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THE FARMER'S ADVOCATE

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AND HOME MAGAZINE

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

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LIV.

LONDON, ONTARIO, MAY 15, 1919.

No. 1390



Reroof the leaky barn with Brantford Asphalt

A leaky roof always gets worse and is apt some day to cause a lot of damage to the crops in the barn or the furnishings and wall paper in the house.

With Brantford Asphalt Roofing selling at such reasonable prices, it is true economy to roof with it. There is hardly another line of goods that has had the small advance in cost since the war that Brantford Roofing has had. By installing improved machinery and increasing the volume of our output, we have lowered our cost of production which has enabled us to keep down the price of Brantford Roofing below what might be expected in the face of the rising cost of raw material, labor and transportation.

Old wooden shingles are being replaced with Brantford Asphalt Roofing. It can be laid very rapidly, saving time, which means considerable when labor is scarce and high. It is a wonderfully fire-resistant roofing—a fire starting on a Brantford Asphalt Roof being unknown to this day. It is also very durable being completely waterproof and the asphalt blended and tempered to resist all the extremes of the Canadian climate.

Brantford Asphalt Roofing

Brantford Asphalt Roofing

is finished on both sides with a surface of silica sand and is made in three thicknesses and weights.

No. 1 is 60 lbs. per square. No. 2 is 70 lbs. No. 3 is 80 lbs.

Brantford Rubber Roofing

has the same high quality asphalt saturation and coating as Brantford Asphalt Roofing but it has a smooth, rubbery surface instead of being sanded. It is also in three weights. No. 1 is 40 lbs. No. 2 is 50 lbs. No. 3 is 60 lbs.

Leatheroid Roofing

Slightly lower quality than Brantford Rubber and used for same purposes. Has a leathery surface. Exceptionally good roofing at a low price. 35 lb., 45 lb. and 55 lb. weights.

Standard Mohawk Roofing

While this roofing is lighter in weight than Brantford Asphalt and Brantford Rubber it is the best quality of any low price roofing on the market. It is a standard that has been tested for years and given entire satisfaction. Sanded on one side. One weight only—40 lbs.

Climax Sheathing Paper

A tough kraft paper coated with high-grade asphalt. For use between footing and foundation of a building, between foundation and wall, between foundation exterior and the earth, below basement cement floors, underneath floors in houses, on walls before lath and plaster are put on—unequalled for damp-proofing and wind-proofing purposes.

Samples and prices mailed on request.

Brantford Roofing Co. Limited

Head Office and Factory, Brantford, Canada
Branches at Toronto, Montreal, Halifax

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Frost & Wood Mower



It's a sure crop getter, because it embodies 80 years' experience of Canadian Hay Crop conditions.

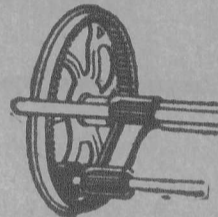
The F. & W. Mower is sure to give you splendid service for many years to come. It is very easy on your horses, and it's so perfected mechanically that it is always ready for work, and rarely calls for repairs or adjustments.

Think what it means to look out at a heavy, and perhaps tangled hay crop, and be able to say, "My Frost & Wood Mower will go through that alright." Most mowers will cut a nice, standing crop but you don't always get that kind—your Frost & Wood, will handle the other kind too.

Take Our "Internal Drive" Gear, For Instance—

It transfers the power from the drive wheel to the cutter bar—it is on the inside, revolving in the same direction so that it never loosens, rattles or breaks its cogs. Heavy brass bushings are proof against years of hard wear while splendid roller bearings make light draft. The heavy, high-carbon steel cutter bar can be set in a second at any angle, and the knives continue cutting even when raised to clear an obstruction saving time and crop.

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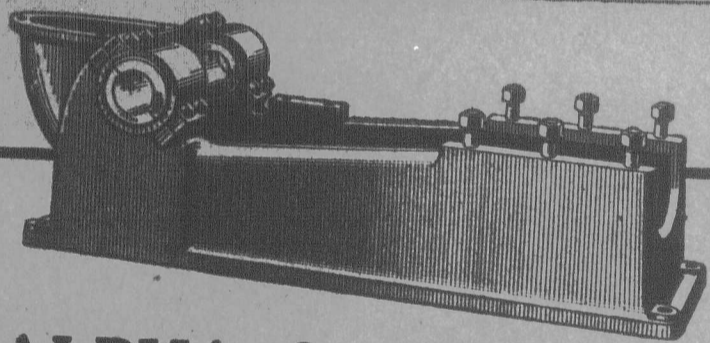
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Saves Time—Money—Labor. Be independent of the gang. Keep your farm free of weeds. Do your threshing when you please, with a 6 to 12 h.p. Engine and the Wonderful Light-Running Gilson Thresher. Furnished with or without Blower. Send for full particulars. GILSON MANUFACTURING COMPANY LTD. 489 York St., Guelph, Ont. 48



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Send today to nearest office for Gas Engine Book and learn how a first-class engine is made—you'll enjoy reading it.

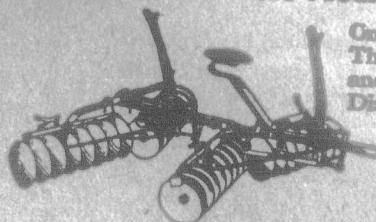


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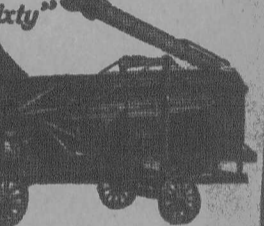
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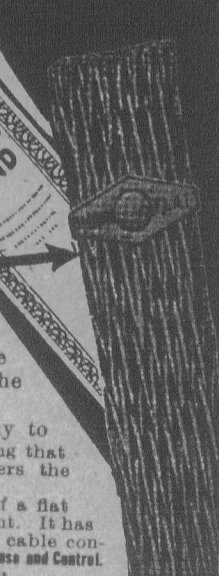
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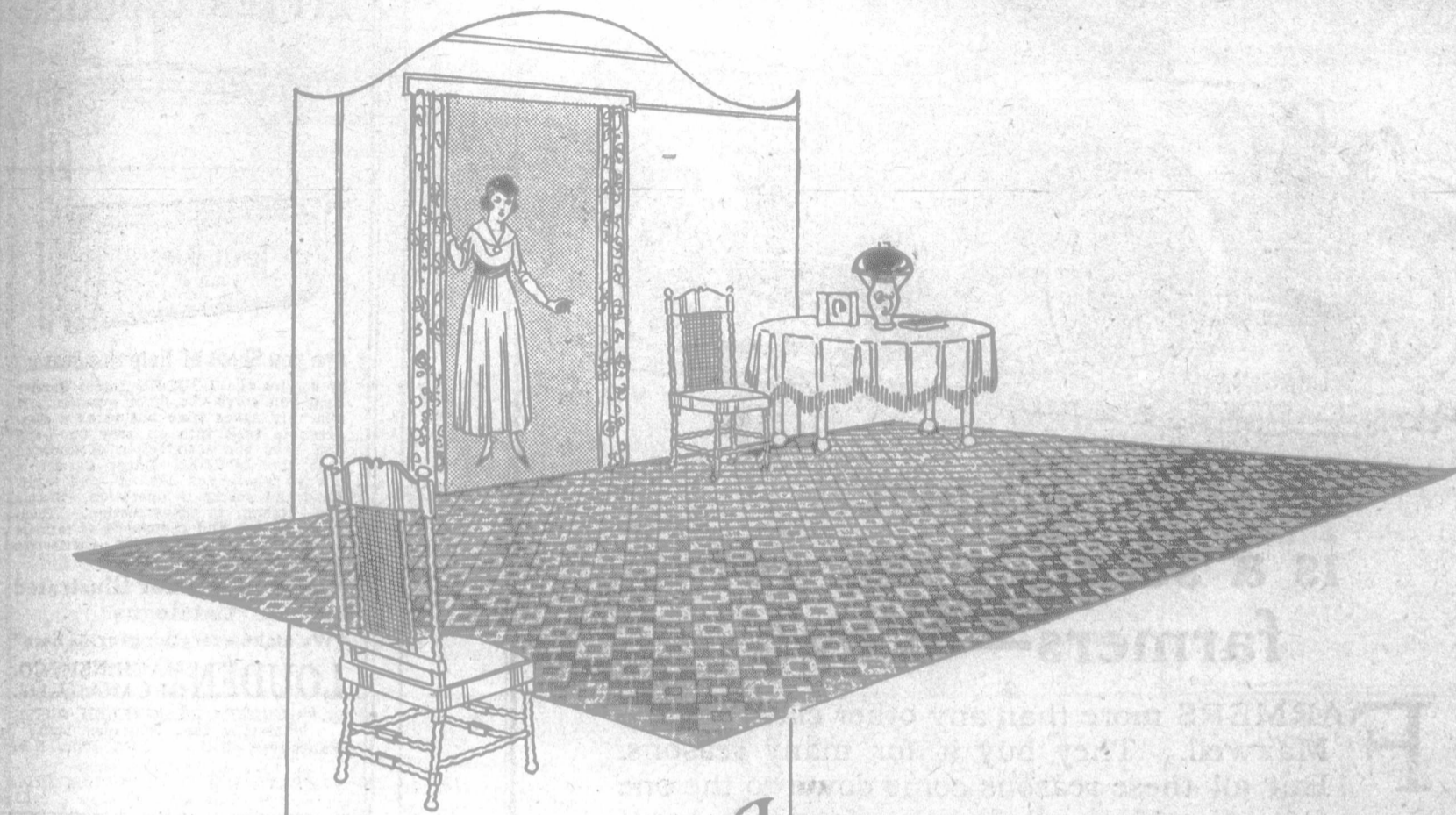
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Feltol

The moderate priced FLOOR COVERING

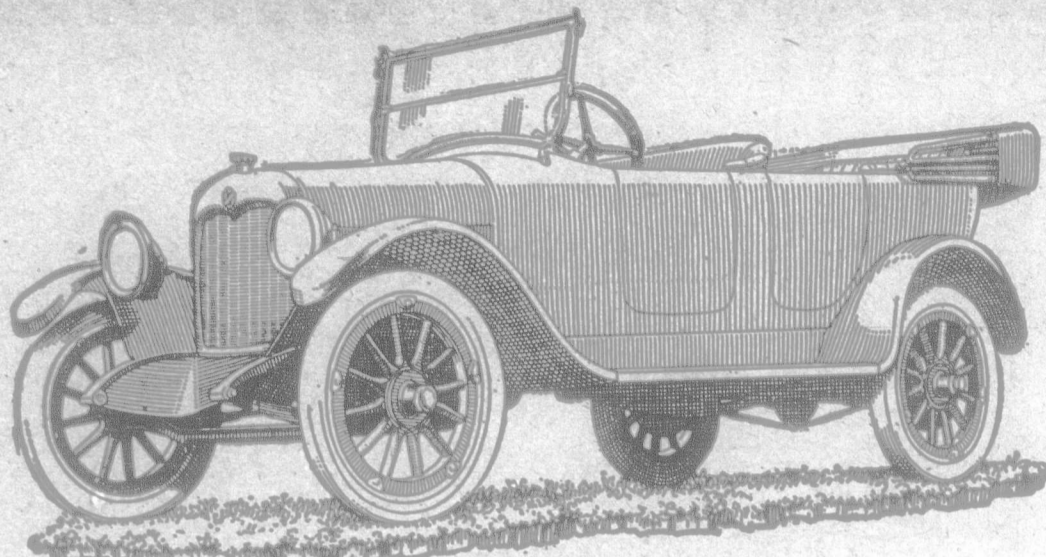
Similar to linoleum in appearance, Feltol is yet *not* linoleum. For one thing, it has felt instead of cork for its base—for another, it is vastly less expensive. Cheaper even than oilcloth, it nevertheless has an appearance as fine as the best linoleum, and it comes in a wonderful variety of patterns and colors. With Feltol on your floors, you can have as many or as few rugs as desired—and from the housekeeper's point of view, the arrangement lightens housework, as such a floor can be readily mopped up and polished.

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And it is completely equipped. No "extras" to buy.

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This chassis has been perfected, of course; but not changed. It was *right* five years ago. It is *right* to-day. Over 1000 refinements have been made. To-day's Maxwell is the best car our engineers *could* produce for farm service.

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Not the least of the sensible reasons for buying the Maxwell, for getting Maxwell value, is Maxwell Service. There's a Maxwell dealer near you—anywhere in Canada.

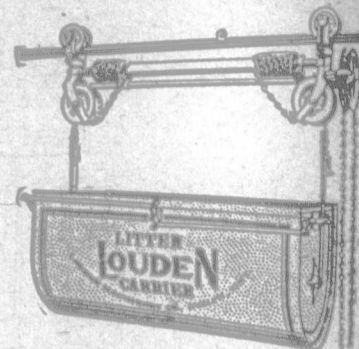
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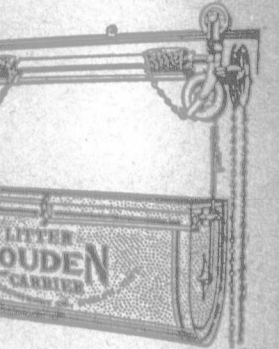
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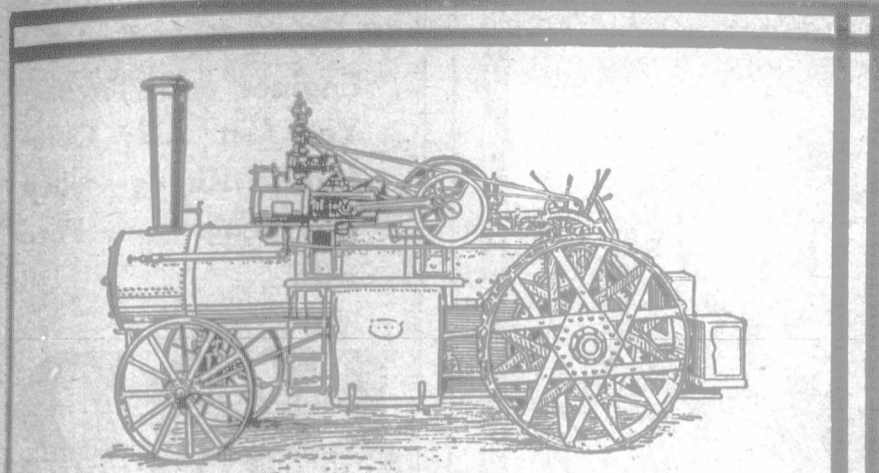
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the Wet out of Rain"
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It pays to buy sturdy, rugged threshing machinery. For it has to stand treatment that ordinary machinery never gets.

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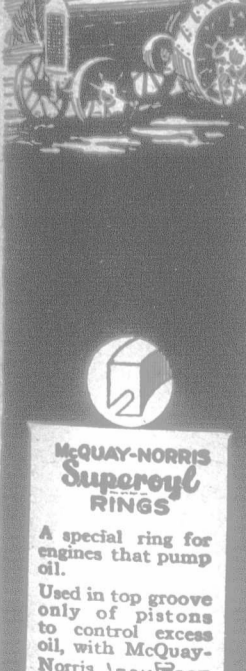
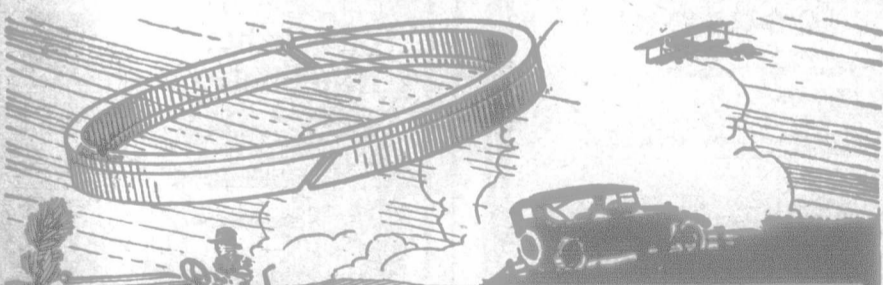
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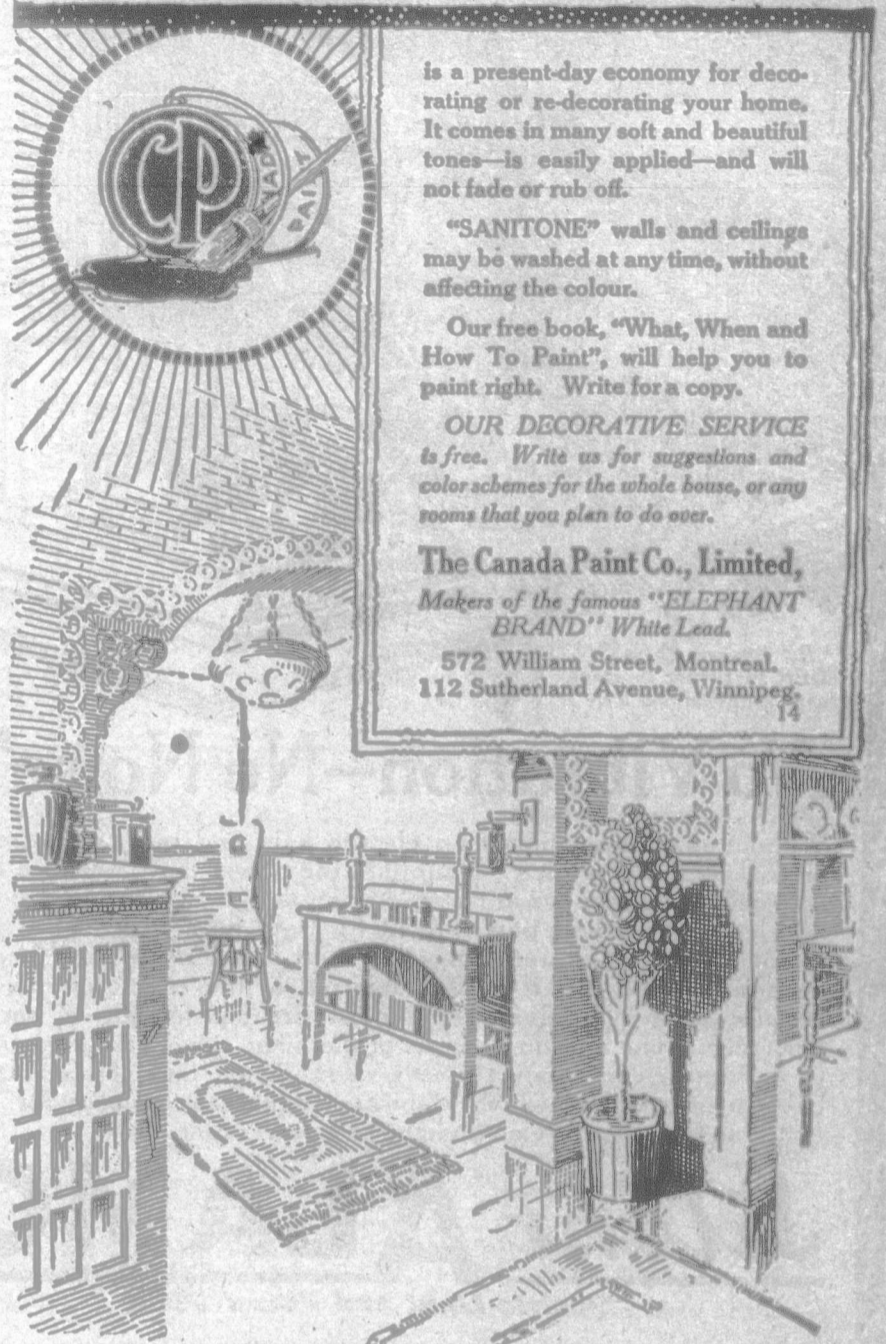
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How long will your watch stand? Severe vibrations on a motor act like a watch. In 10 days are disastrous results.

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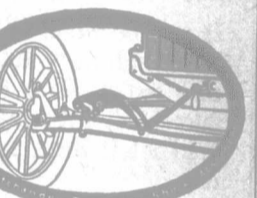
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GONE! THE OLD STYLE PAIL

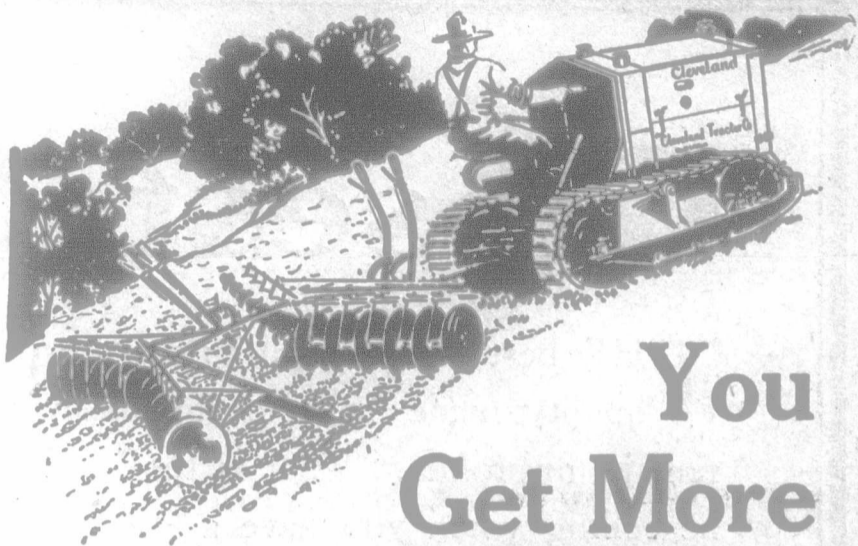
Yes, they're gone! Sad wrecks, aren't they?—fit only for the junk pile or the dismal places where the rubbish is shot.

Familiar objects, these, in the days when the coopered or metal pail was in common use. But those days are passing. With the growing use of

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such losses are reduced to a minimum. Wood pulp, shaped by tremendous hydraulic pressure and baked with intense heat, produces the most durable and economical container for liquids and semi-solids. Eddy's wash-tubs, milk pails, butter tubs, etc., not only outlast the old-fashioned articles of metal or woodenware, but actually cost less money. Your dealer has them.

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Buy a tractor that will do more than plow.

Buy a tractor—for faster, less-man-power, less-horse-power, more profitable farming.

But buy a tractor that will—disc, harrow, seed,
Without spoiling the seed-bed.

Buy the Cleveland Tractor.

Lays its own track as it travels. Pressure only 5 pounds to the square inch. Less than a man walking. *Can't* pack the plowed ground. *Can't* wallow in soft ground. *Will* work over rough ground, hilly ground, gullies. And uses less fuel doing this because it rides on top *without slippage.*

And will harvest, thresh, haul loads, cut feed and ensilage, operate machinery—work more days in the year.

The Cleveland Tractor is the product of a giant organization embracing engineering genius and manufacturing facilities of the highest type. That is why the Cleveland operates successfully on kerosene (coal oil), uses no more kerosene than other tractors use gasoline. That is

why the Cleveland stands up to its work day in and day out, year after year. That is why the Cleveland is an investment, not an expense.

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Use double discs, two 60-tooth harrows, and heavy wooden drag for fitting—40 acres a day.

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Of course it pays for itself. Your nearest Cleveland dealer can show you how. Write to him or to us for our booklet, "Our Owners Say," giving actual experiences with Cleveland Tractors.

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And, Brother Farmer, I am at your service any time you care to come to my farm and see this little boss doing the work quicker and better than it has ever been done before.

(Signed) John M. Boyd.

Cleveland Tractor

Closest Skimming

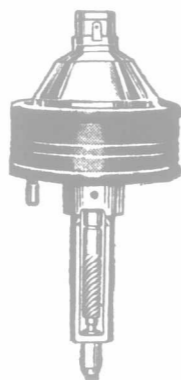
THE best of the high prices are paid for butter of firm, solid quality made from cream in which the globules of milk-fat remain unbroken. That is the kind of butter you can be selling when you have a

Renfrew

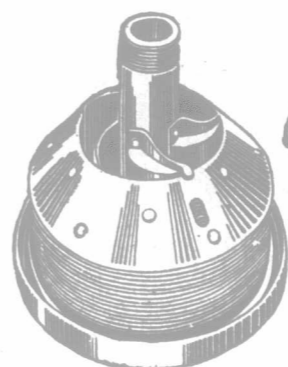
In the straight wing bowl of an ordinary separator the delicate globules of butter-fat are dashed against the inside edges of the discs and are smashed. This means inferior butter. In the Renfrew these frail globules are conveyed in the milk along curved wings without whipping. The result is you get firm butter that commands higher prices.

The curved wings mean close skimming—that is, more production of cream, more good butter to sell. The curved wings do half

Our literature also explains the exclusive Renfrew interchangeable Capacity feature. It enables you to change your capacity from 350 lbs. to 1000 lbs. if you like, without putting extra strain on your machine. All you have to do when changing capacity is to order bowl and fittings of the size you want instead of having to buy an entire new machine.



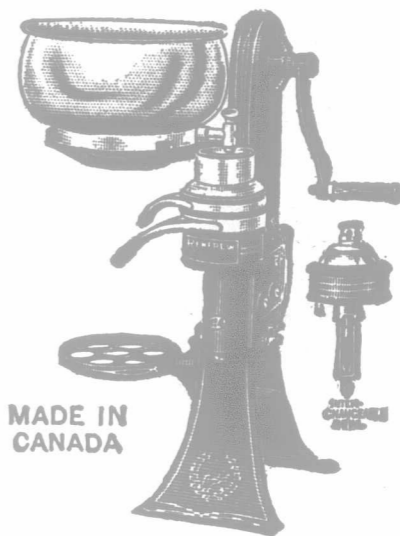
Write for free literature today. It shows why it will pay you handsomely to replace your present machine with the up-to-date Renfrew.



the separation themselves, relieving the discs. Thus the skimming is done quicker and better. The Renfrew skims right down to the last drop.

Remember this particularly—no other separator has these patented curved wings.

In our illustrated booklet we give tests by Government Dairy Schools showing that the Renfrew gets all but 1-10 lb. of butter-fat in 1000 lbs. of milk skimmed.



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The Farmer's Advocate and Home Magazine

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L.I.V.

LONDON, ONTARIO, MAY 15, 1919.

1390

EDITORIAL.

Use seed of only strong vitality to make up, in part, for the lateness of the season.

Don't plant potatoes which carry disease to the new crop; obtain clean seed free from disease.

The scrub sire is an enemy of the live-stock industry. Don't allow one to exist in the neighborhood.

Farmers would not get far with the seeding this spring if they stuck to the eight-hour-day system.

This has been one of the seasons when a good drainage system will almost pay for itself in one year.

Reports from the West indicate that seeding is progressing well there, even with a short supply of labor.

A little paint will go a long way in preserving buildings and improving appearances. Paint is a good investment.

Keep the outlets to drains wide open, and don't allow dirt or soil to prevent the water getting away once it is emptied from the tile.

The ex-Kaiser is to be tried for his crimes, and the jury should be empanelled from the population of Northern France, which was tortured and brutalized at his command.

Don't allow the house-fly to become a pest this summer; screen the doors and windows, and destroy its breeding quarters around the buildings. This means a clean-up outside.

The British Chancellor of the Exchequer spoke of preference for some Canadian products, but there was nothing in his Budget Speech that was very encouraging for the Canadian agriculturist.

The City Councils of London and Chatham repealed their daylight saving by-laws. If we had a real Government the railroads would be obliged to use standard time, and then the country would be free from this muddle.

The London Times, England, reports that 200 Canadian commercial agents are in Europe seeking orders. One thing is certain, Europe is not bothered much by agents of Canada trying to locate markets for agricultural produce.

Stefansson, the arctic explorer, recommends populating the far-north regions with reindeer and musk ox. Why not inhabit the vast stretches of Canada now within the pale of civilization with a few more horses, cattle, sheep and swine. The Senate and House of Commons took time off last week to hear about reindeers and the musk ox, but they have been too busy to give any reasonable amount of attention to the Canadian live-stock industry.

The Manufacturers' Association and its robust child, the Canadian Reconstruction Association, have been very active of late in a campaign to offset the demands for tariff reduction. A petition has been circulated amongst the employees of manufacturing plants asking them to object to any revision of the tariff at this time. The employer is asked to circulate the petition which is a very wise move on the part of the manufacturers, as laborers and artisans would not care to act contrary to the wishes of their employer if he favored no tariff reduction.

Agriculture and the Tariff.

The Minister of Finance has intimated that the Budget Speech will be delivered about the middle of May, and if the Prime Minister is not home by that time it is to be hoped that a long-suffering Parliament will not be asked to wait much longer before getting down to the most important business of the session. Budget speeches in the past have usually been cold statements of facts concerning Canada's financial standing, but probably ninety per cent. of the interest being taken in the forthcoming speech will focus on the tariff pronouncement which it is expected to embody.

Western Canada, where the tariff is not a party issue, has voiced its demands, but unfortunately for us in the East we have continued to allow ourselves to be divided into party camps under two banners known as "Free Trade" and "Protection." Since the National Policy became a reality both parties have been in power, off and on, and under both Liberal and Conservative regime we have had about all the protection the traffic would bear.

So far as agriculture is concerned at this time it is not a question of free trade or protection, but a matter of arranging a tariff schedule that will bring revenue to the country without stifling production or impoverishing the many for the benefit of the few. If we must have a tariff for revenue let us have a revenue-producing tariff, and not one so high that it tends to prohibit the importation of commodities, and thus defeat the very object of the policy.

Agriculture is becoming a business requiring considerable capital; the operating expenses are heavy and the income small compared with the capital investment and cost of operation. We venture to state that ninety per cent. of the business men in towns and cities, who attempt to manage farms by employing all the labor, are losing money on the investment. Many adopt scientific methods, manage the labor to the best of their ability and supply the necessary capital where and when it is needed, yet the farm so operated is losing money for hundreds of business men all over this country, and, more than that, they admit it openly.

Only through frugal living, cautious buying and prudent selling, working long hours in the busy seasons, and by general all-round carefulness and hard work is the farmer able to clear his farm from debt and store up something for the autumn of his life. It is with a considerable degree of reluctance that this statement is made concerning an industry "The Farmer's Advocate" has championed for over fifty years, but it is the truth, and why should we not proclaim it?

The Government contemplates bringing in immigrants to settle on the unoccupied land of this country, but for over fifty years our Governments have been taxing the people off the land and into the cities where the cost of living is, in consequence, becoming a serious problem. The future for our land-settled immigrant population is not bright.

If farmers could always sell their product at cost, plus a reasonable margin of profit, the tariff would not affect them so much, but we pay cost prices plus tariff and several profits for all we buy, and sell in an open and oftentimes manipulated market at whatever price the buyer sees fit to pay. Sane-minded business men and city dwellers are becoming anxious to see farmers prosper, for only as agriculture flourishes can the country as a whole be in a healthy condition financially.

Statistics have been quoted of late to show what great strides have been made agriculturally during the last decade or two, but figures melt away into meaningless marks before the cold realities which confront any student of rural conditions. If we are making such wonderful progress why are the rural communities of Old Ontario abandoned by the young men and women, and why are the old folk attempting to carry on alone for a few more years with larger implements

and less-intensive methods? Why are farms being sold and the alleged profiteers, at middle-life, moving to town in order to work for some city contractor or manufacturer at so much per day? The cold facts stare one in the face, and anyone with an open mind will admit, at least, that something is wrong.

A peculiar situation is arising in Western Canada. A large percentage of the homesteads were never intended as permanent homes by those who occupied them. The object was to make a little "quick money" and then come back East, or to some other haven of rest. The dreams have not been realized, and a feeling of unrest exists which can only be allayed by making it possible for the Western farmer to capitalize on the hardships and privations which have been endured. It has not been all sunshine on the Prairies. There have been, and will be, many lean years, and the Western farmer has set his price (which is the same for practically all classes in the West) for continuing as a devoted citizen of a united Canada—that price is tariff reduction.

Any reduction of tariff or removal of restrictions to make farming more attractive and increase production will redound to the benefit of the urban laboring classes and all those unassociated with the land. Farmers are not endeavoring to shirk any reasonable obligations the State may impose, and they are willing to bear a just share of the country's burden. We desire to see this country developed industrially as well as agriculturally, and this calls for a revision of the tariff to cope with conditions as they now exist. In the interests of Canada generally our Government will do well to look the facts squarely in the face and remove the barriers which have been retarding the advancement of the agricultural industry.

Bad Feed.

During the last few years the quality of shorts has, in many cases, been disappointing. Even hogs, at times, have refused to eat this feed, and when induced to do so they have shown symptoms of serious illness and some have died. This does not apply to shorts in general, but certain samples have proved objectionable to live stock and even fatal to swine. We have a feed Act which bars unground noxious weed seeds from feed, but the farmer has no redress under the law if he purchases feed containing ground weed seeds. Wormseed mustard, as most farmers know, is very objectionable to live stock, yet it has been found in the ground state in shorts. It has been pretty well demonstrated that wormseed mustard is poisonous to swine, at least, and it is time something was done to protect the live-stock industry against the very objectionable practice of grinding weed seeds and mixing with feed. The Seed Branch at Ottawa has been working with this problem for several years, and can now make a very accurate physical analysis of the product. The chemical analyses are made by the Department of Inland Revenue, and the feed Act, such as it is, is left with them to administer. However, such work is foreign to the Inland Revenue Department. The feed business should be under the influence of more stringent legislation, and the Department of Agriculture ought to be responsible for its enforcement.

The fact that the Intercolonial Railway was not built to demonstrate the advantages of public ownership is no excuse for the Government inefficiency which characterized its management. Commission management seems to be the only solution to the problem which now confronts the country, and its success will depend on how wisely the railway administrators are chosen. The fact that the chief executives were connected with the defunct C. N. R. is not a good omen, but apparently we are obliged to accept the Government's ruling and hope for the best.

The Farmer's Advocate and Home Magazine.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
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JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal,"
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London, Canada

Free Speech in Parliament.

Free speech should be the inviolable right of any citizen in a democracy such as we boast, but no citizen ought to be protected from the consequences of speaking too freely when his statements are false or slanderous. We have, during the present session, had several exhibitions of free speech in Parliament, where a member can say anything he likes about an individual outside the House, or slander any Canadian institution at will. Members of Parliament must pretend to treat each other as gentlemen of the highest order, but Hansard carries pages and pages of abuse for those outside the precincts of the House of Commons, and the guilty members are answerable only to their own consciences. If one will bestir himself it is possible to obtain pretty accurate information on any matter of public interest, but the average parliamentarian, on both sides of the House, prefers to make what noise he can at the least expense of time and trouble. Members can have questions pertaining to administration answered by Ministers of the Crown, and when statements are based on conditions, over which the Government has no immediate jurisdiction, there is no reason why they should not be substantiated by something bearing a resemblance to facts. "Pleasing generalities," accusation and innuendo prolong the length of the session but accomplish no real good. The country, at large, is no longer stirred by these parliamentary gusts of wind intended to influence public opinion either in favor of or against the Government. Honesty, plain speaking and common sense legislation are what we require of our representatives. Bad policies will not help us to have good Government, and that is what we want without regard to the names of individual or party.

Turn the live stock to pasture free of vermin.

Is Civilization Progressing?

BY ALLAN MCDIARMID.

It strikes me that a good many people are somewhat discouraged just at present with the general outlook of things, not only in our own country, where conditions are supposed to be just a little bit better than anywhere else in the world, but throughout all lands that we have been in the habit of calling civilized. The un-civilized nations don't seem to count for much, so far as their influence for good or evil is concerned. They seem to be rather waiting for directions from the so-called Christian peoples, as to what road they shall take. They are much in the position of the man who has lost his way. They're inclined to follow any guide.

But in regard to the more advanced section of humanity. How are things going with them? Forward or backward? For they say that there is no such a thing as standing still.

What about our own country first of all? It happens sometimes that the thing directly under our eyes is overlooked. It's too close at hand to be seen clearly. And it is part of the religion of too many of us to see no fault in the Government we have helped to put into power. On the same principle, I suppose, that makes us point out all the good qualities in the particular automobile that we were induced to put our money into.

A year ago it was thought to be bad form, or worse, to criticize the law-makers that we had chosen to "rule over us," but now that the war is over liberty of thought and expression have been restored, to a degree at least. It is a common saying that our representatives in Parliament are our servants, so why shouldn't we find fault with them and straighten them out when necessary? For the good of all concerned it's what we ought to do.

Accordingly I am going to make one criticism, and if everyone else does the same the faults of our Government will be well shown up. We were all so partial to the Unionist idea down here in Glengarry at the last election that no one considered it worth while bringing out a candidate for any other party. But, unfortunately, the death of our representative, shortly after his election by acclamation, has left us ever since without a voice in the carrying on of the affairs of our country. We might as well be off the map altogether insofar as our influence goes.

And what is the reason for this state of affairs? Apparently it is simply because our Government is afraid that we might not give them a favorable verdict if they permitted a bye-election.

In England a bye-election was brought on a few weeks after the Union Party was returned to power. They must have had some idea of the danger of the election of an opponent, and this actually happened, but at the same time the law was obeyed and no section of the people was allowed to go unrepresented.

But this other sort of thing seems to be characteristic of our present-day political parties in Canada. They're afraid of losing their job and you won't find them taking any chances. Self-interest comes first and, if there is no danger of it conflicting with the interests of the country, these may be considered later.

We are willing to make all allowance for the frailties of "poor humanity," but at the same time no one will object to our registering a complaint, in consideration of the fact that we don't do it very often.

And now in regard to the state of affairs in the rest of the world, which we mentioned above. Is it better or worse than it was, say ten years ago?

That is a comparatively short time in the history of any country, and in Nature's process of evolution it is practically too short a period to count for anything at all. We should be able to think in centuries if we are to get anywhere near the truth in this matter of "world progress" or its opposite.

I don't think we can say that the world is much of an improvement on what it was half a score of years ago. We have gone through, or rather, we are going through a period of reaction. The war was part of it and the present tendency towards revolution in almost every country is another symptom of the same thing. These reactions seem to be a necessary part of Nature's progress, contributing towards our final growth and progress. It shouldn't always be necessary but in dealing with mankind as he is at present it seems to be the only way. Apparently there is even a reaction on just now in connection with our war-time prohibition of whiskey drinking. Quebec has voted in favor of all it can get in that line and Great Britain has also gone back, to a certain extent, to her former bad habits. A similar reaction may come in Ontario if the friends of temperance are not pretty wide awake and active from now until voting day.

This process of progress and reaction might be compared to the motion of a clock. There is the backward swing of the pendulum as well as the forward, but the result of both is to move the hands of the clock continually ahead. So it may be with war and the other set-backs that humanity is continually contending against. We learn from our hard experiences to an extent that enables us to make final permanent progress. I heard a man say that if one wanted to know whether they had put in their time to good purpose in this world not to look back on the last five or ten years, but to go back for at least half a life-time and compare the ideals and standards of that time with those of the present. Only in this longer period can the most of us hope to be able to discern the moral and mental development that may have taken place within us.

So with the world, only on a greater scale and through a longer period of time. As I said, in this case we must learn to think in centuries. We must go to history and compare what we find there with world conditions as we know them to be at present. If we do this fairly and with judgment we needn't be afraid for the result.

We'll find that humanity has progressed along almost all lines of highest endeavor and that such things as wars and revolutions seem to be nothing more than milestones, as it were, marking the points where man has resumed his upward march towards a destiny, the greatness of which he is not yet able to realize.

Nature's Diary.

A. B. KLUGH, M. A.

Birds of the Week.

The Catbird is a common summer resident in Nova Scotia, rare in New Brunswick and Prince Edward Island, common from Quebec to the interior of British Columbia, and scarce on the Pacific coast. This species is a sort of vaudeville artist among our birds. It has a beautiful song, but rarely sings it for any length of time without interjecting "mi-au-aws," and it frequently imitates the songs of other species. Its nest is placed in a low tree or shrub, usually at a height of about four feet from the ground, and is strongly built of sticks, coarse grass, weeds and strips of bark, lined with soft rootlets. The eggs are from four to five in number and are dark bluish-green. The period of incubation is from 12 to 14 days.

The economic status of the Catbird is a little hard to settle. It eats a good many insects, including such pests as cutworms, curculios, and locusts, but on the other hand it is a great fruit-eater, and frequently does a considerable amount of damage to cultivated raspberries, strawberries, blackberries and cherries. This damage may, however, be entirely avoided by providing it with other fruits of no value to man but which are preferred to cultivated fruits, not only by this species, but by other fruit-eating birds. If Elderberry bushes and Russian Mulberries are planted round the fruit-patch or orchard it will be found that the birds flock to them and leave the cultivated fruit alone. The main cause of the attacks of birds on cultivated fruits is that these fruits usually ripen before the wild fruits, and the horticulturist usually finds that it is the early varieties which are most damaged by birds. The two fruits mentioned above ripen early, as also does the Service-berry, known also as June-berry and Shad-bush, and a border of these trees round the orchard will not only provide early fruit for the birds and thus divert their attention from the cultivated varieties, but when in bloom they are most ornamental trees.

The Baltimore Oriole is one of the greatest general favorites among our birds, its brilliant plumage, cherry piping song, its fondness for the vicinity of human habitations, and the fact that it does no damage to crops of any kind, all contribute to make it so. This species is often called the "hang-nest" because of the unique architecture of its nest, which is usually constructed at the end of a branch of an elm. This nest is pocket-shaped, and usually about seven inches long, and four and a half inches in diameter at the bottom. The top is attached to forked twigs at the Y, so that the mouth of the nest is kept open. The framework is usually made of twine in settled districts where this commodity is available, but in wilder regions is made of various vegetable fibres. Into the frame work are woven shreds of wood-fibre, fine grass, and many other materials, the bottom of the nest being more closely woven than the rest. The finished structure is very strong, and Seton has found that the nests of this species have a breaking-strain of from 17 to 31 pounds. The eggs are from four to six, white, faintly tinged with blue, and spotted and scrawled with lilac and brown, mostly towards the larger end. The Baltimore Oriole is rare in the Maritime Provinces, common from Western Quebec to Manitoba, and fairly common in many parts of Saskatchewan and Alberta.

The Wood Thrush is one of our most beautiful songsters. It sings mostly in the evening, usually mounting to the higher branches of the taller trees and sitting erect emits its wonderful notes in the most leisurely fashion. "Que-que-ring-a-ring-ah" he sings, and rests, "Que-que-ring-a-ring-ah" and another pause, and thus unhurriedly he utters the beautiful phrases of his intermittent song. This species may be distinguished from our other thrushes by the fact that the plumage of the upper parts is brightest on the head, and the breast and flanks are more distinctly spotted than in any other species. The Wood Thrush is a southern species which occurs in Canada only as far north as Ottawa and Muskoka, and is not found east of Ontario or west of Georgian Bay.

The Bobolink is a common and well-known species from Nova Scotia to Saskatchewan, and also occurs in some localities in Alberta. It was originally a species which inhabited the prairie region of the middle west and the edges of marshes in the east. When the forests of the east gave place to open fields and meadows the Bobolink moved in, and has now extended its range as far north as Parry Sound district. As far as we in Canada are concerned the Bobolink is an entirely beneficial species, feeding on insects and weed-seed, but in the south-eastern states it is quite a different story, as this species is the worst pest with which the rice-growers have to contend. On their spring migration they pull up and devour the newly-planted rice and on their fall migration they alight on the rice-fields in immense hosts and do a tremendous amount of damage.

The Least Flycatcher, as its name would imply, is the smallest of our flycatchers. This little bird is frequently an inhabitant of the orchard and may be known by its sharp note of "Che-bec-che-bec-che-bec."

The American Bittern is a very common bird of the marshes, and is known by several common names, such as "Fly-up-the-creek," "Bull-o-the-bog," "Thunder-pump," these last two in reference to its booming notes, and "Mud-hen" a name it shares in common with several other marsh-haunting birds.

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Consolidation of Rural Schools. --- By Sinclair Laird.

HOW can rural children get a better education than the old-fashioned school can give? The best answer that experience has given is the consolidated school. The old-time rural school belonged to pioneer life, and represented the best educational ideal of its time. But it is now as out of date as the sickle, the scythe, the flail and the flint-lock gun, which themselves are replaced by reaping, binding and threshing machines, and the rapid-fire machine gun. The old rural school is as old-fashioned as homemade shoes and tallow dips.

But what is consolidation? Well, a consolidated school is simply a centralized school with a better organization, larger number of class-rooms, better teachers, a more specialized course of study, more efficient methods of teaching with a larger enrolment of children, who either walk or are transported to this centralized school. In other words, it is education on a larger scale, with more efficient equipment and staff.

There are three kinds altogether. The simplest is sometimes only called a union school or a partially consolidated school, because although several one-roomed one-teacher schools have been merged to form one school, yet the number of pupils in the new consolidated school does not warrant the employment of more than one teacher. Some consolidations of this nature have already taken place in Quebec, but the public should not believe that there has been anything achieved along the line of educational improvement in such a partial consolidation. The only result has been economy of teaching staff and of expenditure. There really has been no improvement in the kind of teaching or in the grading of the children.

Secondly, there is the consolidation of several small schools to form a rural school with at least two teachers. Several of these are in existence in Quebec, and are, therefore, called consolidated model schools, because the words "Model School" mean a school with two teachers and a superior course of study going up to the first year of high-school work. In this case, a consolidated school has a better chance to organize more completely and to grade the children more minutely. Even a two-teacher school is such an improvement over the one-roomed school that it should be encouraged, because in time the tax payers may be induced to form a more completely graded school with a larger staff when the number of children warrants such a staff. The two-teacher consolidated schools in Quebec have been such a success that now no one-roomed rural schools are being built.

