax Spinning Co., Belfast, Ireland, but in no case could any of the samples be pronounced first class. This was partly due to their being insufficiently retted, but might also have been caused partly by the time of sowing, by the character of the season, and by the stage of ripeness when pulled. Accordingly, a number of experiments were planned for the ensuing year, 1916 to clear up some of the doubtful points and to determine—in so far as this was possible in a single year—whether the highest grade of fibre-flax could be successfully grown in Canada.

The seed used in 1916 was harvested from some of the plots sown with Dutch seed in 1915. The rate of sowing per acre varied between 1½ bushels and 2½ bushels of seed germinating 100 per cent. This means that where it was decided to sow 2 bushels per acre of seed with a germination of 100 per cent., and the sample of seed available gave, when tested, a germination of 96 per cent., it was necessary to sow a somewhat larger quantity than 2 bushels of the latter—as a matter of fact, 2 1-12 bushels.

As very early sowing is an important factor in achieving success should the summer turn out to be unusually dry (as actually happened in 1916), seven plots were sown on the 26th of April, one on the 28th of April and seven on the 12th day of May. The soil was a heavy clay and at the first date of sowing was rather wet, consequently it was decided to make several shallow trenches about six inches deep between some of the plots. For several weeks after sowing wet weather continued with very little interruption, and the system of surface trenches undoubtedly saved the situation.

The crop was pulled on various dates between July 14 and July 27, the capsules being fully grown. In some cases the seeds were pale in color and unripe; in others the plot was pulled when the first seeds on each plant were ripe; in those pulled last about half the seeds were ripe. The average height of the seven plots first sown was 30¾ inches, and the average of the last seven was 29 inches. The flax was put into water on the same day on which it was pulled, and was allowed to remain immersed from 3 to 3¾ days. It was then taken out and spread on the grass for a period of 1 to 2 days. The scutching was done by the same firm as in 1915; and the final report, made by the same gentleman who examined the previous year's crop, was as follows:

"The flax is a good length, well retted, and strong. It is the best flax I have seen in Canada yet. According to flax values here it should be worth 40 cents a pound or more."—Experimental Farm, Ottawa.

Gossip.

In a letter of recent date, Chas. Currie of Morriston, Ont., writes as follows: "I have sold all my bull calves this winter. One fine red bull, 10 months old, went to Robt. Andrews, Burks Falls, and one nice one to Duncan MacVannel, St. Mary's, and another fine one to Hugh McDougall, Tiverton. One dairy Shorthorn bull was sold to E. E. Ross, Kinburn, and another to D. H. Patterson, Moffat. W. A. Cram, Carleton Place, took a cow, and two heifers went to John W. Merrifield, Burritts Rapids. Tamworth swine were shipped to all parts of the continent."

If requiring a Holstein bull that is backed by heavy production, to head your herd, communicate with W. T. Whale & Sons, Goldstone, Ont. They still have a couple of choice individuals, ready for light service, which are sired by Schuiling Posch Prince whose dam has a record of 533.5 lbs. milk and 27.5 lbs. butter-fat in 7 days. These bulls are out of big, strong cows which are excellent milkers. Inspection of the herd is solicited. Goldstone is located on the main line of the G. T. R. between Guelph and Palmerston.



MANOR FARM





KING SEGIS PONTIAC POSCH

SENIOR SIRE IN SERVICE AT MANOR FARM
Sire King Segis Pontiac Alcartra (the \$50,000 Sire)
Dam Fairmont Netherland Posch (32.59 lbs. at 4 yrs. old)

You know Manor Farm has a real reputation for cattle dealings.
Now, Mr. Breeder, no matter where you live, if you are in the market for a young sire of choice breeding to head your herd, just let me hear from you.
I can take care of your needs, whether you want a high- or low-priced fellow.
Now is a good time to buy.

GORDON S. GOODERHAM

CLARKSON, ONT.

AT SERVICE

May Sylvia Pontiac Cornucopia

"The most perfectly bred bull of the breed," and a perfect individual. Sire, Spring Farm Pontiac Cornucopia, a son of the 44.18-lb. cow, K. P. Pontiac Lass. Dam, May Echo Pontiac, a daughter of the great May Echo Sylvania, champion milk cow of the world. The butter records of his two grandams average 42.59 lbs. in seven days, and 170.5 lbs. in thirty days, being also another world's record.

Apply early, as only a number of approved cows will be accepted. Terms, a matter of arrangement.

Owners—W. F. Elliott, A. J. Camplin, C. R. Dyke, L. M. Kennedy, G. Brownsberger.

W. F. ELLIOTT, Sec., (Bell Phone) Unionville, Ont.

ROYCROFT FARM HOLSTEINS

FORMERLY THE HET LOO HERD

We have a few exceptionally nice, straight 9, 10 and 12-month heifers, principally all from high-record cows we have purchased in both Ontario and United States. They are all from good record sires, but as our stabling is limited we are offering these at prices away below their value, so we may keep out those of our own breeding. They will not remain with us long. Write quick if you want them.

We are at present offering the services of King Segis Alcartra Spofford to a limited number of approved cows. Write for particulars.

W. L. SHAW, Prop. Gordon S. Manhard, Supt., Newmarket, Ont.

Hospital for Insane, Hamilton, Ont.

The choicest lot of young bulls we ever offered

is the best description we can give you of the half dozen we are now pricing—from our Korndyke bull and R.O.P. dams, testing 4.08 per cent. butter-fat. Ages range from three to twelve months. No females offered.

Apply to Superintendent

HIGHLAND LAKE FARMS

Herd sire, Avondale Pontiac Echo (under lease) a son of May Echo Sylvania, the world's record cow for milk production, and Canadian record for butter—41 lbs. Only one other 41-lb. bull in Canada. Our herd of one hundred includes nearly fifty daughters of a 33.31-lb. son of the great King Segis 40.32 lbs.

Junior herd sire, King Segis Pontiac Canada, a half brother to Avondale Pontiac Echo, out of a 30-lb. Segis cow. He is for sale.

If this combination of breeding interests you, write for prices on either males or females.

R. W. E. Burnaby, Farm at Stop 55, Yonge Street Radial Jefferson, Ont.

A Son of King Segis Alcartra Spofford

For sale (see illustration of this sire page 371, March 1st issue) out of a 21½ lb. Jr. 3-year-old Her sister made 41 lbs. butter in 7 days. On her dam's side there are 40 and 33-lb records. He is a producer of milk and butter, with lots of quality, and bred along the same lines as our Canada's big official record dams. It will pay you to buy here. Send for extended pedigree.

B. R. LEAVENS, BLOOMFIELD, ONTARIO

SUMMER HILL HOLSTEINS

The only herd in America that has two stock bulls that the dam of each has milked over 116 lbs. a day and their average butter records are over 35 lbs. a week. We have fifty heifers and young bulls to offer, by these sires, and out of dams just as well bred. We invite personal inspection.

D. C. FLATT & SON, R. R. 2, HAMILTON, ONT. Phone 7165

Questions and Answers. Miscellaneous.

Larvae of Warble Fly.

I have a steer with small lumps on his back. It appears like grubs under the skin. What remedy do you advise?

I. B.

Ans.—Evidently these lumps are caused by the larvae of the warble fly. It is believed that the fly lays its eggs and attaches them by means of a gluey substance near the base of hairs. It is evident that the eggs are then taken into the animals' mouths by licking, and in some way the larvae work their way to the animals' backs. The best remedy is to squeeze out the grubs as early as possible and destroy them. Towards spring this can be done quite easily, but early in the season it is sometimes necessary to make an opening with a small knife.

Growing Sugar Cane.

Could you give me any information re the growing of Early Amber sugar cane?