Thirdly, the real consolidated school is a school of improved type, and usually is the result of abandoning two or more schools to build a graded high school in a central situation to serve a larger area and do higher work. Children living at a distance of more than one mile from school are conveyed by special school vans or sleighs, or a motor van. Indeed, the motor van is likely to displace horse conveyances where the roads and weather permit their use. The essential features of these consolidated schools are the larger staff employed, the better opportunity to grade children according to ability or attainment, and the higher work which can thus be provided. In such consolidated schools, rural children received educational advantages equal to those provided by city schools.

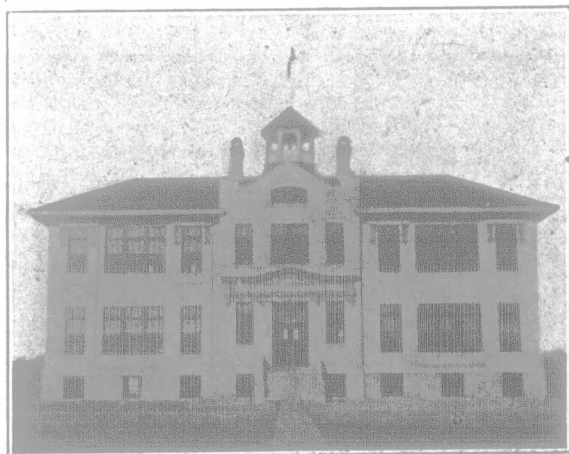
The educational trend towards consolidation is not a new fad, but a tried and tested practical plan which has been adopted in our Western provinces with excellent results. Where it is given a trial, it is never displaced, and the patrons refuse to go back to the old state of affairs. In the United States, consolidated schools have spread from New England to the Middle West and to the Pacific coast. Three-fourths of the States in the Union have officially adopted the policy of consolidation as a part of their school system. Consolidated schools are successfully managed from New England to California, and from the Dakotas to Texas.

In Canada, the policy has had greatest support and the most outstanding success in the Province of Manitoba. In 1905 consolidation was accomplished at Virden and Holland. In December, 1917, there were 74 consolidated school districts, which comprised more than 3,000 sections of land, each school serving an

average of 41½ sections each. In Manitoba, consolidation as an educational policy has come to stay. The advantages are overwhelmingly in its favor. The benefits are evident. There has been an increase in the enrolment of children of school age, and increase in regular attendance of those on the roll, an increase in the number of days that each child attended the school during the scholastic year, and an increase in the number of years that each child stays at school. In addition, each child reaches a higher grade and gets a better education than he would have received had he merely attended the old-fashioned district school.

The consolidated school at Wellwood contains three old districts now managed by one school board. Formerly the three districts had an enrolment of 94 children, of whom only 55 on an average attended daily. In other words, the school only expected 58 per cent. of the children to attend on any one day. But under consolidation, the new school increased the enrolment from 94 to 110. From 55 pupils in attendance, the average rose to 85 children. In other words, more than 77 per cent. of the children attended regularly.

Another method of calculating the benefits of the consolidated school is to investigate the number of days attended by each pupil in various kinds of schools. Manitoba has all kinds, from ungraded schools to graded consolidated schools with more than four teachers. A comparison shows that the better the school, the larger number of days will a child attend.



Wellwood Consolidated School.

Class of school.	Average number of days attended by each pupil enrolled.
1. Ungraded rural school.....	115.65
2. Ungraded consolidated.....	118.25
3. Graded elementary.....	127.53
4. Graded consolidated, 2 teachers.....	132.87
5. Graded consolidated, 3 teachers.....	139.94
6. Graded consolidated, 4 teachers.....	140.02
7. Graded consolidated, more than 4 teachers.....	149.63

This table from a special report of the Educational Department of Manitoba, shows a very striking progress in the number of days' education which a child gets throughout the year. Another calculation brings out the fact that only 53 out of every 100 children in rural schools attend for more than 100 days, but in the consolidated schools 74 out of every 100 children get more than 100 days' education per year.

Why is it that the attendance is so much better and the enrolment so much greater? There surely must be some reason why in the same three districts more children go to school when there is a large, centralized school instead of the old, three school-houses near their homes. The answer to this question is found in the

fact that consolidation involves the transportation of the children to the centralized school. By this means the children are conveyed in all weathers with the utmost safety to their health and morals, and without discomfort, which would be impossible if they had to trudge from home in bad weather.

Then again, there is a larger number of children in a consolidated school, and consequently great sociability, rivalry and stimulus to do good educational work. In other words, a consolidated school is more attractive to children, not only because the building is new and better adapted for its work, but because there is a better opportunity for play and games. Furthermore, it is possible to employ a better type of teacher and have a better system of grading children with others of similar ambitions and attainments.

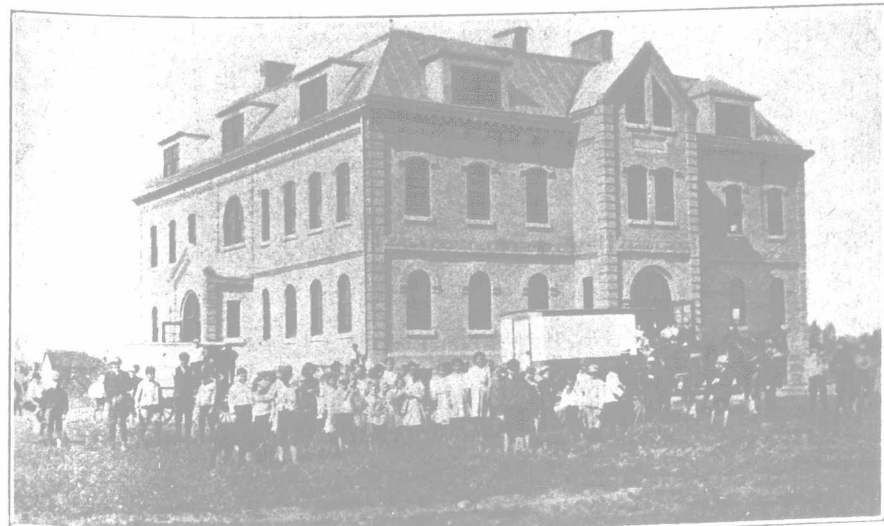
Children who are transported in vans from the more remote districts of the consolidated area, attend more regularly than the children in the village or town, who are naturally able to walk to school from their homes. Investigation has shown that in Manitoba the transported child gets from 15 to 20 days more schooling during the year than a child in the same district who lives near the school and is expected to walk. Similarly, in a consolidated district, which has been made out of several rural districts, the transported child gets 27 to 39 more days at school than the country child formerly received in the old-fashioned district school. Naturally the educational advantages due to this extra attendance are much greater than the figures would lead one to believe.

Not only do transported children enjoy better health, but they make better educational progress, because they are in a good physical condition to pay attention to their work during the day. They are not obliged to walk to school, and, therefore, do not arrive exhausted. When the school day is over, they are not faced with a long and wearisome walk homewards, and do not arrive home completely tired out. They are thus able to devote more of their energy to their studies.

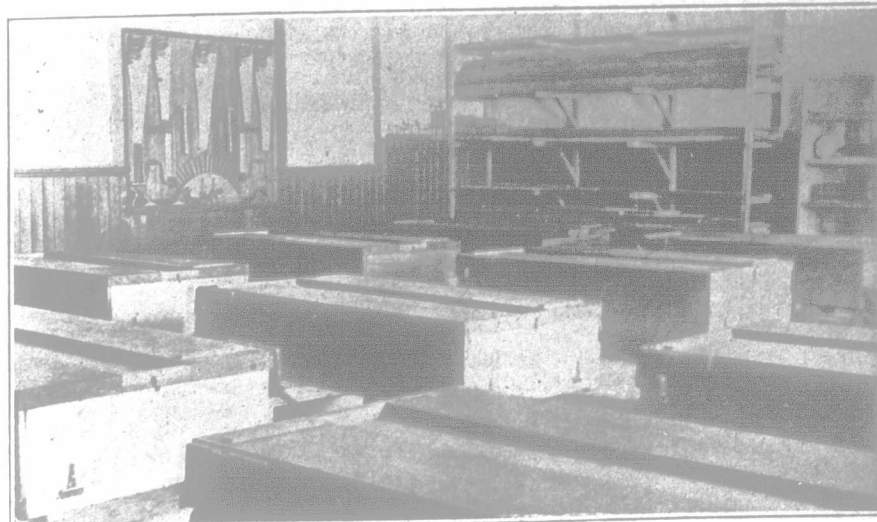
Of course, the cost of transportation adds very considerably to the expense of a consolidated school, but this expense gives a good return in the form of additional educational benefits. In Manitoba in ungraded rural schools, the cost of a pupil per annum is about \$55, and in a consolidated school the cost rises to about \$88. Consolidated schools cost more, but they are also worth more. In order to encourage better education, the Department gives an initial grant not exceeding \$500 for equipment, and an annual grant for transportation amounting to half the cost. This is generous.

In the Province of Saskatchewan consolidation is being urged as a provincial policy as a result of the survey of school conditions made by H. W. Foght, specialist in rural school practice at Washington. He found 18 consolidated schools which had been started by means of local initiative. All of them comprise very large areas ranging from 42 to 57 sections each. Village consolidated schools are in the majority, because the centralized school was built near the homes of the greatest number. But there are also consolidations in the open country where school districts have been united to form an improved consolidated school. The taxes in Saskatchewan are higher under consolidation because of the greater expense of maintenance and transportation, but the consolidated school attracts older pupils and keeps them at school longer, it increases the enrolment and shows a marked improvement in attendance. In the Cupar District School, the percentage of attendance rose from 44 per cent. in 1912 to 68 per cent. in 1914, and 86 per cent. in 1918. The school rate was 9¼ mills for the rural section and 9¾ mills for the village. Six transportation routes with four vans were necessary, because the consolidated district comprised 57 square miles of land. This tax rate is higher than is paid by many other districts, but a larger number of children are reached, there is a better attendance, high-school classes are available for children, and it is less expensive per child for each day actually in school than under the old system.

Continued on page 988.



Gilbert Plains Consolidated School and Vans.



Manual Training Room in the Virden School.

THE HORSE

Old Doc.

BY THE "HIRED MAN."

It was a dingy, old stable with uneven floor and patch-work stalls, decorated with festoons of cobwebs, that, answering to the influence of wandering air currents, swayed to and fro above the horses that munched as contentedly as though the most modern of stables were theirs. And you talk about horses! With one exception, great big, sleek fellows they were that called forth the pride-gleam in the owner's eyes, and also a little pardonable exaggeration as he extolled the numerous virtues of each horse in turn. "Yes sir! If I do say it myself take 'em all round, there ain't none better; an' that one in the end stall—though he ain't anything special to look at—there used to be a day when he hadn't an equal in these parts—eh, Doc, you old rascal, had 'em all skinned to a finish hadn't you? Get over here. Allus got your hay under your feet. Hold up will you!" Grumblingly he gathered up and shoved the hay down in the manger while the old horse, an ugly gray, snapped and cracked his teeth in apparent angry disapproval.

"Bit cranky isn't he?"
"Nothin' to hurt 'cept with strangers. When I first got him though, he was a terror an' no mistake—got him cheap on that account—talk about a wicked temper, he had it. But I'm a bit snappy myself, an' right here in this stall we settled on who'd be boss—by George! didn't he put up a fight! I carried the marks of his teeth for many a long day. Never came across anything in my life that could take so much punishment. Hammer him! I everlastingly hammered him, an' when he finally gave in I was ready to drop. He never knew how near he was to beating me. Never had no more trouble with him, an' a better horse never looked through a collar; true as steel always."

"Pretty old? Well yes; as horses go; he's getting on, twenty-seven or so, but good for a day's work yet."

"Suppose though, you don't work him much now?"

"No, that's one thing the boys are allus jawin' about; 'keepin' an' old skate like that around eatin' his head off—sell him, or knock him on the head.—That's the way they put it."

The old gentleman lapsed into silence and stared moodily at the floor.

"Guess that's the way of the world. When animal or man outlives his usefulness it's few that want him to stay."

"Maybe so, maybe so," came the gloomy reply. "But they don't understand, the boys don't. You know I didn't allus farm. Used to be a time when I had a growin' family with nothin' between them and the road but these two hands o' mine and Doc. He made dollars for me, and dollars for them while they were growin' and sleepin'. But they're growed up now, an' in their eyes he's old and ugly, and cranky, and nothin' but a nuisance. They like somethin' fat and sleek that'll prance a bit when hitched. They don't know that there was a day when Doc's crooked old legs were as straight and supple as the best, an' they laugh, when I tell em' they never drew a line over a better horse. But it doesn't matter. So long as I've a home he'll have one too; an' if he passes out before I do, there's a spot up there in the bush I've picked out, where the spring sun allus shines warm, an' there I'll bury him."

Taking a Horse's Pulse.

There are a great many people who have worked with horses all their lives and yet cannot take a horse's pulse when occasion requires. Dr. Leonard Pearson, when describing "The Examination of a Sick Horse," writes the following regarding the pulse:

The pulses may be counted and its character may be determined at any point where a large artery occupies a situation close to the skin and above a hard tissue, such as a bone, cartilage, or tendon. The most convenient place for taking the pulse of the horse is at the jaw. The external maxillary artery runs from between the jaws, around the lower border of the jawbone and up on the outside of the jawbone to the face. It is located immediately in front of the heavy muscles of the cheek. Its throb can be felt most distinctly just before it turns around the lower border of the jawbone. The balls of the first and second or of the second and third fingers should be pressed lightly on the skin over this artery when its pulsations are to be studied.

The normal pulse of the healthy horse varies in frequency as follows:

Stallion, 28 to 32 beats per minute.

Gelding, 33 to 38 beats per minute.

Mare, 34 to 40 beats per minute.

Foal 2 to 3 years old, 40 to 50 beats per minute.

Foal 6 to 12 months old, 45 to 60 beats per minute.

Foal 2 to 4 weeks old, 70 to 90 beats per minute.

The pulse is accelerated by the digestion of rich feed, by hot weather, exercise, excitement and alarm. It is slightly more rapid in the evening than it is in the morning. Well-bred horses have a slightly more rapid pulse than sluggish-cold-blooded horses. The pulse should be regular; that is, the separate beats should follow each other after intervals of equal length, and the beats should be of equal fullness or volume.

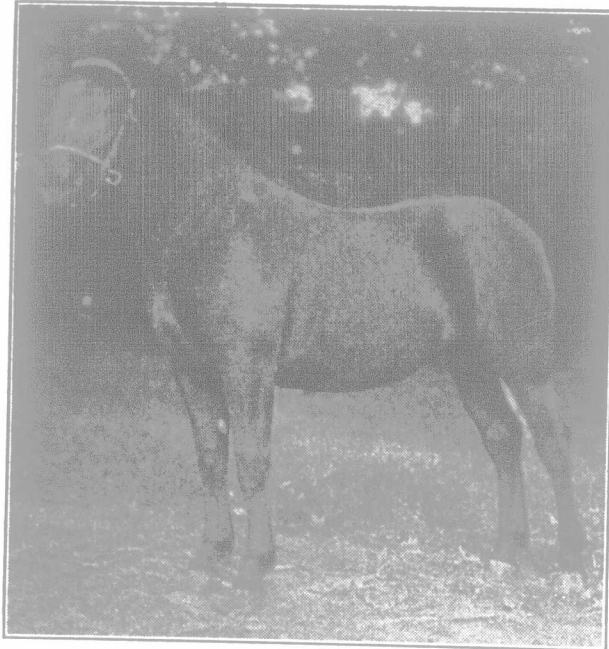
In disease, the pulse may become slower or more rapid than in health. Slowing of the pulse may be caused by old age, great exhaustion, or excessive cold. It may be due to depression of the central nervous system, as in dunniness, or be the result of the administration of drugs, such as digitalis or strophanthus.

A rapid pulse is almost always found in fever, and the more severe the infection and the weaker the heart, the more rapid is the pulse. Under these conditions, the beats may rise to 80, 90 or even 120 per minute. When the pulse is above 100 per minute the outlook for recovery is not promising, and especially if this symptom accompanies high temperature or occurs late in an infectious disease. In nearly all of the diseases of the heart and in anæmia the pulse becomes rapid.

The pulse is irregular in diseases of the heart, and especially where the valves are affected. The irregularity may consist in varying intervals between the beats or the dropping of one or more beats at regular or irregular intervals. The latter condition sometimes occurs in chronic diseases of the brain. The pulse is said to be weak, or soft, when the beats are indistinct, because little blood is forced through the artery by each contraction of the heart. This condition occurs when there is a constriction of the vessels leading from the heart, and it occurs in certain infectious and febrile diseases, and is an indication of heart weakness.

Care of the Stallion During the Breeding Season.

During May, June and July stallions are called upon for very heavy service and if they are not in proper fit their season's work is likely to be disappointing to the owners of both stallion and mares. Many grooms labor under an erroneous conception of what really constitutes fitness in a stallion. A super abundance of flesh when associated with soft, flabby muscles and a low degree of vigor is not conducive to success as measured by the number of foals left and the size, strength and vitality of the offspring. Entire horses of the draft breeds naturally carry a good percentage of flesh when in health but this is not an unailing sign of constitution and vigor which are of paramount importance to the owners of the mares with which the horses are mated. The popularity of the heavy horse also induces many grooms to add to the weight and sub-



A Canadian-bred Two-year-old Belgian Stallion.

stance of the stallions in their charge for by so doing they can improve the appearance of their horses and increase their business. They, too frequently think over much of the advertising value of flesh and forget the evil consequences which sometimes result from it. Plenty of feed is necessary but so are regular exercise in the open air and a great deal of grooming.

The stallions that are worked between seasons or allowed to run in large out-door paddocks are most easily fitted for the breeding season in the spring. Their muscles are hard and the body functions are performed in a regular and normal manner. Horses that have been housed in box stalls through the winter and spring months are likely to lack vigor, stamina and virility. It is this class that require very careful and thorough fitting for the breeding season and expert management during the months of May, June and July. Now that the preparation period is over and active service is begun particular attention in this article will be given to the horse at his stand or on the route.

FEEDING.—Tone and vigor are the chief essentials in a stallion at this season of the year and they are obtained by a proper balance of feed, exercise, grooming and a regulation of the service. It is not the number of mares a horse will cover that determines his success, but rather the number of mares he stops. One successful veterinarian in the United States gives a rather severe prescription for a horse not working right and it is: "Halve the ration and double the exercise when the stallion is not giving a vigorous, sure service."

In some of the best Ontario studs alfalfa is fed as a roughage and where it is not available bran is mixed with the grain ration to take its place. Protein and ash are prime requisites in any muscle-building, vigor-giving ration and alfalfa contains these. However, good clean mixed hay cannot be spurned this year and if properly fed will give good satisfaction. It is easier to regulate the time for when the horse remains at one stand all the time for when on the route different grades and quality of hay are found at practically all the stops.

The stallion on a route usually gets sufficient exercise and will stand fairly heavy feeding, especially of grain, but only a limited quantity of hay should be fed except at the evening meal. Most grooms prefer rolled oats and if the horse is accustomed to them at home arrangements should be made ahead at the different stands to have a supply on hand. Very few places have a supply of alfalfa hay, and bran may be fed to take its place. Both hay and grain should be of first-class quality. Grass can usually be obtained and it is considered good practice to allow the horse to pick a little each day. Water should be given before and after meals and even between meals if the horse appears thirsty. Any change in feed, travelling on a hot day after a heavy meal, together with sexual excitement tend to weaken the digestive organs and predispose them to disease. Stallions on a route are more subject to digestive troubles than those standing in their own stables.

It is a common practice and not a bad one to give a steamed feed or a bran mash on Saturday nights. A little sulphur, as a blood purifier, and a little salt petre, to keep the kidneys right, are often given but when a horse is in good health he requires no drugs to keep him so. Good feed with regular and sufficient exercise should keep the body organs functioning properly. Drugs do more harm than good to a healthy horse. Neither should drugs be used to stimulate the generative organs for while they may increase the sexual appetite they impair the powers of the horse to reproduce himself and leave foals. The reputation of a sire is never built up on the number of mares he covers; it is the number of mares he stops and the quality of his foals that decide his value.

EXERCISE AND GROOMING.—The travelling stallion usually gets about all the exercise that is good for him but heavy horses standing at their home stables should have at least five miles per day at the walk. In Scotland it is generally agreed that ten miles per day on the route and rest on Sundays is about all that is good for the stallion but much better results have been obtained when the horse travelled from stand to stand in the ordinary way than when shipped on the train. Stallion owners in this country consider that 25 to 30 miles a week is ample. In the matter of exercise as in feeding, regularity is very important.

Grooming does more than make a horse appear slick and smooth. It keeps the skin clean and the pores open which has a stimulating effect on the entire animal system. Grooming will save feed and thus relieve the digestive organs of much useless work. A lack of exercise and neglect in grooming are responsible in many cases for draft horses showing very bad around the feet and legs. The feet require attention and if the roads are dry and hot it is a good plan to poultice the feet occasionally.

Some grooms wash the stallion after every service in order to run no risk of the horse contracting any disease from a mare. Other stallion men do not take this precaution unless a mare should show signs of disorder. It is wise to examine the stallion at least once a week and wash the sheath with a weak antiseptic solution, then apply lard or vaseline.

REGULATION OF SERVICE.—The number of mares to which a stallion may be bred in a day with satisfactory results and without injury to his constitution is a moot question. It is difficult for a groom to refuse the horse on a mare that has come a distance, consequently some grooms will breed their horses to mares almost any hour of the day or night, allowing only about an hour between services. While the popularity of the horse may be indicated by the number of mares he breeds, it does not prove that a large number of mares get in foal. If stallion owners and grooms would limit the number of mares to two or three a day, and have at least three hours between services, there would be a much larger percentage of foals. Of course, the groom should use judgment. If the stallion is "stopping" the mares the number might be increased, but every horse has his limitation. It must be remembered, however, the reputation of a sire depends on the number of strong, vigorous foals he leaves, rather than on the number of mares he covers. Sometimes two and even three covers are made in one day but it is only a strong, virile horse that will stand it and such heavy service should not be long continued. A mature stallion may be safely used on 100 to 130 mares during the season; a three-year-old about sixty mares. If sixty per cent. of the mares bred get in foal, it is considered very good, although some horses get as high as eighty per cent.

The weather is often cold the fore part of the season and the mares do not conceive. If, during this time, the groom accepts a large number of mares, and they return later in the season when the milk mares are coming around it over-taxes the stallion and results in a low percentage of foals. It is often wise not to breed too many new mares the first few trips over the route.

Before turning the colts on grass it is advisable to look over their feet and trim them to the proper shape. In order to preserve the correct position of the leg the natural form of the foot must be guarded. Allowing a colt to go for any length of time with long toes may tend to unsoundness of the legs.

While steady work will not harm in-foal mares it should be remembered that there is a considerable drain on the system which entitles them extra consideration.

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LIVE STOCK.

If the clover crop is none too promising increase the acreage for corn. Silage will help save the hay next winter.

Did you ever consider how much more your herd would be worth to-day if a better sire had been used? It is never too late to make changes toward improvement.

Put the fences in repair before turning the stock out. If there is a weak spot the cattle or sheep will find it and may invade the grain or corn field at the most inopportune time.

The better bred the steers are the larger gains they make in the feed lot and are always given precedence over those of nondescript breeding on the market. Blood tells even in the feed lot.

The calves are better in the stable than on pasture rustling for a living. It may mean a little more trouble but the owner will be amply repaid by the greater thriftiness of the youngsters.

That weedy field may be given thorough cultivation during June and then sown to rape early in July. Sowing in rows permits of cultivation, less seed is required and the yield is usually better than if the rape is sown broadcast.

Live stock continues to sell high at auction across the line. Some idea of what value breeders place on pure-bred animals of quality may be gathered from the averages of the following sales. The forty-four head of Shorthorns sold by A. F. Stienmetz, of Indiana, made an average of \$810. Miss Waverley, with a heifer calf at foot by Lord Alondale, topped the sale at \$2,200. Another sale of Shorthorns in Indiana, held by the Hamilton Company averaged \$500, with the top price at \$1,700 for Imported Princess Broadhooks, a four-year-old heifer. In Minnesota the Shorthorn Breeders' Association held a consignment sale where an average of \$363 was obtained. Herefords also sell well. E. A. Ness & Son, of Iowa, disposed of their herd at a good figure. The top price was \$3,000 for Mabel Real, a daughter of Duke Real. At More & Sons' Hereford sale, fifty-one females averaged \$746, and at Marengo Farms forty-nine head averaged \$375, with the top price of \$1,150. C. D. & E. F. Caldwell, of Missouri, made an average of \$1,090 on forty-two head. Blackbird 226, a show heifer, was purchased by J. D. McGregor & Son, of Manitoba, at \$5,050, and Jacqueline, a two-year-old bull, also went to Messrs. McGregor at \$6,250. At an Illinois sale, fifty-nine Doddies averaged \$548.

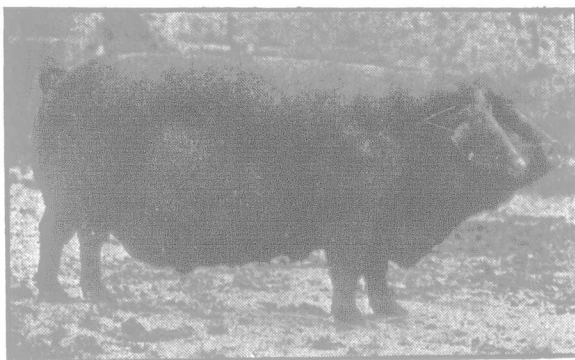
Turning the Stock to Pasture.

Owing to the cold, wet weather during the latter part of April and early in May, the turning of stock on grass has been somewhat delayed. However, even with shortage of pasture and adverse there are some herds that have been forced to derive their living, since about the first of May, from the short, innutritious grass. It is a good plan to give the grass an opportunity to get some body to it before turning the stock on it. While it may entail considerable work during the spring, and a certain amount of added expense, to feed the cattle an extra week or ten days the owner is amply repaid before fall for having given the grass a chance. When the cattle are turned out of a warm stable and left to shift for themselves in the open, the sudden change in the character of the feed and of conditions in general results in their losing weight to a certain extent. For this reason it is advisable to make the change gradually from stable feeding to grass, in order that the digestive system will not be too seriously affected. Stock which have been brought through the winter on roots and silage, both of which are of a succulent nature, are not so much affected by the change as is the animal wintered on a dry ration. Grass is nature's feed for stock and acts as a tonic on the animal which has been housed all winter. However, there are some dangers which have at times been encountered when turning the stock on pasture. Most of the troubles which do occur are preventable if a little care is taken.

It is not uncommon for an animal going out of a warm stable to contract inflammation of the lungs from exposure to the cold and dampness which are frequent occurrences in the spring. At the best, the ground is damp and the animal used to a warm, dry stall becomes thoroughly chilled. One of the first symptoms will be that the animal does not eat and stands with drooped head. Constipation may follow and the pulse quickens. The stockman may go for years without experiencing this trouble in his herd, but there is always the risk,

and the loss of one animal is paying dearly for lack of judicious treatment of the herd when changing from dry to succulent feed, or from stable to pasture conditions. Old dry grass, and the cold and wet, may cause indigestion to set in; wet dewy grass, also, may cause the trouble. If this trouble sets in careful feeding will be necessary for some time and a tonic may help right matters. One dram each of sulphate of iron, gentian, ginger and nuxvomica, given two or three times a day, will assist in toning the system. The dry grass may cause impaction of the manyplies. This is a trouble which does not always yield readily to treatment. Severe cases very often succumb and at best recovery is slow and requires a good deal of patience on the part of the attendant. When the grass is short there is more danger of the stock picking up the dry grass than there is when the grass gets to a fair length.

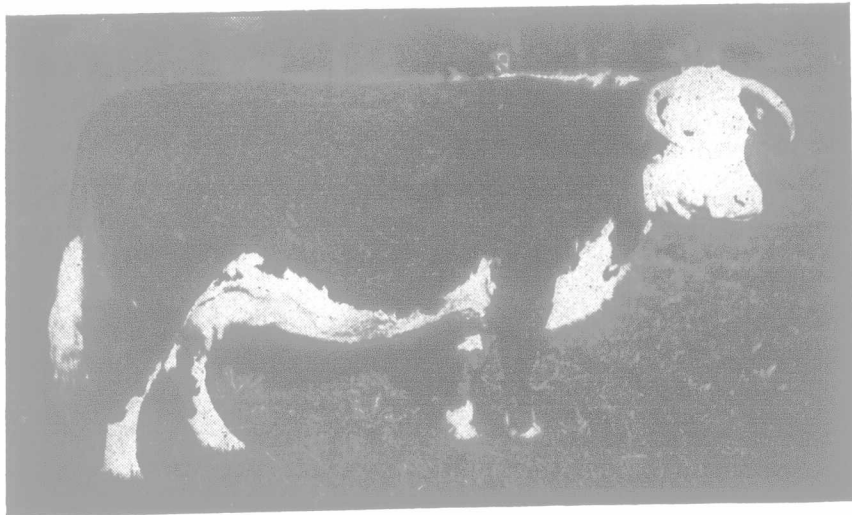
Bloating is possibly the most common ailment of ruminants. Filling up on green, succulent feed which the system has not become accustomed to gives rise to the trouble. The danger is accentuated by the feed being frosted or in a wet condition. A sudden change in feed will also cause the trouble. When bloating is noticed it is a good plan to administer from two to five ounces of oil of turpentine in a pint of raw linseed oil.



Large Black Pig.
Sold in England for 300 gs.

If the oil is not at hand, the turpentine may be mixed with whole milk. From six to eight ounces of baking soda in a pint of warm water is also effective. Some tie a stick in the animal's mouth to facilitate the escape of gas. If the drugs fail to bring relief, puncturing the rumen with the trocar and canula will permit the gas to escape. The trocar is inserted about midway between the point of the hip and the last rib. If a person has not these instruments at hand, relief has been effected by puncturing the rumen with a pen-knife and inserting a quill. After the animal has recovered it is advisable to give from one to one and a half pounds of Epsom salts and to feed lightly for a few days in order that the animal may regain its tone. Turning the cattle out in the afternoon when the grass is dry and leaving them out for only two or three hours at a time for the first few days will go a long way in preventing some of the troubles mentioned.

One cannot afford to have the animals suffer a setback due to lack of proper precaution when turning the stock on grass. Too many are so anxious to get rid of the chores that they give little thought to what the animals may suffer by being exposed to the cold and dampness, and being forced to subsist on the soft, washy grass. At no time can a stockman deliberately take risks, and more particularly so this year when prices are high and the demand for meats and breeding stock is unprecedented.



Oyster Queen.
A Hereford female which brought 1,700 guineas in a 1918 sale.

Why Pigs Cough.

There are many pathological conditions which cause pigs to cough. Some of which we will briefly discuss. *Simple catarrh* or common cold is usually caused by exposure to cold, such as lying in cold, damp places in cold weather, exposure to cold winds and rain, etc.

Symptoms.—The first noticeable symptoms are a dryness with some swelling of mucous membrane of the nostrils, and irritation which causes sneezing and coughing; this is generally followed by copious dis-

charge of a thin, acrid fluid, which irritates the margin of the nostrils, which are partially closed by the swelling, which often causes a snuffling sound; the eyes become red and watery. In most cases there are practically no constitutional symptoms, but in rare cases there is an increase in temperature, loss of appetite, and a hot, dry skin. The trouble usually attains its height in three or four days, then it begins to abate.

Treatment.—The patients should be kept comfortable at night, and allowed to run at large during the day when the weather is fine; a warm mash with a little ginger in it at night is all that is generally necessary. In cases where there is well-marked fever it is good practice to give ½ to 1 oz. Epsom salts and follow up with 5 to 10 grains nitrate of potassium twice daily. If the nostrils become very much filled, putting a lump of camphor in hot water and holding the vessel under the patient's nostrils will usually give relief.

Chronic Catarrh.—When simple catarrh continues beyond the usual period it is liable to become chronic. The mucous surface becomes weakened and sometimes ulcerated, causing a yellowish muco-purulent discharge, or the membrane may become thickened which makes breathing difficult, and often increases the force and frequency of the cough.

Treatment.—Give the patient 5 to 8 grains sulphate of iron twice daily. In cases where the nostrils become badly stuffed up they should be steamed by holding the patient's head over a vessel containing steaming water to which has been added a little carbolic acid or tincture of benzoin.

Malignant catarrh is not common, but is sometimes met with.

Symptoms.—Considerable discharge from nostrils and eyes. The eyelids become swollen and the patient seeks dark places, as the light appears to annoy it. The disease gradually extends to the back part of the mouth and throat, causing swelling of the mucous membrane resulting in a suffocating cough with difficult breathing. The discharge becomes very offensive and often mixed with blood, the nose becomes thickened and ill-shaped, there is high fever, difficult breathing and usually excessive thirst. The patient refuses food and loses flesh rapidly; the faeces are very dark and the urine high colored.

Treatment.—Administer 1 to 2 oz. castor oil and follow up with 3 to 5 drops hydrochloric acid in a little oatmeal gruel three times daily. If the patient be quite weak give 2 to 4 grains quinine in a couple of table-spoonfuls of whiskey or other stimulant 3 to 4 times daily. The head and face should be bathed with a lotion made of 1 oz. acetate of lead to a quart of water. If the cough be troublesome give 10 to 15 drops of laudanum in a dessert spoonful of water every 4 to 5 hours. When suffocation is threatened gargle the throat with a teaspoonful of tincture of iron in 3 table-spoonfuls of water. Rub the throat well with mustard mixed with hot water and then wrap with flannel cloths. It is also good practice to steam the nostrils as for chronic catarrh. If the patient does not improve in a few days it will be wise to destroy it.

Quinsy is characterized by sore throat and the appearance of a swelling on sides of the neck at the angles of the jaws and sometimes extending between them. When the swelling is great it presses upon the larynx (upper part of windpipe) causing difficult breathing and coughing.

Treatment.—Allow all the cold water the patient will drink. Put ½ dram chloride of ammonia in the drinking water three times daily. Do not attempt to drench as the throat is so sore the patient will have difficulty in swallowing. Rub the throat with mustard mixed with hot water and wrap with woolen cloths. If the breathing be difficult give 3 to 5 drops fluid extract of belladonna and 5 to 8 grains chlorate of potassium 3 times daily. Steam the nostrils 3 times daily with the steam escaping from boiling water containing a little camphor or tincture of benzoin. In severe cases it is sometimes necessary to scarify the swollen glands which are well back in the mouth. The mouth must be held open by the use of a small clevice or other contrivance and the swollen glands scarified with a sharp knife until they bleed freely. So soon as blood flows the patient must be liberated else it may suffocate.

Acute Laryngitis (Sore Throat) is caused by changes from heat to cold, or from cold quarters to one that is hot and poorly-ventilated, lying in cold, wet litter. Pigs that have become over-heated and allowed to cool quickly are liable to contract sore throat.

Symptoms.—A hard, dry cough, difficulty in swallowing, impaired appetite, and sometimes an escape of froth from the mouth. The cough may be spasmodic and distressing. There is practically no external swelling. The patient lies most of the time unless the cough be severe, when it will stand up until the spasm ceases. There is danger of suffocation, caused by sub-mucous effusion.

Treatment.—On account of the difficulty in swallowing great care must be observed in giving liquids by the mouth. If the bowels be constipated and the patient can swallow the administration of 1 to 2 oz. castor oil is good practice, but if he cannot swallow, rectal injections should be given. Ten to fifteen grains of chlorate of potassium and 3 to 6 drops of the fluid extract of belladonna should be placed well back on the tongue out of a spoon 3 or 4 times daily. The nostrils should be steamed as for quinsy. Rub the throat well with mustard mixed with hot water, and wrap with flannel cloths and keep well wrapped until the patient gets ease.

WHIP.

Common Diseases of Sheep---Causes, Symptoms, Treatment.

WHAT TO DO AND HOW TO DO IT.

The following table deals briefly, but we trust somewhat comprehensively, with the common diseases of sheep. We wish to warn those who attempt to follow directions, that great care must be taken in drenching sheep. The patient should be held upon her rump by an assistant, the bottle containing the liquid should be one with a long neck and small outlet. The operator

should hold the patient's head steady, insert the neck of the bottle into the side of the mouth and rub the roof of the mouth with it until the patient begins to work her jaws, then allow the fluid to run out of the bottle. So long as she continues to do this the fluid may be allowed to run, but so soon as she locks her jaws, the entrance of fluid into the mouth must be checked, until motion be again established. In fumigating sheep with the fumes of burning sulphur, as recommended for 'grub'

in the head, the flock should be placed in a close compartment, a pan of live coals set in a tub containing a few inches of water, and sulphur sprinkled on the coals until the compartment becomes so filled with the fumes that the operator can no longer bear it. Then a door or window should be opened to admit air. Steaming the nostrils is done by holding the head of the patient over a pot of boiling water to which has been added a little carbolic acid.

W.H.P.

Disease and Cause.	Symptoms	Treatment.
TYMPANITIS OR BLOATING. Change of food, eating too much green food, as clover or rape, especially when frozen.	Uneasiness, loss of appetite, heavy breathing; fullness of the abdomen, especially on left side.	Drench with 1 oz. oil of turpentine in 1/2 pint raw linseed oil. Repeat in 2 hours, if necessary. If bloating be excessive puncture in left side in front of point of hip.
CONSTIPATION. Dry food and want of exercise; inactive condition of digestive glands.	Dullness, slight uneasiness; cessation of rumination; loss of appetite; passage of slight amount of very hard, dry faeces, or total absence of excrement.	Give 6 or 8 oz. raw linseed oil or Epsom salts. Repeat if necessary in 12 hours, and again if necessary. In the meantime give 15 grains nux vomica 3 times daily, and give laxative food.
DIARRHOEA. Too much succulent food; food of poor quality; water of poor quality; foreign bodies in stomach or intestines.	Frequent passage of liquid or semi-liquid faeces; impaired appetite, partial or complete cessation of rumination; dullness and weakness.	Remove the cause. If due to foreign body in digestive tract give 6 oz. raw linseed oil. In 12 hours give 2 drams laudanum and 1 dram each of catechu and prepared chalk every 4 or 5 hours until diarrhoea ceases. Add to the drinking water 1/4 of its bulk of lime water. If the patient be weak at first omit the oil.
MAGGOTS IN CROUP. Collection of filth around tail and croup (usually in cases of diarrhoea) in which the maggot flies deposit their eggs.	Uneasiness and dirty hind quarters; an examination reveals maggots.	Prevention consists in keeping parts clean. Sometimes wise to clip the wool off the parts in order to prevent accumulation of filth. <i>Curative</i> —Clip off the wool and dress 3 times daily until the part heals with a 5 per cent. solution of carbolic acid.
GRUB IN HEAD. The deposit of larvæ of the gad fly in the nostrils of the sheep during fly time.	In early spring the patient becomes dull and uneasy, shakes head and sneezes, discharge from nostrils; seeks solitude; appetite and rumination impaired, becomes emaciated.	Prevention consists in smearing the lips and nostrils twice or three times weekly with coal tar, or mixing tar with their salt during fly time. Curative treatment not often effective. It consists in forcing the patients to inhale the fumes of burning sulphur.
CATARRH. Exposure to wet and cold.	Depression and loss of appetite; a watery discharge, which becomes purulent and sometimes tinged with blood, from nostrils, eyes half closed and lips sometimes gummed together with a yellow secretion; cough.	Remove to dry, comfortable, well-ventilated quarters; give 4 to 6 oz. raw linseed oil; steam nostrils; if appetite be lost drench 3 or 4 times daily with boiled flaxseed, or milk and eggs with 1 oz. whiskey, place 1 dram nitrate of potash well back on tongue 4 times daily.
WOOL-BALLS IN THE STOMACH OF LAMBS. Taking a few fibres of wool into the stomach frequently. Noticed in early lambs when the dam has not sufficient milk.	Lambs die suddenly on account of the passage from stomach becoming occluded by a ball of wool; or frequent attacks of colicky pain, and later on death.	No curative treatment is effective. Prevention consists in clipping the ewes in cases where there is danger, and feeding so as to produce sufficient milk.
APOPLEXY. High feeding, warm quarters and little exercise.	Dullness; dilation of the pupils of the eye, and the nostrils; breathing noisy and difficult; in many cases delirium.	Purge with 4 to 8 oz. raw linseed oil or Epsom salts. Place in cool dry quarters; feed lightly and see that they get sufficient exercise. In alarming cases draw 1 to 2 pints of blood from jugular vein.
TAPE-WORM. Pasturing on land where dogs affected with tape-worm have scattered the eggs in their excrements.	Patients become unthrifty; sections of the worms may be noticed in the droppings; eventually die from emaciation, and a post mortem reveals the parasite present in great numbers in the intestines.	Prevention consists in keeping sheep and lambs off infected pastures. <i>Curative</i> —Mix 7 parts new milk and 1 part of oil of turpentine; starve the patients for 12 hours; then give 1 to 3 oz. (according to size) of the mixture to each. Keep enclosed for 24 hours and burn all excrement, in which will be noticed the worms. Repeat treatment in 2 weeks, and again in 2 weeks more.
SCAB. Exposure to diseased animals, or premises in which such have been kept.	Extreme itchiness; in some cases a serum exudes from the skin; then dries and a scab forms; the wool drops out in patches.	In all cases the Department of Agriculture, Ottawa, must be notified, when a veterinary inspector will be sent to take control of the case. In the meantime it is well to dress with sheep dip and isolate the affected.
FOOT ROT. Pasturing on land on which affected sheep have been kept.	Lameness; redness of coronet, discharge, followed by ulcers. Patients will often be seen progressing on their knees.	Isolate the diseased. Remove all partially detached horn. Dress ulcers daily until proud flesh disappears with equal parts butter of antimony and tincture of myrrh; then dress 3 times daily until cured with one part carbolic acid to 20 parts sweet oil.
MAMMITIS. Exposure to cold, wounds, bruises; failure of lamb to draw milk from one or both teats.	Dullness, unwillingness to nurse; loss of appetite, an examination reveals a swollen, hardened and tender condition of the mammae and an alteration in the quality of the milk.	Remove to comfortable quarters, give 6 oz. raw linseed oil, draw the milk off frequently; bathe frequently with hot water, and after bathing rub well with hot camphorated oil.
WEAK LAMBS. Usually the result of want of sufficient nourishment and lack of exercise of the dams during gestation.	The symptoms are evident.	All that can be done is to see that the lambs get nourishment frequently. Prevention consists in keeping ewes in good condition and seeing that they get regular exercise during the whole period of gestation. A few raw roots and a little whole oats should be given during the winter months.
GOITRE IN LAMBS. Generally supposed to be due to the want of sufficient nourishment or the consumption of water containing too great a percentage of lime, during pregnancy.	A movable lump on one or each side of the throat. In some cases inability to breathe properly and general weakness.	Prevention consists in avoiding the causes where possible. <i>Curative</i> —Give the young goat attention and see that they get nourishment. Rub the lumps well daily with an ointment made of 2 drams each of iodine and iodide of potassium mixed with 2oz. vaseline.

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Foul in the Feet.

Animals frequently suffer from sore feet. This affliction is possibly more frequent in the spring and early summer than at any other season of the year, and the trouble is detrimental to the thrift in the animal. When the stock are out on soft ground, or tramp through a muddy barnyard, the soft material lodges between the clouts and may cause an irritation. One of the first symptoms is the animal being unable to place its weight on the foot, and on examining the patient the leg may be slightly swollen and fetid matter discharging from between or above the clouts. It is possible that the contributing causes to this trouble are found chiefly in the soil, as cases of this disease are more frequent when the stock are on pasture than when they are stabled. Recovery from this trouble is oftentimes slow. The animal should be placed in a dry, clean pen, or run on a dry pasture, and the affected foot and leg frequently bathed with hot water. Then hot linseed poultices should be applied. This will help to draw the soreness out of the foot. It may be necessary to lance between or above the clouts in order to allow the matter to escape. Dressing the parts with one part carbolic acid to thirty parts of sweet oil is recommended. As soon as the soreness appears, bathing with hot water and painting with iodine will very often check the trouble and make recovery more rapid. It is advisable to commence treatment as soon as the first sign of lameness is noticed. Delaying treatment not only causes suffering for the animal but prolongs the trouble. An animal suffering from foul in the foot or sore feet will very often lose in flesh, and if in milk there will be a considerable falling off in the yield.

A Paddock for the Bull.

It is not a good practice to keep the herd sire confined to a pen or boxstall. He requires exercise in order to keep up his vitality and virility. Too many herd sires stand tied in the stall, or else are quartered from one year's end to the other in a pen scarcely large enough



Posing For Their Picture.

for them to turn around in. Lack of a proper paddock, or because the bull was cross, are reasons for confining him in limited quarters. Where it is not practicable to have a paddock, the bull should be turned in the yard for exercise every day. If a small enclosure leading off the bull pen is available it will be an advantage. A tight board fence is deemed preferable to a wire or rail fence. By having the paddock adjoin the stall the bull may go in and out at his leisure. We have seen the bull given his freedom during the entire year under such an arrangement. If a door is hung on spring hinges he soon gets used to pushing his way through when wanting to get in or out of the pen. Where the herd sire shows a disposition to be destructive of the fence when allowed his freedom, he may exercise by having a chain attached to the ring in his nose and to an overhead wire which extends the length of the paddock. This will permit him to pace up and down in the open. The young bull, in particular, should be given plenty of exercise and as a rule he may be kept in bounds by an ordinary fence. The feet of the herd sire are very often neglected. They are allowed to grow out, which tends to throw the animal on his fetlock. It is well to trim the feet at least twice a year. By standing the bull on a wooden floor, the feet may be trimmed with a sharp chisel or if the bull is quiet a saw may be used.