J. C. J.

Ans.—Sugar cane usually gives best results when grown on rich sandy loam. As a rule it thrives well in comparatively dry seasons. For the production of fodder the crop is generally sown about the last of May or early in June, in rows or hills similar to corn. It is customary to leave the plants a little closer together than with corn. About three-quarters of an inch is a fair depth to plant. The crop responds to thorough cultivation during the growing season. The seed does not usually germinate very quickly, therefore, a clean seed-bed should be prepared. Twelve to 15 pounds of seed per acre is a fair seedling.

Trouble in Mouth.

Pregnant heifer is losing flesh. I am feeding clover hay, a few oats and bran. She seems to eat fairly well, but when I go to feed her I find the manger covered with frothy slobbers.

L. M. L.

Ans.—The trouble is in the mouth. There may be a split tooth or a decaying tooth, or wounds in tongue or cheeks, etc., or it may be that form of actinomycosis (lump jaw) known as "Wooden Tongue," in which case the tongue will be enlarged and hardened. Have her mouth examined and the fault corrected if possible. If wooden tongue, give her the iodide of potassium treatment, which consists in giving her iodide of potassium three times daily. Commence with 1-dram doses, and increase the dose by a 1/2 dram daily until she refuses food and water and the skin becomes scruffy and fluid runs from eyes. When any of these symptoms become well marked cease giving the drug. If necessary repeat treatment in three months.

V.

Books on General Farming.

I intend to go farming in Ontario and I should like to have a book or a volume of books on all-round farming. I don't intend to ever be without "The Farmer's Advocate," but I should like to have my information in indexed form. What would you advise and can I get the same through your office?

N. H.

Ans.—It is difficult to get any one book or a few books that cover every phase of farming. However, "Feeds and Feeding," by Henry and Morrison, is a very complete work on feeds, the feeding of animals, and the care of them. "Dairying and Farm Management," by Eckles and Warren, is a good book for the dairyman. Anyone dairying would probably be interested in swine, and we would advise them to read "Productive Swine Husbandry," by Day. Soils and the chemistry of the farm require some thought and reading, and for this we would advise "Chemistry of the Farm," by Warrington. If interested in poultry read "Productive Poultry Husbandry," by Robinson, and for information about the garden read "Vegetable Gardening," by Watts. These are only a few of the books which deal with different phases of farming, but if any other lines are to be taken up particularly one can obtain literature on them. These would form the nucleus of a farm library and it could be added to from time to time. In the issue of December 28, 1916, a list of farm books was published. By referring to that list one might select desirable reading. All these books can be procured through the office of the Farmer's Advocate.

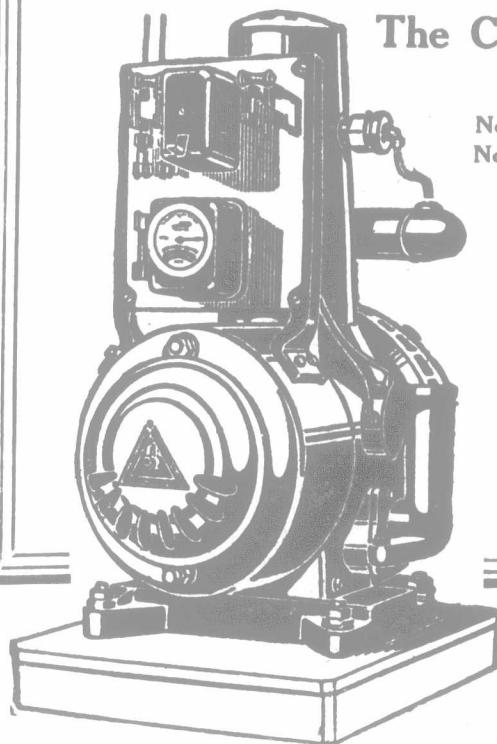
DELCO-LIGHT Electric Light and Power for Every Farm Home

At last! A complete electric plant that can be depended on to flood the farm with brilliant electric light at the turning of a switch. Here is Delco-Light—a time-tested electrical unit—compact, efficient, completely reliable and trouble proof. Makes any farm just as bright and cheerful as city home. Adds thousands of dollars to the value of your farm investment.

Everywhere on the Farm A Complete, Simple Unit

Don't you tire of filling the old oil lantern and carrying its dim light round the stables? Delco-Light will bring the light of day not only to the house itself, but to every outbuilding. Think of it—just press a switch and you can have a brilliant light anywhere—in the hay-loft—down in the stable, out on the lane, near the pump—in the bed-room—anywhere and everywhere. No danger as with the old fashioned oil lamps of explosion and fire. No time wasted in filling a lantern before you can get chores done. Light is good—work takes half the time and is better done.

Delco-Light is a complete electric plant all in itself. Air-cooled gas engine—dynamo for generating current—specially designed storage batteries, and switchboard, all combined in one compact simple unit. No mechanism to get out of order—a child can understand it. Engine is practically automatic—stops itself when batteries fully charged. Current supplies all the lights required. Low-voltage system (32 volts) is safe and yet powerful enough to drive small machines—churns, cream separator, washing machine, food chopper, etc. Engine need only be run once or twice a week—the power can also pump all the water you use.



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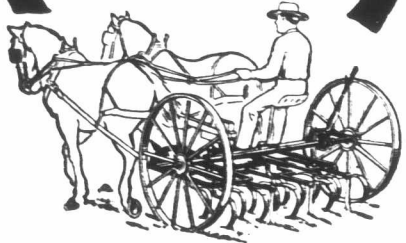
Men right around you found the benefit of first-class cultivation last year. In the construction of the Peter Hamilton Cultivator, every need has been considered and every requirement provided for. The different groups of three rows of teeth are subdivided again, and the front teeth are attached to one tooth-frame, back row to another. All teeth cultivate to an even depth and thoroughly work up every inch of ground. The

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is a light draft implement, in spite of its superior strength. Teeth are strongly reinforced and will stand all the hard work they will get. Sections are made from extra heavy steel. See the Peter Hamilton Cultivator before buying.

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TAMWORTHS

For Sale
Large numbers of choice males and females.
All ages.
Herold's Farms, Beamsville, Ont.

Cloverdale Berkshires and Shropshires—In Berkshires I can furnish boars or sows, all ages, pairs not akin. All breeding stock imp. or from imp. stock. In Shropshires can furnish rams or ewes, any age, from imp. stock. Prices reasonable. G. J. LANG, R. R. No. 3, BURKETON, ONT.

AVONHURST YORKSHIRES
A large number of choice pigs, February farrowed. One of our sows farrowed 59 pigs in three litters. Correct bacon type. Pairs not akin. We guarantee satisfaction. B. Armstrong & Son, Codrington, Ont.

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I am offering a splendid choice of sows, bred for May and June farrow. All bred from prize-winning stock. Prices reasonable. G. W. Miners, R.R. 2, Exeter, Ont. Huron Co.

Yorkshires Sows bred and younger; boars 2 and 3 months, sire, Our Champion, winner of 12 firsts and 5 championships in 2 years' showing at Toronto and Ottawa. Bronze turkeys from prize-winning stock. Wm. Manning & Sons, Woodville, Ont.

Swine for Sale Am offering choice stock in Poland-China and Chester White swine of either sex; most any age. First-prize Poland-China herd, London and Toronto, 1915. Prices easy. GEO. G. GOULD, R. R. 4, ESSEX, ONT.

Champion Berkshires—When buying, buy the best; our present offering are sons and daughters of the two great champions, Lucky Lad and Baron Compton, and out of winners, including champions. Both sexes. W. W. Brownridge, Georgetown, Ont. R. R. 3.

Berkshire Pigs Registered stock, choice bred young boars, and sows in pig, all ages. Can supply pairs not akin. CREDIT GRANGE FARM J. B. PEARSON, Mgr., Meadowdale, Ontario.

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Ancestors bred from prizewinners and champions. Young sows, bred for June farrow; young pigs, newly weaned, both sexes. Young boars, four months old. Wm. Stevenson & Son, R. R. No. 1, Science Hill, Ont.

TAMWORTHS

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Questions and Answers. Miscellaneous.

Five year Lease.