A very good preparation to rub on sore shoulders is called "white lotion" and is made of the following ingredients:

- Acetate of lead.....1 ounce
- Sulphate of zinc.....6 drams
- Water.....1 pint

This mixture should be kept always on hand for it is good for almost any kind of wound scratches, mud fever or itchy skin.

THE FARM.

How the Tariff Works Out.

BY W. C. GOOD.

Some interesting side lights will be thrown upon the system of tariffs if we consider a few typical and, possibly, extreme cases of its application.

Suppose a potato grower outside a certain town, and a mechanic in that town are desirous of buying potatoes. What would happen if a third party intervened and allowed the potatoes to reach the town consumer only after taking a half bushel out of every bag? Would not both producer and consumer have a just grievance? Would it make it any better if the intervention came from a gardener within the town limits who wished to sell his potatoes to the aforesaid mechanic at an enhanced price? Or suppose the importation of potatoes into the said town were prohibited, for the sake of stimulating the production of potatoes within the town limits? Would not all parties lose by this restriction? The potato grower outside is a possible customer of the mechanic inside; he may be willing to buy a potato digger manufactured by the mechanic. In reality he would exchange potatoes for a potato digger, so that he could produce potatoes more cheaply. Likewise, the mechanic would exchange the digger for the potatoes, that he might manufacture diggers to better advantage. The mechanic will benefit both parties, and anything which prevents or restricts the exchange will hurt both parties; that much, I think, will be readily conceded. Now is not this essentially what happens in all cases where customs duties prevent or restrict exchange of commodities between one nation or another? Are not both nations injured? And will not both be advantaged to make exchange as free as possible?

Or take another case. We have built roads and bridges, railways and canals in order that the goods produced in one place may be easily transported to another place. What folly if there is no advantage in the easy transportation of goods! What waste! The very fact that we have gone to such trouble to improve means of communication shows that we all admit the benefits of free exchange. Why, then, impose tariff barriers to hamper exchange? Will not such conduct neutralize the benefits that we expect from good roads,

worth fighting for. We must, therefore, admit as desirable a certain amount of friendly trade. How much? Shall we draw the line at farm, township, county or provincial boundary? If not why do it at international boundary? Is it not, all things considered, the same potato problem over again? The potato grower within the town limits wants to get a bigger price for his potatoes. He either cannot or will not grow them as cheaply as his fellow grower outside, and he doesn't want to quit the business. So he puts a handicap upon the "foreign" producer and really takes it out of his fellow townsman. He doesn't care for either of the other fellows, but only for his own selfish interests. But he persuades his fellow townsman that industry should be diversified within the town limits, that he himself will buy the potato digger, and that after all the price of potatoes will be no lower if the outsider gets a chance to sell. By and by the townsman will get wise and determine that he will at all events have a try at a different policy.

News From York County.

EDITOR "THE FARMER'S ADVOCATE":

We had a very mild winter in York County with little snow, and a model spring for wheat and rye. There has been only one severe frost after growth began. I can honestly say I never saw these two crops as promising. New seeds and alsike are both very promising, and in none of the previously-mentioned crops have I seen a patchy piece.

The weather has been very unfavorable for the sowing of spring grains. It has been cold and showery, with very little fine drying weather. In some townships, where the land is sandy or on the light side, considerable seeding has been done; but in Markham, Scarboro and York Townships, where the land is heavy, there has been practically no seeding accomplished, and I am writing under date of May 6. It is quite common to be through seeding in April.

This county grows quite a large acreage of potatoes, and at picking time last fall the general opinion was that prices would be high. Owing, however, to the very open winter the supply was kept up so well that a keen demand did not develop, but during the last two weeks dealers have been growing more anxious and prices have begun to soar. One farmer sold 600 bags to a wholesale house at \$1.90 per bag. Turnips have been slow sale at from 17 to 19 cents per bushel.

Our milk shippers have been receiving \$2.50 per 8-gallon can for their milk, delivered in Toronto. Now several individuals with motor trucks have taken the contract of hauling the milk, and they also haul the farmers' hogs direct to the market, thus cutting out the middlemen. One farmer who had 19 hogs hired a truck driver and received \$19 more for his hogs after all expenses were paid than he could have got from the drover.

W. ERNEST THOMSON.

York Co., Ont.

Sweet Clover in Eastern Ontario.

EDITOR "THE FARMER'S ADVOCATE":

In the March 13 issue of "The Farmer's Advocate" there appeared an editorial, under the heading "Alfalfa versus Sweet Clover." As I am a grower of sweet clover, I should like to say a few words in its praise. I also grow about ten loads of alfalfa each year, and I have a good chance to compare the two regarding their hay and pasture qualities. Ontario is made up of all kinds of soil; in many parts deep clay loams, and in other parts sand, and then again the rock comes within a few inches of the surface. We find land like this more or less in every county in Eastern Ontario, and no doubt in many counties in the southern end. Having a farm myself, principally of sandy loam, and so near the rock in places that it will not grow good grass, in 1913 I sowed a field of sweet clover without a nurse crop. It grew up to be excellent pasture in September. The next year was very dry and I cut twelve loads of fine green hay off the field. This field, in places, is only about eight inches from the rock, and in places only about three inches. Taking the whole field on an average it grew to a height of five feet, and some of it was seven. I was too late in cutting, as I did not understand it at that time, but I cut it on July 1 and used the tedder, then stacked it up on tripods made of cedar poles about eight feet long and left it there to cure. That winter hay was scarce, and I ran this sweet clover hay through the corn blower and the cattle did splendidly on it. I often wished I had twice the amount. Ever since, I have been growing it for hay and pasture on worn-out fields that are good for nothing else, and I would advise farmers who have such land to get seed and sow it thickly. On the crust, in March, is the best time to sow; I find I get the thickest and best catch in that way. This winter a friend came to visit me, and when I was at the barn feeding the horses and cattle I fed everything sweet clover, and my friend made the remark, "everything likes sweet clover." I would not advise anyone to sow sweet clover where the land is suitable for alfalfa, that is if he wants hay, but if he wants pasture or a crop to plow under, then sow sweet clover. The first year I grew sweet clover, many of the neighbors came to see it as it was rumored all around that there was a field of sweet clover five feet high on my place. One man made the remark that I would run out my land growing such a crop as that. I told him this field was too poor to grow good grass, but I think he doubted my words. I expect to keep on growing sweet clover as I sowed nine acres last spring, on the crust in March, and had an excellent stand in

the fall. Last summer I left a strip for seed, and I cut it with the binder early in the morning to prevent scattering. I had four good loads of sheaves from which I cleaned up 500 pounds of seed, and four sacks of unhulled seed, also a few sacks of screenings in which there is still a quantity of good seed. Last year hay was very scarce and dear, so I fed my horses all winter on oats and sweet clover, and I don't see any difference in them.

Now, regarding alfalfa, I grow it for the sheep. It is more easily cured than the sweet clover, rain will not spoil it as badly, and when you get a good stand of alfalfa it is there from year to year. I grow the Canadian variegated and always take two cuts off, and there is still some pasture for the pigs in the fall. A great many farmers fail in their attempt to grow alfalfa. I never have had any trouble in getting a catch when I followed instructions, such as the agricultural papers carry. There are too many farmers who do not pay attention to the experiences of other men who have tried alfalfa and have succeeded.

Lanark Co., Ont.

JAS. E. MANSON.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

Plowing Competitions in Waterloo County.

EDITOR "THE FARMER'S ADVOCATE":

The idea of the plowing competition in this county was first originated by the Ayr Farmers' Club. In the spring of 1916, they set aside a small sum of money to be given in prizes for the best plowed five acres on the home farm. The Committee which was appointed to handle this competition succeeded in securing a goodly number of entries and in developing keen interest. Two retired farmers were appointed to act as judges.

The following year this Competition was handed over to the Ayr Junior Farmers' Association. They appointed two Captains who chose sides from the members. Thirty young men took part in the contest. Each man's plowing was scored and the results for each side totalled. The example set by the Ayr Club was followed by two more clubs last fall, the Central Dumfries Club and the Preston Junior Farmers. The Dumfries men had fifteen entries and the Preston Junior Farmers' had nine entries.

This winter our Board of Agriculture has been encouraging competitions amongst the different farmers' clubs, and already several clubs have made plans to undertake a similar competition.

The idea of this competition is not to replace the Plowing Match, but rather to act as a supplement to it, and to encourage good general farm work on the home farm. The following gives the rules and regulations as drawn up by the Committee from the Waterloo County Board of Agriculture.

Rules and Regulations for Plowing Competition.

1. This competition shall be known as the..... Plowing Competition.
2. All work in this competition must be judged as best general farm work.
3. All men who have won first prize in a man's class at a recognized plowing match are debarred as professionals, or:
Professional men may be allowed to plow but must work under a handicap to be decided by the organization running this competition. This rule is entirely optional.
4. Each man must have, at least, one strike and one finish.
5. There shall be one class only, and contestant may plow any kind of land with any kind of plow except a high-cut plow, and must plow, at least, five acres.
6. Plowing must be done on the home farm or the farm where the contestant is working.
7. Entries close October 1, and plowing to be ready for judging on November 1, and contestants should arrange to have their land plowed as near the time of judging as possible.
8. All contestants must be members of the club or working for a club member.
9. The decision will be based on the following score-card:

General appearance.....	25 points.
Straightness and evenness.....	25 "
Packing and jointing.....	20 "
Crown.....	15 "
Finish.....	15 "
Total.....	100 "
Waterloo Co., Ont.	J. S. KNAPP.

AUTOMOBILES, FARM MOTORS, FARM MACHINERY.

Size of Pulley.

What size pulleys would I have to use on a shaft to run my cream separator at 45 revolutions per minute? The separator has a 12-inch pulley. My engine turns 300 per minute and has a 14-inch pulley. C. H.

Ans.—The size of pulleys required on the shaft depends upon the speed of the shaft. If shaft runs 175

R. P. M. the large pulley or the one belted to the engine would need to be 24 inches in diameter and the small one 3 inches. If the shaft runs 150 R. P. M., then the large one would have to be 28 inches and the small one 3½ inches. Either speeds would be satisfactory.

R. R. G.

The Water System.

Every automobile has what are commonly known as three distinct "lines"—the electric line, the gas line, and the water line. It is with the last named that we intend to deal in this article. It must be plain to everyone that because of the tremendous heat generated in the combustion chambers, an engine must have some method for counteracting the very high temperatures that are of necessity attained. The vast majority of automobiles use water which is poured in to the mechanism through an opening at the front of the car. This water runs through jackets around the combustion chambers, and being cooled by circulation through the radiator, tends to keep at a minimum the heat taken into the metal of the motor from the explosions of gas.

In the winter time there is always the danger that the water will freeze when the motor is not in operation. Motorists prevent such an occurrence, with all its consequent damage, by putting a solution of alcohol and glycerine into the water. There are also a large number of patent liquids on the market. When the warm weather arrives, the alcohol, or any substances that may have been used, have a tendency to heat up rapidly and to lose their faculty for cooling the engine. It is, therefore, necessary that you should drain out your anti-freeze solution just as soon as you are assured that the cool weather is over in your district. The best method of draining and cleansing the cooling system is to start the motor and then open up the outlet. By removing the radiator cap and providing a continuous supply of water through a hose to the circulating channels of the motor you will be able to cleanse the water line of every particle of foreign matter that may have accumulated, and you will also effectively remove the last drop of anti-freeze. Having performed this work, fill the radiator again with clean water and you are now ready for summer driving. When it is possible, use soft water as some grades of hard water contain limestone and other material in solution that frequently collects upon the pipes and cokes them to disadvantage.

There are two cooling methods, one, the thermosiphon, and the other the pump type. In the former, the water when heated rises, as nature intended, to the top of the motor, falls through the radiator, which is cooled by a circulating fan, and descends again in continuous order as heat in the motor is developed. The water pump consists of an impeller driven by the engine. As the water falls through the radiator it is forced by the pump into the cylinders of the engine. In cars having this installation the cooling is positive and can be carried on even though the supply of water becomes low through leakage or evaporation. Sometimes the housing of the water pump becomes loose and consequently it should be watched at all times and kept tightened, or the packing replaced. The necessity for this must be apparent, because if the water runs away unknown to the driver he will sooner or later be stalled through the motor overheating. The fan at the back of the radiator seldom causes any trouble, but it is well to try the belt at frequent intervals to see that it is tight enough to compel circulation. Most fan spindles have a grease cup attachment for lubrication. Give this an occasional inspection. There is a point that we should have mentioned in the beginning of this article that is of more than minor importance. If your radiator becomes scaled or covered with sediment, run through it a solution of common soda. The operation of the motor will, of course, circulate the solution until the object you are aiming at has been achieved. Sometimes a small leak develops in the radiator through a slight collision. Ordinary soap often closes the opening until an effective job can be performed. There are also a number of radiator compounds on the market that serve the purpose of temporary repair.

The spring season has been so wet that squeaks have developed in a great many cars. One must bear in mind that the running gear of an automobile is practically bathed in water continuously during rainy weather. If the roads are wet, such a condition makes it almost impossible to prevent any lubricant from being washed away. The average automobile spring consists of thin leaves of steel of graduated lengths, laid one on top of the other. The ends of the longest leaf are attached to the frame, by what are known as shackle bolts. A quick economical way to oil the springs is to squirt them with old oil taken from your crank case. If, however, a complete job of lubrication is desired, take the leaves apart, buff them, put on oil and grease carefully and reassemble the springs. Some motorists bind their springs with electric-tape, in order that the lubricant cannot escape. Agto.

The usefulness of an electric flashlight battery can be prolonged by having one or two bulbs of less capacity to replace the original bulb when the battery strength decreases. In this way the battery life can be almost doubled and the light will remain nearly as strong and bright. One owner of a 3.8 volt flashlight replaces the bulb with a 2.9 volt bulb when the battery gets too weak to meet the normal requirement, and when it fails with a 2.9 volt bulb he uses one of 1.5 volt capacity.

The tractor is not an end but a means. It does not do the plowing; it merely pulls the plows in fields of fixed sizes. Moreover it must be adapted to the various

operations in which it can be used economically; otherwise it will represent a dead investment for the farmer. The tractor made for farm use is a farm machine, which must be worked in connection with other farm machines in a variety of operations on different sized farms. The engineer who fails to consider it in that light is merely wasting his time.

Watch the lubrication on your automobile and tractor if you would avoid costs of repairs. It is cheaper to buy oil than to buy machinery. Use only lubricants of best quality. The manufacturer will advise you which brand of oil is best for the particular machine. Keep oils and greases protected from grit and dust. See that all oil containers are cleaned before using. Carefully follow oiling chart in lubricating the machine. A small amount of oil at regular intervals rather than an excess of oil occasionally is best for all machinery.

THE DAIRY.

Bulky rations for the heifer tends to increase the size and capacity and favorably influences the digestion of the mature cow.

Build a calf paddock near the barn and during the summer have the calves out at night but stable them during the day when flies are troublesome.

If desirous of having the females with size and capacity at maturity do not breed at too early an age. Having a heifer freshen at from thirty to thirty-four months of age gives her a chance to develop.

During the month of April, four mature Ayrshires qualified in the R. O. P., with White Lily leading with 10,116 lbs. of 3.8 per cent. milk; Tanglewyld Bluebell was first in the four-year-old class with 11,076 lbs. of milk testing 3.99. Four three-year-old Ayrshires were headed by Lady Spot of Craigielea. Her production was 9,334 lbs. of milk testing 4.1. Seven two-year-old heifers qualified, with Burnside Gay Lass in the lead. In 365 days she produced 8,420 lbs. milk testing 4.43 per cent.

During the first half of April, 76 Holstein cows and heifers were received and accepted for entry in the Record of Merit. Bertha Hengerveld Meroena was first in the mature class of twenty. Her seven-day record was 696.2 lbs. of milk. In twenty-one days she gave 1,968.9 lbs. Only three senior four-year-olds qualified, with Queen Bos De Kol in the lead. Eight junior four-year-olds qualified, with Pontiac Ormsby De Kol at the head of the class. Her milk record was 591.7 lbs. Colantha Pietertje Banks, a senior three-year-old, yielded 431.8 lbs. milk. She was first in the class of eleven. Het Loo Clothilde Korndyke was first in the junior three-year-old class, with 456.6 lbs. milk. Hill-Crest Ormsby Sadie headed the senior two-year-old class with 408 lbs. of milk, while in the class of eighteen junior two-year-olds Pietertje Helena Pontiac stood at the top with 415.8 lbs. milk.

What is the Milk Yield From Your Herd?

When one reads of cows giving over 100 pounds of milk per day, and 30,000 pounds in a year, the uninitiated take it for granted that all cows do the same and that dairymen are coining money. These high-record cows are the exception; in fact, they are rare specimens of the bovine family. Investigation would show that the average cow for the Dominion does not average much over 4,000 pounds of milk in a year. When these extra good cows are taken out, what is the average yield of the poorest cows? In a recent report to the Ontario Department of Agriculture, G. B. Curran, District Representative of an Eastern County, mentions having examined the books of the best cheese factory in the district, which has 102 patrons. To his surprise he found that the average yield per cow for the cheese-factory season was 3,517 pounds of milk, and the cash returns to the dairyman \$65. The highest returns per cow for the herd was \$85, and only five herds of the one hundred and two returned more than \$75 per cow. The cheese-factory season lasts from about the first of May till the middle of November. The price of the calf and the milk which the cow yields outside the factory season would have to be credited to her. However, in the district in which Mr. Curran made his investigation the most of the cows freshen in the spring and dry soon after the cheese factories close. Mr. Curran doubts if the price of the calf and the returns from the winter milk would more than half pay for the winter keep of the cow. Undoubtedly, there are many districts where the returns are no better if as good as those above mentioned. A cow giving only about 4,000 pounds of milk in a year does not pay for her keep at the present price of feed, unless the milk is sold on an exceptionally high market. Dairying is no bonanza, but there is coupled with it a lot of hard work and work which must be done three hundred and sixty-five days in the year. Improving the quality of the cows by selection would help to raise the net revenue to the dairyman. It is possible to raise the average production per cow in the herd a thousand pounds in the next decade. It can be done by weeding out the poor cows and using a sire from high-producing stock. The cow giving 8,000 pounds of milk in a year requires little more attention and labor than the cow giving 4,000 pounds, but yet the returns would be doubled. Why not aim at the 8,000 and 10,000-pound cow?

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There are ancestors w of them were more profita however, too calves to be selected in make a prac then raise th and using a the average the herd wil siderably inc times of th cannot affor his business It is certain after raising three years o that she is This may ha regular test selecting are much less f the herd wh is made a breeding o the producti vidual in the It is esse calf gets the colostrum, f as this is pa to its requ as a physic the digestiv calf is to b the sooner it the cow the to teach it it can then be patience and but it will n with its clea udder is cak for a time, as There is ver milk or to va that a calf's excessive fee a large calf s of milk per calf considera of milk may a day may be It is a safe p as this will k than if the ca ing or not f may so upset the calf. So ting a lio feeding wou unthriftiness cause. Indig unthriftiness milk will in r changing fro be done wh should be dor of the whole creasing the calf is on ski

Get the possible. If mence picki

Raising the Calves.

From the way some calves are raised it is evident that the owners do not realize that their business and the future of the live-stock industry depend to no slight extent upon the careful rearing of the calves. The stunted calf seldom grows into a profitable animal and stunting is very often due to too niggardly a policy in feeding. In districts where the cream is sold and the skim-milk retained for feeding live stock the calves are much better raised than in sections where whole milk is disposed of. The calf needs whole milk for a period of two or three weeks at least, and the change to skim-milk should be made gradually. Care should also be taken that the milk is fed at about blood temperature and given in clean receptacles. Skim-milk contains bone and muscle-forming material; in fact, it contains practically all the nutrients essential to the growth of the calf. The fat only is removed and it is quite possible to substitute this with flax meal or cornmeal, or other substances comparatively rich in fat. Dairy-bred calves are nearly always raised by hand, as the milk from the dairy cow has such a high value it usually receives first consideration. The calf is weaned off whole milk as soon as possible and in many cases much too soon for the interests of the dairyman, especially if he looks to the future. The stockman sees in his heifer calf the possibilities of a cow with which to build up his herd, and, if proper care is taken in the selection of a herd sire, these heifer calves raised should be heavier producers and consequently more profitable than their dams. The stockman who pays little or no attention to his calves does not improve his herd very fast; in fact, there is a tendency toward retrogression.

There are some selling whole milk who consider that it costs too much to raise a cow and make a practice of buying cows that are fresh, or due to freshen, planning to dispose of them at the end of the lactation. This is not good business for the industry.

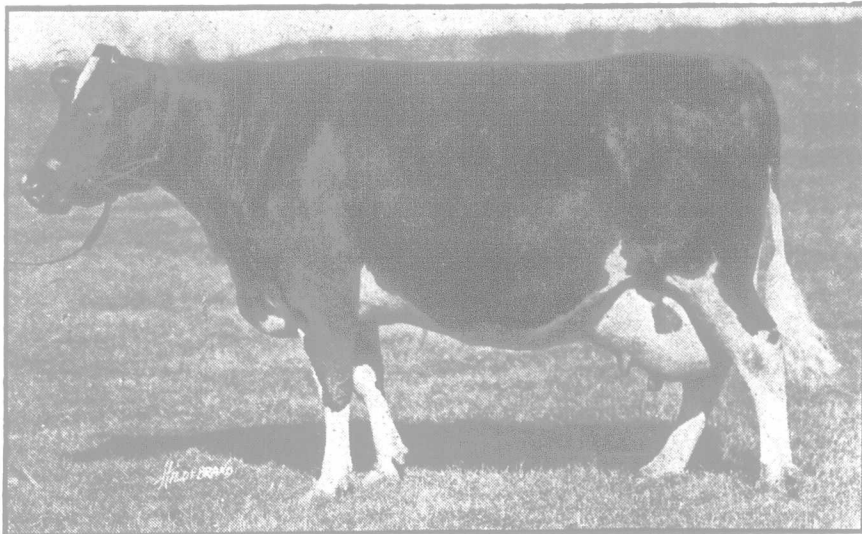
There are calves that are not worth raising. Their ancestors were mediocre and little could be expected of them were they raised; consequently it is undoubtedly more profitable to dispose of such for veal. There are, however, too many right good calves slaughtered, and calves to be raised for breeding purposes are too often selected in a haphazard way. Every dairyman should make a practice of weighing and testing the milk, and then raise the calves from the best cows. By so doing, and using a well-bred sire, the average production of the herd will soon be considerably increased. In these times of high prices one cannot afford to carry on his business by guess-work. It is certainly disappointing after raising a heifer up to three years of age to discover that she is a poor milker. This may happen even where regular testing and careful selecting are done, but it is much less frequent than in the herd where no attempt is made at constructive breeding or in ascertaining the production of each individual in the herd.

It is essential that the calf gets the first milk, or colostrum, from its dam, as this is particularly suited to its requirements acting as a physic and stimulating the digestive organs. If the calf is to be raised by hand, the sooner it is taken from the cow the easier it will be to teach it to drink. If the calf nurses once or twice it can then be fed from the pail. It may require a little patience and the use of the finger to teach it to drink, but it will not be nearly so stubborn as if it remained with its dam for a week or more. When the cow's udder is caked it is a good plan to leave the calf with her for a time, as it will help reduce the abnormal condition. There is very often a tendency to feed the calf too much milk or to vary the quantities. It should be remembered that a calf's stomach is not particularly large and that excessive feed results in scours and indigestion. Even a large calf should not be fed over ten or eleven pounds of milk per day for the first two weeks, and a small calf considerably less. As the calf gets older the amount of milk may be increased, and as high as twenty pounds a day may be fed when the calf is four or five weeks old. It is a safe practice to keep the calf a little bit hungry, as this will keep the digestive system in better condition than if the calf is permitted to gorge itself. Over-feeding or not feeding the milk at a uniform temperature may so upset the digestive organs as to result in stunting the calf. Some calves do not thrive even when getting a liberal quantity of skim-milk, and heavier feeding would only tend to increase the trouble. When unthriftiness prevails it is well to endeavor to locate the cause. Indigestion or weak digestion will result in unthriftiness. Adding a little lime-water to the skim-milk will in many cases bring the desired results. When changing from the whole milk to skim-milk, which may be done when the calf is two or three weeks old, it should be done gradually, displacing but a small quantity of the whole milk with skim-milk at each feed and increasing the amount until at the end of ten days the calf is on skim-milk entirely.

Get the calf to pick at grain or clover as soon as possible. If it is running with older calves it may commence picking at these feeds when but three or four

weeks old. Once it commences to eat it will look for its meal regularly and growth is more rapid. When a calf is six weeks old it may eat a half pound of grain, or a little more, a day. This quantity can be gradually increased. Do not allow the feeds to become stale or sour in the manger, as this will do more than anything else to turn the calf against its feed. Even when the calf is getting a liberal quantity of milk this does not entirely satisfy its thirst, thus clean water should be accessible to it at all times. Salt is also necessary if the calf is eating grain and hay.

When whole milk is sold the dairyman is desirous of finding something to supplement the milk. Where skim-milk is used a mixture of 5 pounds oats, 3 pounds bran, 1 pound cornmeal and 1 pound linseed meal, does very well, or a mixture of 20 pounds cornmeal, 20 pounds oatmeal, 20 pounds oil-cake meal, 10 pounds blood meal and 5 pounds bone meal is very good. A calf will take around a half pound a day after it commences to eat, and this should be gradually increased. Equal parts of whole oats and wheat bran is also popular with many dairymen. When the calf is a couple of months old it will pick at silage and roots. The roots, as a rule, are preferred to the silage. The sweetest locks of clover or alfalfa hay should be saved for the calves. The Pennsylvania Experiment Station has found the following mixture a fair substitute for skim-milk: wheat flour 30 pounds, coconut meal, 25 pounds, nutrium or a soluble skim-milk powder 20 pounds, oil meal 10 pounds and dried blood 2 pounds. This material was mixed in warm water at the rate of about one pound of meal to six of water. It was found that for the first few weeks two pounds of the mixture per day was sufficient for each calf. Of course, this substitute did not raise quite as thrifty calves as did the skim-milk. Some of the calf meals on the market are used with good results. Their nutritive ratio is made to correspond with that of milk as nearly as possible. Some real thrifty calves have been raised on the calf meals, without the aid of milk after the calf was a couple of weeks old. These meals are usually mixed in cold water to the consistency of a paste and then cooked by pouring scalding water over it. If there is a little skim-milk or a dipper of whole milk added to the calf-meal drink so much the better. The use of grain mixtures as substitutes for milk must not be despised. However, where milk is available the calves will do considerably better.



Jemima Johanna of Riverside

This cow has just completed a year in the R.O.P. with 30,373 lbs. milk and 1,024 lbs. butter fat which makes her a champion cow. She is owned by W. C. Houck, Proprietor of Llenroc Stock Farm, Chippawa, Ontario.

Some patrons of cheese factories feed their calves on whey with varying results. Some are able to bring their calves on very well, while others are not successful. The whey contains a small quantity of the fat of milk, most of the sugar, and ash, but is lacking in the proteins, a substance essential to the development of bone and muscle. When feeding whey it is advisable to use grains which are high in protein, in order to balance up the feed. On the whole, whey does not give particularly good satisfaction.

The thrift of the calf will depend to a certain extent on the care and attention on which the attendant gives it, as well as on the ration it is fed. The calves need clean, dry, well-ventilated quarters, and if a dry sunny yard is available for them to exercise in, so much the better. Do not turn the two or three-months-old calves out with the yearlings and two-year-olds if you want the calves to do well. It is unreasonable to expect that the youngsters can fight for their living against their fellows. While the fall calves may do all right out on pasture the spring calves are better kept in the stable during the summer, and given every attention possible. Grass can be cut for them, or they may be allowed in a paddock where shade is provided and where they can get into the stable for protection against flies. Some make the practice of turning the calves out at night during the summer and keeping them in in the daytime. Keep the calves growing.

Separate Pens for Calves.

For a number of years I raised my calves in one large pen, but the past year or two I have raised them in separate pens and find that they are thrifter and grow faster. When the calves are in a large pen there is always a tendency for them to suck each other after they have been fed their milk. I believe that this has a

detrimental effect on them, and for this reason it pays to have separate pens. If it is impossible to have separate pens, plan on feeding a dish of dry feed, such as oat chop or bran, as soon as they are fed their milk.

Northumberland Co., Ontario.

L. R.

POULTRY.

Caring for the Young Chicks.

Reports that have come to the Central Experimental Farm, Ottawa, indicate that this year's hatches are not as good as was expected as a result of the mild winter. If anything the hatches this year are not panning out as well as those of a year ago and reports warrant the opinion that whereas a larger production than last year was expected it is possible that production will not be any greater if as great. It seems to be equally unfavorable this year, whether hens or artificial methods are used for incubation.

Such, at least, was the information given a representative of "The Farmer's Advocate" a few days ago, by F. C. Elford, Dominion Poultry Husbandman. We were told that the reason for the apparent decrease in hatchability is hard to arrive at. It may be, said Mr. Elford, that because the hens have laid so much heavier than a year ago that the fertility of the eggs is weakened and the hatchability therefore affected. If such is the case it goes to prove the view long held by the Dominion Experimental Farms that Canadian winters are not detrimental to the poultry business. At this point Mr. Elford interjected a caution which he asked us to pass on to readers of "The Farmer's Advocate," namely, that people who are not getting good hatches and who think they must have a certain number of chicks will not be justified in hatching too late in the season in order to secure them. Hatching experiments conducted for several years in order to determine the most profitable and best time to bring out hatches, have shown that to secure good, reliable chicks and satisfactory winter egg yields, the middle of April is the best for the heavier breeds and two weeks later for the lighter breeds. "It is impossible to recognize too much," said Mr. Elford, "the fact that June chicks for heavy breeds and late June for light breeds is not satisfactory. Late hatches are the cause of more money losses in every way than any other factor in the poultry business in Canada."

Brooding.

"When hens have been used for brooding and good results have been secured it is better to stay with the hen, especially if no more than 75 to 100 chicks are required," we were told. "In such a case, after the chicks have hatched let the hen remain quietly on the nest until the chicks get so lively that they insist on leaving it, then remove the hen with her brood to a coop that has been prepared for her. Early in the season, before the ground is dry use bottoms in the coops, in which case chaff or sand should be used to cover the floor. Later in the season the coops should be placed right on the ground providing the location is dry and each day moved the width of themselves; this saves a lot of work and at the same time ensures clean wholesome conditions. All coops should be thoroughly disinfected before use each season, and also between broods. The old A-shaped coop has much to recommend it. It is simple in construction and may be made from odds and ends of lumber that might otherwise be wasted."

With regard to artificial brooding, if more than 75 or 100 chicks are wanted early and if uniformity is a consideration, both artificial incubation and brooding are advantageous. "One big difficulty in brooding," said the Dominion Poultry Husbandman, "is the lack of sufficient heat. As taken from the incubator and put into the brooder, the heat under the hover should be from 95 to 100 degrees Fahrenheit and the temperature should not go below this level until the chicks are three or four weeks old. This, of course, depends upon the time of year but it is better to have too much heat than too little and it is difficult to emphasize this point too much. So long as the chicks can get out to cooler air if they want to, extra heat can do no harm. A chill mean the loss of the whole brood since it may develop into pneumonia and the chicks die in from one to three weeks. Such results are often laid at the door of White Diarrhoea when frequently, they are the result of downright carelessness."

Kind of Brooder.

"As to the best kind of brooder, for artificial brooding, the lamp brooder for 50 chicks is being gradually displaced by the brooder stove accommodating several hundred. For all large flocks nothing is quite so convenient and economical as the coal burning brooder stove. Lamps have been discarded at all the Dominion Experimental Farms. We have never been able to use them successfully in the West because of the wind. Where electricity is available, the electric hover to accommodate 100 chicks is convenient and satisfactory except for the cost of the current. One thing is of very great importance in all artificial brooding. Cleanliness is essential. Filth breeds disease and this applies to general cleanliness as well as to feeding."

Feeding Young Chicks.

"As far as feeding the young chicks is concerned, a mistake, even that a great many experienced poultry men make, is the feeding of the chicks too soon. When a chick leaves the shell it comes into the world with a sufficient supply of nourishment, in the form of egg yolk, to last it for several days. Therefore what a chick requires at that state of its existence is not feed, but warmth and rest. It is not wise to be dogmatic about feeding, as, given strong healthy chicks many systems

HORTICULTURE.

Insects Attack Cane Fruits.

will prove successful, but the following may be used as a guide. When the chicks are removed to their brooding quarters there should be some coarse sand or fine chick grit scattered where they can have free access to it. They should then be left until they show positive signs of hunger, which would be between two and three days after hatching. They may then be given some bread crumbs that have been very slightly moistened with milk; this may be scattered on clean sand or chick grit. If being brooded by a hen she will see that no feed is allowed to lie around, but if in a brooder, what the chicks do not pick up in a few minutes should be removed, as nothing in feeding causes so much trouble as leaving feed of that nature around until it is sour.

"The chicks should be fed five times a day. The following system may be adopted or altered to suit conditions: first feed, bread crumbs, moistened with milk; second, finely cracked mixed grains; third, rolled oats; fourth, moistened bread crumbs; fifth, finely-cracked mixed grains. If too early to get the chicks out on to the grass at once, green feed should be supplied in the form of young lettuce, sprouted grains, or any other tender succulent feed that is acceptable. After the chicks are ten days or two weeks old, coarser feeds may be allowed. All changes should be made gradually. The infertile eggs may be boiled and mixed with mash feed and the bread and milk discontinued. Hoppers in which is placed cracked grains and dry mash or rolled oats should be put where the chicks can have free access to them. As soon as they become accustomed to the hoppers, the hand feeding may be reduced to the mash feeds and if the chicks are on range it will be found that after a time they will get careless about coming when called; it may then be dropped and dependence placed entirely on the hopper feeding. Place grit, water, also, if possible, a dish of sour milk where the chicks will have free access to it. Nothing provides animal food in better form than does milk; the chicks like it and thrive on it.

Suggestion for Record of Performance.

Readers will remember that at the Dominion Poultry Conference held in Ottawa in February, a resolution was passed favoring the introduction of Record of Performance work with poultry in a manner more or less similar to that followed with respect to dairy cattle. A committee was appointed to develop a plan of carrying on this work, and we give herewith one suggestion that has been made and will be passed upon by the committee as a whole. Readers who are interested in this work are invited to offer any suggestions they may care to make.

"FLOCK INSPECTION.—The inspection and culling of flocks with a view to eliminate the non-producers and birds unsuited for breeding, to establish a better type of bred-to-lay birds which will be known as "Approved Flocks" among the general producers and from which eggs and breeders may be produced. This work to be under the direction of the Provincial Department of Agriculture.

"BREEDING STATIONS.—The establishment of breeding flocks among representative farmers or poultry keepers for the purpose of demonstrating the advantage of pure breeds and bred-to-lay strains, and for the producing of suitable eggs and breeding stock for sale to the surrounding section. These breeding stations to be conducted by the Provincial Department of Agriculture.

"RECORD OF PERFORMANCE A.—The conducting of tests under government supervision and on government or neutral ground, for the purpose of obtaining an official record by actual trap-nest results. This official test may be conducted by either Federal or Provincial Governments or colleges and may be secured by

(1) Laying contests as generally understood or,

(2) Laying 'tests' as distinguished from 'contests.'

The 'test' being a means to obtain an official record and is not a competition. One bird or more may be entered. This will be under the supervision and inspection of the Dominion Department of Agriculture.

"RECORD OF PERFORMANCE B.—This is the inspection of trap-nested flocks somewhat similar to that conducted in the Dairy Branch. It will be open to any breeder who wishes to enter his flock and will be under the supervision and inspection of the Dominion Department of Agriculture."

A Working Flock.

EDITOR "THE FARMER'S ADVOCATE":

We have fifty-five Plymouth Rock hens which were hatched in May 1918. They commenced laying in December and have certainly paid their way. We have not kept strict account of the feed which they consumed, but we know that if the feed and labor were charged against the hens the net returns from eggs would be gratifying. We did not keep account of the eggs used in the family of five, but the following is the number of eggs sold up to the end of April from the fifty-five pullets: December, 18 dozen; January, 53 dozen; February, 84 dozen; March, 97 dozen; April, 35 dozen, or a total of 347 dozen for the five months. The first week in May they are still laying an average of forty eggs a day.

DAVID GENTLEMAN,

Hamilton Co., Ontario.

There are many gardens throughout the country wherein cane fruits are found in more or less considerable quantities, but too often the foliage is riddled by insects or the plants are in other ways so injured as to be almost non-productive. A little attention at the right time will protect the canes and make a crop of fruit possible. The following information regarding the most destructive insects and their control is gleaned from Ontario bulletins and we are passing it on at this time in order that thousands of patches may be saved from the depredations of numerous destructive pests.

THE IMPORTED CURRANT WORM OR CURRANT SAWFLY.—The most common and destructive insect attacking both currants and gooseberries in Ontario is the imported currant worm, or, as it is commonly called, the currant sawfly. The larvæ are greenish caterpillars almost three-quarters of an inch long when full grown and with black heads and many black spots over the body. The adults are four-winged insects known as sawflies. The female is about the size of a house fly and has a black head and conspicuous honey-colored body; the male is smaller and blackish. Adults appear soon after the leaves come out and lay eggs in chains along the veins of the underside of the leaves. These soon hatch and the young larvæ feed on the foliage, often being most numerous in the central parts of the plants, and doing much damage there before attacking the outer leaves. The foliage in many a plantation is almost entirely destroyed, only the main veins and the fruits being left. There are two broods in a year, the larvæ of the second appearing about the time the currants are ripening. When the larvæ are full grown they enter the ground and make earthen cocoons. The winter is spent in there.

is that it is somewhat expensive. It should be used with lime-sulphur as soon as the eggs have hatched, that is, a day or two before the buds burst. This will destroy most of the insects and, if another application combined with the lime-sulphur or Bordeaux mixture is given just before the blossoms come out, almost every aphid can be destroyed. Of course, in the latter case the spray must be shot up from beneath so that the under surfaces may be covered. The lime-sulphur or Bordeaux is added with the object of controlling diseases. Kerosene emulsion or whaleoil soap, 1 pound in 6 gallons of water, may be used instead of black leaf 40, but should not be combined with lime-sulphur. It is almost useless to spray after the leaves have become curled because it is then impossible to hit all or nearly all the aphids.

RASPBERRY SAWFLY.—The damage is done by the larvæ of the fly, green in color, eating the tender green portions of the leaves, leaving only the veins. The fly deposits the eggs on the leaves and the larvæ begin feeding as soon as hatched.

CONTROL. If early in the season spray the plants with two pounds of lead arsenate in forty gallons of water. If the fruit is ripe or ripening the larvæ may be jarred off by hand on to the hot dust between the rows. It is not well to use the poison on the ripe or ripening fruit, because of discoloration. White hellebore, either dusted over the plants or steeped, one ounce in two gallons of water and sprayed over the foliage, is a very good remedy.

FARM BULLETIN.

Soldiers Going on the Land.

The Soldier Settlement Board have made the announcement that up to the third of May, 6,598 applications for the benefits of the Soldier Land Settlement



The Promise of a Good Crop

MEANS OF CONTROL.—Fortunately this pest is easily controlled by spraying with arsenicals. The first application should be with two pounds of arsenate of lead to forty gallons of diluted lime-sulphur, or of Bordeaux mixture applied just before the blossoms appear and repeated soon after the fruit is set. See to it that all the inner and lower leaves are covered. The lime-sulphur or Bordeaux is added to control diseases. If the second brood is seen to be present, hellebore, one ounce to one gallon of water, should at once be used. The hellebore should be fresh, as it loses strength if exposed to the air. It is unsafe to use arsenicals on the fruit at this stage.

THE CURRANT APHIDS.—The leaves of currants and, to a lesser extent, of gooseberries are often severely attacked by green plant lice, aphids, which feed upon the under surface and cause the leaves to curl downwards. The parts of the upper surface between the veins are usually elevated in large irregular blisters that are often reddish in color. Affected leaves in many cases are so much weakened that they die. The aphids pass the winter in the egg stage. Eggs are very small, black and glossy and are placed in the axils of the buds and the wood. They hatch a few days before the buds burst and the young aphids at once proceed to feed upon the developing buds and leaves. Reproduction in early summer is very rapid, and enormous numbers of the insects may be found. Natural enemies, however, both parasitic and predaceous, usually bring them under control in mid-summer.

MEANS OF CONTROL. Arsenical mixtures are useless as aphids are sucking insects; hence contact poisons must be applied. Of these probably the best is black leaf 40, a tobacco extract. The only objection to this

provisions had been approved by the Qualification Committees in the whole of the Dominion. The greatest number was in Alberta, where 1,134 applications were approved by the Edmonton office and 767 by the Calgary office. Saskatchewan shows 1,264, Manitoba, 1,535, British Columbia, 946. In the East the numbers approved in the various provinces are: Ontario 428; Quebec 115; New Brunswick 189; Nova Scotia 114; Prince Edward, 104. The total number of applications received in all the provinces was 9,849. Reports also show that 508 applicants have been recommended for agricultural training and 143 have applied for and are actually taking training either at the training centres or on farms of selected farmers.

In the Railway Committee.

At a recent meeting of the special committee on the Consolidated Railway Act, called to hear the representations of the Governments of the three prairie provinces, the question as to whether railways should be compelled to pay for telephones installed in stations where a railway company may determine that a telephone is not essential to the success of their business, was discussed. It was asked that, in the public service, railways be compelled to give telephone service to the surrounding territory and pay for the installation of telephone. The Minister of Railways did not favor forcing the railways to pay for telephone service if they did not want it, evidently looking forward to a considerable future expense to Canadian National Railways if this were done. The trouble lies mostly in small stations where farmers

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living some miles from the railroad would be most benefitted by communication with the railroad station. No definite decision was made, but it was suggested for further consideration that the railway and telephone companies should each bear half the expense.

Following the meeting of the special committee the regular Railway Committee met to consider the Canadian Pacific Railway Bill, which calls for charters for certain branch lines to be built in Western Canada. Conflict was immediately evident between the Canadian Pacific

and the Canadian National Railways with whose charters and present building plans the new C. P. R. charters would conflict. The Committee showed an evident desire to be fair to the C. P. R. which, in one case at least, threatened to abandon construction of 60 miles of one branch, if a charter for the whole line, about 30 miles of which would parallel the C. N. R., who are building 35 miles on either side and would have to connect at any rate within a year or two, was not granted. W. F. Cockshutt, Brantford, suggested that

the principle be laid down that where one charter is already in existence no others be granted until it is shown that the original charter is not being acted upon within a reasonable time. The matter was not decided for lack of time. Another instance of the same kind arose, also in Saskatchewan, and it is quite probable that many other similar instances exist among the remaining 42 charters revived by Parliament on Monday, April 28, by application of the closure.

Parliament Gathers Up the Odds and Ends.

The one item of greatest interest to Agriculture that has occupied the time of the House at any time during the past week, was the second reading and committee stage of the Bill to amend the Live-Stock and Live-Stock Products Act. Not much time was spent, and it was clear that with the usual ignorance of agricultural matters shown by most members, they did not realize the importance of the amendments to which they were giving consent. However, that may be all to the good so far as agriculture is concerned. During committee, the Minister introduced an amendment to the Bill providing: "That section 9 of the Act be further amended by adding the following, which shall be subsection (d) thereto: The manner in which live-stock products imported into Canada shall be inspected, graded, branded or marked." This amendment would provide for the grading according to Canadian standards of Chinese eggs and Australian mutton, for instance, upon the formulation of regulations under the authority of the Governor-in-Council. In other words, these foreign products will no longer be able to come into Canada and be sold here as Canadian goods, as has been done in the past.

D. D. McKenzie, Leader of the Opposition raised the question of cold-storage facilities for the Maritime Provinces, a policy which "The Farmer's Advocate" has frequently urged upon the Government. It has never been clearly set forth why Montreal was chosen instead of Halifax, the logical year-round export port. The following reply by Mr. Crerar, to Mr. McKenzie's question does very little to clear up the situation. Mr. Crerar said: "The cold-storage warehouse to be erected at Montreal will be under the control of the Board of Harbor Commissioners for that port. The purpose is to erect a plant on the water front, to provide facilities for transhipment of perishable commodities. At present, the existing cold-storage warehouses in Montreal are located at some distance from the water front, and it has frequently happened that deterioration has occurred in moving foodstuffs from the cold-storage warehouse to the vessels for shipment. I know on some occasions last year, for instance, in the shipment of frozen beef, carloads of beef had to be sent back from Montreal to Toronto to be refrozen and put in proper condition for loading on the vessel to be carried in its refrigerated space across to Europe.

"The development of cold storage and refrigeration in the shipping of perishable commodities, has been very remarkable in recent years. I urged on the Government the necessity of having such an equipment at the port of Montreal in order that we might have all the facilities for developing an overseas trade in this respect. For example, Great Britain, I am informed, imports annually two hundred million dozens of eggs, of which large quantity Canada, I believe, supplies two or three million dozens. If we are going to take advantage of that market we must provide proper facilities for reaching it, and to that end it is essential that there should be proper cold-storage facilities at the point of shipment, so that a carload of eggs, or beef, butter, or cheese, as the case may be, which comes into the port of Montreal and has to wait for a week or ten days or possibly two weeks for a vessel, will have proper storage and be readily transferred to the vessel on its arrival.

As to the policy of the Government, I am not in a position to speak, but I can express my personal opinion that this aid to the development of trade in these commodities is one that should be encouraged by the Government. That is only my personal opinion. I think that other ports such as Halifax should, as soon as opportunity offers, and it is possible, be provided with such facilities."

Live-Stock Future for Canadian Northland.

In this connection, or rather, in connection with the development of the live-stock industry in Canada, it will be interesting to readers to read the conclusions of Vilhjalmur Stefansson, the Canadian arctic explorer, with regard to grazing possibilities with the reindeer and the musk ox in the Canadian Northland. Mr. Stefansson addressed members of the House of Commons and the Senate on Tuesday, May 6, and, in conclusion, summed up his opinion as follows:

"We have in the musk oxen, then, animals three times the size of our domestic sheep, that produce three times as much wool, two or three times as much milk, and two or three times as much meat. When we realize that these animals need no barns to shelter them, no hay to feed them and no care or coddling of any kind, and when we know from their habits that it is only man that has driven them out of northern Canada, it becomes evident that, should we care to, we can reinstate them in all of their former range to our great profit. There are, we estimate, about four thousand of them in Melville Island, and there may be ten or twenty thousand of them altogether in the various other Canadian Islands, with a few thousand in the least accessible portions of our mainland. These numbers

are small, of course, but when you remember the Americans started with only 1,200 reindeer, you see we have a comparatively ample number for breeding purposes. I shall not go into details of how these can be secured, because the details are immaterial. It is obvious that if lions and giraffes, full grown, can be captured and brought out of Central Africa, the comparatively mild and clumsy musk ox cannot be difficult to bring out from such places as Melville Island. If we do it and do it on a large scale, and if we take up the reindeer as well, we shall through these two animals within the next twenty-five years convert Northern Canada, from a land of practically no value, to the great permanent wool, and milk and meat producing country of the western hemisphere. Of course, there will sometime be a parallel development all over Northern Siberia, and there already is such a development in northern Europe. When the rest of the world has ceased to produce considerable quantities of meat and wool because of the greater profit to be obtained from cereals and orchards, this belt of the world will attain an importance unrealized to-day, if we continue to be eaters of meat and butter and the wearers of woolen clothes."

Income Taxes Paid by Farmers.

In reply to questions asked by Sir Herbert Ames with regard to income tax assessments and collections made under the Income War Tax Act 1917, the following information was given to the House by Sir Thomas White:

"Assessments approved by Department of Finance to 30th April, 1919: Number, 42,145; amount assessed, \$10,031,094.28.

"Payments received at Department of Finance to 30th April, 1919: Number, 32,715; amount paid, \$6,865,047.10.

"Assessments approved by Department of Finance to 31st December, 1918: Number, 22,293; amount assessed, \$4,570,140.77.

"Payments received at Department of Finance to 31st December, 1918: Number, 13,009; amount paid, \$1,698,445.37.

"Note.—Many firms which would otherwise be assessable for income under the Income Tax Act are not liable to assessment by reason of their paying a larger amount under the Business Profits War Tax Act."

It was further pointed out that the business of farming is specifically exempted from the operation of the Business Profits War Tax Act, but under the Income War Tax Act, the following information with regard to farming was given:

"Number of farmers assessed, 5,885; amount assessed, \$417,349.10. Number paid, 3,623; amount paid, \$219,826.84."

	Number Assessed	Number Paid
Prince Edward Island and Nova Scotia	12	7
New Brunswick	4	3
Quebec	396	27
Ontario	396	342
Manitoba	1,454	1,281
Saskatchewan	1,084	564
Alberta	2,826	1,325
British Columbia	79	74
Total	5,885	3,623

A National School System.

In the Senate some days ago, Senator Pope introduced a resolution reading: "That there should be established in Canada a National Free Compulsory School System." Senator Pope comes from Quebec, and whatever may be the future of our school system and whether or not the pact of 1867 finally and forever assigned the question of education and administration of schools to the provinces, as Senator Dandurnad seemed to think, the following remarks of Senator Pope deserve recording:

"The theory which governed the Fathers of Confederation has not resulted in consummating that unanimity between the two nationalities that I should so much desire to see. I think that the most serious blunder made in the Act of Confederation, and one of the most serious injuries imposed on any of our people, is the recognition of minorities, whether they be of one nationality or another. It makes us provincial in our character; it even makes us sectional in our character, and in the position we take, or the position we hold in public life. I do not occupy a seat in this body particularly because I am brought from the Province of Quebec; I do not occupy a seat here as a representative of Canada from the Province of Quebec. I represent the minority, a very small proportion, one corner of the province, and my voice is limited, and my influence is limited, to the conditions of my repre-

sentation in this House. I say the same of my honorable French Canadian friends who occupy seats in this House. They do not represent Canada; they have never been asked to represent Canada. They have been appointed to represent the minority of Canada as against the total voice of Canada. Therefore, so far as I am concerned, the working out of the representation of minorities has not been that success that was possibly anticipated by the Fathers of Confederation."

Would the Senate Like to Farm.

If a certain Senator by the name of Casgrain is correct in his statements, the Senate also deserves some further attention from the farmers of Canada. This "august" body undertook to discuss the fixing of wheat prices. What they did in this connection was probably immaterial but in the course of the debate the above-named Senator found occasion to make some exceedingly ill-timed and ignorant as well as malicious remarks about farmers in general, and this is what he said:

"It is all very well to say if we placed an export duty on staple commodities it would arouse the farmers. Well, ever since this war began the farmers have been making money. I have known of farmers getting down on their knees and praying that the war would last, because they were making so much money out of it. The farmers were saying: 'If the war will only last, we shall all be rich in a short time;' but their sons were working on the farms; their sons were not at the war. The proportion of those who went from the rural districts to the war was very small; those who went were mostly from the cities and other centres of population. The farmers in this country have been making plenty of money. Now that the war is over and they are rich, surely they should help to settle the great unrest that exists in every industrial centre in this country."

When another Senator told him that "That is all nonsense about the farmers" and that it would have been much better if he had not taken part in the discussion, he replied that he was "With the majority of this House." It is barely possible that even this statement could be more correct than the ridiculous piffle quoted above, but if so, certain it is that the farmers of Canada are not with the Senate. Such a body of statesmen would not be useful even as museum exhibits.

No More Titles for Canada.

It begins to look as though we will shortly see a speedy diminishing of titled aristocracy in Canada. As mentioned previously, Parliament recently appointed a special committee to consider the whole question of titular distinctions and decorations. This committee has had several very interesting meetings, and at each one a majority of about six to one has carefully examined and analyzed some section of the insignia of aristocracy and then demolished it. By now there is not much left in the way of civil honors or military distinction toward which future generations may direct their soaring and worldly ambitions, except such decorations as a humble member of a free democracy may aspire to. At least the report of the committee will be to this effect, but, of course, the House must act in some manner before the official voice of the Canadian people can be said to have spoken. It was early made clear that while hereditary titles may be appreciated by those who receive them, and in particular by their descendants who are thus placed in a position whereby they can get something for nothing, such hereditary titles are neither appreciated nor desired by Canadian people as a whole. Once beheaded the creature was further carved up and offered on the altar of sacrifice by an expression of similar sentiment with respect to Knighthoods, the culminating prefix "Sir" of various Imperial orders being branded as undemocratic and more harmful than necessary in a young democratic country like ours.

But thoroughness in democracy was still afar off, so that the routing out process had necessarily to be continued until even the minor and inoffensive titles affixed to the names of men holding inferior positions in these various orders were no more. In other words, while not so prominent, the lower steps of the ladder are just as objectionable in principle as the top one.

If we do not have a civil aristocracy, do we want a military aristocracy? Apparently not. Nor do we want Canadians to accept titles from foreign Governments that they cannot accept from King George. Taken altogether the committee made a pretty clean job of it so far as they were concerned. It still remains to be seen how far the House will concur in their views.

Fourth Agricultural Meeting.

The Committee on Agriculture and Colonization met for the fourth time during the session, on Thursday, May 8. Last week we called attention to the fact that Agriculture, as the fundamental Canadian industry, is sadly neglected by the House of Commons, and if any

further evidence were needed it was shown at the Committee meeting last week when only about twenty out of a membership of a hundred, were in attendance. The regular meeting time of the committee is Wednesday morning at eleven o'clock. This should be generally recognized, especially by other committees, but instead, every other committee seems to take precedence over this one. Because of other committee meetings, the committee on agriculture was forced to meet at ten o'clock on Thursday and adjourn at eleven so that members could go and add to the eternal row going on in the Railway Committee at a special meeting over some charters asked for by the Canadian Pacific Railway.

At an ordinary meeting of the Agricultural Committee a dislocation would not be serious, particularly if the committee had been doing good work previously. This time, however, the very opposite was the case, since, not only had the committee accomplished little if any, thing at previous meetings, but last week, H. S. Arkell Live-Stock Commissioner, was present and was in a position to impart information to members of the House which would put them in a position to realize the importance of the live-stock industry and the situation with respect to export market developments. Those members who were present showed a desire to create a discussion but the chairman immediately got fidgety and the committee adjourned, agreeing to meet again the following day for an hour to hear what Geo. Hoadly, M.P.P., Saskatchewan, had to say with reference to light horses for export. We do not wish to belittle the fact that so far this season the committee has had nothing referred to it by the House in the way of legislation and so may be expected, perhaps to give way to other committees with pressing legislative duties to perform. But our objection to the side-tracking of this committee is twofold. First, there should be sufficient matters of a legislative nature that would call for the best efforts of the committee in the furtherance of Agriculture. Second, if there are no acts to be considered by the committee, the problems of agricultural progress and development are so varied and so complicated as to demand the best thought and the most thorough consideration of the House. Progress toward this end can only be secured as we see it, through this committee, which should, with proper direction, be able to greatly encourage the Department of Agriculture with prosecution of its work and assist the Minister to secure such agricultural reforms as may seem necessary from time to time. It is on this account largely that the snuffing out of discussion following Mr. Arkell's address was very regrettable. Mr. Arkell had returned from two months spent in England investigating the very subject about which he was talking, and, moreover, will have left for England again, in all probability, before this reaches our readers. We stand on the threshold of a new era in agricultural, but more especially, live-stock production and the value of a proper conception of the true situation by members of the House at this time can scarcely be estimated. It would seem well, if farmer candidates were instructed in the future to pay attention to matters pertaining directly to agriculture as well as to tariff, transportation and other matters of national interest, which, when all is said and done, are still of less importance fundamentally than Agriculture itself, although of very vital concern to the farmer.

Summary of Peace Treaty.

Perhaps the one event of greatest national importance that has transpired in the House during the week was the reading of the Peace Treaty summary on Wednesday, although it had previously been given to the daily press and its significance as a parliamentary occurrence thereby minimized. In reply to a question the following day, Sir Thomas White said that while the signing of the Peace Treaty by the Canadian plenipotentiaries in Paris will be an executive act, it must afterward be submitted to Parliament for consideration and ratification. Ratifications of the various powers signatory to the treaty must be deposited in Paris before the treaty becomes binding upon each power.

Hon. Arthur Meighen, Minister of the Interior, introduced Bill number 91, an act respecting the disqualification of military defaulters, on Thursday, May 8, when it was read the first time. Military defaulters under the act are those who failed in their military obligations under the Military Service Act, and it is proposed to disqualify such men, "from holding any office under the Crown, from being members of Parliament, or members of the Senate, or from voting at any Dominion election," for a period of fifteen years. Those who have been punished after any conviction properly secured, or those who come under the amnesty proclamation of August last, or those who, having been apprehended as defaulters, have actually served in the military forces afterward, are relieved of the disqualification provided by the Act, which includes all defaulters, six classes in all, coming under either the Militia or the Justice Department.

Canadian National Railways and Merchant Marine.

The third reading of the Canadian National Railway Bill was finally secured on Tuesday, May 6, after argument lasting all day and three Opposition amendments had been disposed of. The division stood 53 to 110 at the last stage. Hon. W. S. Fielding moved that the receipts and expenditures of the Company be subject to the Consolidated Revenue Act, in which case all receipts would have to be turned into the public treasury and all expenditures voted by Parliament, whereas the Bill provides for the administration of funds by the company as in ordinary corporate management, except that Parliament must make good any deficits that may arise from year to year, in which case the whole company will come under review by the

House. The Government seems to desire that the Canadian National Railways be kept free of political patronage, and if they can do this they will have swept away the only serious objection to public ownership.

On Thursday the House was treated to the most businesslike statement that has been made during this session by any department head. Hon. C. C. Ballantyne is head of the Department of Marine and Fisheries and, therefore, has charge of the Government shipbuilding program. At present 45 steel ships are under contract, and are being built in 13 shipyards from Prince Rupert to Halifax. The total tonnage involved is 264,050, and 25 ships are expected to be in commission before the end of this year. Four are now in commission, two will be ready in May, five in June, three in July, two in September, four in October, and seven in November and two in December. The 45 ships will cost \$52,691,450, or a cost per ton of from \$180 to \$215. This price was stated to be at least \$25 per ton lower than the cost of the 555 steel ships turned out so far by the United States. Shipbuilding in England, Ireland and Scotland was also shown to be three times as costly now as before the war. The Government intends to do some further shipbuilding, and to build some vessels for the Great Lakes as well as for ocean traffic. Reasons given for the shipbuilding program were: conditions arising out of the war, the desirability of building up export trade, and to supply our nationally owned railways with the necessary steamship service in order to complete the chain of transportation.

The Bill to provide \$350,000,000 for war expenditures has also had lengthy consideration in committee, and is ready for third reading. In the course of the discussion Sir Thomas White stated that another loan would probably be floated in Canada this year, possibly in September, but he was not in a position to state definitely as to the amount that would be asked for.

Bill number 78, to amend the Criminal Code as regards sexual offences was read the second time. The Bill provides against the seduction of or illicit connection with any girl of previously chaste character between the ages of sixteen and eighteen, or any woman or girl under twenty-one who is an employee of or under the control of the offender. It also makes it an offence punishable by fine or imprisonment for a man and woman to register at a hotel or boarding house who are not legally married. A Bill has also been given its third reading, which provides for the appointment of a board to control aeronautics in Canada.

The Peace Treaty.

If the German people ever labored under any misapprehension as to the extent of their defeat, they fully understand it now that the terms imposed upon them by the Allied and Associated Powers have been made known. On the other hand, those who feared an agreement embodying too much leniency for the conquered nation must have all doubts and misgivings dispelled. The Treaty of Peace between the twenty-seven Allied and Associated Powers on the one hand and Germany on the other was handed to the German plenipotentiaries at Versailles, on May 7. It is the longest treaty ever drawn, totalling about 80,000 words. The German delegates were allowed a maximum of fifteen days in which to consider the Treaty and decide on what action they would take. Germany, by the terms of the Treaty, restores Alsace-Lorraine to France; accepts the internationalization of the Saar Basin temporarily, and of Danzig permanently; agrees to territorial changes towards Belgium, and Denmark in East Prussia. In addition to other changes near at home she renounces all territorial and political rights outside of Europe, which means that her colonies have been swept away and placed under the mandates of the various Allied powers. Her army is reduced to 100,000 men, including officers. Conscription within her territories is abolished; all forts fifty kilometers east of the Rhine razed, and all importations, exportation and nearly all production of war material stopped. Allied occupation of parts of Germany will continue till reparation is made, but will be reduced at the end of three-year periods if Germany is fulfilling her obligations. The German navy is reduced to six battleships, six light cruisers and twelve torpedo boats, without submarines, and a personnel of not over 15,000. All other vessels must be surrendered or destroyed. Germany is forbidden to build forts controlling the Baltic, must demolish Heligoland, open the Kiel Canal to all nations, and surrender her fourteen submarine cables. She may have no military or naval air forces, except 100 unarmed seaplanes, until October 1 to detect mines. She agrees to return to the 1914 most favored nation tariffs, without discrimination of any sort, to allow Allied or Associated nationals freedom of transit through her territories and to accept other detailed provisions as to pre-war debts, unfair competition, etc. She also agrees to trial of the ex-Kaiser by an International high court for supreme offence against international morality. Germany accepts full responsibility for all damages caused to Allied and associated Governments and nationals and agrees specifically to reimburse all civilian damages beginning with an initial payment of twenty billion marks. Germany is to pay shipping damage on a ton-for-ton basis by cession of a large part of her merchant, coasting and river fleets, and by new construction, and to devote her economic resources to the rebuilding of devastated regions.

Germany cedes to France Alsace-Lorraine, 5,600 square miles, and to Belgium two small districts between Luxemburg and Holland, totalling 989 square miles. She also cedes to Poland the southeastern tip of Silesia beyond and including Oppeln, most of Posen, and West Prussia, 27,686 square miles, East Prussia being isolated from the main body by a part

of Poland. She loses sovereignty over the north-easternmost tip of East Prussia, 40 square miles north of the River Memel, and the internationalized areas about Danzig, 729 square miles, and the basin of the Saar. The decision as to the disposal of the German colonies and is as follows:

"Togoland and Kamerun—France and Great Britain make a joint recommendation to the League of Nations as to their futures.

"German East Africa—The mandate shall be held by Great Britain.

"German Southwest Africa.—The mandate shall be held by the Union of South Africa.

"The German Samoan Islands.—The mandate shall be held by New Zealand.

"The other German Pacific possessions south of the equator, excluding the German Samoan Islands and Nauru—the mandate shall be held by Australia.

"Nauru (Pleasant Island)—The mandate shall be given to the British Empire.

"The German Pacific Islands north of the equator—The mandate shall be held by Japan."

Premier Clemenceau presented the Peace Terms to the German delegates with the following brief address: "Gentlemen, Plenipotentiaries of the German Empire—It is neither the time nor the place for superfluous words. You have before you the accredited plenipotentiaries of all the small and great powers united to fight together in the war that has been so cruelly imposed upon them. The time has come when we must settle our account.

"You have asked for peace. We are ready to give you peace. We shall present to you now a book which contains our conditions. You will be given every facility to examine these conditions, and the time necessary for it. Everything will be done with the courtesy that is the privilege of civilized nations.

"To give you my thought completely, you will find us ready to give you any explanation you want, but we must say at the same time that this second Treaty of Versailles has cost us too much not to take on our side all the necessary precautions and guarantees that the peace shall be a lasting one.

"I will give you notice of the procedure that has been adopted by the Conference for discussion, and if anyone has any observations to offer he will have the right to do so. No oral discussion is to take place, and the observations of the German delegation will have to be submitted in writing.

"The German plenipotentiaries will know that they have the maximum period of fifteen days within which to present in English and French their written observations on the whole of the treaty. Before the expiration of the aforesaid period of fifteen days the German delegates will be entitled to send their reply on particular headings of the treaty, or to ask questions in regard to them.

"After having examined the observations presented within the aforementioned period, the Supreme Council will send their answer in writing to the German delegation, and determine the period within which the final global (world wide) answer must be given by this delegation.

"The President wishes to add that when we receive, after two or three or four or five days, any observations from the German delegation on any point of the treaty we shall not wait until the end of the fifteen days to give our answer. We shall at once proceed in the way indicated by this document."

Field Bindweed in Mangel Seed.

EDITOR "THE FARMER'S ADVOCATE":

Mangel seed samples, containing seeds of field bindweed or wild morning glory in considerable numbers, have recently been received at the Ottawa Seed Laboratory. Field bindweed is probably the most persistent and objectionable of the weeds classed as noxious under the Seed Control Act. Fortunately it is not widespread in Canada, but once established it is most difficult to eradicate and very destructive to crops. Field bindweed seeds are seldom present in Canadian grown commercial seed, but they are occasionally found in imported seed, particularly in beet and mangel.

All stocks of these seeds should be very carefully examined before sowing, and every field bindweed seed present removed by screening or handpicking. The seed closely resembles that of ordinary morning glory. They are liable to appear either as separate seeds or a few together in a seed ball. Farmers cannot be too careful in guarding against this menace.

Seed Branch, Ottawa.

New Professor of Physics at the O. A. C.

William C. Blackwood, Director of physics at the Toronto Technical School, has been appointed Professor of Physics at the Ontario Agricultural College in succession to Prof. W. H. Day, who resigned a short time ago. Mr. Blackwood is a comparatively young man, country bred and raised, with good personality and much training, which is a combination which should fit him for his new work. He was raised in Wellington County, and after going through the High School there, taught school in the rural sections. Later he took a course at the School of Practical Science in connection with Toronto University, and upon graduating held a position as Demonstrator in Physics for a few years. About ten years ago he was appointed as a teacher in electrical and mechanical engineering at the Technical School, and for the past four years he has been Director of the Department of Physics.

The laborer the large a responsible for meat trade, ly at a stan of the week understanding the men h shippers of hesitation in trade is in fairly libera during the In anticipati seven hundr the opening the total re three hundr well taken Thursday, a than those p week, and d fortunate in stock at on packing hou farmers too decline in p and feeders of cattle States point line with th markets. F from \$14.50 top quality hundred p were weigh one load, av changing h of good qu mentioned Choice fat good quality hundred po \$13.50 to \$ was the ra good quality steady pr at \$12.50, a and feeders Good feeder ranging fro stockers sol market was of \$10 to \$1

Few lamb no market v With the loads the offered on t been contral. o. b. co hundred, fe showed no week, but it been norm cents to \$1 curred.

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Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending May 8.

Receipts and Market Tops

Dominion Department of Agriculture Livestock Branch, Markets Intelligence, Division

	CATTLE						CALVES					
	Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Same Week	Week Ending		
Toronto (Union Stock Yards)	3,190	6,597	5,068	\$15.25	\$15.00	\$15.25	594	2,708	2,748	\$15.00	\$16.00	\$15.50
Montreal (Pt. St. Charles)	384	900	369	14.50	14.50	14.75	1,946	3,213	2,259	12.50	16.00	12.00
Montreal (East End)	675	805	362	14.50	14.50	14.75	2,205	3,160	3,483	12.50	16.00	12.00
Winnipeg	3,037	2,550	1,878	15.00	15.50	15.00	168	146	150	16.00	17.00	16.00
Calgary	968	1,558	1,902	15.50	14.50	15.75						
Edmonton	441	207	450	15.00	14.25	15.00	42	81	85	13.00		13.00

	HOGS						SHEEP					
	Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Week Ending	Same Week	Week Ending		
Toronto (Union Stock Yards)	3,923	9,746	7,933	\$22.25	\$21.25	\$22.75	27	172	236	\$19.00	\$22.00	\$20.00
Montreal (Pt. St. Charles)	1,251	1,522	1,746	22.25	21.90	22.75	88	72	166	15.00	16.00	15.00
Montreal (East End)	1,210	928	903	22.25	21.90	22.75	109	104	126	15.00	16.00	15.00
Winnipeg	4,533	5,652	4,705	21.25	19.75	21.25	13	22	58		18.00	16.00
Calgary	1,236	3,066	1,222	21.75	19.30	21.85	424	277	325	15.00		15.00
Edmonton	398	523	425	21.50	19.25	21.75						

Market Comments.

Toronto (Union Stock Yards).

The labor strike which involved all the large abattoirs in the city was responsible for a tie-up of the local dressed meat trade, and operations were practically at a standstill during the greater part of the week. Fortunately, however, an understanding has been reached whereby the men have returned to work, and shippers of live stock need have no hesitation in making consignments as the trade is in a condition to take care of fairly liberal deliveries of finished stock during the next few weeks at least. In anticipation of the strike, only twenty-seven hundred cattle were shipped in for the opening market of the week, while the total receipts were less than thirty-three hundred. This light number was well taken care of before the close on Thursday, at prices only slightly lower than those prevailing during the previous week, and drovers considered themselves fortunate in being able to dispose of their stock at only slight sacrifices. Outside packing houses purchased freely, while farmers took advantage of the slight decline in prices by buying up stockers and feeders. Only two or three loads of cattle were shipped to United States points, as local prices are out of line with those prevailing on American markets. Heavy steers were quoted from \$14.50 to \$15.50 per hundred, while top quality steers weighing between ten hundred pounds and twelve pounds, were weighed up at \$15.25 per hundred, one load, averaging eleven hundred pounds changing hands at that figure. Loads of good quality stock within the weights mentioned sold from \$14.25 to \$14.75. Choice fat heifers sold up to \$14.75 and good quality steers and heifers under ten hundred pounds were weighed up from \$13.50 to \$14.50, while from \$11 to \$13 was the range for those of common to good quality. Cows and bulls sold at steady prices, the former being quoted at \$12.50, and the latter at \$12. Stockers and feeders sold at unchanged prices. Good feeders were shipped out at prices ranging from \$13 to \$13.75, and good stockers sold from \$9 to \$10. The calf market was steady within a price range of \$10 to \$15.

Few lambs and sheep were on sale and no market was established.

With the exception of two or three carloads the total receipts of hogs were offered on the Monday market, and had been contracted for at \$21.25 per hundred, l. o. b. country points, or \$22.25 per hundred, fed and watered. These prices showed no change since the previous week, but it is rumored that had supplies been normal a decline ranging from 50 cents to \$1 per hundred would have occurred.

Of the disposition from the Yards for the week ending May 1, Canadian packing houses purchased 1,059 calves, 4,018 butcher cattle, 486 hogs and 94 lambs. Local butchers purchased 1,040 calves, 414 butcher cattle, 278 hogs and 139 lambs. Canadian shipments were made up of 40 calves, 24 canners and cutters, 4 bulls, 129 stockers and 431 feeders. Shipments to United States points consisted of 571 calves, 19 butcher cattle, 71 stockers and 25 feeders.

The total receipts from January 1

CLASSIFICATION	No.	TORONTO (Union Stock Yards)		Top Price
		Avg. Price	Price Range Bulk Sales	
STEERS				
heavy finished	85	\$15.00	\$14.50-\$15.50	\$15.50
good	410	14.50	14.00-14.75	15.25
1,000-1,200 common	41	12.75	12.25-13.00	13.50
STEERS				
good	864	13.37	13.00-14.50	14.50
700-1,000 common	202	11.49	10.75-12.50	12.75
HEIFERS				
good	447	13.55	13.00-14.50	14.75
fair	98	11.98	11.00-12.50	12.50
common	17	10.00	9.00-10.50	10.50
COWS				
good	206	11.24	10.50-11.75	12.50
common	309	9.02	8.50-10.25	10.50
BULLS				
good	42	11.01	10.50-11.50	12.00
common	35	9.73	9.00-10.25	10.50
CANNERS & CUTTERS	39	6.75	6.50-7.50	7.50
OXEN				
CALVES				
veal	594	13.56	12.00-14.50	15.00
grass				
STOCKERS				
good	52	11.79	11.50-12.50	12.50
fair	181	10.50	9.75-11.00	11.50
FEEDERS				
good	73	13.25	13.00-13.75	13.75
fair	86	12.75	12.50-13.00	13.00
HOGS				
selects	3,651	22.25	22.25-	22.25
heavies	10	22.25	22.25-	22.25
lights	177	20.25	20.25-	20.25
sows	84	19.70	19.25-20.25	20.25
stags	1			
LAMBS				
good	12	18.00	17.00-19.00	19.00
common				
SHEEP				
heavy	8	11.00	10.00-12.00	12.00
light	5	13.00	12.00-14.00	14.00
common	2			

MONTREAL (Pt. St. Charles)

No.	Avg. Price	MONTREAL (Pt. St. Charles)		Top Price
		Price Range Bulk Sales		
10	\$14.25	\$13.00-\$14.50	\$14.50	
59	14.25	12.75-14.50	14.50	
60	11.00	8.25-12.50	12.50	
4	14.25	14.00-14.50	14.50	
8	11.00	10.50-11.50	11.50	
28	8.75	4.50-10.00	10.25	
9	13.00	13.00-	13.00	
29	9.00	8.00-10.50	10.50	
6	11.50	11.00-12.00	12.00	
54	9.00	8.00-10.50	10.75	
64	6.00	5.00-6.50	7.00	
3	11.00	11.00-	11.00	
1,940	11.00	9.00-12.00	12.50	
6				
1,094	22.00	21.75-22.25	22.25	
26	21.00	20.75-21.25	21.25	
69	20.00	19.75-20.25	20.25	
57	19.00	18.75-19.25	19.25	
5				
19	14.25	14.00-15.00	15.00	
8	13.25	13.00-14.00	14.00	
7	12.50	12.00-14.00	14.00	
54	11.50	11.00-13.00	13.00	

to May 1, inclusive, were: 105,776 cattle, 18,416 calves, 126,971 hogs and 27,076 sheep; compared with 84,634 cattle, 20,288 calves, 134,125 hogs and 10,599 sheep, received during the corresponding period of 1918.

Montreal.

Trading on the markets was considerably delayed during the week, by the threatening to strike of packing house employees. On Tuesday, commission firms advised clients to hold further shipments until otherwise notified and, as a consequence, receipts on Wednesday were very light. Three loads of steers averaging ten hundred pounds and quite fat, sold from \$14.25 to \$14.50 per hundred. One load of poorly-bred steers in fair flesh sold at \$12.50, and a few odd lots of medium quality killers at \$13. Some very common light steers averaging seven hundred and fifty to seven hundred and seventy-five pounds were sold from \$8.25 to \$8.50. The best heifers were weighed up with steers at \$14.50 per hundred. A few fair heifers averaging seven hundred to seven hundred and twenty-five pounds sold at \$11, and poor light heifers sold down to bologna bull prices. Seven head of fat cows averaging ten hundred and seventy-five pounds sold at \$13; prices varied from that figure down to

\$7 for cows slightly better than canners. A couple of young bulls weighing slightly over ten hundred pounds each sold at \$12, but the majority of the bulls offered were in just fair flesh and sold from \$8 to \$10. There was considerable dissatisfaction over the quotations on veal calves and some drovers, rather than accept the prices offered, shipped out their calves to American markets. Common calves sold from \$7 to \$7.50 while the best price for good calves was about \$12.50.

Very moderate offerings of sheep and lambs were made. Clipped sheep sold from \$11 to \$12 per hundred and unclipped sheep from \$13 to \$14. Lambs sold from \$13 to \$15 per hundred.

Despite prospects of a strike in the killing plants, the prices of hogs remained quite firm. Best lots of selects sold at \$22.50 per hundred, weighed off cars. The usual reductions were made on heavies, lights and sows.

PT. ST. CHARLES.—Of the disposition from the Yards for the week ending May 1 Canadian packing houses and local butchers purchased 2,259 calves, 29 canners and cutters, 51 bulls, 259 butcher cattle, 1,746 hogs and 166 sheep. Canadian shipments were made up of 30 milk cows. There were no shipments to United States points during the week.

The total receipts from January 1

to May 1, inclusive, were: 10,947 cattle, 22,982 calves, 22,180 hogs and 5,619 sheep; compared with 10,980 cattle, 19,216 calves, 22,092 hogs and 5,146 sheep, received during the corresponding period of 1918.

EAST END.—Of the disposition from the Yards for the week ending May 1, Canadian packing houses and local butchers purchased 3,483 calves, 362 butcher cattle, 903 hogs and 126 sheep. There were no shipments to United States points during the week.

The total receipts from January 1 to May 1, inclusive, were: 13,032 cattle, 14,818 calves, 11,797 hogs and 5,912 sheep; compared with 9,651 cattle, 16,832 calves, 12,880 hogs and 4,918 sheep, received during the corresponding period of 1918.

Sale Dates.

May 20, 1919.—C. L. Morrison, Shedden, Ont.; Shorthorns and Dorsets.

June 4, 1919.—Waterloo County Holstein Breeders' Club, Waterloo, Ont.—W. A. Rife, Sec.

June 12, 1919.—National Ayrshire Consignment Sale, Springfield, Mass.

June 13, 1919.—New England Ayrshires' Club Consignment Sale, Springfield, Mass.

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Buffalo.

Cattle.—Position of the cattle trade on steers running from eleven to fourteen hundred pounds, was bad at Buffalo last week, prices showing a further decline of 25c. to 50c., as compared to the previous week's opening or about steady with the middle of last week. Prices on steers generally have shown declines at all markets, supplies being liberal and reports being to the effect that there will be plenty of good steers all through the month of May. Best native steers here the past week showed a range of from \$16.50 to \$17.25, with best Canadians running from \$15 to \$15.50. There were no real prime, hard-finished steers in either divisions. Proportion of steers was very heavy all week. Light and handy butchering steers and heifers brought about steady prices, with fat cows selling strong. Bulls of all kinds brought good prices, stocker and feeder market was strong to higher, with milk cows and springers bringing full steady prices. The Canadian supply for the week totaled around fifty loads, mostly steers. Offerings for the week totaled 4,900 head, as against 6,500 for the previous week and as against 4,875 head for the corresponding week a year ago. Quotations:

Shipping Steers — Natives — Choice to prime weighty, \$16.50 to \$17.25; fair to good, \$15.50 to \$16; plain and medium, \$12.50 to \$14; coarse and common, \$10.50 to \$11.

Shipping Steers — Canadians — Best heavy, \$15 to \$15.50; fair to good, \$13 to \$14.75; medium weight, \$12 to \$15; common and plain, \$10.50 to \$11.

Butchering Steers — Yearlings, choice to prime, \$15 to \$15.50; choice heavy, \$14.50 to \$15.50; best heavy heifers, \$13.50 to \$14; fair to good, \$12 to \$13.50; light and common, \$11 to \$11.75.

Cows and Heifers — Best heavy heifers, \$13.50 to \$14.50; good butchering heifers, \$11.50 to \$13; fair butchering heifers, \$10.50 to \$11; light common, \$8 to \$9; very fancy fat cows, \$12 to \$12.50; best heavy fat cows, \$11 to \$11.50; good butchering cows, \$9 to \$10; medium to fair, \$7.75 to \$8.50; cutters, \$6.75 to \$7; canners, \$5.50 to \$6.50.

Bulls — Best heavy, \$11.50 to \$13; good butchering, \$10.50 to \$11; sausage, \$9 to \$10; light bulls, \$7.50 to \$8.

Stockers and Feeders — Best feeders, \$11.50 to \$12.50; common to fair, \$10 to \$11; best stockers, \$11 to \$12; fair to good, \$9.25 to \$9.75; common, \$8.75 to \$9.

Hogs. — Prices showed some sharp advances the first half of last week but after Wednesday receipts were liberal and prices were on the decline. Monday good hogs sold generally at \$21.50, with pigs going at \$20.50 and by Wednesday best grades were up to \$22, one deck made \$22.10 and pigs moved at \$21.25 and \$21.50. This was the highest market on record. Thursday values showed a drop of 35 to 50 cents and Friday's market was 75 cents lower than the high time of the week. Top for Friday was \$21.35, bulk sold at \$21.25 and pigs were down to \$20.50. Roughs during the high time of the week brought up to \$19.50 and Friday the bulk had to take \$18.50. Stags ranged from \$15 down. The past week's receipts totaled 20,300 head, being against 26,386 head for the week before and 16,900 head for the same week a year ago.

Sheep and lambs. — Lamb trade occupied a favorable position the fore part of last week. Monday the best clips sold from \$16.75 to \$17, with culls going from \$14.50 down, Tuesday top was \$17.25 Wednesday's trade was steady, Thursday the best brought \$17.25 and \$17.35 and Friday the trade was very slow, with prices 25c. to 50c. lower, best selling from \$16.75 to \$17, with culls, \$14 down. Sheep were quite active all week. Wednesday and Thursday clipped wethers sold up to \$14, with ewes bringing up to \$13 and the balance of the week prices were fifty cents lower. The past week's receipts totaled 21,000 head, as compared with 24,238 head for the week before and 13,300 head for the same week a year ago.

Calves. — Receipts last week were liberal grand total being 8,000 head. Offerings were against 7,620 head for the week before and 6,350 head for the same week a year ago. The first four days of the past week the best lots ranged from \$16 to \$16.50, with culls going from \$14 down and Friday the trade was slow, with prices fully fifty cents lower. A liberal number of Canadian calves were

here the past week, the majority of which were of a common to fair kind and they sold largely at a range of from \$12.25 to \$15.50.

Toronto Produce.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, May 12, consisted of 188 cars; 3,916 cattle, 976 calves, 1,290 hogs, 77 sheep and lambs. Slow market. Butchers' steers and heifers steady; top, \$15.25 for twelve steers averaging 1,145 pounds each. Cows strong; tops, \$12 to \$13. Bulls steady. Calves strong; tops, \$17. Sheep and lambs strong. Hogs, \$20.75 f. o. b. and \$21.75 fed and watered.

Breadstuffs and Feeds

Wheat. — Ontario (f.o.b. shipping points, according to freights) — No. 1 winter, per car lot, \$2.14 to \$2.20; No. 2 winter, per car lot, \$2.11 to \$2.19; No. 3 winter, per car lot, \$2.07 to \$2.15; No. 1 spring, per car lot, \$2.09 to \$2.17; No. 2 spring, per car lot, \$2.06 to \$2.14; No. 3 spring, per car lot, \$2.02 to \$2.10. Manitoba (in store, Fort William), No. 1 northern, \$2.24½; No. 2 northern, \$2.21½; No. 3 northern, \$2.17½; No. 4 wheat, \$2.11.

Oats. — Ontario (according to freights outside) — No. 3 white, 75c. to 77c. Manitoba (in store, Fort William) — No. 2 C. W., 73½c.; No. 3 C. W., 70½c.; No. 1 feed, 70¼c.; No. 2 feed, 65c.

Corn. — American, (track, Toronto, prompt shipment), No. 3 yellow, \$1.87; No. 4 yellow, \$1.84.

Peas (according to freights outside) — No. 2, \$2.05, nominal.

Barley (according to freights outside) — Malting, \$1.06 to \$1.11.

Buckwheat (according to freights outside) — No. 2, \$1.68, nominal.

Flour — Manitoba (Toronto) — Government standard, \$11; Ontario (prompt shipment, in jute bags). Government standard, \$10.50, in bags, Montreal and Toronto.

Millfeed. — Car lots delivered, Montreal freights, bags included) — Bran, per ton, \$42; shorts, per ton, \$44; good feed flour, \$2.65 to \$2.75.

Hay. — (Track, Toronto) — No. 1, per ton, \$30 to \$33; mixed, per ton, \$20 to \$24.

Straw. — (Track, Toronto) — Car lots per ton, \$10 to \$11.

Hides and Wool.

Prices delivered in Toronto: City Hides. — City butcher hides, green, flats, 18c.; calf skins, green, flats, 30c.; veal kip, 20c.; horse hides, city take-off, \$6 to \$7; sheep, \$3 to \$4.

Country Markets. — Beef hides, flat, cured, 18c. to 20c.; green, 16c. to 17c.; deacon and bob calf, \$2 to \$2.75; horse hides, country take-off, No. 1, \$6 to \$7; No. 2, \$5 to \$6; No. 1 sheep skins, \$2.50 to \$4; horse hair, farmers' stock, \$28.

Tallow. — City rendered, solids, in barrels, 8c. to 9c.; country solids, in barrels, 6c. to 8c.; cakes, No. 1, 7c. to 9c.

Wool. — Unwashed fleece wool as to quality, fine, 40c. to 55c. Washed wool, fine, 70c. to 75c.

Farm Produce.

Butter. — Prices again markedly declined during the past week on the wholesales, selling as follows: Creamery, fresh-made lb. squares at 53c. to 55c. per lb.; creamery solids at 61c. per lb.; choice dairy, 45c. to 48c. per lb.; other grades, down to 40c. per lb.

Oleomargarine. — 32c. to 34c. per lb. Eggs. — New-laid eggs firmed slightly on the wholesales, selling at 50c. per doz. for case lots, with selects in cartons bringing 55c. per doz.

Poultry also kept firm at stationary prices. The following prices being quoted for live weight to the producers: Spring chickens, 60c. per lb.; chickens, 30c. per lb.; hens, under 4½ lbs., 30c. per lb.; hens, 4½ lbs. to 6 lbs., 33c. per lb.; hens, over 6 lbs., 34c. per lb.; roosters, 25c. per lb.; Turkeys, 30c. per lb.

Honey. — There is no demand for honey, which is being offered at 23c. to 25c. per lb. for 5, 10 and 60-lb. pails, respectively.

Cheese. — Old cheese is quite scarce, selling at 32c. per lb. wholesale; new bringing 29½c. per lb.

Wholesale Fruits and Vegetables.

Apples are becoming quite scarce; the few offered continuing to bring high prices.

Oranges are coming in freely, ranging from \$1.50 to \$7.25 per case, according to variety, quality and size.

Lemons sold at unchanged prices, bringing \$4.50 to \$5 per case.

Pineapples showed a firming tendency, selling at \$6.50 per case, and are expected to go higher, as prices have advanced in New York.

Rhubarb. — Outside-grown rhubarb arrived more freely, but was quite short, selling at 75c. to 90c. per dozen bunches.

Strawberries were not very salable owing to the cold weather, selling at 35c. to 40c. per box.

Tomatoes. — Some of the best Florida tomatoes for this season arrived during the week, selling at \$8.50 to \$9 per six-basket crate.

Beans. — The market has been quite sluggish, though prices kept stationary; prime whites selling at \$2.75 to \$3.25 per bushel; hand-picked at \$3.50 to \$4 per bushel.

Beets and parsnips kept stationary at 75c. to 90c. per bag.

Cabbage. — New cabbage arrived freely and sold well at high prices, bringing \$9 to \$9.50 per case.

Carrots kept firm at \$1.75 per bag.

Cucumbers declined materially; Leamington hot-house selling at \$2.50 to \$2.75 per 11-qt. basket for No. 1, and \$2 to \$2.25 per basket for No. 2's; Florida outside-grown at \$4.50 to \$5 per hamper.

Lettuce kept stationary at 25c. to 50c. per dozen; Canadian Head at 75c. to \$1 per dozen.

Onions kept firm at \$7 per 100 lbs.; Texas Bermudas at \$5.50 per 50-lb. crate.

Potatoes did not vary in price; Ontarios selling at \$2 to \$2.10 per bag; Ontario seed at \$2.25 to \$2.50 per bag; New Brunswick Irish Cobbler seed at \$3 per bag.

Montreal.

Horses. — Carters are exceedingly busy and are working day and night. They have been purchasing some good horses of late, and some good plugs of mares are being shipped to the country for farmer's purposes. Dealers quoted the same range, being \$250 to \$300 each for heavy draft horses, weighing from 1,500 to 1,700 lbs.; \$200 to \$250 each for light draft, weighing 1,400 to 1,500 lbs., and \$125 to \$175 each for light horses; \$50 to \$75 for culls, and \$175 to \$250 for fine saddle and carriage horses.

Dressed Hogs. — The threat of labor trouble and strikes at the packing houses is believed to be having the effect of holding back shipments of hogs to this market. Dressed hogs continued steady, and sales of small lots were taking place at 30½ to 31 cents per lb. for abattoir fresh-killed stocks.

Poultry. — Stocks were quite light and the surplus was exhausted over and above local requirements. In consequence prices were firm with choice turkeys at 48 to 50 cents; chickens, 40 to 47 cents; fowl, 33 to 38 cents; ducks, 40 to 44 cents, and geese 31 to 32 cents.

Potatoes. — Car lots of Quebec White potatoes were quoted at \$2 to \$2.10 per bag of 90 lbs., ex-track, and in smaller lots at \$2.25, ex-store. Onions were quoted at \$1.50 per bag of 70 lbs., ex-store.

Maple Products. — The market for maple syrup and sugar was not active, but there was a fair demand with syrup at around \$2.25 per tin of 13 lbs., and \$1.80 to \$1.85 per tin of 8½ lbs. Sugar is 25 cents a lb.

Eggs. — It is expected that Great Britain will take a large quantity of eggs, the export being only limited by the supply of space. Prices held firm, and the statement was made that country stores in Ontario are receiving 44 to 45 cents, and even 46 cents per dozen. Prices here were 49 to 50 cents per dozen for straight gathered; selects at 52, and No. 2 stock 46 to 47 cents.

Butter. — The tendency of the price of butter has been downward, and quotations were considerably below those of a week ago. Finest creamery was quoted at 51 to 51½ cents; fine creamery at 50 to 50½ cents; fine dairy at 46 to 47 cents.

Cheese. — Transactions of small lots were taking place for local account at 26½ to 26½ cents per lb.

Grain. — No. 2 Canadian Western oats were quoted at 80½ cents. No. 3 and extra No. 1 feed at 83½ cents; No. 1 feed at 81½ cents, and No. 3 feed at 79 cents per bushel, ex-store. No. 2 Ontario barley was \$1.29; extra No. 3, \$1.28; No. 3, \$1.27; No. 3 Canadian Western, \$1.30 per bushel, ex-store.

Flour. — Government standard Manitoba flour was \$11 per barrel in jute,

ex-track, Montreal freights, for shipment to country points, or to city bakers, ex-track, with 10 cents off for spot cash. Ontario winter wheat flour was \$10.90 to \$11 in cotton bags. White corn flour and rye flour sold at \$8.50, in bags, delivered.

Millfeed. — Car lots of bran were quoted at \$43 to \$44 per ton in bags, and shorts at \$45 to \$46, ex-track. Mixed grain mouille was \$50 to \$52; dairy feed, \$46; oat middlings, \$44, delivered.

Baled Hay. — No. 2 timothy was quoted as high as \$35 per ton. No. 2 hay, \$34; and No. 3 hay, \$33 per ton, deliveries being light.

Hay Seed. — Timothy was available at 14 to 17 cents per lb., but clover was out of the market.

Hides. — Veal skins were 58 cents per lb., and grasser, 23 cents per lb. Beef hides were 21 cents per lb. for steers, 10 cents for culls and 18 cents for bulls. Lamb skins were 75 cents each, and horse hides \$5 to \$7 each.

Gossip.

Alloway Lodge Stock Farm.