I rented my farm for a term of five years. But now, because of altered conditions and circumstances, I would like to get it back. The party who rented it will make no change, but adheres to terms of lease. Is there any legal step or steps by which I could accomplish my wish? Ontario N. G. M.

Ans.—No.

Trustee Working for the Section.

Is it illegal for a trustee of a public school board who is a merchant, to supply building material for the erection or repair of a school, or a trustee who is a farmer, to use his team for hire in the hauling of stone, etc., for same purpose? M. T. C.

Ans.—It is illegal for an officer of the school board to do any work for hire at the school, or to sell material for building or repairing.

Green Feed.

What would you mix with oats to supply green feed. I have a field of poor, sandy land which was badly run down before I got the farm. I do not think it will produce a very good crop of oats. L. M. L.

Ans.—Peas and oats make a very good mixture to supply green feed, or they may be cut and cured for hay. A mixture of oats, wheat and barley, one bushel of each to the acre, is also recommended as a summer pasture. Run down sandy land can usually be improved by incorporating in the soil a quantity of humus. This may be done by growing and plowing under a legume crop or buck-wheat.

Mortgage Interest.

I exchanged a lot with A for a small farm. The deeds were signed, sealed and delivered on October 1st. I was to have possession the latter part of December. Both men assumed a mortgage. The middle of November, A wished to move out and said X could go in, but wished him to keep a horse and two cows till the middle of December, which he did. When should each man's interest begin? Ontario. SUBSCRIBER.

Ans.—We should say, from the date when each, according to the agreement between them, was to receive possession unless by such agreement some different provision was expressly made respecting interest.

Cattle Chewing Wood.

What is the cause of cattle eating wood? They have their stalls nearly all eaten up. The ration fed consists of clover hay once a day, oat straw twice a day, and salt twice a week. They are thriving and are apparently in good health. P. F.

Ans.—Lack of some essential material to the development of the system is usually the cause of cattle chewing wood. Once they start the practice it sometimes becomes a habit which is very difficult to break. We notice that the ration does not include any succulent feed or concentrates. Permit the stock to have salt a little oftener. This may tend to stop the habit of chewing wood. When fed a balanced ration animals seldom have a depraved appetite.

Calf Dies Suddenly.

1. I wish to purchase a new sire. How am I to tell whether or not he is related to the one I have at present?
2. When I went to my stable the other morning one of my calves was lying dead in the pen. It was apparently all right the night before. What caused its death? F. D.

Ans.—1. Look up the pedigrees of your present sire and the one which you purpose purchasing. The ancestors of both will be given there.

2. Without a post-mortem examination it will be impossible to tell the direct cause of death. Sudden deaths sometimes occur in the herd without any apparent cause. The calf may have swallowed some poisonous substance, a nail or piece of wire, which penetrated the stomach or intestines and caused death. When drinking cold water the calf may have suddenly contracted cholera and set up inflammation.

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The Peerless Perfection Fencing

stands every test. Made by the open hearth process, all the impurities are burned out of the metal, thus removing one of the greatest causes of rust. The wire is also galvanized so thoroughly that it will not flake, chip or peel off. Every intersection of the wires in our farm and poultry fence is locked together with our Peerless lock. While these locks



hold the wires securely together, yet this fence can be readily adjusted and perfectly stretched over uneven ground. It's easily erected and on account of heavy, stiff stays used, few posts are required.