Alloway Lodge Stock Farm has long been noted for its high quality Doddies, Southdowns and Collies. The herd and flock at the present time are possibly the strongest they have ever been in their history and breeders have an opportunity of securing Aberdeen-Angus cattle and Southdown sheep that are good breeding proportions and of showing calibre. When seen recently by a "Farmer's Advocate" representative the stock was in the pink of condition. The herd sire, Queen's Edward has developed into a show-ring proposition. In fact he would give the best in the country a hard run for the money. He has excellent form and shows a good deal of breed character. His progeny testify to his value as a stock getter. In bulls there are 5 to choose from. Two big, thick, deep, sappy, fellows are two years old, and are of the quality that will stamp their individuality on their progeny. Both are show bulls, one winning in a strong class in London. Then there is "Tropidre", the junior champion Angus bull at London. He has done remarkably well since show time and if shown this fall will make it interesting for competitors. He is a deep, thick, high quality individual. In the pen with him are two yearlings ready for service that are strong topped, thick, nice-quality youngsters. Anyone wanting an Angus bull to place at the head of their herd would find it to their advantage to inspect Col. McEwen's herd and look the young bulls over. The herd contains 30 breeding females, some of which have calves at foot and others will be freshening soon. There are also a number of extra good heifers. The Queen Mother and Zara families are represented in the herd.

In a flock of 100 breeding Southdown ewes there has been an increase of 150 per cent. this spring. The ewes are in splendid condition and the lambs are doing well. From among the yearling ram and ewes on hand sired by an Imported Royal winner are a large number which are show material. They possess breed type, character and quality, and are strong growthy individuals, that are well covered. There are also 6 imported ewes good enough to go into any show ring. Breeders wishing to secure a flock header or a show pen should see this noted flock and make selections early. Col. McEwen is taking orders for imported stuff as he plans on bringing a number from the Old Land. Importations will be made by personal selection. Write Col. McEwen, Byron, Ont., regarding his Angus and Southdown offerings.

The Dollar Chain

Contributions from April 25 to May 10: Wilberforce Red Cross Society, \$32.60; J. Mitchell, Nashville, Ont., \$5.00; "Toronto", \$2.

Previously acknowledged \$5,991.50

Total to May 10..... \$6,031.10

A contribution of \$2 has been received from "Nissouri Friend" towards the Y. M. C. A. Campaign. This has been forwarded to the Committee in charge of this fund.



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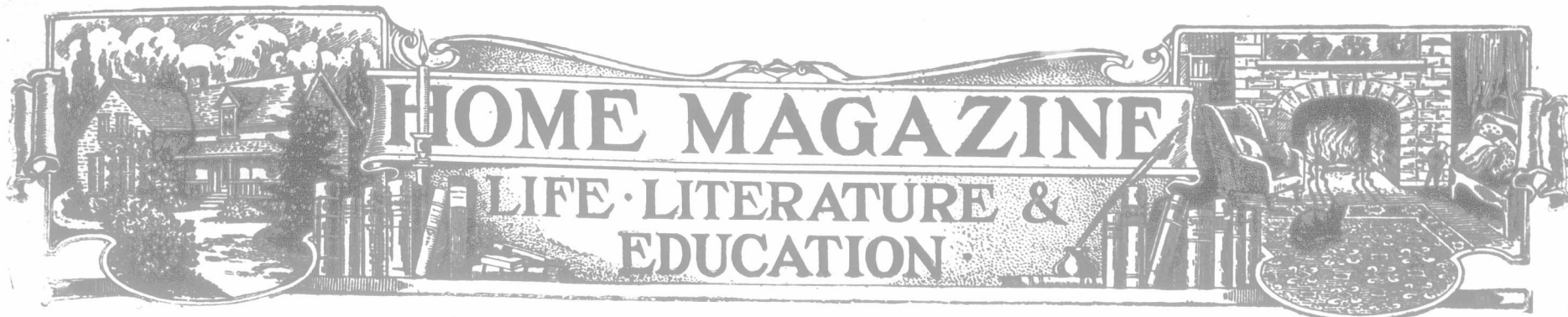
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The Heart's Question.

BY CALE YOUNG RICE.

Is it such a little thing
To find a wind-flower
Twinkling in the wild-wood
Hour after hour.

Dancing to the wind's pipe
With a happy nod?
Is it such a little thing?
I think it is God.

Is it such a little thing
To find the young moon
Flitting through the tree boughs
In her silver shoon,
Seeking for the wind-flower
There along the sod?
Is it such a little thing?
I think it is God.

Is it such a little thing
To find in your face
Something of the wind-flower
And the young moon's grace?
Something of the wild-wood,
Ever faery-trod?
Is it such a little thing?
I think it is God.

—In *Wraiths and Realities*.

Reconstruction.

(Continued.)

Little Things That Are Big.

BY "A. N."

AMONG the little things that are big, because they accomplish so much more than appears immediately on the surface, is the idea of *Community Halls*—as memorials to the soldiers.

Among farmers there may be one here and there so intensely individualistic as to think the movement for these halls "all nonsense," and the appropriation which the Government intends to make for them as well as that collected in the neighborhood, a useless waste of money. But even such a man may change his point of view if he uses his power of imagination enough to grasp what the nation-wide establishment of such places may mean if used as they may be used. True, the significance of one little community hall in a small country district may not seem very great; it is the significance of all the halls, taken collectively, that must be considered.

In a nutshell: Taken upon the whole, people are gregarious animals; the solitary life does not appeal to many of them and is not good for them. They must mingle together not only for the sake of the greater happiness and contentment they achieve by so doing in a right way, but because in the social circle they gain new ideas, have their wits and reasoning powers sharpened, find opportunity for discussion of important community movements, and attain that poise and confidence in the presence of people that is so great an asset all through life.

To all this the Community Hall provides a direct avenue.

It is a place where all kinds of meetings can be held which are in the interests of the community. . . . With seats primly in order it appears as a formal hall for lectures or a theatre for concerts, the drama, or movies. . . . The centre of the floor cleared, and presto! it becomes an admirable hall for dancing, if such is approved of in the neighborhood; add a few tables and the place becomes metamorphosed into a dining-hall for community luncheons and banquets. Another rearrangement, with a friendly grouping of the chairs and tables, and the room becomes an ideal spot for parties and receptions, or to be used for a "dropping-in" place or rest-room, exactly as club-houses are used.

Does all this seem trivial? Is any-

thing trivial that adds to the brightening and richness of life?

The wail "How can we keep the young people on the farm?" is so odd that it is fast losing its appeal by sheer force of useless repetition. Of course, no one with any common sense nowadays believes in trying to keep all the young people on the farm—there are always, and always will be, boys and girls born on the land who are from their cradles fitted for occupations other than farming—but the fact remains that every year young people who would do better on the land than anywhere else drift away from the country and into the city, where they put in comparatively insignificant and unproductive lives. The truth of the matter must be faced that the lure city-ward is fundamentally the wish for more brightness in life.—"Easier work," some of these migrants say, but the chances are that many of them find work just as hard, and less independent, in the city; the things that keep them there—if they will honestly confess—are the "shows," the frequent meetings with young people of their own age, the liveliness and sense of "something doing" in the brightly-lighted streets. It seems quiet and "lonesome" back there on the concession over the hills, where the roads are lighted only by God's stars and God's great silver moon.—Grasping at bubbles, these young folk too often miss the substance, until it is too late. And yet they are not wholly to be blamed. Young people cannot be other than young people. It is easy enough, perhaps, for the man of forty or more to find such unflinching interest on his own farm that he needs (or thinks he needs) no further diversion; it is not so easy to keep that frame of mind if one is only twenty or twenty-five.

The higher education foreshadowed in some of the new movements afoot in

Ontario in favor of rural young folk should do much to create a new interest in all rural life—the joy of *scientific* agriculture, interest in Nature study, and appreciation of field, wood and sky—but there will always be a class of young folk who demand more, who find each other more interesting than beautiful landscape, flowers and bugs, and for these the Community Hall steps in. The Consolidated and Secondary Schools will bring one class of city advantages to the very doorsteps of the farm home; the Community Halls another. May we repeat—such meeting-places open the way to sociability, to entertainment, and to such educational influence as can be derived from lectures and music.

Last, but not least, may they not easily prove the training-ground for future orators and statesmen. The "old red school-house" served its day and with credit, too. But how much more inspiring to the youthful orator to deliver his thought in a large and beautiful hall, to which people may come from far as well as near so that motor cars are ranged in rows outside! Splendid training, surely, for the farm lad who may one day test his powers in the Legislative halls of the Dominion!

But in all this zeal for the young people, the older folk must not be forgotten. It is perhaps true to say that *normal* elderly folk need and enjoy just as much as the younger ones such pleasure and stimulus as association with others, lectures, plays, and nearly everything else that has been mentioned. People are just as old as they permit themselves to be; they do not have to get up on a shelf unless they want to. Life is an opportunity for steady development all along the way. One can't stand still, for if he is not going ahead he is slipping behind, and that does not pay. Only in moving

forward and keeping abreast of the times is there real joy and profit in living. . . . And so the Community Halls afford opportunities for the fathers and mothers as well as the sons and daughters.

ONE thinks the Community Hall should be just as bright and beautiful as can be afforded. The outside surely should be architecturally pleasing, a real honor to the memory of the men who fought in the great War for humanity's sake; but especial pains should be taken to make the interior at once homelike and well suited to all the needs to which the place may be put. There should be plenty of windows, and the seats should be comfortable. A store-room to which some of the seats may be removed when it is necessary to have clearer floor-space would seem a necessity; also cloak-room, and a kitchen for the preparation of refreshments. One would like to see, in the main hall, a big fireplace, with easy-chairs grouped about it. A few small tables will be needed, and if bookcases and good pictures can be added all the better. Of course, it goes without saying that the place of honor will be given to photographs, framed in groups, of all the men who went overseas to fight,—not only of those who fell, for all have been equally worthy. Also there will be a brass or marble tablet inscribed with the names, and placed either outside or inside of the building as may be preferred.

Most of the above details answer to rest-room and club-house requirements, but certainly there must be a stage for concert and drama uses, roomy and provided with wings and dressing-rooms. It should be placed at the point where it can be most easily seen from every part of the hall.

—This reminds: Reference has been made to the possibility of using the Community Hall as a movie theatre. It seems necessary to suggest, just here, that the strictest censorship should be exercised over the movie presentations admitted to the rural districts. The cities have failed in this, and as a result the great majority of such performances in city theatres are absolute trash, neither artistic, inspiring or instructive, and often introduced by a vaudeville stunt vulgar to an extreme.

This, however, does not do away with the fact that many excellent screens are presented by movie-people,—good plays by distinguished actors, representations of books that are classics, travel films, films of various industries, etc. In short, there are vast possibilities in the movies that people cannot afford to miss. Surely it is up to the country folk, with eyes opened by the experience of the cities, to see that only the best shall be admitted to the Community Halls. Anything short of that must soil the carrying out of the purpose for which the "memorials" are erected.

Among the Books

"Robert Browning."

BY MARY J. TURNBULL, R. R. 5, GALT.
[One of the essays submitted in the Christmas Number Competition.]

ANYONE who undertakes the study of Browning begins to understand why there are so many Browning clubs formed. Many of his poems are puzzles; he makes us think, unlike Tennyson who is his own interpreter. When some of his poems were published, some of his friends who could not understand them, wrote derisive letters to him asking what he intended to say.

Browning ranks among the first of great British poets. In the study of his life and works, there is a whole season's



Darwin Tulips Make a Wonderful May Border to this Well-kept Lawn.

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Gossip.

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work for anyone undertaking it, and many of his poems would fill an evening. So that one feels little can be said of him in a short article.

His Life.

HE was well born. His father was an English gentleman of whom Browning said: "He might have been a notable man had he known what ambition, or love of money, or social influence meant. As it was, on his death, he left enough to give his son that ease and luxury necessary for a literary man.

From his father he inherited his exuberant vitality, his insatiable intellectual curiosity and capacity.

His home life was peculiarly happy. He describes himself as a child sitting on his father's knee, listening to tales of classic lore, while his mother played or sang her weird and tender Scottish songs in an adjoining room.

His father's brain was a library in itself, and his heart was young and buoyant, so that he made excellent company for his boy and girl.

Of his mother, Carlyle said: "She was a true type of Scottish gentlewoman." Browning said of her with emotion, "She was a divine woman." She had a deep evangelical religious nature, derived from her mother who was also Scotch. Her father was a German.

Blessed with such a gifted parentage no wonder the gifted lad found the ordinary school-life slow, and after an attempt at such school life, he was educated by tutors until he went to the university.

His father approved of his resolve to be a poet. At first his efforts were not successful, but in the interval he made many friends. Byron was his favorite poet, whom at first he tried to imitate.

He travelled abroad somewhat, and in 1844, after returning from a trip to Italy, he was persuaded by a mutual friend to meet Miss Elizabeth Barrett, in whose poetry he had become interested. His fate was sealed at first sight, but she was not easily won, and her poor health seemed a barrier to their marriage.

Her father also strongly objected. But when the doctor ordered Italy for the winter, Browning pressed his suit. She finally consented to a private marriage with the full approval of the rest of her family; her father never forgave her and she never saw him again.

The Brownings spent their winters in Italy and Paris, with a few summers in England, at last settling in Florence, where they lived a quiet life, drawing about them the literary stars of both continents. Margaret Fuller, Hawthorne, the Carlyles, Cardinal Manning, Landor and others.

During this period Browning did not write much. After a happy married life his wife died in 1861. He then settled in England in order to educate his son. His father died in 1866, and from now on he and his sister lived together. His mother had died some time before. His wife, writing of him at the time, said she never saw anyone express such bitter grief.

He finished many of his poems and began to reap the results of a slow but steadily won fame. Many home universities wished to honor him. He was happy and genial, was no recluse like Wordsworth, but loved the society of his fellowmen. He had no personal peculiarities which are supposed to be a mark of genius. The romance of his life he cherished like a religion. He died in 1889 at the age of 77, and was buried in Westminster Abbey.

His Work.

EARLY in his career Browning aimed at being a dramatist. He wrote several poems in that form, but they were not a success. He could not make his character show the scenes around them. The moral effect of a drama shows the value of it. However, he has used the dramatic monologue with much success, and many of his best poems are written in that form.

His poems are taken from many sources; he has broken ground, unbroken before, by any other poet. History, biography, his own experience, from true incidents, popular legend and the classics, all yield him their quota of subjects. He studied the Middle Age, not for its picturesque externals, but for its strange spiritual conceptions.

Wordsworth got his subjects chiefly from nature; Browning from his fellowmen with whom he freely mingled, and

everyone was made to yield him something. There is no form of life which he does not attempt to portray; the bishop, sage, artist, musician, politician, criminal or quack. His range of subjects is due to the psychological depth of his imagination, the interest is wholly spiritual or intellectual. The poetic motive of all his work is aspiration, that energy which urges on the human soul to achievement, showing the development of life at some crucial point, as the outcome of some past development or decay. Many of his poems deal with conflict between good and evil, or between lower and higher ideals, either between individuals or in the struggle of every human soul.

Struggles in human nature are always the same, but expressed differently in different ages. Browning's interpretation is subtle and dramatic. He carried his observations of the realities of life into regions no other poet ever did; into the motives of humanity, which are the sources of world movements.

His mode of expressing his thoughts is entirely original, different from any poet past or present. Tennyson always expresses himself in smooth, polished and well-rounded words or phrases. Browning's words are rough and thorny, he delights to use the uncouth and unusual. He chooses abnormal character types, and describes them with odd and grotesque expressions; he avoids "shallow prettiness." Any rough phrase or metaphor, will serve his purpose. Dr. Holmes said



Solomon's Seal.

of him, "That his was the dark meat, while Tennyson's was the white meat." The masculine taste prefers the dark as having a gamier flavor.

Arnold says, "He has made rough language a vehicle for high thought." The roughness is due to the dramatic quality of his poetry, and in spite of his style is very powerful.

The most astonishing example of Brownings' mental vigor is his huge composition, "The Ring and the Book," published in 1868. It is a poem in which the same story is told in eleven different ways. A story of a criminal trial, which took place in Rome about 1700, of one Count Guido, for the murder of his young wife.

First the poet tells the tale himself; then he tells what one-half the world and what the other said; then the deposition of the dying girl; and the testimony of the witnesses; the speech of the count in his own defence; the arguments of the counsel, etc.; finally the judgment of the Pope.

So cunningly does he weave the motives at work in the tragedy and lay bare the secrets of the heart, that the interest increases to the end of the tale.

Browning seldom deals directly with the pathetic. But he does in the "Last Ride Together," and the "Incident of the French Camp."

He is very humorous; take the "Pied Piper," so familiar to us all, and this

trait runs through many of his other poems.

His chief characteristic, perhaps, was his optimism, *The Will to Live*, appreciates the mere joy of living. He sees the evil in the world, but believes the general tendency is upward, step by step. Perfection is not attained in this life, and the full meaning of life is not unfolded here, but in some future state when the anomalies of life are rounded off.

Our life here is but a fragment of the real life. There must be a future life to make up for the deficiencies in this. In his song from "Pippa Passes," this thought is expressed, and in the tale of Rabbi "Ben Ezra," an old Jewish writer gives his experience of life.

Of his music poems take "Tocatta of Galluppi," which shows the influence of music and "Abt Vogler," in which he shows his belief in the ultimate fulfilment of ideals, as brought out by Abt Vogler who has implicit faith in his own intuition.

His love poems are unique, in them he deals with the purely personal emotions. In the story of the Glove he gives a new interpretation to the story. In that view of life which gives satisfaction to the emotions there may be an ideal. Browning takes a calm, clear, sympathetic view of life, but refuses to accept mere romance, reason must help along.

In the usual version of this story the lady is put to shame. In Browning's view the lady wishes to test her admirer's fine speeches, and when he throws the glove in her face, she is in no way disconcerted, as the poet discovers, for she has proved her point, and soon marries another man more to her liking. While the rejected lover merges into a mere social fop.

His art poems show a belief in art for art's sake. In "Andrea del Sarto," we have a story of the revival of art in Italy. The artist full of his subject should take a first rank as an artist, but fails to do so. Browning is attracted to him because in this he shows so much human nature. The story is written in monologue and discloses the gentle, sensitive nature of the man who was called in Florence "the faultless painter." He depreciated himself though he hoped to be successful yet. His own estimate of his work is that he can do all he tries to do, but he has no great depth. He has no great ideal and there is a lack of earnestness and concentration of energy. His art expresses his own character perfectly.

In Fra "Lippo Lippi," we note the humor in the poem, and see how a good artist is spoiled by being put in priestly robes, a position with which he was entirely out of sympathy.



False Solomon's Seal.

So in the "Bishop Orders His Tomb," we find another who has always craved the beautiful in art, but who has not attained to it, and on his death-bed his half-conscious ravings are of art, and he tells his attendants how to make his tomb, that he may have at death what he could not get in life.

Many of Browning's best poems have to do with the Renaissance. He had a sympathy with the past which enabled him to interpret it perfectly. Bishop Blougram (supposed to be Cardinal Wiseman, the first foreign bishop in England) gives an apology in defence of his faith. He claims that doubt may

have a certain value in leading a man to think and see more clearly. Note the humor in this poem also.

In the "Grammarians' Funeral," he deals with the revival of learning in Europe, when Europe began to kindle her life at the life of Greece and Rome. The work of the grammarian was the very important task of translating other languages. At his death his pupils gave him an honorable funeral, singing his praises, as they carry his body to the grave.

It is Browning's belief that a good many lives may be sacrificed for an ideal. Sometimes the individuals own interests are so mingled that the ideal is lost. Note the harsh words and phrases used to convey his thought.

In "Cleon" we come to another great epoch in the history of the human race, in the decay of Greek thought, and the advent of Christianity. Cleon is a poet who seems to have everything that life can desire. He knows all the best in art, literature, music and philosophy. Like Cicero, he has very little faith in the old Roman religion. No man will work heartily for an ideal which is not a reality in the world. Religious consciousness needs a moral imperative. These men tried to do right, they had high culture and refined sentiments. The stoic had wise self-control and fortitude; the epicurian had pleasure. Yet the spirit sees more than it can enjoy, and he would fain hope that there is another place where life will be continued. Hearing of the Christian religion he hopes it may be able to solve the problem of life.

In the "Epistle of Karshish," we have the tale of an Arab physician, which defines the new moral consciousness—knowledge of good and evil. He was travelling in Palestine and heard the strange tale of Lazarus, and would like to know more of the One who had healed him.

Human love must end with God. Nothing else promises a continuing personality. Cleon and Karshish were both haunted by a god of love. They tried to find him, not knowing he was so near. In this there is pathos.

So much for a study of Browning, may it serve as an introduction to those who have not made his acquaintance, when you do know him, may it be to enjoy him.

Wild Flowers Worth Knowing.

TODAY are presented four beautiful "cousins" in the plant world, all belonging to the Lily family, as may be guessed from their graceful growth.

Solomon's Seal (Polygonatum biflorum). In bloom, May and June, in rich woods. The stalk, from 1 to 3 feet high bears pretty ovate leaves alternately on the upper side, the pendant, bell-shaped, greenish yellow flowers hanging beneath, singly or in pairs. The fruit is a small blue berry. This plant will grow splendidly in a rich, partially shaded place in the garden. It gets its name from the scars left along the root-stalk by the last year's stems, and which resemble the stamp of a seal upon wax; but what Solomon had to do with it is not clear.

False Solomon's Seal, or False Spikenard (Smilacina racemosa).—Sometimes, also, called "Solomon's Zig-zag" from the fact that its stem zig-zags somewhat. The leaves and leaf-stalk very much resemble those of the Solomon's Seal, but the small greenish-white flowers grow in a compound panicle at the end of the stalk. The flowers come in May, and are followed by brownish or purplish spotted green berries that turn red later.

Two-leaved Solomon's Seal, or False Lily-of-the-Valley (Maxianthemum Canadense) resembles the lily-of-the-valley in its leaves, which grow in pairs on the edges of moist mossy woods and about the bases of old trees. The whole plant is only about 5 inches tall, and the flowers, which look like those of a small false Solomon's Seal are followed by spikes of pretty red berries.

Twisted Stalk.—Somewhat resembling the Solomon's Seal in its leaves and manner of growth is the *streptopus roseus*, or sessile-leaved twisted stalk, but the flowers are pinkish. They are followed in August by beautiful, pendant red berries. . . . Another species, *Streptopus amplexifolius*, has greenish flowers. The leaves, which are strongly clasping, have a whitish bloom underneath.

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Hope's Quiet Hour.

The Captain's Orders.

God did send me before you to preserve life.—Gen. 45 : 5.

The story of Joseph and his brethren is full of human pathos and dramatic incidents. We see the lad walking fifty miles or more to seek his brothers. Then—wary and hungry—he finds a most unbrotherly welcome. His life is threatened, then he is flung into a pit while his hardhearted brothers sit down to eat and drink. Then he is sold as a slave and fights his way upward in his master's house, until everything is left in his hands. Faithful to his master, his God and himself, and refusing to stain his pure soul, he finds that suffering for righteousness' sake is a real cross of shame and pain.

Through years of undeserved imprisonment his faith in God shines out in undimmed beauty. Then a sudden summons from the great king of Egypt brings him out into the light again, and the slave-prisoner finds himself prime minister of the leading country of that time. Calmly and faithfully he accepts the duties of his new position, as he had accepted the duties which met him as a slave and a prisoner. As God was trusted when He seemed to have forsaken His loyal servant, so He is remembered and obeyed in the dazzling splendor of great prosperity. The remembrance of God's presence gave the young man courage in adversity; and now he does not lose his head, although in all Egypt no one but the king is greater than Joseph.

Then another day of testing comes. The brothers, who treated him so unmercifully in his boyhood, stand trembling before him. It is a great chance to "get even" with them. But he will not descend to their level, or copy the wickedness he hated. There is another way to get even with them—and that is to lift them up beside him. He has severely tested them already, and is sure they are really repentant. So, like Jesus our loving Brother, he returns good for evil with openhanded generosity. They deserve blows and are amazed to receive affectionate embraces instead. They are more afraid than before, when they discover that the ruler of Egypt is the brother they betrayed and sold so many years ago. They naturally expect their long-delayed but richly deserved punishment. How astonished they are when Joseph owns them as his kinsmen, saying: "I am Joseph your brother". Not only has their wronged brother forgiven freely, but he pleads with them to forgive themselves: "Now therefore be not grieved, nor angry with yourselves, that ye sold me hither: for God did send me before you to preserve life. . . . God sent me before you to preserve you a posterity in the earth, and to save your lives by a great deliverance. So now it was not you that sent me hither, but God."

Joseph knew that no wickedness of men could interfere with God's plans. He overlooked the agent and took his Captain's orders each day from the Captain Himself. So our Lord accepted the cup of suffering as from His Father though enemies of His Father pressed to His lips. He said, in confident trust, "The cup which My Father hath given Me, shall I not drink it?"

So, also, the apostles declared that when Gentiles and Jews made common cause against God's holy child Jesus, they could only do what God's "hand and counsel determined before to be done." —Acts 4 : 28.

We can look undismayed on the upset condition of this troubled world of ours, if we hold fast to the certainty that God will make all things—even the wickedness of men—work together for the good of His loved children. Again and again, during the story of Joseph's trials, this encouraging remark is made: "The Lord was with Joseph." When he seemed most helpless he was still safe under God's care. Sent to Egypt as a slave, sent to prison for another's sin, his course was marked out for him until the opportunity of great service was opened. God made him ruler of Egypt, as he knew right well, so that he might do great service to the world and save the famine-stricken nations by a great deliverance. He was still taking his orders from the Captain Himself.

A few years ago the world seemed at the mercy of cruel militarists. To-day—as a consequence of the awful horrors of war—the dream of a lasting world peace seems likely to become a solid reality. It has happened once more, as the Psalmist saw it when God arose to judgment and to help all the meek upon earth: "The fierceness of man shall turn to Thy praise."

As Joseph returned good for evil, conquering his enemies by transforming them into friends, so God is able to make all things—even the Great War—help forward His kingdom of righteousness and peace. It is the war which has made a league of nations—a worldwide brotherhood—no longer a castle in the air. The war is proving itself a peace-maker. It has taught us to value peace and to tie the hands of war-makers. It has opened men's eyes to the madness of war, and so the sacrifice of many noble lives will help to work out God's purposes of love for the world.

"God is working His purpose out, as year succeeds to year:
God is working His purpose out, and the time is drawing near—
Nearer and nearer draws the time—the time that shall surely be,
When the earth shall be filled with the glory of God as the waters cover the sea."

It is an encouragement to us all to remember that God is in control of our lives. There are no trifles with God. He counts the very hairs of our head, He is with every sparrow that falls, He cares for every wild flower by the wayside. He who made the stars, and swings them in their mighty orbits through space, has not lost sight of one tiny life which is absolutely dependent on Him for breath and daily food.

There was a marshal of France long ago, the Viscount de Turenne, who was one night going the round of his camp. He overheard some of the younger soldiers complaining about the hardships they were called to endure. An old veteran said to them: "You don't know our father. When you are older you will never talk like that. Be sure he has some grand end in view that we can't make out or he would never allow us to suffer so."

Turenne often said that that moment of eavesdropping was the proudest and happiest moment of his life. The soldiers who did not know him might doubt his leadership; but veterans who had fought under him and marched with him for years were confident that all was well.

The Captain's orders! How that thought transforms pain into glory, drudgery into service, darkness into light! Joseph could not understand God's plan while he endured grief, suffering wrongfully, but he did not lose his faith. Later he could see for himself how God had led him and trained him until he had become a perfected instrument, fit for the Master's use.

Let us trust our Captain and obey His orders with the glad certainty that He never can make a mistake.

A friend of mine, called to go out as a missionary into an unknown country, said calmly and confidently: "Calls to-day are a reality. The voice of God is clear and strong, though still and quiet. The call comes to us to be, to do, to dare, to die, to work and to suffer, and the men who are always listening to God's voice—and, of course, always hearing it—are the men who accomplish things in the world."

That was a good many years ago, and it has been very plain that God was with that brave missionary in his work. He still listens for God's voice—and, of course, still hears it. As a consequence he has accomplished great things for God in the world—or, rather, God has done great things through his surrendered life.

We are not in control of our own lives, for we have placed them willingly in the hands of Christ. Our highest title is: "the servant of Jesus Christ." His orders for the day fill us with confidence and joy, for we receive them from our Comrade-Captain, our Brother-King Himself.

"Why should I wait for evening star,
Why should I wait to cross the bar,
And death's dissolving hand to trace
The outline of my Pilot's face?"

"Must my frail barque be driven and tossed
By winds and waves,—be wrecked and lost

Upon life's strange and storm-swept sea
Because my Pilot's far from me?"

"No, not alone my way I trace,
Each wave gives back my Pilot's face;
To every sin and fear and ill,
To every storm He says, 'Be still.'"

"I need no longer vex my soul
With longings for that distant goal:
My Pilot sitteth at the prow,
And heaven's within, and here, and now."
DORA FARNCOMB.

Gifts for the Shut-in

A Peterboro' reader—Mr. O. S.—sent \$2 for the needy last week, which was passed on at once. The papers and books for the "shut-in," which have arrived from many of our readers, have also been passed on. With heartiest thanks.

DORA FARNCOMB,
6 West Ave., Toronto.

The Fashions.

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. 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.

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.....

2822-2818. A Smart Sports Costume. Blouse 2822 cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure, and requires 3 yards of 36-inch material. Skirt 2818 cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires 3½ yards of 36-inch material. Skirt measures about 1½ yards at the lower edge. TWO separate patterns, 10 cents FOR EACH pattern.

2508. Girls' Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. Size 8 requires 2½ yards of 36-inch material for the dress, and 1¾ yards for the guimpe. Price, 10 cents.

2812. Ladies' House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5½ yards of 36-inch material. The skirt measures 2 yards at the foot. Price, 10 cents.

2814. Girls' Dress. Cut in 4 sizes: 6, 8, 10 and 12 years. Size 10 requires 4¾ yards of 27-inch material. Price, 10 cents.

2824-2616. A Stylish Costume. Waist 2824 cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. Skirt 2616 cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. The skirt measures 2 yards at the lower edge, with plaits drawn out. It will require, for the entire costume, 6½ yards of 40-inch material. TWO separate patterns, 10 cents FOR EACH pattern.

2829. Girl's Coat. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 6 will require 3 yards of 44-inch material. Price, 10 cents.

2811. Ladies' Negligee. Cut in 4 sizes: Small, 32-34; Medium, 36-38; Large, 40-42; and Extra Large, 44-46 inches bust measure. Size Medium will require 4¾ yards of 44-inch material. Price, 10 cents.

2639. Girls' Dress. Cut in 4 sizes: 8, 10, 12 and 14 years. Size 12 requires 3¾ yards of 36-inch material. Price, 10 cents.



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.]

The Charm of Curtains.

CERTAINLY a room looks bare until the curtains are added. They give the finishing touch of daintiness and homelikeness; and yet they may be a horror. For instance what possible attractiveness could ever have been conjured up in connection with the old-fashioned, much-bepatterned Nottingham lace window hangings, especially when they reached the floor and were so stiffly starched that they stuck out like so many old-time petticoats? Perhaps there are some of these old curtains still in existence, but they have been put through such a transformation that one scarcely could know them. They have been dyed brown, or old-gold, or olive green, to harmonize or form a pleasing contrast with the ground color of the room, and now, almost absolutely starchless do duty as inside curtains, those next the glass being quite plain, without design of any kind.

Window curtains seldom reach the floor nowadays, unless in large elaborate drawing rooms furnished in old French style. For the ordinary living-room, which, with the help of a small reception-room, has almost completely superseded the formal drawing-room, the window draperies reach only to the sill, but

value in leading a man to more clearly. Note the poem also. "The Grammarian's Funeral," he the revival of learning in Europe began to kindle life of Greece and Rome. The grammarian was the task of translating other his death his pupils gave able funeral, singing his carry his body to the

g's belief that a good man sacrificed for an ideal. individuals own interests that the ideal is lost. words and phrases used thought.

ve come to another great story of the human race, of Greek thought, and Christianity. Cleon is a to have everything that He knows all the best in music and philosophy. has very little faith in the gion. No man will work deal which is not a reality Religious consciousness imperative. These men t, they had high culture timents. The stoic had rol and fortitude; the pleasure. Yet the spirit it can enjoy, and he e that there is another will be continued. Hear- stian religion he hopes it solve the problem of life. le of Karshish," we have Arab physician, which v moral consciousness—ood and evil. He was alestine and heard the azarus, and would like to One who had healed him. must end with God. promises a continuing eon and Karshish were y a god of love. They a, not knowing he was so here is pathos.

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flowers Worth knowing.

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(*Polygonatum biflorum*). and June, in rich woods. 1 to 3 feet high bears aves alternately on the pendant, bell-shaped, flowers hanging beneath. s. The fruit is a small plant will grow splendidly shaded place in the its name from the scars t-stalk by the last year's resemble the stamp of a ut what Solomon had to clear.

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The Cost of Building Bodies



Protein is the body-builder. Also the costliest element in food.

Quaker Oats yield 16.7 per cent protein, which is more than sirloin steak. Potatoes yield less than 2 per cent—bread about 9 per cent.

That's one reason why oats dominate as food for growing children. They excel all other grains in this body-building element.

Figuring protein alone, this is what it costs at this writing in some necessary foods:

Cost of Protein	
Per Pound	
In Quaker Oats	\$.73
In White Bread	1.30
In Potatoes	1.48
In Beef, about	2.00
In Ham	3.63
In Eggs	2.32

Thus body-building with Quaker Oats costs about half what it costs with bread, and a fraction of the cost with meat.

What Energy Costs

Energy value is another food essential. Most of our food consumption goes to supply it.

Quaker Oats yield twice the energy of round steak, six times as much as potatoes, and 1½ times bread.

At present writing energy costs in essential foods as follows:

Cost of Energy	
Per 1000 Calories	
In Quaker Oats	\$.05½
In Round Steak	.41
In Veal Cutlets	.57
In Average Fish	.50
In Chipped Beef	.75
In Hubbard Squash	.75

Thus meat and fish foods average ten times Quaker Oats cost for the same energy value.

This doesn't suggest an exclusive oat diet. Other foods are necessary. But this food of foods—the greatest food that grows—should form your basic breakfast.

It means supreme nutrition, and the saving will average up your costlier foods for dinner.

Quaker Oats

The Delicious Flakes

Get Quaker Oats because of their matchless flavor. They are flaked from queen grains only—just the rich, plump, luscious oats. We get but ten pounds from a bushel.

When such extra flavor costs no extra price you should get it.

Two Sizes: 35c and 15c—Except in the Far West

(3137)

always two sets are used, the colored inside set, and the plain white or cream set next the glass. Always the inside curtains are drawn quite to the sides, even over the wall, and are connected at the top by a short frill or valance of the same material. When windows are grouped, the valance runs quite across the whole of them, and only two colored curtains are used, at each end, although each window must have its own cream or white allowance. Cream or white "next-the-glass" curtains may be of net, voile, marquissette, fishnet, or scrim. The heavier inside curtains may be of any of the "sundour" or "sunfast" fabrics—casement cloth, monk's cloth, linen, silk-and-linen, shantung silk, etc., or they may be of flowered chintz, cretonne, India print, or Japanese towelling or crepe. Very clever people have succeeded also, in making very pretty ones of factory cotton, dyed to suit the rest of the room and finished with band trimming.

It is usually safe to have the ground color of these inside curtains the same as the ground color of the wall-paper, but often, when more brightness is required, an absolute contrast is desirable. In this case pretty shadow-chintz may be used, or plain curtains in whatever color desired. The chintz, however, or the plain color chosen, must be repeated elsewhere in the room, to carry out the "tone." It may be used in the upholstery, or in cushions. For instance a room with soft bisque or putty-colored walls and green rug may have shadow-chintz curtains in pink and green, and the upholstery of the wicker furniture the same. Or a room with old blue walls and rug may need the saving grace of bright yellowish inside curtains, touches of the same on the cushions, and a brass or copper jardiniere or two, to make the place bright and artistically satisfying.

Quite often, now, one can buy wall-paper with a border to match the curtain and upholstery material—provided one buys all in the same shop. This is particularly helpful when furnishing bedrooms, as even the bedspread may be of the chintz or other material. For other rooms the paper border is not used as frequently as a plain wooden moulding placed right at the ceiling-line, or, if the walls are very high, just at the bottom of the drop-ceiling.

Some Suggestive Ideas.

AND now to a very different subject. Before the details fade entirely, I want to tell you a little about two more of the lectures that were given during our lecturing siege of a few weeks ago. One was given by Mrs. Charlotte Perkins Gilman, whose poems and articles you may often see in magazines from "over the border," and the one thought from it that has clung to me so that I might pass it on to you, was her warning against incessantly saying "Don't, don't, don't," to very little children.—The idea lying behind the warning was that by constantly cultivating the *negative* side of children during these early and very impressionable years, we tend to do away with the *positive*—the very quality that the child will need, in these strenuous days, to help him on his way through life. A child who is naturally very positive in character will likely get along all right despite this continuous checking, but to one of more colorless, bending disposition the result may be disastrous. . . . This is no new idea for long enough teachers in training for kindergarten work have been advised almost never to say "Don't" to a little child, the alternative being to attract his attention to something else and so divert him from the undesirable thing he may be engaged in doing. The thought may, however, be new to some mothers, and very suggestive to those who recognize the powerful effect the psychological has in forming the character of their children. It is quite possible, Mrs. Gilman thinks, to make children too obedient,—so obedient, in fact, that they may get into the habit of doing, almost automatically, what anyone tells them. The risk is that when they grow up they may still keep to the same way—for there is no chain so strong as habit—and follow demands and suggestions, bad as well as good, quite irresponsibly. Mrs. Gilman thinks it wise to let children see the reason *why* they should do thus and so, when asked to do it. If this is done, and the request made courteously, she apprehends little trouble with the normal child.

The other lecture was given by a man from Los Angeles, who certainly gave evidence of being able to go beneath the surface of things. His talk, too, pivoted about the thought of Education.—How much we are hearing about that nowadays! And what a splendid augury for the future!

The chief defect in our present educational system, said this man, is that from start to finish it almost entirely ignores the very greatest question in the world, "Why are we here?"—Of course the point of the observation was that the great purpose of our being here is really that we may *serve*—do steadily some useful work, help the world upward in one way or another.

Probably the one fact that keeps the world from hopeless chaos—at least even more hopeless than the muddle in which it now finds itself—is that most people, while merely earning a living, are forced to do some useful work. But there is a greater spirit of service than this,—the one that *consciously* tries to make things better somehow, than they were before—the house cleaner, the cooking more healthful, the garden prettier, the family happier, the community brighter and more progressive.—You see how it works. Indeed people may learn to feel *responsibility* to help somehow in making things continually better,—the bigger the opportunity the bigger the work, until it touches the welfare of the province, the country, the world. Such is the spirit that drives such men as Lloyd George, and Wilson, and Marconi, and Dr. Alexis Carrell, and, indeed, every one who feels himself or herself driven in the cause of uplift and helpfulness rather than mere self-seeking.

So the lecturer held that in such spirit of service alone do we get away from selfishness,—the cause of *all* evil; that through that spirit alone do we build character, the one personal possession that can persist, and that we can always carry along with us, since it is in reality *Us*, and for the building up of which we are *Here*.

—I am very glad to pass on to you this little bit of the message of the man from Los Angeles. Of course it is not new, either. So many have said it—are saying it. But it is surely worth repetition until it becomes burned into our lives, all lives. For is it not selfishness, somewhere, that is at the root of all wars, and murders, and oppression, and most of the unhappiness and poverty and grovelling in the world?

I wish you could all have these lectures, instead of just the little bits of them that I can pass on to you; but I think the day is soon coming when rural folk will concert and take measures to have all such inspiration come to them first hand. Nothing is more helpful or more enjoyable than a really good lecture. It adds to the richness of life. . . . We have been very much privileged here lately in this line,—having had no less than six very good ones within the space of about two weeks. I wish I could pass them every one on to you. JUNIA.

Price of Precious Stones.

For E. J. Better consult a jeweller in regard to prices of precious stones. So much depends upon the size and quality of the individual stone. A diamond may be of purest quality, or comparatively poor; similarly an emerald, a ruby, a sapphire, a topaz.

Dishes From Canned Tomatoes.

Tomatoes and Corn.—One pint canned corn and 1 pint canned tomatoes. Add a pinch of paprika or pepper and salt. Cook slowly for 20 minutes and add a tablespoonful of butter just before serving. Serve on slices of hot toast.

Scalloped Tomatoes.—One cup stale bread crumbs; 1 quart canned tomatoes; 2 tablespoons butter; salt, pepper, and grated onion to taste. Line a greased baking-dish with crumbs, dot with butter, then cover with a layer of tomatoes already seasoned with the salt, pepper and onion. Alternate the layers until the dish is full, putting crumbs and dots of butter on top. Bake 30 minutes in a hot oven.

Cream of Tomato Soup.—Bring 1 quart canned tomatoes to the boiling point and strain through a sieve or ricer. Add ½ teaspoonful soda and return to the fire. When the froth rises, skim. Season with

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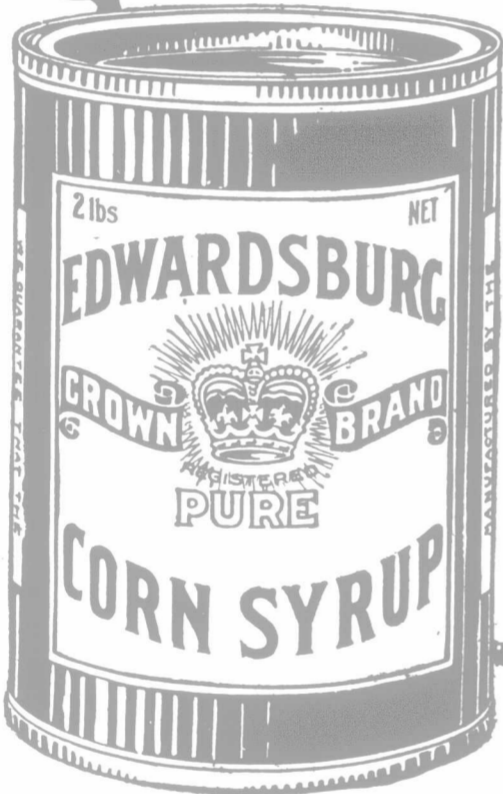
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It's a matter of choice!

LILY WHITE CORN SYRUP

Some people prefer the white (Lily White) corn syrup for table use; others, the golden, cane-flavored, Crown Brand.

Authorities strongly recommend Lily White for PRESERVING, and candy-making.



CROWN BRAND CORN SYRUP

Lily White and Crown Brand Corn Syrup can be used for all cooking purposes.

Both are pure food products, nourishing, high in food value and are great helps to household economy.

Sold by Grocers everywhere—in 2, 5, 10 and 20 pound tins.

The Canada Starch Co. Limited - Montreal

salt, pepper and 1 tablespoon flour rubbed with 1 tablespoon butter. Let boil until the flour is cooked, then pour in 1 quart of boiling milk and serve at once, without allowing it to boil up again. This is a nice supper dish, with toast.

Clear Tomato Soup.—Cook slowly together 1 quart tomatoes, 1 quart water, 1 slice onion, 3 slices carrot, 4 whole cloves, a dash of sugar, salt and pepper to taste and a bay leaf if you have it. Add ½ teaspoon soda (level). Thicken with a little butter and flour rubbed together and cook 15 minutes longer. Serve for supper with hot buttered toast.

Needle Points of Thought.

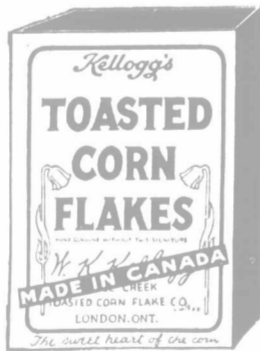
Help boost reforms and improvements. "There is no cold cream that will keep away wrinkles so successfully as the milk of human kindness." *Boston Transcript.*

The Scrap Bag.

Candied Grapefruit Peel.
Cut the peel in strips and cover with weak brine. Let stand over night. Drain off brine and boil 3 or 4 hours, changing the water every hour. For each quart of peel make a syrup of 4 cups sugar and 1¼ cups water. Let boil until the syrup is nearly cooked away. Drain in a colander and roll in granulated sugar while warm.

Hemming Table Napkins.

Before hemming napkins by hand run the edge through the sewing machine hemmer. This will crease the hem straight, and greatly simplify the work of hand hemming.



The Genuine-Original

Kellogg's

TOASTED

CORN FLAKES

Are sold in the red, white and green package only. Refuse substituted imitations of the "Just as Good" variety and

Remember

that Kellogg's Toasted Corn Flakes are only made in Canada by

The Battle Creek Toasted Corn Flake Company, Limited **London Ont.**
HEAD OFFICE and PLANT: 19

To Clean Photographs.

Dirty photographs are so unsightly that you will be glad to know there are ways for cleaning them. A sponge rubber will clean slight soil. If very dirty moisten a soft cloth with warm water to which a little ammonia has been added. Wring the cloth out well

and wipe the photograph very lightly drying immediately with a soft, dry cloth.

Accidents.

Accidents are likely to happen when working with machinery, and, if minor, may be treated easily. It is a good plan to keep some alum handy to stop the

bleeding in the case of small cuts. Toilet alum, sold by druggists, is best. A simple, clean cut (small) should be cleansed in cold water under pump or tap, which generally stops the bleeding. Afterwards draw the sides together carefully and support by stripes of sticking plaster, then bandage. In case of a severe cut send for a doctor at once. Until he arrives it may be necessary to stop the bleeding by pressure or tourniquet. If the blood spurts an artery has been cut, and the pressure or tourniquet should be applied to the limb (in case of arm or, leg) on the side of the wound nearest the heart; if the blood oozes slowly and is darker in color a vein has been cut, and the pressure should be exerted beyond the wound, on the side away from the heart.

Our Serial Story.

The Forging of the Pikes.
A Romance Based on the Rebellion of 1837.

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CHAPTER XXV.

The Discovery.

December 3rd, 1837.

THIS is Sunday night, and again, after a day of aimless roaring about despite the efforts of my cousins to engage me, I am sitting in my room whose windows look out upon the bay. An eventful week has been this, for I have found my girl!
Yes, found her and lost her again.
—Or did I find her?
—For one brief hour I looked upon her face and heard her voice, yet all

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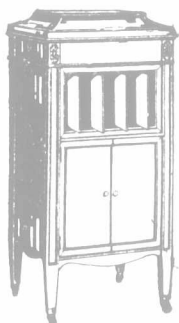
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Pablo Casals

Eugen Ysaye



the while knew that it was but the tips of the wings of this dear butterfly that had fluttered back to me that I touched, and that the dear one herself hovered just beyond my reach.—My Barry and yet not my Barry,—smiling upon me, sweet and true as of old—yet withdrawn, and proud and mysterious.

Into my life she came, for one brief opening of the gates of heaven; out of it she has gone again; nor do I know to-day better than before what was her history during those long weeks of absence, nor whether she is happy at this time, nor what are her plans for the future.

Of one thing only am I sure—that Howard Selwyn wished me to believe a lie! Not man enough to face things at their worst, he evaded me and fled from me, and now—but of that later. My anger so rises even at the name of him that if I permit my thought to dwell upon him I cannot write!

I found her on the night of the ball, in the very least likely place I could have looked for her, and the manner of it was this.

At somewhere between eight and nine of the clock we—my cousins, Uncle Joe, Aunt Octavia and I—in a coach which Uncle Joe takes out only upon state occasions, arrived at the door of the dancing hall, where the ball was to be, and where full sign of festivity had been set forth in a double row of torches set to form an avenue to the entrance. At each side of this avenue, behind the torches, a crowd had assembled to see the masquers arrive; but I might have paid but little heed to them had it not been that one of them lurched a little forward as we walked towards the door.

Looking at him I was surprised to see none other than Clinkenbocker, who, moreover, seemed to be making sign that he wished to speak with me.

Knowing that something important must be afoot else he, of all people, would not be in such a place at such a time, I immediately excused myself from our party and made way to him.

At once he drew me a little back from the crowd, so that we were in the darkness; but, despite my curiosity to know what he might be about, I turned to look, for a moment, at the scene, which was so strange to me. At that moment I would that I could have painted it; the shawled heads; the motley of faces shifting in and out of the darkness behind the red light of the torches, some hard, some vacant, some merely curious or merry; the dark, moving bodies;—all forming two swaying, living walls, between which, as the coaches rolled up and stopped at the sidewalk, passed the laughing procession of gaily dressed masquers; the men caparisoned, for the most part, in dress of the olden time, with slashed coats, tricornered hats, powderedperukes, knee-breeches and buckles, while the women, robed in all the gay colors of the rainbow, swept by with the soft rustle of silk or rich quietness of velvets. Above the long dominos one caught a glimpse, here of Queen Elizabeth frills, and there of a shepherdess' crook and wreath or here a big Gainsborough hat surmounting a shower of curls, and there a towering Marie Antoinette head-dress. Everywhere from behind the masques of black velvet, that looked eerie enough in the red flare of the torch-light, shone bright and laughing eyes.

Looking at the one people and then at the other; somehow the thought of the French revolution crossed my mind, and I was about to turn to Clinkenbocker, to remark upon it, when my attention was distracted again by a very gay clattering of bells and prancing of horses. It was the cavalcade of the Lieutenant-Governor, his coach preceded and surrounded by gentlemen or horseback, while grooms rode behind to take the horses.

As these new arrivals passed up the avenue, the crowd on each side jostled and pushed to get better view, but because of my height and a slight rise of the ground where we stood, I could see very well, even to catching the glitter of jewels and soft shining of rich furs. For a moment I looked on in smiling curiosity, and then almost started, for, in the very midst of those immediately following the Governor, I perceived the tall and graceful figure of Howard Selwyn. In spite of his masque I recognized him, and knew him for the handsomest man of them all.

"Aha!" thought I, "and so we are to breathe the same atmosphere this night,



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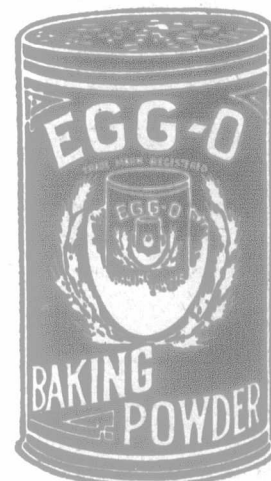
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Mister Selwyn! I wonder if, once more, I shall meet you."—And then, so quickly do memory-pictures flash before the mind's eye, I saw him again,—in the tavern, in the woods by the spring, and on the rock at the end of the rapids, where he had tossed the coin to me and I had flung it back at his feet.

When the last of this party had passed within the entrance, I recollected why I was standing thus, an on-looker, and turned to the Sea Lion. He was there beside me, awaiting my pleasure, as usual quite motionless, and, indeed, almost invisible against the dark wall had it not been for the sharp curve of his moustache like a black scimitar across the dull glimmer of his face.

"I've kept you waiting," I said. "Well, what is it, Clinkenbocker?"

But he did not at first answer me. "You're very fine," he growled. "Yes," I said, "fine feathers make fine birds, don't they?—But a bird's a bird for all that."

"I know," he said. "You've got to go."

"Well, you know," I returned, "I rather like all this, too."

"You're young," he responded.

But I could not stand there philosophizing with the Sea Lion. Inside of the door, below the long stairway that, apparently, led to the ball-room, I could see Nora and Kate waiting for me, recognizing them, in spite of their masques, by their costumes, for Nora had apparelled herself—out of compliment to me, she said—as a Lady of Spain, with a gay gown and black mantilla, while Kate had elected to represent herself as a calla lily, a choice which gave her a chance to discard her crinoline;—right well she knows how graceful she is when not so hampered. As they stood there, with their cloaks thrown back, talking with some very dashing young men, I could see a gleam of the yellow of Nora's bodice and the white lilies that Kate carried in her very beautiful hands.

"What is it, Clinkenbocker?" I repeated. "I must go in. My cousins are waiting for me."

"Next Monday night," he said, lowering his voice until it was but a whisper in my ear, "some of us are to meet over Anderson's store—the watch-makers, you know. Will you come?"

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"Why"—I began, recollecting the dinner-party to be at my uncle's that night, but no more did I say, for, chancing to

glance back at the crowd, I saw something that drove the thoughts from my brain and the words from my lips.

Coming up between the two lines of on-lookers, quite alone, was a slight cloaked figure that I should have recognized anywhere in this world. It was Barry, cloaked and masqued, but absolutely alone.

At a stride, almost, I reached the edge of the crowd, pushing through close to the door, then I stood still. So close was she as she passed me that by reaching out an arm I could have touched her, yet perforce I spoke not a word, not even in whisper, but watched her as she went up the steps with her head held very high and proud, firm step, the light from the entrance shining on the soft curve of her chin below the black masque.

Just within the door some other arrivals were showing their cards of invitation. Reaching them she stopped, but while I watched to see her draw hers forth, suddenly she whirled about and made way back between the lines of people to the sidewalk then turned sharply to the left.

With that I dashed behind the crowd and after her, all oblivious to curious eyes,—my cousins, the ball, everything forgotten. But by the time I reached the sidewalk she was already well away from the spot, hurrying almost precipitately down the Market Street.

By the time the lights were well left behind, however, she was but a few paces ahead of me, and there at the first darkness I saw her snatch the masque from her face then walk on again more slowly.

Now I felt myself justified and so overtook her.

"Barry! Oh, Barry!" was all I could say. "Barry, dear child!"

And then she stopped still, and gave a glad little cry, and reached forth her two hands to me, and I caught them and pressed them to me, saying still only "Barry! Barry!"

So we stood looking into each other's faces, and I took the masque from my face also, and in the darkness we looked into each other's eyes. There was no torch here, nor any light, but the kindly glimmer of the snow shone for us, and in truth I know that we needed no more to illumine our own souls' shining.

Just for a moment thus, and then she drew away a little and began to walk on again.

"I am so glad to see you, Alan,"

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she said. "So very glad to see you,"—laughing a little.

With that my tongue was loosed. "I have waited for you so long, Barry," I said, "and now you have come! I knew that some day you would come."

The words were spoken impetuously, but immediately I knew that I should not have uttered them, for she drew up a bit proudly and the distance between us, on the sidewalk, widened.

When she spoke again, too, there was in her tone a light bantering although there seemed a sort of feverishness in it also, so breathlessly and quickly spoken were the words.

"And yet I have been near you once and again," she said, laughing a little again.

"Did you not find my pateran, Alan?" "At the cave?" I replied. "Oh yes. But it was such a mocking little pateran, Barry. I think you were cruel that day."

Even in the darkness I could see her lips curve in a smile.

"Cruel?" she repeated. "But sometimes, you know, people must pass like ships at sea."

"Even old friends?" I asked.

"Even old friends," she repeated. Then for a little space we walked on without speaking.

At least I ventured, "Where are you staying, Barry?"

And with that something of her old self seemed to come back to her.

"Why," she replied, at once, "Do you remember Red Jock's Elizabeth?"

"You don't say you're with Elizabeth!" I exclaimed.

"Yes, with Elizabeth—Miss McPherson," she said. "And, Alan, she's just as sweet, and good as dear old Jock thinks her,—and the children too! She says she does not know you. You must let me have you meet her."

"Are—are you going there now?" I asked, feeling, somehow that I was treading on delicate ground.

For a moment she hesitated, then she replied, readily enough, "Yes." Adding,—But you can't come?" as she glanced at my cloak caught so gaily on one shoulder, and my broad hat with its feather flapping on the wind.

"I can go with you," I said, "and shall, if you will let me. The ball doesn't matter in the least, Barry. I see friends from home so seldom that I can't afford to let them slip through my fingers."

Cold words they were; but how could I say other while I realized that, in spite of her friendly words, she had, in a moment, thrown up a wall between us, invisible, yet impenetrable as an adamant and insurmountable as the heavens; for there is no wall so dense or so high as that which creeps up between two who have once been something more than friends. And the tragedy of it is, I fear, that they two added to it brick upon brick, even while they hate themselves for doing so. For Pride and Misunderstanding are steady builders, and cold looks, and hard tones, and averted heads, and cruel silences are the bricks with which they work. But sometimes they use building materials that are less tangible even than these—things that can be felt with poignancy though neither named nor described.

Of such last was the wall which now stood between Barry and me. Looking at her I saw the aloofness of her, and marked the independence of her step and all the withdrawn pride of her,—the more proud, it seemed to me, now that she referred, even so indirectly, to the ball. Strange, almost equivocal, truly, had been her action of this night; but never a word did she say of why she had gone alone to the ball, or why, having reached the very door of the ball-room, she had turned and fled.

For that I loved her. "You will miss so much," she said, then, with the old lightness, "Well, I want you to come home with me and see my masquerade dress.—But I unmasked too soon, didn't I?"

"I should have known you, Barry," I responded, "if you had been swathed in veils like an Arab woman. No other woman walks like you Barry."

"Not even Mary Wabadick?" she said, and then we both laughed, for one day, long ago, I had told her she walked like little Mary Wabadick—which was true.

It was on the point of my tongue to say that I had met Joe, the Indian, but the words died on my lips. I must wait until Barry herself told me that story.

Turning from one street to another, she leading, so that I did not notice just where, we came to a place where the houses were small and scattered, and then stopped at the door of the smallest of them all.

Tapping lightly, Barry opened the door and walked in, I following, into a little room in which a fire burned very brightly.

At once a woman arose from a low seat beside it, and when the introductions were over I saw that her face was very sweet.

"Oh, yes," she said, with the merest suspicion of a Scottish accent, "I have heard of you, over and over, and it's very welcome you are in my little home."

"I came back sooner than I expected," remarked Barry, dropping into a rocking-chair, while Mistress McPherson drew out a larger one for me.

"Yes," said she, smiling. "Well, I always expect to see you—just when you come, Barry. Give me your cloak and hood. You are tired, child."

But Barry shook her head. "I'll leave them on for a while, she said."

And then, seeing her for the first time in good light, I saw that she looked thinner than she had been, and older, somehow, and that a little red spot burned on each cheek.

"You are cold," exclaimed Mistress McPherson, heaping more logs on the fire.

"You are ill," I added. But she insisted that she was not cold, and that she was perfectly well.

Afterwards there was a little time of indefinite talk about I do not know what—Red Jock came up, I think, and the children, and some odds and ends about the ball,—and then Mistress McPherson left the room and the two of us were alone together, Barry on one side of the fire and I on the other.

For a few moments we sat in absolute silence so that the crackling of the burning wood and the ticking of the tall clock in the corner filled the room.

Then I looked at Barry, and Barry looked at me, and we smiled into each other's eyes.

"Oogenebahgooquay!" I said, and she smiled again.

"Oogenebahgooquay—the wild rose woman," she added. "Allan, you never forget."

Again we sat in silence, but presently she leaned a bit towards me.

"Do you want to see my masque dress?" she asked. "See!"

And then she threw back her hood, and I saw that her long black hair was loose about her shoulders and bound about with a little vine of green. And when she threw off the cloak, springing to her feet, there she was—Barry in her dress of buckskin color, with the scarlet sash about her waist!

Then the walls fell down.

"Barry!" I exclaimed, going to her and standing beside her; and I do not know what foolishness I might have said but that she drew away and pushed me from her with a little gesture that brooked no gainsaying, yet smiling all the while so that her eyes shone like two stars of evening above the glowing of her cheeks.

Again I sat down, but closer to her, while she chose to drop down on a cushion on the floor, bringing her hands about her knees with the old gesture that I know so well.

As she did so I noticed that she wore beaded moccasins, all worked with porcupine quills along the borders of them.—Such tiny, tiny moccasins they were! I could have kissed them as they nestled about her feet.

She was looking into the fire, at first smilingly, but presently, gazing ever upon her dear face. I saw the fleeting of an expression there that I did not like.

"Do you think I would have looked well in this at the ball?" she asked, and again there was a something in her tone, lightly though the words were spoken that was not like Barry. Was it mockery? Was it bitterness?

"I think you would have been the belle of the evening," I said, "you do not need to be told that, Barry."

"And do you think," she went on, banteringly, "that the dancing up—up there—is as good as on a flat rock in the forest?"

"If you will come back with me," I replied, "I'll soon show you that."



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In a my leaned for her chin. Impulsi with my brimming my self-re of heaven kissed her impassio her that leave me

from one street to another, so that I did not notice we came to a place where were small and scattered, topped at the door of the them all.

lightly, Barry opened the walked in, I following, into in which a fire burned very

woman arose from a low and when the introductions saw that her face was very

she said, with the merest a Scottish accent, "I of you, over and over, and come you are in my little

ck sooner than I expected," ry, dropping into a rocking-Mistress McPherson drew ne for me.

d she, smiling. "Well, ect to see you—just when Barry. Give me your cloak u are tired, child."

shook her head. "I'll leave while, she said.

seeing her for the first time saw that she looked thinner been, and older, somehow, le red spot burned on each

cold," exclaimed Mistress heaping more logs on the

"I added.

stated that she was not cold, was perfectly well.

there was a little time of about I do not know what ame up, I think, and the some odds and ends about

then Mistress McPherson and the two of us were alone ry on one side of the fire

oments we sat in absolute hat the crackling of the and the ticking of the tall ner filled the room.

ked at Barry, and Barry and we smiled into each-

gooquay!" I said, and she

gooquay—the wild rose added. "Allan, you never

t in silence, but presently towards me.

rant to see my masque asked. "See!"

he threw back her hood, t her long black hair was er shoulders and bound

ittle vine of green. And w off the cloak, springing re she was—Barry in her

in color, with the scarlet waist!

lls fell down.

exclaimed, going to her eside her; and I do not polishment I might have

he drew away and pushed with a little gesture that insaying, yet smiling all that her eyes shone like

vening above the glowing

down, but closer to her, to drop down on a cushion

nging her hands about her old gesture that I know

I noticed that she wore sins, all worked with s along the borders of

ny, tiny moccasins they have kissed them as they er feet.

ing into the fire, at first presently, gazing ever

face. I saw the fleeting there that I did not like

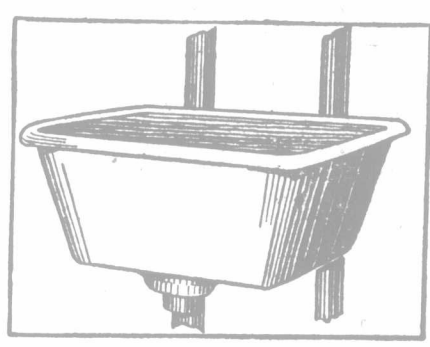
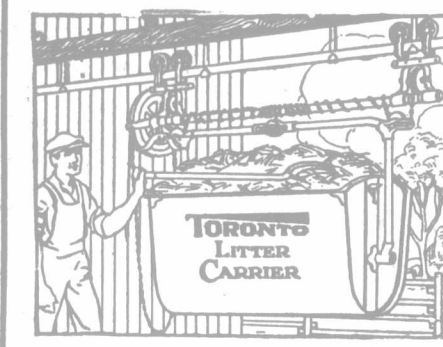
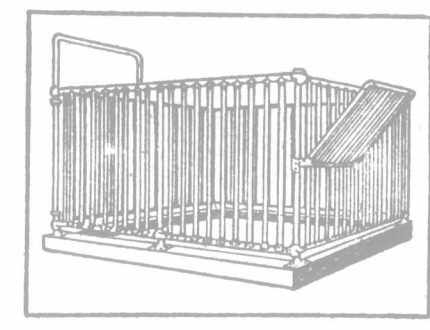
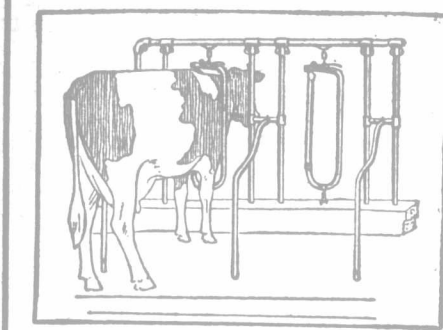
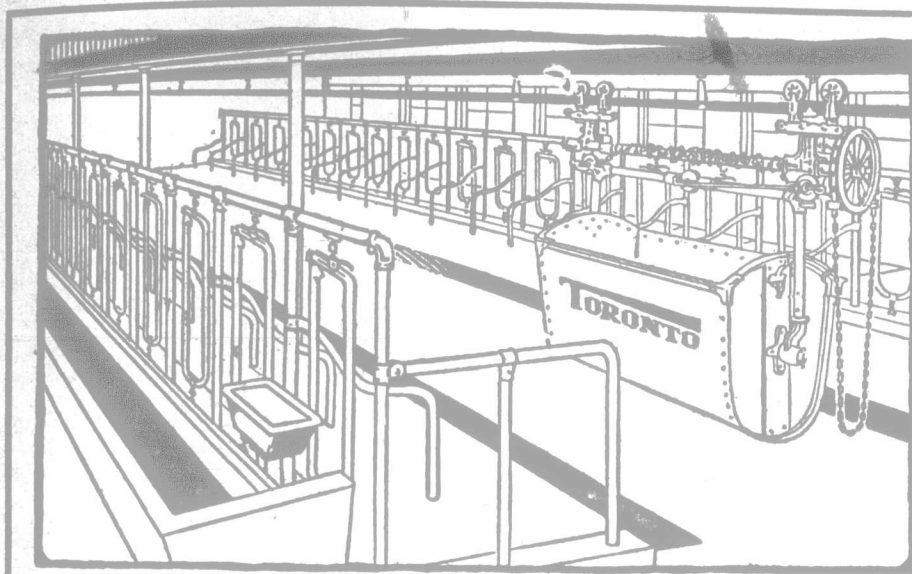
I would have looked well ll?" she asked, and again something in her tone,

the words were spoken e Barry. Was it mock- erness?

would have been the- ning," I said, "you do ld that, Barry."

think," she went on, at the dancing up,—up d as on a flat rock in the

come back with me," soon show you that.



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The modern up-to-date farmer makes three times the money his grandfather did. Why? Because there are inventions which make it possible for one man to do the work of six, and which increase his production. Convenient, sanitary, stable equipment increases your earnings 25%. Pays for itself. Toronto stable equipment takes the arm work out of farm work. Makes your cattle healthier, more productive. Quickly pays for itself in your increased profits.

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And I'll have you meet my cousins and my uncle and aunt. They have heard of you, Barry, and love you already."

She shook her head quickly, throwing out her hands as though to ward off the suggestion.

"No," she said. "I prefer the flat rock in the forest.—The dear old forest," she added, lingering lovingly on the words.

And then all the sweetness came back to her face as she asked about my mother and father and Hannah and Jimmie and the rest at the old home, and of how I had fared and what I had been doing since I came to the city.

"You look very fine," she said, as she looked me up and down, and then she rippled into laughter as I told her of the burly big Sea Lion who had said the self-same words so short a time before.

After that I waited, hoping she would tell me something of herself, but nothing of all that did she say, but sat there, looking at the fire, and then at me, and occasionally moving her fingers restlessly, which I did not like to see, for it was not Barry's way. Often and often had I teased her about her "movelessness" and about mistaking her, in the Golden Winged Woods for a stump or a boulder, although I knew every stump and stone in it, nor could by any chance Miss Barry, I often thought, if a waft of her breath came on the breeze to me.

At last I ventured to ask the thing that was closest to me:

"Will you be long in the city?"

But to that she made quick reply, saying that she did not know; and turned her head quite away from me so that I could not see her face.

In a moment, deeming this but play, I leaned forward, and caught a quivering of her chin.

Impulsively I turned her face to me with my two hands, and saw her eyes brimming with tears. And then all my self-restraint flew to the four winds of heaven, for I caught her to me, and kissed her face and her hair, and poured impassioned words into her ears, telling her that never, never again must she leave me or we be separated.

What is the Eastern Canadian Live Stock Union? A Consolidated Organization For The Advancement and Protection of all Canadian Live Stock Interests from the Great Lakes, East to the Atlantic Ocean

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As an organization we are strangers to you, fellow Canadian Breeders and Producers of Poultry, Swine, Sheep, Cattle and Horses.

Let Us Get Acquainted, We are at Your Service
Consult the representative of the particular branch of live stock that you are interested in, or address

The Secretary
Eastern Canada Live Stock Union, Ancaster, Ontario.

How brief was the moment in which she lay there in my arms—my one wild taste of heaven—I do not know. Then, almost dazed, I realized that, endowed with the strength of ten women, she had torn herself from me and was standing there, one hand on her breast, head thrown back, lips hard, her breath coming fast, eyes blazing at me as though she had been transformed into a young tigress at bay.

"How dare you!" she said, between clenched teeth, "How dare you!" and I saw that her face was white as a winter sky.

With that all my pride came back to me, and I held my head high as hers.

"I have yet to learn, mademoiselle," I said, "that a man insults a woman when he wishes to make her his honored wife,"—and I took up my hat to depart. Very proud was I, but how could she know that at that moment I felt my heart would break in two.

Glancing back at her, as I reached the door, however, I saw her standing, sweet and penitent, two tears coursing down her cheeks. And then I went to her and held out my hand.

"Good-bye, Barry," I said. "You will at least bid me good-bye?"

She looked up at me, and it seemed to me that her eyes held a world of woe.

"Forgive me, Alan," she said, putting her hand in mine. "It is not you I hate. It is—it is myself."

For a moment she hesitated, then when I would have withdrawn my hand she still clung to it, and I knew that she had something to tell.

"Perhaps, in justice to you," she began, "I should tell you. I—I have no right to—listen to such words from you, Alan."

"You mean?" I said.

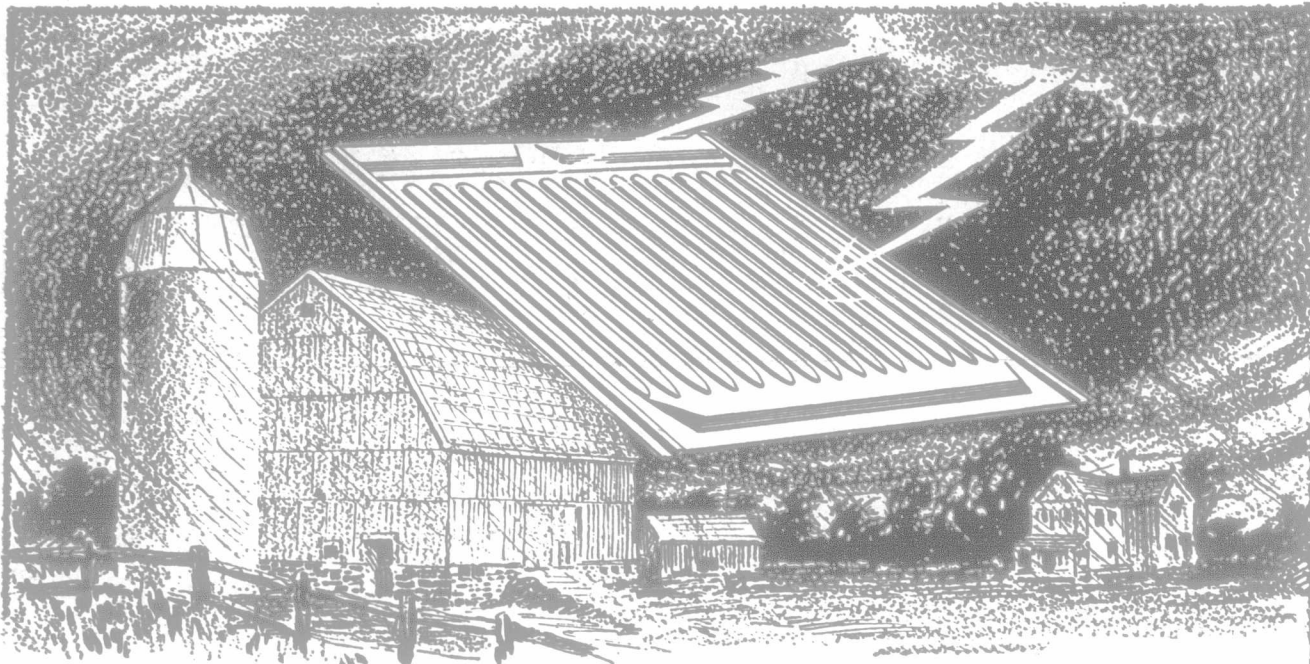
"I mean," she replied, in a low voice, "I mean, Alan, that already I am a wife."

"A wife!"

And with that all the world went black to me and I think I stammered again "A wife!"

"Yes," she said. "I am a wife, Alan. Forget me—dear friend."

"Is it—Selwyn?" I muttered, my



Sure Protection From The Fiercest Lightning

LIGHTNING is a permanent menace to the farmer whose buildings are inflammable. Whenever the sky blackens with the gathering thunder-clouds and the vivid streaks of destructive lightning cut through the gloom he may expect at any moment to see his barn catch fire.

But not so the farmer whose buildings are Pedlar-roofed.

Pedlar's "George" or "Oshawa" shingles, properly grounded, present a surface of solid steel, which takes the lightning stroke and conducts it harmlessly to the earth, where its force is dissipated and lost.

Every year hundreds of thousands of dollars are lost by farmers in Canada through burned buildings, which also entails an almost incalculable loss of valuable live stock and season's crops. And the majority of fires are due to lightning.

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Why take needless risks?

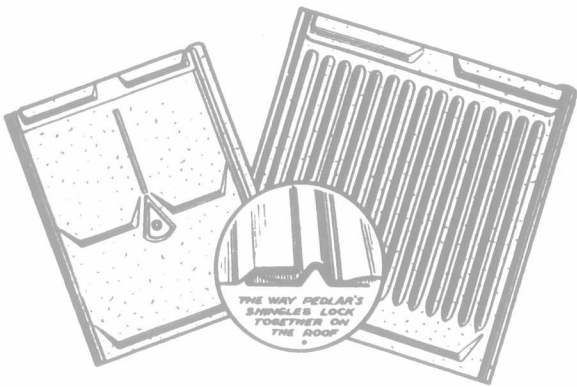
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A Pedlar-shingled roof is not only the safest roof you can have, but in the long run it is also the cheapest, for not only does it repel lightning and resist fire from any other cause, but it cannot rot or decay. It is the roof that endures—fire-proof, storm-proof, time-proof.

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voice thick and, I fear, hard—for now it smote upon me again that he had left me to believe a lie.

Perhaps she saw the resentment in my face, for in an instant all her old pride seemed to come back to her, and she stood up very straight, head thrown back.

"Yes, it is—Selwyn," she said, repeating the word. "Selwyn—my husband and my—lover."

For one long moment I gazed into her eyes, seeking the depths of her soul, then in acquiescence I bowed my head and went to the door.

"It is the end," I thought, but when I sought to go out without further speaking her hand was upon the latch.

"I am sorry you ever cared for me, Alan," she said. "Believe me, I did not mean to make you care. I thought of nothing but comradeship in those old days. It seemed to me that your liking was just a romantic thing that would pass. Alan, tell me that you believe me when I tell you I never tried to make you care,"—as though one could know her without caring!

"I believe you," I said, and then once more we said good-bye. But before the door had closed I added: "Remember, Barry, if ever anything happens that may leave you in need of a friend—we never know—come to me. Will you at least promise me that?" The shadow of a smile flitted over her white face.

"I promise you. Thank you—dear friend," she said. Then she pushed the door to and fastened the latch gently. And so I went out into the night.

Since then Selwyn has left the city, and so has she. I have seen Elizabeth and heard what she has offered to tell me. But I am assured that of the whole story she knows no more than I.

Like a breeze from heaven Barry has come and gone.

As for Selwyn—for her sake I must let him go his way, even as he lets me go mine.

When I think of him my fighting blood grows hot within me. I fear for her—for it is a sorry churl who will not proclaim his wife before all the world.—Yet for her sake I can move no finger in anything that concerns him.

She has told me that he is her husband; but the mad questionings never cease.—Why did she come alone into the city, drifting into the little house with Elizabeth? Why did she go alone that night to the ball? Where is she now? Is Selwyn with her? Is she happy?

It may be that the chapter—our chapter, hers and mine—has ended.—It may be that Barry once more may need a friend.—And she has given me a promise.

Of Clinkenbocker since that night I have seen or heard nothing. The shop is closed, with the shutters drawn. The clocks have stopped ticking.

What further did he want to tell me? Why was he so urgent and so mysterious? Where has he gone? What is to happen

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POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at four cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 60 cents.

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to-morrow night above Anderson's store?—True, rumours have increased of late as to the activities of the "rebels." Colonel Fitz Gibbon, they say, entered the council chamber of the Executive the other day hot and breathless, claiming, because of information he had heard, to be fearful of early trouble. They say, also, that all the return he got for his pains was to be politely snubbed. Also the story goes about that the Orangemen are to be supplied with the arms

which were stored some time ago in the city hall, that the depleted garrison is to be filled with pensioners, and that steps are to be taken to fortify the city. Towards all this, however, not a move has been taken, and no one seems busy or agitated over the matter except the Colonel, who has made a list of people who may be relied upon for immediate help in case it is needed, and who has even gone from house to house to explain his plan, which is that, in case of actual invasion the bell of Upper Canada College is to be rung, whereupon all the bells of the city shall take up the tune, all the men east of Yonge Street running, on that signal, to the City Hall, and all west of it to the Parliament Buildings.

Upon the whole, however, people are not greatly exercised over these alarms, looking upon the Colonel as a choleric and excitable, though well-meaning gentleman; and, indeed, he has complained with some heat to Uncle Joe of being rather openly given the cold shoulder, not only by the Lieutenant-Governor but also by others among the officials whom most people consider of more weight in this place.

Uncle Joe, of course, sides with him. As for myself, I find all this very interesting, and look forward, indeed, to some sort of demonstration, although I doubt if it will be more than a long deputation of farmers and village folk armed chiefly with a petition.

Nevertheless, I swear I should like to know what is to take place above Anderson's store to-morrow night, and would go to see for myself had it not been that I have promised to stay home for the dinner-party.—Well, the Sea Lion will tell me all about it when I see him again.

The dinner-party, by the way, is to be a very grand affair, with a company made up of nearly all the elite of the city barring the Lieutenant-Governor—for whom for some reason, Uncle Joe has no great liking.

All week the house has been upset with preparations, and the meals fallen off in quality, and Sarah Jane, my aunt's serving woman, so excited and flustered, notwithstanding the extra help engaged for her, that Aunt Octavia declares she has broken half the china-ware in the kitchen. There are new gowns, too, in the making, and the women folk are so absorbed that the merry home life seems to have quite disappeared.

All this, of course, I do not find overly pleasant, feeling somewhat in the way; nor does Uncle Joe, even though, forsooth, he was chiefly responsible for the party.

Yesterday noon he came in quite out of temper after chasing about in the market for the best turkeys and geese, and through the fish-stalls for the best salmon and eels and whitefish, and grumbled that if he "lived to be one hundred and fifty years old there'd never be another party in this house!"

"Well, my dear, it's your own party," remarked Aunt Octavia placidly.

Whereupon he turned on her.

"Tear an' ages, madam,—can't I have a party in my own house if I want it?"

"Of course you can, my dear," replied Aunt Octavia, smiling, "Aren't we having it?"

"I'm having it!" he declared, "ram-paging around like a beastly butcher among fish and dead animals for the past two hours! I guess I know who's having a mess of a time!"

"But," smiled Aunt Octavia, "You are such a good judge of meats and things, dear."

And then Nora told him he was tired and made him lie down on a couch, and Kate punched up the pillows for him, and little Mollie got his pipe and filled it with tobacco—all of which I knew, was not to placate the dear man, but because he was really tired, for some other reason, and they knew it.

Before bedtime the whole story came out, that he had ridden far out into the country to attend a man who had been hurt by an accident, and that he had rebelled at having to wait at the market because the scarlet fever had broken out among some of the little "foreigner" children, and he had been delayed—possibly half an hour—from going to them.

This is my Uncle Joe.

To be continued.

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Six million automobiles in use, as well as thousands of trucks and tractors, means that an army of competent men will be needed—and are now in demand—to keep them running properly. This offers a wonderful opportunity for you to step into a good salary or even start a business of your own. A few weeks study at the Michigan State Auto School will do this for you, and Detroit—the Automobile Center—the Heart of the Industry—is the logical place to learn the business. Here you get the benefit of close touch with the biggest men in the field. All the big factories need trained men. Our graduates get actual, valuable assistance in garages, service stations and as travelling service men, from the biggest men in the business.

Earn \$100 to \$400 per Month

We can teach you in a few short weeks to handle any auto or tractor proposition. Our garage repair shop has from twenty to thirty-five cars for you to work on—different cars come and go every day—you get regular garage experience. You learn to repair any car that comes along. Twenty-five different types of motors in our block test department give you a wide practical experience. Our equipment the best obtainable.

Here's What a Student Wrote to His Chum in Canada:

Dear Herman,—You asked me to let you know how I liked the school. I have been going three weeks and I have nothing but praise for it. If you will put your time in the school in the day time and study at night you cannot help but learn. But when you come, you want to make up your mind to stay three months, as the school teaches every branch of the business in detail. I am at the motor part now. My mate and I are giving a Dort an overhauling, and I must say we are making a good job of it. You will find Mr. Zeller and all the instructors have a keen interest in the welfare of every student, and they make it their business to see that you get along in your work. The school has everything they advertise, and I have talked with many other students from all parts of the country, and they say that this is the ONLY school worth going to. I am going to have them send you a catalogue, and I hope to see you in a short time down here.

GEORGE H. PURVIS.

Course Practical and Complete

Covers every possible phase of auto, truck and tractor work. You have actual machines to work on, representing every standard car of modern make. Twenty-five different types of motors in our block test department give you a wide, practical experience. Our entire equipment best obtainable. No job too difficult for you when you have completed our course.

Money Back Guarantee

We guarantee to qualify you for a position as chauffeur, repair man, tester, demonstrator, auto electrician, garage man, automobile dealer, or tractor mechanic and operator, paying from \$100 to \$400 monthly, or refund your money.

While Canadian Graduates Wrote These:

Dear Sirs,—I received your pocketbook O.K., and was certainly glad of the remembrance. I am getting along fine since leaving your school, with my pay more than double since this time last year, when I first enrolled with you. I certainly feel grateful for the help I received in so short a time, and I shall probably be able to place some of your graduates. With best wishes to the M.S.A.S., I remain, O. C. STURDY, Toronto.

Dear Sirs,—Sometime ago I received a copy of "Electrician's Guide" from you, for which please accept my thanks. We are very pleased to hear from you, and are much interested in the little booklets, etc., which you send from time to time. Hope you are having the success your methods deserve.

MIKE RAKER, Coult's, Alta.

Brazing-Welding and Tire Repairing

A complete, separate course given on each of these subjects if desired. Brazers and welders earn big money. Factories and garages always need competent men. Millions of tires in use afford wonderful field for tire repair men.

Start Any Time—Earn Your Way

School open all year. Enter classes any time. Three classes daily—morning, afternoon and evening. Instructors are members of Society of Automotive Engineers. Our graduates get jobs easily. Tuition cost soon earned and repaid. If necessary, we can secure work for you to help pay expenses while taking the course.

Big Factories Endorse Our School

Many have assisted in outlining courses and have voluntarily included valuable lectures on theory and practice. We get best co-operation from biggest factories because of thoroughness of our courses. All factories gladly co-operate with us.

Get Free Catalogue. Tells all about "The Old Reliable School" located in "the Heart of the Auto Industry". Or, better still; jump on the train and come to Detroit as hundreds do. Your fare refunded if everything not as represented.

Michigan State Auto School
A. G. Zeller, President
1845 Auto Building, Woodward Ave., Detroit, Michigan, U.S.A.

SEND THIS COUPON TODAY

MICHIGAN STATE AUTO SCHOOL
1845 Auto Bldg., 887-89-91 Woodward Ave., DETROIT, MICHIGAN, U. S. A.

Gentlemen: Please send me, absolutely FREE, New 170-page Illustrated Catalogue, "Auto School News," and information as checked below.

Auto and Tractor Course Tire Repairing
 Brazing and Welding

(Mark each course you are interested in.)
Or, better still, you can expect me about

Name.....
Street.....
City..... State.....

Tile Tile Tile

A WEEK AGO we HAD a MILLION TILE for sale. If orders continue to come in as in the past week we will be SOLD OUT in three weeks. A number of Plants have already sold their seasons output. Only a few more Farmers can possibly get their requirements of Tile this year.

4" Tile \$25.00 per M. Ft., F.O.B., cars C. P. R. and M. C. R. Tilbury.

Freight on 4" Tile per M. Ft. from 10 to 200 miles over one road \$3.00 to \$7.00.

UNDERDRAINAGE WAS NEVER CHEAPER.
USE EVERLASTING BURNED CLAY TILE.
BUY "TILBURY TILE".

Tilbury Brick & Tile Co., Ltd.
Tilbury, Ontario.
Largest Manufacturers of Drain Tile in Canada.

Friend Fencing
DRY to FARM

encing. The cost of years of satisfaction. Full gauge, heavily wire can be bought. Modern equipping is done to tight, new fence. From factory superior in our or the.

Beyond reach of fire

PENILESS, homeless, with his family almost stripped of clothing, thrown upon the charity of the community for their immediate needs, forced to start all over again. All in one night!

He had gone to bed satisfied with his security and with the gratification of having a home of his own and a tidy little sum tucked away. Truly a man who was making his way in the world!

But, as in one flash, all went. The ravaging flames of a fire had swept it all away. The savings and work of a lifetime gone!

It is the tragic story of the man who does not believe in banking his savings. "It is safer where I can keep my eye on it" he is apt to remark, but when the big blow falls he realizes his folly, too late.

In the Bank of Toronto, money is absolutely safe. There it earns a fair rate of interest; there it is protected by all the resources of a strong national institution.

THE BANK OF TORONTO

The Molsons Bank

IS ALWAYS GLAD TO ASSIST FARMERS

in any legitimate financial way to make their farms more productive.



State your requirements to our local manager, and he will be glad to advise and assist you.

Want and For Sale

BEEES WANTED—ANY QUANTITY, MUST be free from disease. J. Torry, Carlisle P. O. Ontario.

MAN TO OPERATE TRUCK OR FURNISH team to collect cream and produce. State rate expected and references. Box 27, Farmer's Advocate, London, Ontario.

WANTED TO RENT FOR THREE YEARS with option to purchase, good farm of about 100 acres. Send full particulars to Box 29, Farmer's Advocate, London, Ontario.

WELL-BRED COLLIE PUPS—BORN heifers, \$5 each. H. P. Fisher, Glanworth, Ont.

The Banks and Their Rural Patrons.

Farming is becoming a business that involves heavier and heavier financial transactions all the time. Larger sums of money change hands in the course of a year than formerly and the farmer who has a reasonable gross income requires the service rendered by banking institutions or loan companies. Paying by cheque is more businesslike and safer than keeping sums of money in the home or carrying money in one's pocket. There are certain seasons of the year when a surplus of money is on hand; this should be deposited and allowed to draw interest rather than lie idle. And then again there are periods when heavy obligations must be met and a line of credit must be established. In this connection complaints are frequently heard that local branch managers are not permitted to deal with the farmer's request for a loan but must refer it to head office. The western

farmer chafes under the impression that loans there are referred to the central office and the Executive do not understand conditions in the country. This matter was thoroughly threshed out at the last annual meeting of the United Farmers of Alberta. Vere Brown, Superintendent of Central Western Branches, of one of the large chartered banks made reference to this and said in part:

"One of the grounds of criticism in these provinces has been the fact that the branch manager has to refer rural credits to his central office—too much centralization—the referring of applications for credit to people at Central Eastern offices, who, it is said, do not understand these matters. Now, in the case of my own Bank our branch managers have certain discretionary powers in lending money, that is, up to a certain amount they do not have to refer to anybody. We have 19 managers out of 160 who cannot lend more than \$1,000 without sending the application into my

office. All the rest of our purely country branch managers can lend up to \$2,000 or \$3,000 on their own authority. And as to any farmer who needs a larger credit than \$2,000 or \$3,000, our requirement is that our manager must sit down with each farmer customer once a year—at the end of one season and before the beginning of another—and figure out just what credit the farmer is going to need for his next season's operations, and then submit an application to my Department—not to a Head Office in the East—with his recommendation. Any farmer who wants to borrow more than \$2,000 or \$3,000 surely cannot complain at a procedure of that sort. Is it fair to ask that any farmer throughout the district should be free to walk into a banking office and say to the local manager, "I want to borrow so many thousands," and get it instanter? Isn't our procedure a logical and reasonable one?"

There is a greater lack of understand-

Clearing Auction Sale of Farm Stock and Implements

At the farm, Lot 13, half-mile west of SHEDDEN, on P.M. and M.C.R., ten miles west of St. Thomas, on

Tuesday, May 20th, 1919, at 1 o'clock

Including 8 young Reg. Dorset-Horned ewes with lambs, all bred from prizewinners. One Reg. Dorset-Horned buck. Six Reg. Dual-Purpose Shorthorn heifers, 2 years old, due to freshen late in August, to the service of Jewel Crown. One Reg. Shorthorn bull, 15 months old, dark roan. These cattle were bred by Mr. John Elder, Hensall, Ont., and sired by Crown Jewel 42nd 107596, sold at his recent sale for \$335.00. The farm is sold, everything must go.

TERMS:—Six months' credit on bankable paper without interest, or a discount of 6% per annum off for cash.

LOCKE & McLACHLIN
Auctioneers

C. L. MORRISON, Prop., Shedden, Ont.

"In unsettled times the thoughts of men turn instinctively to the sound security of Life Insurance."

The first step to securing suitable and adequate Life Insurance is to obtain dependable information.

Permit the Great-West Life to give you that information—by mail, if you wish, for leisurely consideration.

You will readily see the merits of the Great-West Plans. Inexpensive, profitable, liberal—these Policies have appealed to over sixty-five thousand persons as the best anywhere available.

THE GREAT-WEST LIFE ASSURANCE COMPANY

HEAD OFFICE

DEPT. "Z"

WINNIPEG

Courteous, Painstaking Service

From the moment you have opened your account with us we look upon you as a friend of the Bank, to be served in every way possible, at every turn.

It is this spirit of "friendly service" that has been largely responsible for this Bank's solid, steady 87 years of progress.

We will appreciate your account.

Paid-up Capital \$ 6,500,000
Reserve Fund - 12,000,000
Resources - 150,000,000

THE BANK OF NOVA SCOTIA

We invite your account. Special facilities for banking by mail. One hundred and ninety branches. General Office Toronto.

22A



Power Users:— TAKE NOTICE!