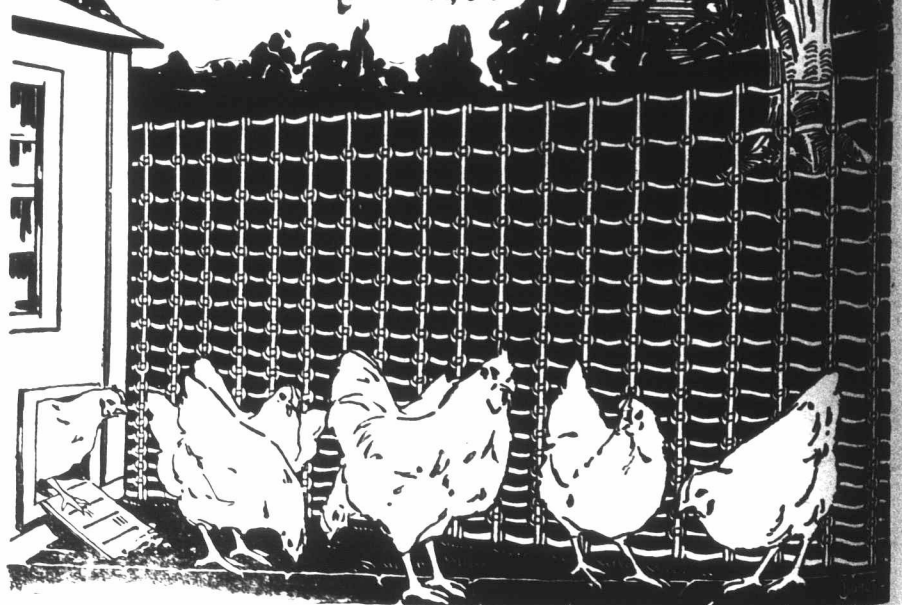
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is true to its name, a perfect fence strong enough to keep strong animals out and close enough to keep even small poultry in. Every Peerless fence is guaranteed against sag, rust or break and we stand back of our dealer unconditionally.

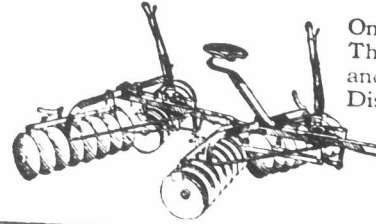
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for lawns, parks, cemeteries, etc., are handsome. Also lawn borders, flower bed guards, trellises, etc. Send for Catalog and get familiar with the best, cheap ornamental and serviceable fencing to be had in the Dominion. Go and see it at your local dealer's store. Dealers nearly everywhere. Dealers wanted in unassigned territory.

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BISSELL Double Action Harrows will thoroughly cultivate and pulverize any soil.



One Harrow is Out Throw; the other is In Throw. They are simply constructed, rigid and durable. The Gangs are flexible and the Disk Plates are so designed that they "hang" right into the soil. Bissell Harrows are built in sizes and weights suitable for horse or tractor use. Write Dept. W for free catalogue. 98¢