I have, at Chatham, Ont., a 16 H.P. Root & Van Dervoort gas or gasoline, portable engine. This machine is throttle governed, self lubricating, has best magneto ignition, and will run steadily at all loads. It is mounted on a very substantial roller bearing steel truck. I have only used this engine about fifteen days in all, so it is the same as new. Cost \$1050.00, and will be sold for \$700.00 cash. Come and see it. F.O.B. anywhere in Western Ont. Owner buying a tractor. For further particulars address

Box 89, Chatham, Ont.

ing between agriculture and the banking business than there is between farmers and any other industry or enterprise with which they deal. In the past farmers approached a bank with awe and fear for which the banking interests are to blame. But there has been a change of late years and the banks are anxious to do business in the country; however, it is doubtful if the banks thoroughly understand the rural needs in regard to credits, etc., and more than that there is a barrier of their own building which it is their duty to break down. There has been no public utterances, of late years, in Eastern Canada, similar to those of Vere Brown, or, at least, none that have come to our attention.

On the other hand some farmers are loath to place all their cards on the table and give the local bankers full information concerning their business. They think the local manager is too inquisitive and anxious to meddle in the affairs of others to undue extent. The fact of the matter is, that bankers must know what security they have for any loans made and that the money loaned is to be used in a manner that is likely to prove profitable. This is only business and all borrowers whether large or small, in city or country, are obliged to file this information.

It is time that farmers and bankers had a better understanding. There is much to be learned on both sides and the sooner it is learned the better for all concerned.

**Courteous,
Instaking
Service**

From the moment
we have opened
an account with us
we look upon you as
a friend of the Bank,
and we served in every
way possible, at
every turn.

It is this spirit of
"friendly service"
which has been largely
responsible for this
Bank's solid, steady
years of progress.

We will appreciate
your account.

Capital \$ 6,500,000
Reserve Fund 12,000,000
Assets 150,000,000

**BANK OF
NOVA SCOTIA**

Open your account. Special
rates for banking by mail. One
hundred and ninety branches.
General Office Toronto.



**For Users:—
PLEASE NOTICE!**

Am. Ont., a 16 H.P. Root & Van
gasoline, portable engine. This
is governed, self lubricating, has
a piston, and will run steadily at all
times on a very substantial roller
bearing. I have only used this engine
in all, so it is the same as new
and will be sold for \$700.00 cash.
F.O.B. anywhere in Western
Canada, including a tractor. For further
information write to the manufacturer.

Chatham, Ont.

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Metal Roof and Sides Saved This Barn

Wooden Barns are Easy Prey for Fire

Ontario Barn Fires \$91,000 a month

836 barns were burned in Ontario during 1918. The buildings destroyed were valued at \$677,096. The contents at \$416,835. The total loss was \$1,093,931. A gigantic sum to go up in smoke in twelve short months!

The average loss for each barn fire was \$1,307—not to mention the loss of time in putting up a new barn, or the inconvenience resulting from doing without a barn during the period of erecting the new one.

These figures are taken from the latest Ontario Fire Marshal's Report, recently issued. They provide food for thought among the farmers of Canada, because other provinces, as well as Ontario, suffered from fires.

The Report tells how to prevent fires on the farm and elsewhere. One section dealing with barn fires says:—

"It is an easy matter for you to put your farm barn in what might reasonably be called perfect physical condition as regards fire hazards if it is well built, on good foundations, metal or other non-inflammable roof."

"If near a railroad the buildings should be covered with metal or other non-inflammable roofing." (Address, Fire Marshal's Office, Parliament Buildings, Toronto, for complete report.)

A farmer in Waterloo county recently suffered a \$10,000 fire loss on a barn near a railroad. Part of this big barn was covered with metal and the remainder with wooden shingles. Sparks from a passing train falling on the roof ignited the wooden shingles. A small additional sum spent to cover the whole roof with metal would have prevented this ten thousand dollar feast for the flames!

Of course, this farmer's new barn will be covered with metal. But why should any farmer wait until he is burned out before he covers his barn with metal?—the absolutely fire-proof and lightning-proof material

The Government, the Ontario Fire Marshal and the Ontario Fire Prevention League, recognize the superiority of metal roofs as a preventative of fire. Many Fire Insurance Companies recognize the fire-proofing value of metal, and allow a lower insurance rate for buildings roofed with it.

One little spark from a passing train, a threshing engine, a chimney or a bonfire, falling on the wooden roof of your barn or house might, in a few minutes, cause loss to you of more hard-earned money than would pay for a metal roof fifty times over.

In a fire a farmer might lose a herd of high-grade animals that took years and years of careful selection and breeding to build up. No money could replace such a herd, which would be not only a loss to the farmer, but to the stock-breeding industry of Canada.

And with every fire there is always the chance of the loss of human lives—infinitely more precious than money.

While the first cost of a roof of metal shingles or sheets is more than one of wooden shingles, the final cost is less on account of the greater number of years of service. In roofing a building, no matter whether covered with wooden shingles, composition roofing, or slate, galvanized iron is always used for the valleys, gutters, and leaders, which are the portions that must stand the greatest wear.

Why not use metal for all the roof and for the sides of the building, too?

Metal is the most durable roofing material, as well as fire-proof and lightning-proof. If metal roofing were fifty per cent. higher in price than it is today, it would still be the most economical material for your roof. Instances are numerous where metal roofs have given thirty years and more of splendid service.

Catalogues and information will be supplied by any of the firms whose names appear below.

Not "Tin"

Metal roofing, as manufactured by the firms mentioned below, is not made of light, thinly coated "tin" plate such as is used for tin cans, etc. The metal is strong, durable STEEL thickly galvanized. To call a galvanized steel roof a "tin" roof is like calling a steel armoured battle-ship a "tin" boat.

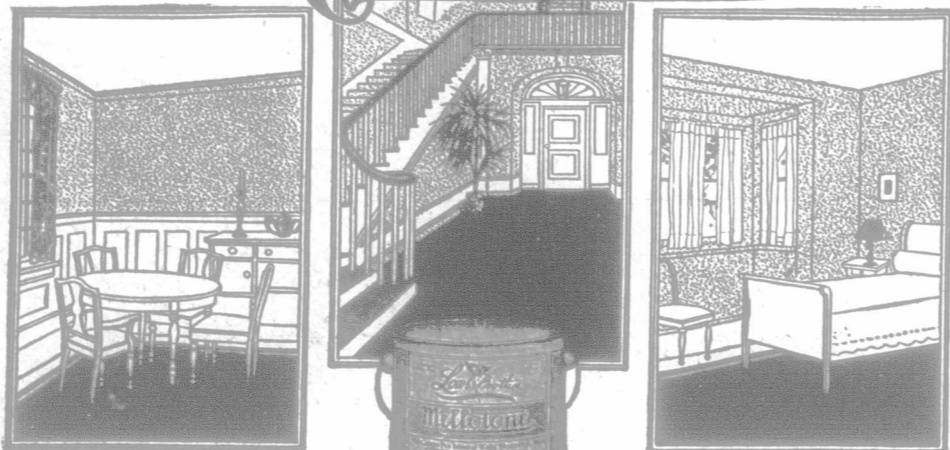
A great percentage of the raw materials in galvanized STEEL roofing is mined, smelted, rolled and coated in Canada, and the various processes of manufacturing it provide work for Canadian labor.

By purchasing goods made in Canada, you are helping to solve the present labor problem, and provide work for the returned soldiers.

THE PEDLAR PEOPLE, LIMITED, Oshawa & Montreal; THE METALLIC ROOFING CO., LIMITED, Toronto & Winnipeg; THE METAL SHINGLE & SIDING CO., LIMITED, Preston & Montreal; THE GALT ART METAL CO., LIMITED, Galt, Ontario; THE MCFARLANE-DOUGLAS CO., LIMITED, Ottawa & Montreal.

Roof with Metal for safety and permanence

Mellotone



Your Walls

Use it instead of wallpaper, as it is more artistic, more sanitary, less expensive.

Use it instead of Kalsomine, as it is more durable and can be easily washed.

Use it instead of ordinary paint, because, instead of being glossy and solid in color, it is dainty in tint, with the soft, velvety effect so much sought nowadays.

Use it because of its wonderful range of delicate colors, exact reproductions of nature's harmony tones.

Use it because it is very easy to use. Comes in cans of different size, goes on like paint, and looks like fine paper.

At all Lowe Brothers' dealers. Write for color card and nearest dealer's name.

LOWE BROTHERS, LIMITED TORONTO

Dayton, New York, Boston, Chicago, Kansas City, Minneapolis, Atlanta



The Deering Manure Spreader Light Draft — Wide Spread

A LOAD of stable manure is no light weight. Matted with bedding and litter, it is no easy job to tear it into small pieces for the kind of spreading that good farmers demand. Yet two horses can handle easily the 49-bushel load of a Deering No. 8 in all ordinary going, and will get the load off in a good even coat in three to four minutes. With its light weight, roller bearings, and beater parts kept in line by a strong steel frame, the Deering is a very light draft machine.

The work of tearing up the manure is divided between two beaters, one of which is a spiral that makes this Deering spreader a wonderfully efficient fertilizing machine. It spreads beyond the wheel tracks. It covers the ground evenly clear across the width of the spread.

Three sizes of Deering spreaders give each farmer a machine suitable for his farm—No. 8, 49 bushels; No. 5, 55 bushels; No. 6, 63 bushels capacity. See the local dealer or write the nearest branch house for illustrated catalogue showing all the good features of this Deering light draft, wide-spread manure spreader.

International Harvester Company of Canada, Limited

BRANCH HOUSES

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.
EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N. B.

Consolidation of Rural Schools.

Continued from page 963.

In the United States, consolidation is recognized as a thoroughly sound national policy for the solution of the rural school problem. Already over 50,000 one-roomed schools have disappeared and have been replaced by 10,000 consolidated schools. In Alberta there are 34 consolidated schools in good working order, and the Provincial Department is giving more support to rural schools and consolidated schools. A month ago, the Minister of Education outlined the Government's program for educational expenditure and called for nearly half a million dollars more than in the previous year. In addition to increasing the number of school inspectors, the Government proposes to increase rural school grants by \$200 a year, and also to increase elementary and high-school grants. It also proposes to assume one-third of the cost of building standardized teachers' residences next to the school, to make large increases in the grants for transportation in order to build up the rural consolidated schools, and to establish two-roomed schools in rural districts. This is the right way to go about improving educational conditions for rural children, and in this respect the Western Provinces have shown greater initiative and foresight than the Eastern ones.

The most troublesome difficulty in the path of consolidation is the problem of overcoming old traditions. Tradition is a curious feature of all human races and has induced them to stop progress and even to go backwards, because progress means a departure from established custom. Tradition has also been aided by mistakes that have been made with rural schools in the past. For example, some consolidated schools are not much of an improvement on the old district school. This is usually the case when the consolidation still remains a one-teacher school; secondly, when the consolidation is not well placed and managed, the children living furthest from school lose much time in transportation and suffer inconveniences which are not balanced by any extra advantage. Thirdly, a consolidated school located in a village or town has sometimes been merely a city school, and has not provided a good training for country children.

BIG TIRE BARGAINS

We are offering Brand New Tires, all sizes, at an enormous reduction in price. Compare the prices listed below with what you usually pay, and note how much you save by placing your order with us.



MAIL ORDERS

Let us ship your order on approval. Express paid, c.o.d., subject to examination to any address in Ontario, Quebec or the Maritime Provinces. If you do not consider them a most decided bargain, ship the tires back at our expense.

These prices cannot be duplicated elsewhere in Canada. Please state when ordering whether "Clincher" or "Straight Wall"—Plain or Non-Skid.

Size	Plain	Non-Skid	Size	Plain	Non-Skid
28 x 3	\$10.50	\$11.50	36 x 4	\$26.00	\$29.20
30 x 3 1/2	13.45	15.45	33 x 4 1/2	26.50	34.00
32 x 3 1/2	14.50	16.70	34 x 4 1/2	27.00	35.00
31 x 4	20.20		35 x 4 1/2	28.00	38.00
32 x 4	21.40	25.65	36 x 4 1/2	29.00	39.00
33 x 4	22.60	27.10	35 x 5	35.00	42.50
34 x 4	23.40	28.10	36 x 5	35.00	45.00

Special Value—30 x 3 1/2 Tubes, fully guaranteed, \$2.50 each.

Security Tire Sales Co.

516 1/2 Yonge St., TORONTO

NORTHERN ONTARIO

Millions of acres of virgin soil, obtainable at 50c an acre in some districts—in others free—are calling for cultivation. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here right at the door of Old Ontario, a home awaits you. For full particulars as to terms, regulations and settlers' rates, write to:

H. A. MACDONELL, Director of Colonization, Parliament Buildings, Toronto, Ont.
G. H. FERGUSON, Minister of Lands, Forests and Mines

The most difficult districts in which to effect consolidation are those which have sparsely populated areas and are handicapped by bad roads, although these are exactly the conditions which require it most. Indeed, consolidation goes hand in hand with a good-roads' policy. This really proves that all factors for improvement of rural conditions are linked together and operate most successfully, when they are all developed simultaneously.

Those who doubt the value of consolidation should consider the educational benefits. It increases the enrolment and the attendance, and makes it more regular and punctual. Truancy and tardiness disappear. Older children remain longer at school and have better high-school privileges at one-third of the cost which would be involved if their parents sent them to board in town. Better trained teachers can be secured and retained, better class work is possible, and more children complete the public school and high-school courses. Not only that, but consolidated schools will improve the social activities of the neighborhood and produce greater pride and interest in community life, and stop the drift of parents to the larger towns and cities for the sake of better education for their children. The small, weak school must be eliminated.

Of course, the consolidated school should remain a rural school. For this purpose a sufficient area of land should be set aside for school gardens and experimental plots, and provision should be made for teaching domestic science, manual training, dairying and other practical subjects in the school buildings. Good sanitary buildings, a teachers' residence, playground equipment, and an assembly room for large community gatherings, will help keep the rural people contented with their homes and neighborhood. One of the finest two-roomed village schools in Saskatchewan had seven acres of land which have been beautifully improved, the board having engaged a janitor-gardener to take charge. During 1918, consolidation was effected and the board promptly added another 19 acres to the grounds, and placed five vans on the routes. Consolidation in Quebec is recognized as the best policy for the English-speaking Protestant population, but has not made the progress it should for two reasons:—the scattered

"SHARP POINT"

Don't br... holes. Don't w... rotted post...

NO

Several s... a SHARP... to stay. Y... hole, beca... SHARP P... It bites l... hardest so... It won't l... weight of... is exactly... No loose... settle and let... time you are di... wooden post you... POINT POSTS.

No Posts to Replace

last a lifetime. Th... in, thick and 7 ft... that rust won't a... with a thick, smc... paint.

On over two-th... punched in the p... take care of any sp...

No Freight to Pay

SHARP POINT... space occupied by... forget that you pa...

SHARP POINT POSTS

Save Money... Time and Wo...

the time. They c... a farm, digging p... holes. SHARP... POINT POSTS g... you an All-S... fence—stronger, b... ter and cheaper th... any combination... wood and steel.

SHARP POINT... STEEL POSTS... 48c. each, freight p... on orders of 50 P... or over.

Get my prices... Farm and L... Fences. Order yo... Posts at the sa... time you mail yo... order for Fence. S... in time, freight a... hauling to the fa...

Mail your or... with Cash, Money... Express Order, or... Bank Draft to

A. R.

257 West Kin...

KIT... Rail... WORK

GRE... ca... off... and comf... triple sti... points; s... tons can... your deal... and insi... "Railroad

Made i... The Kit... Shirt Co



"SHARP POINT" STEEL POSTS

Don't break your back digging post holes. Don't waste your time replacing rotted posts every few years.

NO HOLES TO DIG

Several smart raps from a sledge on a SHARP POINT POST, and it's in to stay. You don't need to dig a post hole, because the ground end of a SHARP POINT POST drives easily. It bites its way down through the hardest soil in less than three minutes. It won't loose or wobble under the weight of the fence, because the hole is exactly the same size as the post. No loose filled-in dirt around it to settle and let the post get shaky. In the time you are digging and setting a single wooden post you could put in ten SHARP POINT POSTS.

No Posts to Replace You don't have to replace SHARP POINT POSTS every few years, because they last a lifetime. They're 1 1/2 ins. x 1 1/2 ins. x 7 ft. 4 ins. long. To make sure that rust won't attack them, they're covered with a thick, smooth coat of black metallic paint.

On over two-thirds their length holes are punched in the post itself, close enough to take care of any spacing up to 55 ins. high.

No Freight to Pay The freight on Steel Posts is less than one-tenth the freight on wood. Ten SHARP POINT POSTS can be loaded in the space occupied by one wooden post. Don't forget that you pay freight on wood posts.

SHARP POINT POSTS Save Money, Time and Work These posts costs little if any more than No. 1 Cedar Posts. They last at least twice as long. They can be driven in in one-tenth the time. They cut out the toughest work on a farm, digging post holes. SHARP POINT POSTS give you an All-Steel fence—stronger, better and cheaper than any combination of wood and steel.

SHARP POINT STEEL POSTS are 48c. each, freight paid on orders of 50 Posts or over.

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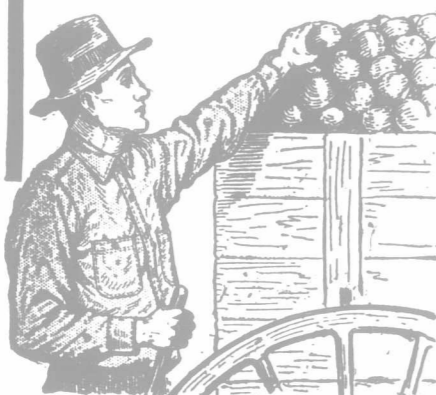
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nature of the rural population in districts where French and English are both resident, and also the small government grants to assist in establishing and maintaining consolidated schools. In Ontario where consolidation is now being seriously contemplated, care should be taken to select the most suitable districts for initiating the scheme. Once consolidation has been effected, it should not be allowed to fail. Lastly, substantial government grants should be given for initial expenses and for maintenance, especially for transportation. There is no reason in the world why rural people should suffer because they do not live near each other like the people in cities.

In North Dakota there are 447 strong consolidated schools, and Manitoba has now 76. Consolidation has been proved satisfactory for the West. But some of the most successful consolidated schools are situated in Massachusetts, which began this policy in 1869. In Vermont, consolidation is making very rapid progress and now nearly one-quarter of the rural children attend consolidated schools, although the nature of the country makes the transportation problem a difficult one. If it is successful in the United States and in our Western provinces, there is no reason why it should not be successful in Ontario, Quebec and the Maritime Provinces.

But it must be remembered that consolidation will not remedy all defects. It merely makes good conditions in which efficient education may be obtained. The mere fact of a larger building with more pupils has little virtue in itself unless there is a broader course of study, a richer curriculum with rural subjects and a better staff of teachers. The old red school-house which was the symbol of rural education in the past is rapidly becoming obsolete, and it is to be hoped that the next generation will receive a thoroughly sound rural education in well-equipped consolidated schools. The consolidated school policy is a more important one for Canada than the movement for industrial and vocational education in cities.

The Old Wool Country.

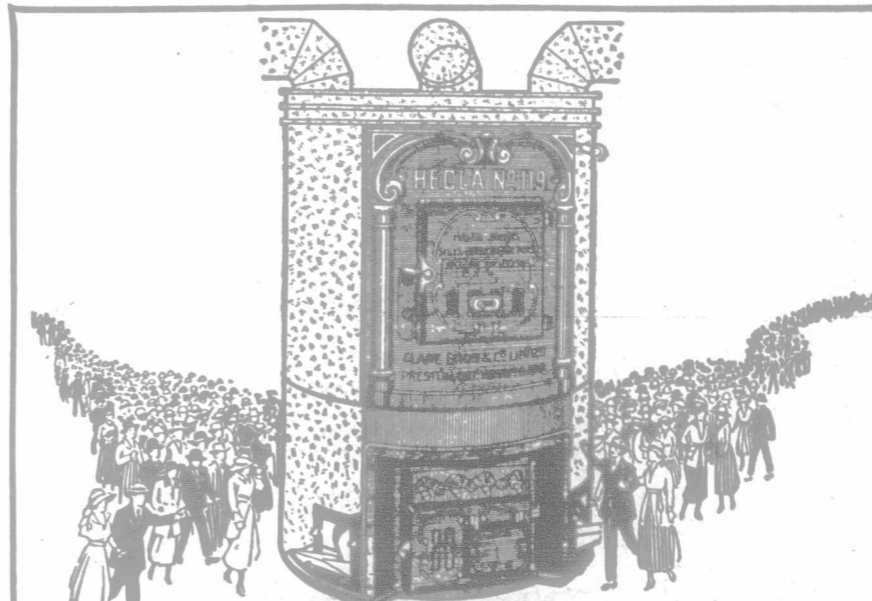
EDITOR "THE FARMER'S ADVOCATE":

In the England of many centuries ago, the heralds of our present civilization, the age of commerce, made their timid entrance on to a stage set for the wars of barons and the ineffectual husbandry of serfs. Nearly five hundred years ago on the Cotswold Hills sheep farming began to be practiced on a large scale; the flock owners, rising out of the position of mere herdsmen, waxed rich and became great wool merchants and built towns and churches. And the towns they built are the towns where the Cotswold farmers live to-day.

The Cotswold Hills are in Gloucestershire, and form a fairly level plateau about five hundred feet above sea level. Compared to the rest of England the Cotswold Hills are not very well favored, either as to climate or soil, but they had the advantage of being good grazing country when most of Britain was swamp or forest. Gradually, during the farming of centuries, the open grass land has been ploughed up and fenced in, until at the end of the Great War corn fields predominate.

The vagaries of the British climate make farming in the Cotswolds an uncertain pursuit. In some seasons the last of the hay and the first of the wheat will be lifted at the same time, instead of a two-months' interval between the two harvests as in most counties. In other seasons all will go well with the hay, while blackened stooks of corn will be standing in some fields as late as November. After the harvesting, women and children go out into the fields gleaning, it is a thrifty custom which fell into disuse when reaping machines became general, but it has been revived since the war. Parties of women and children go out for the day, tramping from one field of stubble to another in search of scattered wheat ears, going it is said, more for the sake of the outing than the grain, although they come home in the evening with quite large sheaves. If the wheat field is not too far from the farm, the farmer moves his chicken-house and its occupants out there when the gleaners have done.

At harvest time there is always a rabbit stew cooking over every cottage fire; for, when a wheat field is almost reaped, and only a small patch of stand-



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That is why many progressive communities have adopted Tarvia. They know that Tarvia roads pay, that real estate values in a Tarvia district are always higher than in a poor-roads district, and that their prosperity as an agricultural community is built up along the Tarvia way.

Tarvia is a coal-tar preparation; it is easily applied to any gravel or macadam road. A great many miles of Tarvia highways have already been built in Canada, and more are being added every year.

ing grain is left, all the youths and boys of the village stand round it armed with stout sticks and kill the many rabbits that are sure to break away from the oncoming machine. In the Cotswold the old custom of "blessing the crops" is still kept up, when the parson in cassock and surplice goes out at the head of his choir and blesses the standing grain.

The Cotswolds are a stone-wall country, that is, the boundaries of nearly all fields and roads are low stone walls instead of the more usual hedges. The houses are built of stone and roofed with stone tiles, so are the barns, cattle-sheds, stables and out-buildings, it is only since the war that a few "Dutch barns" of corrugated zinc have sprung up here and there. There is very little timber or water on the Cotswolds, although farms built on high ground have a thick belt of trees planted round three sides of the farm-house and out-buildings, with a clear view only to the south, to break the force of the winter gales. There is usually a very narrow, shallow, clear stream running through the hollows of the land.

Most of the farms have been altered and rebuilt, but a few are the original buildings with walls five feet thick. Rooms in houses like this remain pretty much the same temperature all the year round, whatever the outside conditions, cool in the summer, warm in the winter. Every farm-house with any pretense at age has an old-fashioned oven built in the wall, and this is prized by the farmer's wife for most kinds of cooking beyond modern and improved stove. These ovens are heated by the simple process of

lighting a big wood fire inside the oven itself, and when the fire has died down, raking a clear space in the ashes and setting the food to bake there.

Shepherds are regarded as being of a higher rank than the rest of the farm hands, and that is probably a survival from the days when the whole of the Cotswolds were one unbroken sheep-run. The shepherd in his buff colored corduroys and his black shovel hat, with his crook in his hand and his dog at his heels is one of the most picturesque figures on the hills. In the early spring the shepherd leaves his comfortable cottage and the society of his wife and children for a little wooden hut on wheels and no company but that of his dog and the sheep, and there he lives by the sheep-fold all through the lambing season.

The sheep dog trials that are held on the Cotswolds are very interesting to watch. The trials are usually held on sloping ground, so that the judges and spectators standing on the highest point have an uninterrupted view of the whole course. This is set with frequent obstacles in the shape of pens, hurdles and gates. The shepherd stands beside the judges and from there directs his dog to take a small flock of sheep across the fields, in and out of the pens, round the hurdles and through the gates, covering in all about a mile.

In most parts of England a reliable and efficient farm hand specializes in one branch of farm work. Of course, he helps in the general work of the farm as the occasion demands, but his real vocation is as cowman or shepherd, wagoner, hedger and ditcher, etc. When

a boy is first employed on a farm he soon drifts, either through circumstance or aptitude, into learning more about one form of farm work than any other. Say he becomes a proficient wagoner, then a wagoner he is likely to remain all his life. This is not through lack of adaptability on his part but because an English farmer will not wish to engage as, say, shepherd, a man who has hitherto been employed only for the care of horses. Of course, in small farms where only one or two hands are employed, this does not hold good, just as in small households one manservant has to combine the duties of chaffeur, groom, gardener and boot-boy, and understand all his jobs, so a farm hand has to be master of all trades—agricultural.

It has been said that men from agricultural districts in England did not respond so well or early to the call for men at the beginning of the war, as did men in the cities. It is certain that the war beginning in the harvest month did delay many country recruits; even then, it was realized that home-grown food supplies would be an important factor, and no agricultural laborer who waited till after the harvest before enlisting felt himself a shirker. Even without allowing for this, no one can say that men from the Cotswolds, a purely agricultural district, did not respond early to the call to arms. From every village and hamlet, estate and farm they came, every day during the first few weeks of war the platforms of the village railway stations were crowded with would-be soldiers on their way to the nearest recruiting office. Most of these men were farm laborers or men

employed on big estates—game-keepers and gardeners.

Gloucestershire is a country that had a good fighting record, even before the late war, the men of the Gloucesters wear badges in the back as well as the front of their caps in recognition of the day when they fought back to back in Egypt years ago.

Just before the war, the ex-Kaiser bought and had taken to Germany pigs of the local breed known as "spotted Gloucesters," at about the same time he also had his Imperial lakes and rivers stocked with young eels from Gloucestershire's beautiful river Severn. During the war it was a sore point with the loyal people of Gloucester that their country had unwittingly helped to supply food to that disgraced and exiled descendant of robber barons—William Hohenzollern.
FRANCES SARGEANT.

At a church conference a speaker began a tirade against the universities and education, expressing thankfulness that he had never been corrupted by contact with a college.

After proceeding for a few minutes, the bishop, who was in the chair, interrupted with the question:

"Do I understand that Mr. Dobson is thankful for his ignorance?"

"Well, yes," was the answer; "you can put it that way if you like."
"Well, all I have to say," said the prelate, in sweet and musical tones—"all I have to say is that he has much to be thankful for."

At what age do Farmers Retire?

A farmer retires when ill health compels him to do so, or when he has enough money to keep him for the rest of his days.

Farmers are much like other men. In the past they have spent freely as they have earned and old age has found most of them without the money upon which to retire.

But the farmer of today—if he is wise—does not leave the matter of his independence in old age to chance. By investing a few dollars each year in an Endowment Insurance he builds up a fund to keep him in comfort when he is old, or to care for his family should death claim him early.

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- 4th—When a repl veterinary or lega enclosed.

What are th breeds of poultr and Leghorns layers?

Ans.—Rocks, land Reds and O which are cons They are all g breed to another, there are good breeds. Minor particularly good especially, being as "egg-machines"

1. If a man it lawful for him the townline on county?

2. If a man from the road a of running out a is a person justifi the dog off the r

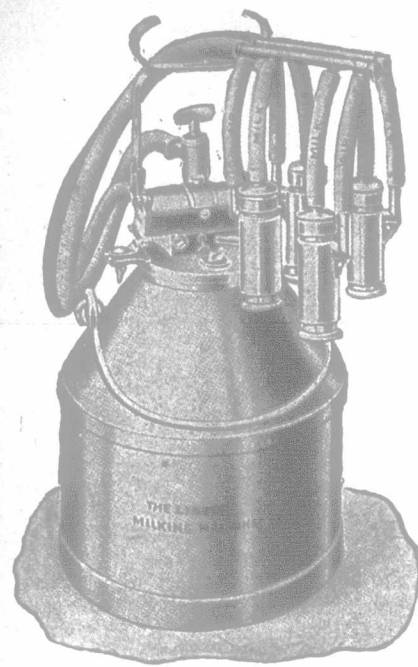
3. If the dog throwing a stone collect damages?

4. We used horses to keep th we blistered the way to restore th

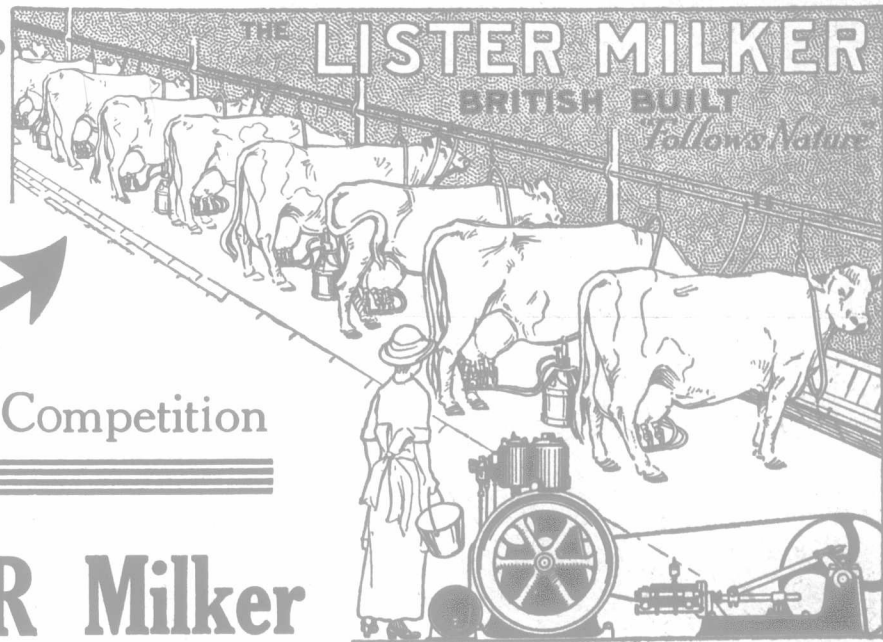
Ans.—1. In is a local by-law of stock on the a by-law or not, inconvenience hi his cows on the l

2. Certainly complaining if

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- 3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
- 4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Poultry.

What are the four general-purpose breeds of poultry? Are the Minorcas and Leghorns considered to be good layers?

H. H. G.

Ans.—Rocks, Wyandottes, Rhode Island Reds and Orpingtons are four breeds which are considered general-purpose. They are all good. Some prefer one breed to another, but it will be found that there are good and bad strains in all breeds. Minorcas and Leghorns are particularly good layers. The Leghorns, especially, being frequently spoken of as "egg-machines."

Miscellaneous.

1. If a man lives in one country, is it lawful for him to pasture his cows across the townline on the roads of another county?

2. If a man lives four or five rods from the road and his dog has a habit of running out after the teams passing, is a person justified in asking him to keep the dog off the road?

3. If the dog was injured by a man throwing a stone at him, could the owner collect damages?

4. We used a coal-oil rag on our horses to keep them glossy; unfortunately we blistered them. What is the quickest way to restore the hair?

L. B.

Ans.—1. In most townships there is a local by-law prohibiting the pasturing of stock on the road. Whether there is a by-law or not, a man has no right to inconvenience his neighbors by turning his cows on the King's highway.

2. Certainly a man is justified in complaining if the dog chases teams.



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FARMERS of Canada will endeavor to produce 250,000,000 Bushels of Wheat in 1919. With such a crop the use of the Grain-Saving Wind Stacker will save at least 2,500,000 bushels that would otherwise be lost—a cash gain to farmers of several millions of dollars.

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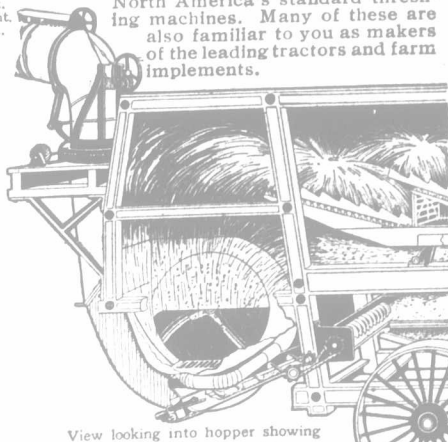
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- Port Huron Engine & Thresher Co., Port Huron, Michigan
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- The Westinghouse Co., Schenectady, N. Y.

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View looking into hopper showing grain trap near stacker fan, also auger running from beneath trap for returning the saved grain to separator.

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It is not uncommon for dogs which run to the road to frighten teams and cause damage, in which case the owner would be liable.

3. When the dog was deliberately chasing teams and his owner was not along, there would be difficulty in collecting damages for injury to the dog. A man has no right to allow his dog to become a public nuisance.

4. Some of the so-called hair restorers might work on the horses, but possibly you will find that using sweet oil to keep the skin soft will bring results.

English Live Stock News.

EDITOR "THE FARMER'S ADVOCATE":

English and Island-bred Guernsey cattle to the number of over five hundred head have been bought over here by C. L. Hill, Rosendale, Wis., and C. W. Kerr, Cohasset, Mass. Some ideal exhibition stock are among this big consignment.

The English Hackney, A 1's Ambassador, a grandson of the lately deceased stallion, Mathias, has been sold by Dr. Bowie (London) to an American breeder for a price that puts all English Hackney figures in a cool place.

Canada has not shipped any Hackneys from England since 1917, when she took two. In 1909 she bought 85; in 1910, 64; in 1911, 36; in 1912, 35; in 1913, 49; and in 1914, 16 but 1915 was a blank and nothing much, if anything, has been done since.

Middle White pigs—i. e., a size smaller than the Large Yorkshire and a size larger than the Small White which is nearly defunct in Britain, are making fine prices in Cambridgeshire. An August 19, 1918, gilt made 90 guineas; a July 1918 gilt 80 guineas, and a boar July 1918 60 guineas as Chiver's sale. A sow and a litter made 80 guineas.

ALBION.

"Laws, this war do open one's eyes, don't it? Fancy your son writing from Jerusalem—I always thought Jerusalem was in Heaven!"



A quaint U.E. Loyalist House on Bath Rd., near Kingeton, Ontario. Built 1793 by Wm. Fairfield, a pioneer of Ernestown. The house has been occupied for four generations and is in a fine state of preservation.

A 126-Years War

How many successive times have the warring elements beaten upon this house, in the 126 years since it was built?

No one can say, but everyone can see the wonderful preservation of this house, through surface protection, despite all it has gone through in well over one hundred years.

If equally well protected, our modern houses should last as well. So will property of almost any kind—from a city garage to a country barn—from an office desk to a library table, or the metal trim of buildings, or your front hall floor.

Some surfaces may need one kind of surface protection, and some another, but they all need surface protection.

It is at the surface that trouble begins, rust that attacks iron—decay that attacks wood—wear that attacks surfaces subject to friction. All these allies of destruction hunt for an opening at the surface. Surface is the frontier—the point of attack.

It is when we once picture all the agents of property deterioration as an ever-ready enemy waiting to spring at any opening offered, that we appreciate the significance of the expression:

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THIS ANNOUNCEMENT is issued by the Canadian Save the Surface Campaign Committee, for the purpose of educating the public in the Preservation and Protective value of Paint, Varnish and Allied Products for the Conservation of Property, and has received the approval of the Canadian Trade Commission in the following words:

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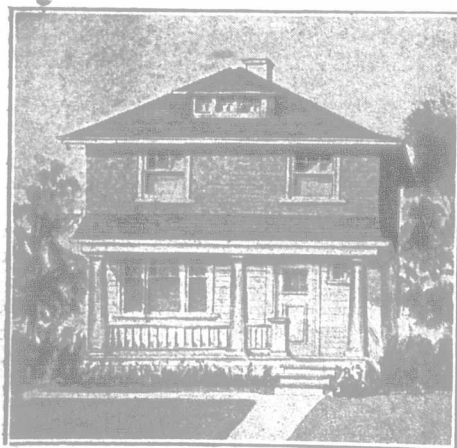
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ORMSTOWN LIVE-STOCK SHOW

The tenth Annual Live-Stock Show, of the Live-Stock Breeders' Association of the District of Beauharnois, Ltd., will be held at

Orms town, Que., June 3-4-5-6th; \$15,000 Offered in Prizes.

Stockmen, exhibit your stock at this Show, it will pay you. All horses and cattle judged in large covered-in steel Stadium, opening on June 3rd, at 8 P.M. with judging of driving horses. Write the Secretary for Prize List or other information.

Neil Sangster,
President.

W. G. McGerrigle,
Secretary-Treasurer.

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Questions and Answers. Veterinary.

Foul in Feet.

My cows stand on cement floor with plenty of clean litter. The fore feet become sore between the clouts, gather and break. Is this contagious? J. J. S.

Ans.—This is foul in the feet. It is hard to understand why it should occur under the conditions, unless the cows, when out of the stable, stand or walk through irritating matter of some kind, as liquid manure, mud, slush, rushes, etc. Treatment consists in removing the cause, keeping the patients dry and clean, applying hot poultices to the feet. (First thoroughly cleansing between the clouts) until the acute soreness disappears, then dressing the raw surfaces 3 times daily until healed with 1 part carbolic acid to 30 parts sweet oil. It is not considered contagious. V.

Unthrifty Cow.

Cow has been sick for two months. She seldom chews her cud. Her appetite is poor and her bowels are sometimes constipated and sometimes she has diarrhoea. She has lately calved but gives very little milk. F. B.

Ans.—The symptoms indicate chronic disease of the digestive organs, probably tuberculosis. The only means of reasonably definite diagnosis is the tuberculin test by a veterinarian. All that you can do is give tonics and feed on feed of good quality. Mix equal parts by weight of powdered sulphate of iron, gentian, ginger and nux vomica and give her a tablespoonful 3 times daily. Feed on good hay, chopped oats, bran and a little linseed meal, silage or roots. V.

Does Not Like a Gray.

I have a gray horse but don't like the color, and would like to make him black.

1. Is it possible to dye him?
2. What preparation should be used?
3. Is it injurious to the skin?
4. How often should it be repeated?

Ans.—1. It is possible to dye him, but it will require a large amount of dye, and a long time to apply it.

2. One of the commercial hair dyes would give the best results. A solution of nitrate of silver in the proportions of 6 grains to an ounce of water will produce a brownish black color.

3. It will not injure the skin if carefully applied, but care must be taken to not dye the skin.

4. The operation, in order to preserve a reasonably uniform color would have to be repeated at least every three months. V.

Chronic Swelling.

1. When I kept my horse in the stable last fall his hind legs swelled. One is now all right but the other still swells when he is in the stable but the swelling disappears on exercise. The skin of the affected part is cracked and he is in poor condition.

2. Is the cream from the milk of Holsteins lighter in weight than that from other breeds of cows? A. O.

Ans.—1. Give him a laxative of 1½ pints of raw linseed oil and follow up with 1½ oz. of Fowler's solution of arsenic twice daily for a week. Keep warm poultices of linseed meal to the parts until the scabs soften and can be readily removed, then dress 3 times daily with a lotion made of 1 oz. each of acetate of lead and sulphate of zinc to a pint of water. Give daily exercise or light work. As soon as the cracks heal if the leg continues to swell, hand rub well and keep a bandage on when he is standing. The swelling is largely due to defective circulation, hence slight pressure from the bandage will give good results, but it must not be sufficiently tight to arrest the circulation.

2. We are not aware that there is any difference in the weight of the cream. V.

There was recently hailed into court a small Irishman to whom it was a new experience. But he was unabashed. "Prisoner at the bar," called out the clerk, "do you wish to challenge any of the jury?" "Well," returned the Irishman, "I'm not exactly in training, but Oi thnk Oi could go a round or two with that fat guy in the corner." "Waif."

Questions and Answers.
Veterinary.

Foul in Feet.
stand on cement floor with clean litter. The fore feet between the clouts, gather Is this contagious? J. J. S.
is is foul in the feet. It is understand why it should occur conditions, unless the cows, of the stable, stand or walk tating matter of some kind, manure, mud, slush, rushes, ment consists in removing keeping the patients dry and ing hot poultices to the feet. oughly cleansing between the the acute soreness disappears, g the raw surfaces 3 times healed with 1 part carbolic arts sweet oil. It is not con- gious. V.

Unthrifty Cow.
been sick for two months, chews her cud. Her appetite her bowels are sometimes and sometimes she has she has lately calved but ttle milk. F. B.

symptoms indicate chronic e digestive organs, probably The only means of reason- e diagnosis is the tuberculin erinarian. All that you can ics and feed on feed of good x equal parts by weight of ulphate of iron, gentian, aux vomica and give her a 3 times daily. Feed on hopped oats, bran and a meal, silage or roots. V.

Not Like a Gray.
ray horse but don't like the ould like to make him black. sible to dye him? e preparation should be used? urious to the skin? ften should it be repeated? A. M.

It is possible to dye him, require a large amount of ng time to apply it. e commercial hair dyes e best results. A solution lver in the proportions of 5 unce of water will produce a k color. ot injure the skin if care- bu+ care must be taken to skin. eration, in order to preserve uniform color would have to t least every three months. V.

Chronic Swelling.
kept my horse in the stable hind legs swelled. One is but the other still swells e stable but the swelling e exercise. The skin of art is cracked and he is in e cream from the milk of er in weight than that from A. O.

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Cut Dairy Costs

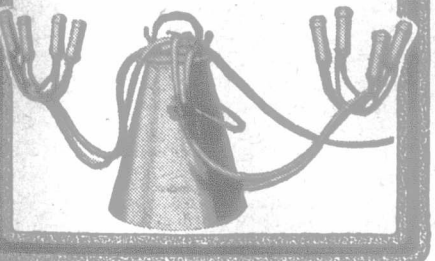
THOUSANDS of dairymen are using Empire Milking Machines to cut dairy costs. Many write us they would have to go out of the dairy business if it were not for



And it's true, too. You have no idea what a saving in time and increase in milk production results from the use of such a highly perfected and universally successful milker as the Empire.

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MONTREAL
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—by removing the cause—and cured to stay cured—If 3 boxes of **Fleming's Tonic Heave Remedy** fail to effect a cure of any case, old or new, we will refund the full amount paid. Per Box, \$1.00; 6 for \$5.00 Mailed on receipt of Price. **Scratches Disappeared** Gentlemen—I gave a course of your Tonic Powders, which has put a horse and his mate in fine shape, and a touch of scratches has quite disappeared. Geo. A. Miles, Oxville, Alta. Full information in Fleming's Vest Pocket Veterinary Adviser Write us for a Free Copy **FLEMING BROS., Chemists** 75 Church St. - Toronto, Ont.

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Questions and Answers.
Miscellaneous.

Maple Floor.
How should a new maple floor be treated? J. H.

Ans.—There is always more or less danger of a little warping with a maple floor, unless the basement is pretty dry. It may be found necessary, after the floor is down for a while, to plane it, as there is a tendency for it to raise a little at the joints. Oiling the floor has proven satisfactory. Using the oil is, we believe, preferable to staining.

Roadside Trees.
1. Has a Commissioner authority without permission from Council to sell shade trees growing on the road side?
2. Would he have to give notice to parties whose land they are opposite?
3. What is the penalty? S. B. Ontario.
Ans.—1. No.
2. No; but he must have the authority of a resolution of the council before he can lawfully cut down or remove any such trees.
3. A fine of not more than \$25.

Theft of Timber.
1. A owned deeded lots with timber on. Sold the timber to B. C stole standing green pine off lots after the sale of the timber. Who should take action against C, A or B?
2. What can be done with C? Ontario. R. K. O. H. C.
Ans.—1. Either A or B may lay information against C.
2. He can be prosecuted for the theft. The proceedings may be commenced by an information laid before a Justice of the Peace.

Faulty Compression.
I have a gasoline engine that does not develop much power. I have put new rings in but yet the air seems to escape around them. What do you consider is wrong? H. B.
Ans.—The trouble is due to poor compression owing to the air escaping around the piston rings. The new ones could not have been put on quite right, or else they do not fit properly. You might find it best to have the firm from which you purchased the engine overhaul it, as they would have the proper size of piston ring and the necessary equipment for making repairs.

Young Pigs.
How can young pigs be raised when the litter is too large for the sow to feed? I tried putting rags in the milk but the pigs would not take to them. F. B.
Ans.—As a rule the young pigs take quite readily to the rags and will drink the milk out of a dish when they are only a day or two old. The bottle may be resorted to. One plan which we have seen followed satisfactorily is to leave the pigs with the sow and for first two or three weeks take three or four out and feed on cow's milk. In this way different pigs will be getting the milk. When the pigs are about three weeks old they will usually drink out of a dish or trough and provision should be made to have a corner partitioned off and the young pigs given a trough for themselves. Milk from a comparatively fresh cow is all right for the pigs.