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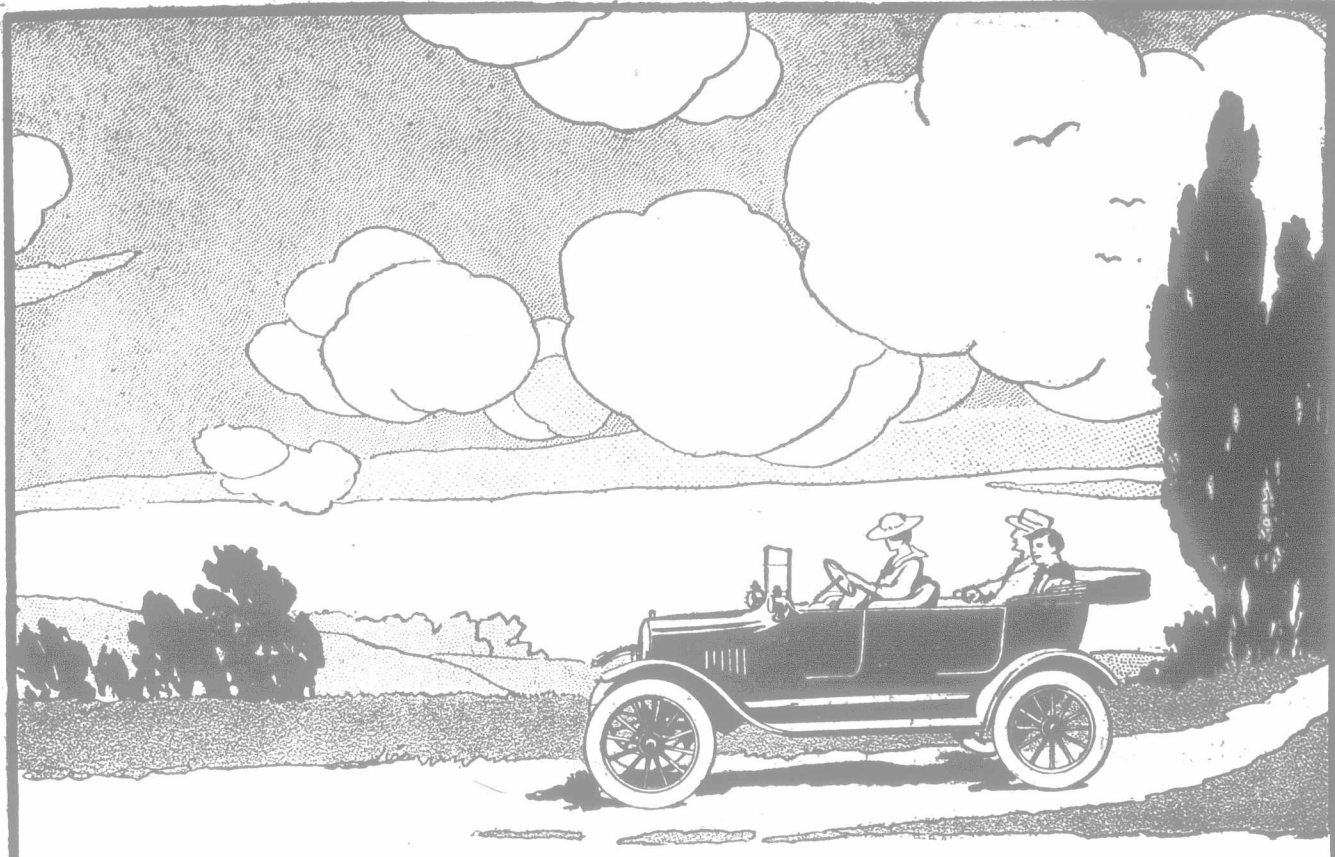
Elmhurst is the originator of sows, together with the stock boar, Saddon Torredor, who can supply all the best stock, all ages. Satisfaction and safe delivery guaranteed. H. M. YANDERLIP, Breeder and Importer, R. R. 1, Brantford, Ont. London Station on Brantford and Hamilton Radial.

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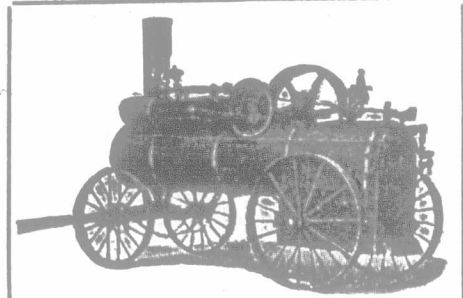
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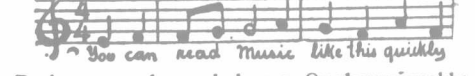
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By breeding your best cow to King Segis Alcartra Calamity, the \$2,000 bull. Mr. Stock paid us \$40 for the service of Baroness Madoline, and sold the offspring for \$1,000. Better get in touch with "King" and make some easy money.

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HIGH-GRADE SEED CORN
 Only 35 bushels; peg cured Golden Glow
 Germination tests, 98%, at \$2.75 per bushel
 Bags free.

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Wouldn't you rather grow them. We have as fine trees as can be grown. Beautiful root system, sure to grow. Also other SHRUBS, ROSES and TREES, from a berry bush to a shade tree. We ship direct from Nurseries to Customers (no agents). Nearly 40 years at it and know how. Send for our priced catalogue to-day, before placing spring orders. Will also sell first-prize Partridge Wyandottes; cockerels and eggs for sale.

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WE WILL
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WE'LL HELP
YOU WITH SEED
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Why not get **20% MORE GRAIN** Per Acre in 1917?

"More grain--more grain"-- the Empire calls. This year, 1917, must be one of supreme effort in the British Empire. You Ontario farmers are called upon for a **20%** increased grain crop. It is sorely needed. You can get it without extra labor. Let brain power help out.

FAN THREE BUSHEL OF GRAIN TO GET ONE BUSHEL OF SEED.

"What's the first thing to do to get your seed right?" a successful Ontario farmer was asked. "Use the fanning mill," said he. "Alright, then what?" "Use the fanning mill," he replied. "Well, and after that?" "Use the fanning mill," was the answer.

Remember you go through practically the same labor in sowing weak, dirty seed that you do in sowing clean seed. And—remember—practically the same labor at Harvest. **CLEAN SEED**—there's the answer to the 20% increase.

Prices for your grain crop will probably be abnormally high this year. Are you willing to help the Empire in her life-and-death struggle by producing more foodstuffs?

Perhaps you have not been able to get pedigreed seed. If you can get it—pay the price. It will pay YOU again and again.

Otherwise—we suggest this: Go to your granary,

select three times the amount of grain required for seed purposes. By use of the fanning mill, clean it once—clean it twice—clean it three times, or until you have just sufficient for seed purposes. If you want 100 bushels of seed you should fan it out of 300.

Use proper sieves and plenty of wind in the mill, and the one-third part remaining will be the largest and plumpest seeds, which are naturally the most vigorous. Vigor in seed is just as important as in live stock.

This may seem troublesome. Perhaps it is. But do it for your Country's sake. Do it for those gallant Canadian lads in France. If for no other reason do it because it will pay you more handsomely than anything else you can do.

Two bushels of oats will sow an acre. The extra return from good seed will be from 5 to 10 bushels per acre—decidedly more in some cases. Supposing it brings only 60c. per bushel. There's a pretty safe extra \$6 per acre—with practically no extra labor, either at seeding or harvest.

Twenty per cent. increase from clean seed is not guess work. It's a proven, scientific fact.

Sir William H. Hearst,
Minister of Agriculture

Ontario Department of Agriculture

Parliament Buildings,
Toronto, Canada

Just think of the enormous extra tonnage that will go to help defeat the barbarous Hun—from Ontario.

Yield 1915.	20% increase 1917.
Wheat..... 28,176,960 bus.	Wheat..... 33,812,352 bus.
Oats.....120,217,952 "	Oats.....144,261,542 "
Barley..... 19,893,129 "	Barley..... 23,871,755 "
Peas..... 20,430,490 "	Peas..... 24,516,588 "

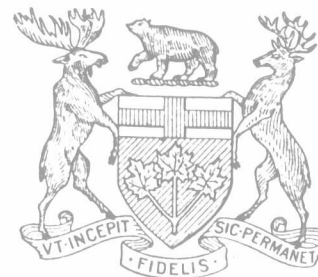
A mighty stroke for the Empire. Remember it's a food struggle as much as a military one. The best fed Empire is the one most likely to win.

More labor is coming—we are getting you thousands of enthusiastic helpers from amongst the business men, retired farmers, high school boys, town and city women, etc., etc. Last week's advertisement in this paper told you all about it.

GET THE SMUT OUT OF YOUR OATS

Many thousands of bushels of oats are lost annually due to the ravages of smut. This waste can be largely eliminated by proper treatment of the seed.

Secure 1 pint of formalin for every 20 to 50 bushels of oats required for Seed purposes. Dilute with 42 gals. of water, and use a barrel in which the bags of grain may be immersed for 20 minutes. Spread out to dry and then place



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in new bags or in bags that have been treated in a similar manner and thoroughly dried, thus preventing re-contamination.

Consult the nearest District Representative of the Department of Agriculture if you are not familiar with this work, or communicate with the Department of Agriculture at Toronto. We are keen to help you with labor—with suggestions—with the names and particulars of those who have seed for sale—with advice on any point that may be troubling you. Don't hesitate to write us fully at any time.

The Empire calls for bigger **GRAIN CROPS** from **ONTARIO**

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THIS THIN
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CAREFULLY
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