Cow Breaking Fences.
In reply to a question in the issue of April 24, re preventing a cow destroying fences, William A. Hamilton, a subscriber to this magazine, gives his experience as follows: "Take a stick about the thickness of a broom handle, or slightly larger—Ironwood preferred, and about 2½ feet long; place it under her horns. Take a strap with a buckle on the end, like a hame strap only longer, pass it around the stick at one side of the head, carry it across at the back of her horns and around the stick at the other side and buckle it, but not too tightly as wet weather would cause the strap to contract and hurt her head. I then drive a wire shingle nail through the strap into the stick at each side to prevent the stick from working endwise. While this is on her head fences are unmolested and the milk yield is normal. Of course, I do not pasture my cows in the bush, as the stick coming in contact with trees might cause serious trouble."

HIGH CHEESE AND BUTTER PRICES

WORLD food conditions are such that high prices will likely stand for some time to come. Dairy farmers do not need to figure whether it is most profitable to sell cheese and butter or raise their calves. They do both when they use

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The high-quality ingredients are guaranteed to the Government. They are linseed, wheat, oats, corn, locust-bean, pea meal and oil cake.

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\$10.35



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When writing advertisers will you kindly mention The Farmer's Advocate.

Questions and Answers. Miscellaneous.

Wild Mustard.

A rents a place to B, and B is strictly forbidden to bring any foul seeds on the place especially wild mustard seed. Now B has brought the mustard seed. What is the penalty, if any? W. A. B. Ontario.

Ans.—There is no statutory penalty; but A may sue B for damages.

A Wife's Rights.

1. What is a farmer's wife's allowance on a valuable farm?

2. Can she claim the third of the income after all expenses are paid? All farmers' wives work very hard and get very little money, as their husbands always take the "lion's share." It makes us jealous of our city sisters who do comparatively no work and have lots of money to spend and dress well.

M. S. M.

Ans.—1. None excepting her right to be suitably maintained by her husband.

2. No.

Paralysis.

1. I have a sow which got hurt while fighting with another pig. She is unable to move her hind parts. She eats well but does not attempt to get up. What is the trouble?

2. I have a goose that laid three soft-shelled eggs and then quit laying. What is the trouble?

A. S.

Ans.—1. It is possible that the back is injured and partial paralysis has set in. Applying hot poultices to the back and keeping the sow comfortable is about all that can be done toward effecting a recovery. It is possible that in time she will come all right.

2. This is a physiological condition which cannot be altogether accounted for. It is possible that the soft shelled eggs is due to the goose not getting sufficient material for the making of shell.

Cow Pox—Horse Breathes Heavily.

1. If A sells a horse to B for \$150 but does not recommend the horse at all, can B compel A to take the horse back and refund the money if the horse proves unsound? The horse is six years old and breathes heavily when working. What treatment would you advise?

2. We have three heifers just commencing to milk and they have white blisters on the udder which break and form sores. What is the cause and treatment?

3. Last fall our raspberry leaves curled up. They were just set out last spring. What can we do for them this year?

E. W.

Ans.—1. Unless A guaranteed the horse to be sound, B could scarcely expect him to take the horse back. The trouble is evidently what is called "broken wind" which very often develops into heaves. The heavy breathing may be due to obstruction of the nasal passages by bony enlargements; tumors in the pharynx, or enlarged neck glands. The practical treatment is to be careful in feeding. Do not give dusty hay, and feed very lightly on hay of any kind previous to driving or heavy work. When a horse is doing heavy work, feed liberally on oats. Dampening the hay and oats with a little lime-water is also recommended.

2. The sores on the teats are, we believe, what are known as cowpox. This is a troublesome, contagious disease and is spread from one cow to another by the milker's hands or clothes. Dress the sores three times a day with ointment made by mixing 4 drams of boracic acid, 20 drops of carbolic acid and 2 ounces of vaseline. It may be well to use a teat siphon to draw the milk if the teats are very sore.

3. Without more details regarding the disease, it is rather difficult to diagnose the case definitely. The trouble may be due to anthracnose, which causes a drying up of the leaves and dying of the canes, especially at the tips. The snowy tree cricket, which cuts into the cane and deposits its eggs some distance down from the tip, may be the cause of the trouble. The raspberry cane-borer sometimes girdles the cane to deposit its eggs. The leaves and cane above wither. Treatment consists in cutting below where the insects or disease works and destroying the parts.

A Gro...

Our neighbors have for some time been struggling with a system of farming the situation is serious as time is slipping to see so moving to the petence wherever labor, leaving of strangers for one to five years.

Farm survey districts show and sometimes of the farms a portion of rents larger each year.

Some of the Farmers getting to get sufficient find that renting slipping out from the same time.

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Frequently th who feels that capital to start Other tenants a lost their own farms in order course, good te but it is admi renters are no of our farmers. that they wou in the affairs farmers living a farms. The sh expects to stay farm unless h Generally his so as he can out of to the future we no incentive, h and fences an projects receive him owing to location even in short, he is mo to the social an district, and hav matters, cares improvements effect him imm lives in the city district is remov district poorer helping to mak local circulation.

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A Real Sher Sherlock Holmes against himself.

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"If you'll excu the cabman, "the as if they had bee reporters, your ha cut in Philadelph you had had to Chicago, and you Buffalo mud m and—"

"And when?" q "Well," replied "Conan Doyle" in your trunk?"

**and Answers.
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A Growing Menace,

Our neighbors south of the line have for some years been facing and struggling with the problem of the tenant system of farming. In this country the situation is becoming more and more serious as time goes on. It is a sad sight to see so many of our best farmers moving to the city after making a competence wherewith to live without further labor, leaving the old farms in the care of strangers for periods varying from one to five years.

Farm surveys in many of our older districts show that at least 25 per cent. and sometimes as high as 60 per cent. of the farms are rented, and the proportion of rented farms grows amazingly larger each year.

Some of the causes are easily found. Farmers getting along in years or unable to get sufficient help to work their farms find that renting is an easy method of slipping out from under the work and at the same time have a source of revenue. They do not want to sell out entirely for they know little regarding investments as a rule and at any rate it is seldom that they get a substantial cash payment when selling land. Moreover, there is always the element of chance in renting. They have been taking chances with nature all their lives and the glamor of it ties them indirectly to the farm.

Frequently the tenant is a young man who feels that he lacks the necessary capital to start on a farm of his own. Other tenants are men who have perhaps lost their own farms and have to rent farms in order to live. There are, of course, good tenants and poor tenants; but it is admitted in most cases that renters are not the most progressive of our farmers. It is not to be expected that they would take as much interest in the affairs of the district as would farmers living and working on their own farms. The short-term renter naturally expects to stay only a short time on the farm unless he contemplates buying. Generally his sole idea is to get as much as he can out of the land without regard to the future welfare of the farm. Having no incentive, he neglects the buildings and fences and roads. Community projects receive but little assistance from him owing to the uncertainty of his location even in the following year. In short, he is most frequently indifferent to the social and religious welfare of the district, and having no vote on municipal matters, cares little about permanent improvements except as far as they effect him immediately. If the owner lives in the city part of the wealth of the district is removed by him, leaving the district poorer than before instead of helping to make it prosperous by the local circulation of wealth.

The remedy lies in converting each renter into a landowner. Most renters would prefer to possess their own farms if they could make ends meet when they got the farms. With cheap money and tariff reductions and moderate prices on implements and transportation, together with prices for produce that will give the farmer reasonable returns for his labor, the renter will see his way clear to acquire a farm for himself. It is in the interest of the country as a whole that tenant farming be reduced to a minimum and a permanent, residential ownership be firmly established to make better farms, better homes and better citizens.

A. MACWILLIAMS.

A Real Sherlock.—The creator of Sherlock Holmes tells an amusing story against himself.

During a lecture-tour through the United States he arrived one day in Boston, and was considerably astonished when a cabman accosted him and addressed him by name.

"How did you know who I was?" said Sir Conan Doyle, much interested, and not a little flattered by the recognition.

"If you'll excuse my saying so," said the cabman, "the lapels of your coat look as if they had been grabbed by New York reporters, your hair looks as if it had been cut in Philadelphia, your hat looks as if you had had to stand your ground in Chicago, and your right shoe has evident Buffalo mud under the instep, and—"

"And what?" queried Sir Arthur.
"Well," replied the cabman, "I saw 'Conan Doyle' in big white letters on your trunk!"

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Commonwealth Barn Red

Your barns are burning up slowly. It is a very slow process, usually called DECAY. But its destroying power is as certain as it is slow, and the only sure protection is the best paint you can buy.

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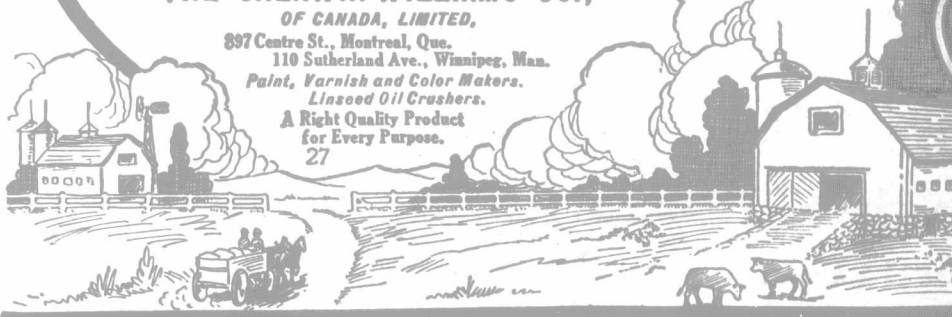
on your barns and other buildings. It is the best paint made for this purpose. This bright, rich Red,—so prosperous looking—is decidedly an economy. Pay out a little money for paint instead of many times as much for rebuilding.

That's common-sense, and it applies just as strongly to the use of **SHERWIN-WILLIAMS Wagon and Implement Paint, to S-W Buggy Paint, and to S-W Auto Enamel.**

Remember, paint is a protector, not an expense.

Look up the S-W agent in your district and ask him about the other S-W Paints and Varnishes too. Also, write us for a free copy of "The A. B. C. of Home Painting."

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The Bissell Steel Roller has a rigid steel frame—no wood whatever. Large roller bearings and strong 2" axles insure durability and great strength. The Bissell is a 3-drum Roller of good weight, built to stand hard usage and give great service. Write Dept. W for free catalogue.
T. E. BISSELL CO., LTD., Elora, Ont.

We have doubled our factory capacity and are determined to supply our customers far and near. See ad. also on page 954.

For Sale Choice Clydesdale Stallion

Sir Shapeley (4-year-old) by Cairndale (imp.) and dam Cogarth Lass (imp.)—a big, thick, well made fellow has a form 1. certificate and offered at a right price. For sale or hire.
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New Importation Just Arrived

Over 30 head Percheron and Belgian Stallions and Fillies. Best of individuals; best of pedigrees. We want to sell the entire lot so no reasonable offer will be refused. Easy terms.

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Two hours run East of Ottawa on C.P.R. and C.N.R.

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We are offering several very choice young bulls of the best breeding. Will be priced to interest prospective purchasers. Inspection invited.

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Greengill Chief = 102496 =, calved Oct. 19th, 1914, he is one of Right Sort's best bulls and is very gentle and cheap.
WM. R. WOODBRIDGE, Arner, R.R. No. 1, Ontario.

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Has EIGHT of the best young bulls that he has owned at one time, good ages and beautifully bred. Also several cows and heifers, some of them with calves at foot, others in calf to Rosemary Sultan, the Grand Champion bull at head of the herd. Everything of Scotch breeding. The prices are very reasonable, and though the freight is high, it will be paid.

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Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Cows in the herd with records up to 13,891 pounds of milk. Cows in calf to Dominator priced to sell.
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Shorthorns Landed Home.—My last importation of 60 head landed at my farm on June the 20th, and includes representatives of the most popular families of the breed. There are 12 yearling bulls, 7 cows with calves at foot, 24 heifers in calf, of such noted strains as Princess Royal, Golden Drop, Broadhooks, Augusta, Miss Ramsden, Whimble, etc. Make your selection early.
(All railroads, Bell 'phone) **Cobourg, Ontario**
GEO. ISAAC.

SHORTHORN BULL

Augustine Sort = 116237 =, an extra well-bred Rosemary and sired by an Augusta bull bred at O. A. U. very sure and active. Also several females. Write
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Sunnyside Herefords
Females all ages, choice bull calves, one full brother to sire of 1st prize bulls at Toronto, London and Guelph 1918, 1 year-old bull at Farmer's prices, car of bulls 2 and 3 years old; one 4-year-old bull would exchange for one of equal merit or younger bull. See them, they are priced to sell. Arthur F. O'Neil & Sons, Denfield, Ont., R. No. 2. 'Phone Granton

FOR SALE

Young Hereford cows with calves at foot, also bull of Fairfax breeding, at farmer's prices.
J. Pickett, Freeman, R.R. No. 2, Bronte Station, Ontario.

HEREFORDS

Present offering—8 choice young bulls. Their sire and dams are the best of breeding. A few females. Prices moderate. **Albert Nokes, Manilla, Ont.**

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Angus—Southdowns—Collies

Choice heifers bred to Queen's Edward, 1st prize Indiana State Fair. Bulls winners at Western Fair and Guelph.

Robt. McEwen, R. R. 4, London, Ont.

**SUNNY ACRES
ABERDEEN-ANGUS**

The present string of young bulls for sale includes some classy herd bull prospects, winners themselves and sired by champions. If interested in Angus, write your wants. Visitors welcome.
G. C. CHANNON - OAKWOOD, ONT.
P. O. and 'Phone
Railway connections, Lindsay, C.P.R. and G.T.R.

Aberdeen-Angus

Meadowdale Farm
Forest, Ontario.

Alonzo Matthews, H. Fraleigh
Manager Proprietor

Kennelworth Farm Angus Bulls—The strongest offering we ever had, all are sired by Victor of Glencairn, and a number are ready for service. Prices reasonable.
PETER A. THOMPSON, Hillsburg, Ontario

Dual-Purpose Shorthorns

A few young bulls of useful age, will be sold right, also a number of cows and heifers. Can spare a few Dorset yearling ewes and rams.
Valmer Bartlett, R.R. No. 4, Canfield, Ont

When writing please mention Advocate.

Save Money and Labor

—and increase the volume of work done on your farm by installing the Fairbanks-Morse Type "Z" Engine.

It does the work of several men and eliminates the worry and expense of ordinary farm labor. No matter what type of farm you have there is a "Z" Engine that suits your requirements.

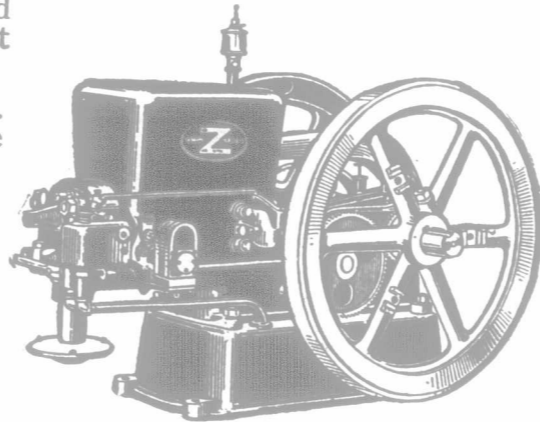
You are sure of the "Z" because it is the standard engine that was designed to do its work quicker, better and more economically than any other engine.

The "Z" operates on the cheapest of fuels—the 6 and 3 Horse Power on gasoline, coal oil (kerosene) or distillate—the 1½ H.P. on gasoline only. It is simple in construction, compact, easy to move about the farm and efficient because it develops more than rated power.

Ask your local dealer about this engine. He stands behind it and gives you a service that insures you satisfaction.

Investigate the "Z" today. Ask for demonstration of the

**Fairbanks-Morse
Type "Z"
Engine
6, 3 or 1½ H.P.**



The Canadian Fairbanks-Morse CO., LIMITED

St. John Quebec Montreal Ottawa
Toronto Hamilton Windsor

The Only Breed

which can furnish both market topping steers and cows which are profitable milk producers, is the Shorthorn.

More pounds of beef, more milk, more profits.

Write the Secretary for free publications.

Dominion Shorthorn Breeders' Association

W. A. DRYDEN,
President
Brooklin, Ont.
23

G. E. DAY,
Secretary
Box 285,
Guelph, Ont.

Shorthorns

Messrs. A.J. Hickman & Co.

Halse Grange, Brackley, England (late of Egerton, Kent)

Exporters of all breeds of stock, draft horses, beef cattle and show and field sheep are specialties. You can buy imported stock through us cheaper than in any other way, and we hope to get your enquiry at once, so that we can fit you out before this country is skinned of good stock, as it soon will be now the war is over.

Please mention Advocate

Harnelbel Shorthorns

Herd headed by Gainford Supreme, one of the best sons of the Great Gainford Marquis.

FOR SALE

Some choice young cows with calf at foot, also some open heifers and heifers in calf to Gainford Supreme.

We have also for sale some choice young bulls.

Farm one mile from Islington Station.

Samuel Truesdale, Manager, Islington, Ont.
Harry McGee, Proprietor, 61 Forest Hill Rd., Toronto, Ont.

Pure Scotch and Scotch-Topped Shorthorns

We have several choice young bulls of the best of breeding and ready for service. Two are by Raphael (imp.), one by Right Sort (imp.), one by Sittytton Selection, and several by our present herd sire, R. M. MITCHELL.

R. R. No.

FREEMAN, ONTARIO

Walnut Grove Scotch Shorthorns

Established 1840. Gainford Eclipse and Trout best Scotch breeding sires for either show or foundation stock. We invite inspection of the cattle. Write your wants to D. BROWN & SONS, Shedden, Ont. Long Distance Phone. Twelve miles west of St. Thomas. P. M., M. C. R.

Beach Ridge Shorthorns and Yorkshires—Shorthorn herd headed by Sylvan Power 95871, a junior champion on Canadian circuits, both sex, for sale; also young cows with calf at foot or in calf to Sylvan Power. We can supply any want in Yorkshires.

R. D. HUNTER, EXETER, ONTARIO

Glengow Shorthorns

WM. SMITH, COLUMBUS, ONT.

—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 purple Myrtle, C.P.R.; Brooklin, G.T.R.; Oshawa, C.N.R.

The Land Speculator.

Now that the war is over matters of economic interest are engaging the attention of the people. Such subjects as food speculation, soldiers' land settlement schemes, are being discussed daily.

Merchants, grain dealers and middlemen in general are being criticized for buying or selling food for speculation, and methods of regulating their business are being discussed. But one of the worst types of speculator, one who is responsible for much of the increased cost of production, one who reaps where he does not sow, is the land speculator. Millions of acres of choice virgin soil, well served by railways and capable of producing untold food supplies lie idle while back on the horizon the homesteader struggles to make a living for himself and family. The economic burden forced upon the farmer by the land speculator is enormous. The vacant land increases the cost of railway service, increases the cost of the rural telephone, discourages the school and church, and raises the cost of food to the consumer. This land is held by speculators, some in Canada and some in other parts of the world, who hope that the industry of the farmers of this country will raise the value of the land so that they will make a profit from it.

The war has given the Government a chance to remove this evil from our midst.

In New Zealand the Government buys land and sells it to individuals at the purchase price plus a low interest charge. France also gives assistance to farmers in purchasing land. Canada could not do better than help her soldier boys to get back to the land by forcing the sale of these lands and make capital available for the soldiers, in order that they should have a fair chance.

In this way the Government would be doing a great good in many ways. It would tend to make the returned soldier more contented by giving him a fair chance. It would lower the cost of production and therefore the cost to the consumer. It would arouse a better community spirit in the rural districts and there would not be need for back to the land movements. It would also rid the country of one of its greatest evils—the land speculator.

ALVIN COX.

Gossip.

A. A. Colwills Herd at Newcastle.

There is, no doubt, dozens of Shorthorn breeders in Ontario to-day who are in search of good pure-bred, dual-purpose sires to head their herds. Thirteen and fourteen month sires are at all times desirable and elsewhere in these columns A. A. Colwill of Newcastle has advertised, four young bulls of this sort. All are sired by the choicely bred Wedding Gift sire, Broadhooks Prince and their dams are of the Miss Simm and Louisa tribes. Under private test these dams have milked upwards of 50 lbs. per day on twice a day milking, and two of the bulls in particular are individuals of high merit. The other two are cheaper youngsters but all are, we were informed, priced well within their value. There are also several younger bulls from these good milking dams and sired by Mr. Colwill's present herd sire, Primrose Duke, a big, deep, four-year-old bull by Northumberland and his third dam was Primrose 5th imported. This sire only came to the herd, season before last, but is proving himself to be one of the best breeding bulls ever used in the herd. There are a number of heifers got by the former Wedding Gift herd bull and safely bred to the present sire included in the sales list now advertised. In Tamworths the other speciality of the farm the offering though varied is somewhat limited. There are only a couple of young boars still in stock as well as only a few young litters. Bred sows, however, are more numerous and these are a real choice lot throughout. They are bred from the Robroy and Cholderton strains which won so successfully for Mr. Colwill in the days when he was an annual exhibitor at Toronto and other large exhibitions. The herd throughout is noteworthy and deserving of more than idle inquiry. Address all correspondence to A. A. Colwill, Newcastle, Ont.



Melody 13 breed

The Ke...
Pedig...
Shortho...
Oxford D...
Stud of...
THE...
Robert W...
Kelmscott, Lo

SHORTHORN

One of the oldest...
existence. Milk, F...
Daily milk records...
inspection, milking...
Gold Medal, Spence...
were won at the Lo...
Fifty Guinea Chal...
dairy Shorthorns at...
the third successive...
Manchester in 191...
and one third priz...
stock bulls have p...
and bull calves on s...

OXFORD DOW

The flock was es...
of from 1,000 an...
Numerous prizes fo...
at the principal Sh...
first prize was take...
first prize for pen...
Lambs and Ewes alv...

R. W. Hobbs & S...
Shires, Sound...
alv...

TELEGRAM...
Inspection

English

Shor

For sale: Bull...
English bred fo...
right kind to hea...
crease profits...
prices and up...
Pigs. A great...
deep, thrifty. C...

LYNNORE

F. Wall

Brantford

Graham's

Present offering...
the Duke who...
of milk and 47...
O. P. test: O...
The other num...
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Charles Graham

Mardella

Herd headed by Th...
year-old sire, whose...
and 474 lbs of butt...
have at present tw...
bulls ready for ser...
well as females all...
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Thos. Graham

I HAVE

SHORTH

All are of serviceable...
dams. They are si...
Gift herd sire which...
Prince. Also have...
herd sire Primrose...
to him. Inquiry it...
anything in Tamwor...
A. A. COLWILL (C...
phone.) Newcastl

Two Sh

Now reaching b...
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Shorthorns

females, their dams...
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STEWART M. GI

Speculator.

War is over matters of
are engaging the at-
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being discussed daily.
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being criticized for
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regulating their business
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capable of producing
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homesteader struggles
for himself and family.
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of the world, who hope
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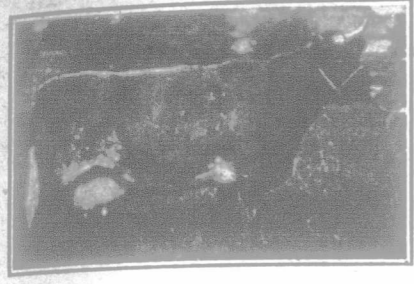
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one of its greatest
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ALVIN COX.

ssip.

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herds. Thirteen and
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ported. This sire
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himself to be one
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Wedding Gift herd
to the present sire
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Toronto and other
herd throughout
deserving of more
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Newcastle, Ont.



Melody 13 bred by R. W. Hobbs & Sons

**The Kelmscott Herd of
Pedigree Milking
Shorthorns, Flock of
Oxford Down Sheep and
Stud of Shire Horses**

THE PROPERTY OF

Robert W. Hobbs & Sons
Kelmscott, Lechlade, Gloucestershire,
England

SHORTHORN CATTLE

One of the oldest and largest pedigree herds in
existence. Milk, Flesh and Constitution studied.
Daily milk records kept. Numerous prizes won for
inspection, milking trials and in butter tests. The
Gold Medal, Spencer and Shirley Challenge Cups
were won at the London Dairy Show in 1914. The
Fifty Guinea Challenge Cup for the best group of
dairy Shorthorns at the Royal Show was won for
the third successive year at the last exhibition at
Manchester in 1916, also two firsts, one second
and one third prize. All cows in milk and the
stock bulls have passed the tuberculin test. Bulls
and bull calves on sale at prices to suit all buyers.

OXFORD DOWN SHEEP

The flock was established in 1868 and consists
of from 1,000 and 1,250 registered Oxfords.
Numerous prizes for many years have been won
at the principal Shows. At the last Royal Show
first prize was taken for a single Ram Lamb and
first prize for pen of Ram Lambs. Rams, Ram
Lambs and Ewes always on sale.

R. W. Hobbs & Sons are breeders of high-class
Shires. Sound active colts and fillies
always on sale.

TELEGRAM HOBBS, LECHLADE
Inspection cordially invited.

English Dual-Purpose

Shorthorns

For sale: Bull calves and young bulls.
English bred for milk and beef. The
right kind to head Canadian herds to in-
crease profits. From very moderate
prices and up. **English Large, Black
Figs.** A great bacon type, long and
deep, thrifty. Come or write.

LYNNORE STOCK FARM

F. Wallace Cockshutt
Brantford - Ontario

Graham's Shorthorns

Present offering 2 choice bulls sired by
the Duke whose dam gave 13,599 lbs.
of milk and 474 lbs. of butter fat, R.
O. P. test: One dark Red 8 months.
The other Roan 13 months. Can also
spare a number of females.

Charles Graham, Port Perry, Ont.

Mardella Shorthorns

Herd headed by The Duke, the great, massive 4-
year-old sire, whose dam has 13,599 lbs. of milk
and 474 lbs of butter-fat in the R. O. P. test. I
have at present two exceptionally good, young
bulls ready for service, and others younger, as
well as females all ages. Some are full of Scotch
breeding, and all are priced to sell. Write or call.
Thos. Graham - Port Perry, Ontario
R. R. No. 5

**I HAVE FOUR CHOICE
SHORTHORN BULLS**

All are of serviceable age and from good milking
dams. They are sired by my former Wedding
Gift herd sire which was a son of Broadhooks
Prince. Also have younger calves by present
herd sire Primrose Duke, as well as females bred
to him. Inquiry invited. Write me also for
anything in Tamworths.
A. A. COLWILL (Farm adjoining Village, Bell
phone.) Newcastle, Ont.

Two Shorthorn Bulls

Now reaching breeding age, from good
milking dams. Priced to sell. For
particulars write

HARRY SMITH
(Exeter Station G.T.R., adjoining farm)
HAY - ONT.

Shorthorns—Present offering: 6 choice
females, their dams are young milkers and best of
breeding. Prices moderate.
STEWART M. GRAHAM, Lindsay, Ontario

Questions and Answers.

Miscellaneous.

Holding Office.

Can a man legally hold a position as
County Roads Commissioner and In-
spector under the County Engineer
if he is not a ratepayer in said county?
Ontario. C. E. B.

Ans.—Yes.

Breeding a Cow.

Is it safe to breed a cow again that put
out the calf bed at last freshening?
J. W.

Ans.—If the membranes were properly
put back it is possible that she would
conceive and freshen all right next time.
However there is danger of the trouble
occurring again.

Miscellaneous.

I have a bottle filled with water to
within three inches of the top, then
there is another bottle turned upside
down with the neck down in the water.
Some days the water goes up in the
neck of the empty bottle and some days
it is down.

Ans.—It is largely a matter of tempera-
ture. The air in the bottle expands on
heating and drives the water down in the
neck. When it cools it contracts and
the water rises.

Sweet Clover—Plum Trees.

1. I have a number of plum trees
that bloom profusely but do not bear
fruit. What treatment would you advise?
2. Will sweet clover make good
silage?

3. Where can I secure sweet potatoes?
G. B.

Ans.—There are some varieties of
plums which do not pollinate freely if
isolated. They require the presence of
other trees. Weak pollination and at-
tacks of plum curculio may be cause of
your plums not setting fruit. If the
trouble is due to lack of pollination the
only remedy is to plant out more plum
trees in the vicinity. If it is due to the
work of curculio thorough spraying at the
right time should control it.

2. Sweet clover has been used for
silage with very good satisfaction.
3. It is possible that sweet potatoes
for planting may be secured through
some of the seed merchants, who import
them from the South.

Abortion.

Four of my herd have aborted within
the last six weeks at from three to four
months from being bred. I have
purchased a young bull. Would there
be danger of him contracting the disease
if mated to these cows? Is it advisable
to keep the infected cows by themselves?
Is there any disinfectant that could be
used in the stable? A. S.

Ans.—The cows which have or are
about to abort should be isolated and
all discharges burned or buried. The
vagina and exterior genitals should be
washed with an antiseptic solution until
all discharge ceases. The sheath of the
bull should also be cleansed. A three
per cent. solution of carbolic acid or a ten
per cent. solution of boracic acid is good.
For external work any of the coal tar
products may be used. A cow should not
be bred for three months after aborting.
There certainly is danger of a bull con-
tracting the disease from a cow and
of transmitting it to other cows. Flush-
ing a cow after calving and daily for a
couple of weeks after being bred is ad-
visable.

An applicant for a place as teacher in
one of the colored schools at Louisville
was being examined touching his fitness
for the position. He was a small, dapper,
yellow person, wearing gold spectacles, a
long black coat, and an abiding air of great
dignity.

The examination was in part oral, and
syntax had been reached.

"What is your definition of the word
jeopardised?" asked the examiner.

The candidate's brow wrinkled.

"Which?" he inquired.

"What do you understand the word
'jeopardised' to mean?"

For just one short half-minute he
hesitated. Then he answered sonorously:
"In reply to yo' question I would state
that that would refer to any act com-
mitted by a jeopard."



**A Dairy and a
Sharples Will Swell
Your Bank Account**

The reason is simple. You know how profitable
a dairy ought to be—but perhaps you do not
realize how greatly a Sharples increases your
profits. Sharples is a *Suction-Feed* separator
—all other separators are fixed feed. Now get
this: Sharples can be turned at any speed and
it *skims* clean. Fixed feed separators when
turned *below* speed marked on the handle can-
not skim clean—as the flow of milk is greater
than the separative force. Some owners of fixed
separators boast that they always turn at the right speed,
but thousands of individual tests prove that fixed feed
separators lose butterfat ninety-nine times out of a hun-
dred. There is only one sure way to skim clean all the
time at all speeds and under all conditions—use a

**SHARPLES
SUCTION-FEED
CREAM SEPARATOR**

Fatten up your bank account *right now* with a Sharples.
Write for literature that tells you how to do it. Your
family will also enjoy the Sharples Book of Old Songs.
It's free. Write to nearest branch, addressing Dept. 78

THE SHARPLES SEPARATOR COMPANY

TORONTO, ONT.

REGINA, SASK.

Over 2,425,000 Sharples Separators in Daily Use

DC-84

Spring Valley Shorthorns

Pride and from a show cow. A number of other good bulls and a few females. Write for particulars.
Telephone and telegraph by Ayr

—Herd headed by Sea Gem Pride #98365—
Present offering includes two real herd headers.
One imported in dam, the other by Sea Gem's
KYLE BROS., R. 1, Drumbo, Ont.

SPRUCE GLEN FARM SHORTHORNS

Four bulls (thick mellow fellows) from 9 to 13 months—Reds and Roans. Also a few choice heifers
and two grade yearling heifers from heavy milkers. Priced to sell.
JAMES McPHERSON & SONS - DUNDALK, ONTARIO

GRAND VIEW FARM SHORTHORNS

Herd headed by Lord Rosewood #121676 and by Proud Lancer (Imp.). Have a few choice bull
calves and heifers left, sired by Escanna Favorites, a son of the famous Right Sort (Imp.).
W. G. GERRIE - C.P.R. Station on farm. Bell Phone. - BELLWOOD, ONTARIO

I HAVE FOUR RED BULLS

Two imported, also a few females for sale.

J. T. GIBSON

DENFIELD, ONT.

K&S TIRES

Are You at The Cross Roads ?

I

n choosing tires, the things that count are **Reliability and Performance.** The Performance of K. & S. Canadian Tires is **GUARANTEED**—you take no chance whatever.

Our "K. & S." tread, for passenger cars, as illustrated below, carries the Highest Guarantee in Canada—7,000 miles on small cars—6,000 miles on large cars.

Our "Commercial" tread, for Trucks and business purposes, is a sturdy non-skid of remarkable wearing qualities.

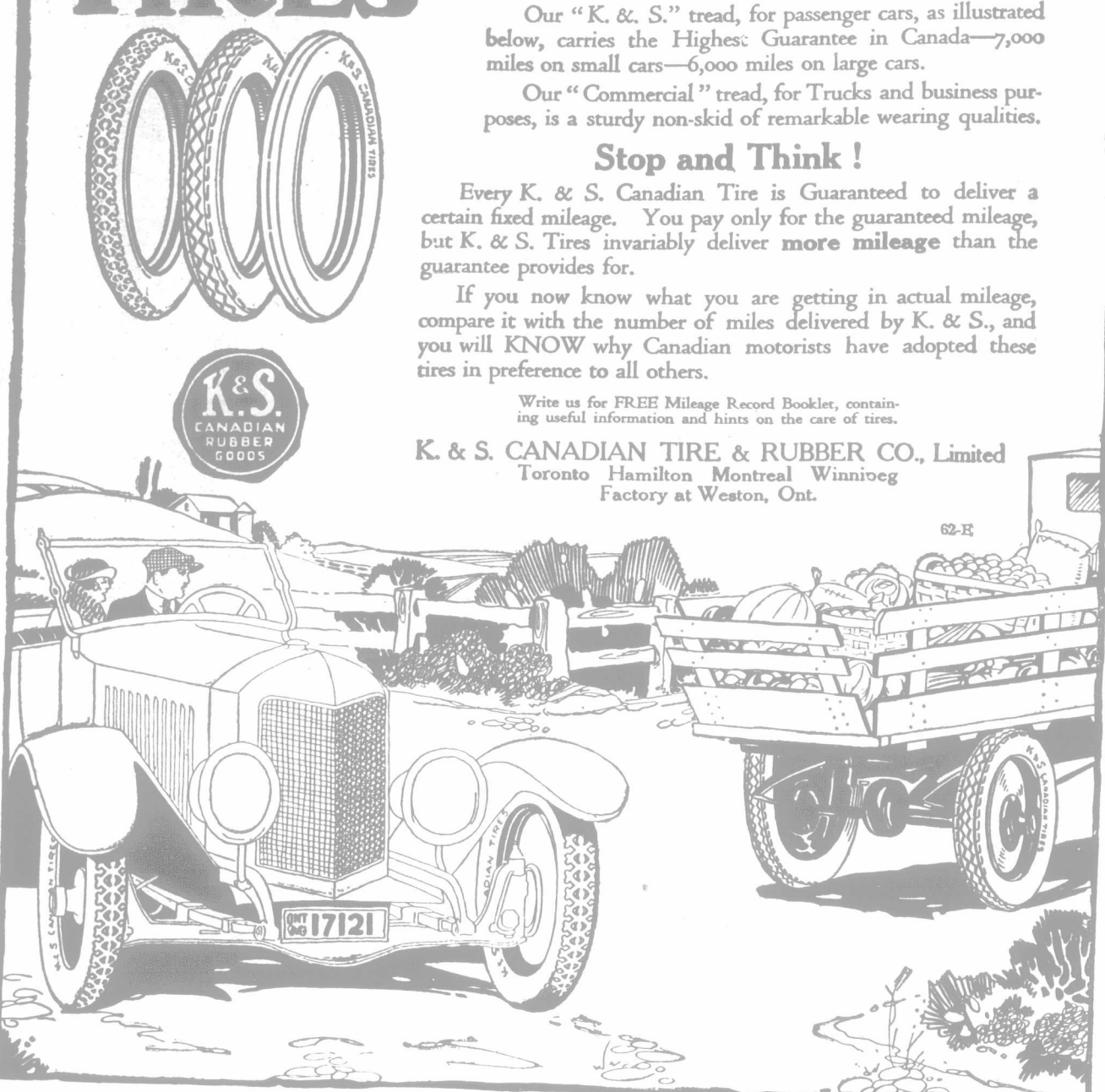
Stop and Think !

Every K. & S. Canadian Tire is Guaranteed to deliver a certain fixed mileage. You pay only for the guaranteed mileage, but K. & S. Tires invariably deliver **more mileage** than the guarantee provides for.

If you now know what you are getting in actual mileage, compare it with the number of miles delivered by K. & S., and you will **KNOW** why Canadian motorists have adopted these tires in preference to all others.

Write us for **FREE Mileage Record Booklet**, containing useful information and hints on the care of tires.

K. & S. CANADIAN TIRE & RUBBER CO., Limited
Toronto Hamilton Montreal Winnipeg
Factory at Weston, Ont.



The Cattle Industry and Its Future.

The cattle industry to-day is in a position where breeders are able to go ahead with their programmes for increasing their herds, with the fairly certain prospect that their business will be on a substantial basis for some years to come. The improved status of the whole dairy industry, due to slaughter of poor animals, and to better co-operative methods through organization, practically assures a constantly increasing improvement in dairy cattle and dairy products. If the farmer and stockman will devote more time to a study of the marketing of stock and dairy products, so that it will become a more scientific process and less of a gamble, and if the Government can be induced to pass legislation to control the export and marketing of Canadian live stock, meat and dairy products, the outlook will indeed be bright. The shrinkage of cattle in Europe during the war has been enormous. France has 2,366,000 less cattle to-day than in 1914; Italy, 996,000; Denmark, 345,000; Sweden 599,000; Germany, 2,200,000—a total of 6,306,000. The demand for meat and dairy products is great. For example, Great Britain imports 452,795,264 pounds of butter annually, of which Canada supplies 6,000,000 pounds and she also imports 29,680,000 pounds of beef. There is, at present, a favorable disposition toward this country's products in Europe. Canadian cheese holds a permanent place on the world's market.

The beef industry in Canada has reached a high point of efficiency during the past year because of the foresight and skill of the leaders of the various breeders' associations. In buying cattle, the first essential is to get cows of good quality. The profitable cow is the one that will give the greatest production on the smallest quantity of feed. The next essential is the right kind of sire for the future development of the herd. Co-operative bull associations have helped considerably in the buying and selling of good sires. The profit comes from the consumption of cheap home-grown roughages as the basis for market topping beef production. There are many rough stump lands, timbered lands and hill lands, and many farmers have waste patches. Beef cattle are particularly fitted to turn the feed from these rough areas into cash, as the country becomes more thickly settled, dairying will take the place of beef production, and ultimately the beef business will be based on the intelligent use of rough lands, for of all the farm animals, beef cattle can utilize rough feeds to best advantage.

During the first two years of the war the dairy situation appeared discouraging because of the slaughter of so many cattle. Further analysis of the situation, however, discloses the fact that most of the animals slaughtered were an undesirable kind for the breeding herds. They were poor, both as individuals and as producers. The non-profitable animals have been weeded out and animals of approved individual excellence and sure breeders have come to take their place. There may be fewer pure-bred cattle on the farms to-day than in 1914, but it is also true that the improvement in the quality of the cattle more than offsets any numerical decline. The programme of the intensive live-stock breeder is to make one animal do the work of two. In most cases the pure-bred herds of to-day are much more valuable than those of 1914.

As the population continues to grow, the demand for dairy products will increase. The demand for products in Europe, due to the war, is likely to continue for some time. In the United States exports of condensed milk rose from 16,000,000 pounds in 1914 to 530,000,000 pounds in 1918. During the re-construction period following the war, Europe will need dairy animals to start anew her depleted herds. During the last few years the dairy industry has been improved by means of cow-testing associations, bull associations, medical science and co-operative methods of marketing. The cow-testing associations have helped the dairy industry by determining the producing capacity of individual cows and assisting the farmers in economical

ANTICIPATION
will be greater than
REALIZATION
if you are not using a
Good Shorthorn Bull

I have a few imported ones ready for service, as well as several of my own breeding. The price is not high.

WILL A. DRYDEN
Maple Shade Farm Brooklin, Ont.

12 Shorthorn Cows
and young stock of both sexes for sale—cows bred to an Orange Blossom bull. Four generations of Scotch-topped females in the herd. (Special prices before June.)
C. N. Blanshard, R. No. 2, Freeman, Ont.
(Burlington Jct. G.T.R.)

Springfield Farm Angus
I have six bulls from 8 to 15 months. All sired by Middlebrook Prince 5th, a son of Jock of Glencairns. Four of these are show calves. Also have other calves younger, and could spare a few heifers safely bred to same sire.

KENNETH C. QUARRIE
Bellwood Ontario
R.R. No. 5, Bellwood, C.P.R., Fergus, G.T.R.
Bell Phone Fergus

Imported Shorthorns

SIRE IN SERVICE;

Imp. Collynie Ringleader **Imp. Clipper Prince** **Imp. Orange Lord**
(Bred by Wm. Duthie) (Bred by Geo. Campbell) (Bred by Geo. Anderson)

We are offering a large selection in imported females with calves at foot or in calf. A few home-bred females, 19 imported bulls and 8 home-bred bulls, all of serviceable age. If interested, write us, or come and see the herd.

J. A. & H. M. PETTIT - Freeman, Ontario
Burlington Jct., G.T.R., half mile from farm. Phone Burlington.

The Plasterhill Herd of Shorthorns

CANADA'S OLDEST DUAL-PURPOSE HERD

Herd headed by Green Leaf Record 96115; sire, Cressida's Hope (imp.); dam, Green Leaf (imp.). The majority of our females are bred to this sire. Others calving now are due to the service of Dictator, Burnfoot Lady, a 10,500-lb. R.O.P. cow. If you want a well-bred bull—a good individual and from good record dams, come and see our present offering. We also have one two-year-old bull by Barrington Record (imp.), and have bred several heifers to him. Inquiry invited. You will appreciate our price list.

ROSS MARTINDALE **CALEDONIA, ONTARIO**

Grand River Dual-Purpose Shorthorns

Several choice young bulls by our former herd sire, Commander, a son of the great sire, Burnfoot Chieftain, and Missie, the 7,800-lb. R.O.P. three-year-old. These calves are breeding and in calf to our present senior sire, Prince Lavender, which is a son of Buttercup, the 10,990-lb. yearly record cow. Come and see the line-up of big cows in our herd. They have size and quality, good pedigrees and are great producers.

HUGH SCOTT **CALEDONIA, ONTARIO**

Top Dress w
**Feed th
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Every form
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ASK

CRAMP
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Cream

Ship yours to us
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Ontario
LONDON

Holste

15 ready for service
with 32.7 lbs. butter
the most conservative

R. M.
R.R. NO. 4, POR

When writing plea

Industry and Future.

Industry to-day is in a... feeders are able to go... programmes for in-... erds, with the fairly... hat their business... antial basis for some... e improved status of... ustry, due to slaughter... d to better co-operative... rganization, practically... y increasing improve-... le and dairy products... stockman will devote... dy of the marketing... oducts, so that it will... ntfic process and less... f the Government can... legislation to control... arket of Canadian... and dairy products... eed be bright. The... in Europe during the... ormous. France has... to-day than in 1914;... ark, 345,000; Sweden... 2,200,000—a total... demand for meat... s is great. For ex-... n imports 452,795,264... annually, of which... 000,000 pounds and... 9,680,000 pounds of... present, a favorable... n country's products... ian cheese holds a... e world's market.

Top Dress with Nitrate of Soda

Feed the Crop; not the Bacteria

Every form of Nitrogen fertilizer, except Nitrate of Soda, must be broken down by bacteria and changed into Nitrate before it can become available for crops. Such bacterial action always results in costly Nitrogen losses.

Nitrate of Soda

is already nitrated! It does not have to undergo changes—but is immediately and wholly available. That's why Nitrate is the quickest, surest, most economical source of Nitrogen

WM. S. MYERS
Chilean Nitrate Committee
25 Madison Avenue New York

SEEDS

We can supply for immediate shipment Home Grown Alfalfa, Red Clover, Alsike, Timothy, Sweet Clover, Ontario Crown Seed Corn, Marquis and Goose Wheat, Bumper King and O.A.C. No. 72 Oats, O.A.C. No. 21 Barley, Peas, Buckwheat, etc. Also Mangel, Turnip Seed and all kinds of Garden Seeds in bulk and packets.

FEEDS

We handle Linsed Oil Cake Meal, Cotton Seed Meal, Feeding Molasses (in barrels) Gluten Feed, Sugar Beet Meal, Hominy Feed, Dairy and Hog Feeds, Mill Feeds, etc.

ASK FOR PRICES

CRAMPSEY & KELLEY
BOVERCOURT ROAD, - TORONTO

Cream Wanted

Ship yours to us, as we must have it to supply our well-established trade with good quality butter. Therefore, we are prepared to pay you highest market price paid. We furnish cans and pay express charges. References any bank

Mutual Dairy & Creamery
743 King Street West
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Cream Wanted

Ship your cream to us. We pay all express charges. We supply cans. We remit daily. We guarantee highest market price.

Ontario Creameries
LIMITED
LONDON - ONTARIO

Holstein Bulls

15 ready for service, 1 younger. From dams with 32.7 lbs. butter in 7 days to those priced for the most conservative buyer. Females also.

R. M. HOLTBY
R.R. NO. 4, PORT PERRY, ONTARIO

When writing please mention "Advocate."

feeding. The co-operative bull associations have enabled dairymen to get bulls whose female ancestry have high records of milk production, which they are able to transmit to their offspring. Medical science is enabling the dairyman to eradicate tuberculosis and contagious abortion from his herds. Co-operative plants are turning the dairymen's milk and cream into cheese and butter, and in the large centres are distributing milk, and the profits are going to the producer instead of to the middleman. Farmers and stockmen must have a better understanding of business laws and conditions. They must organize and know as much about the world situation as the people to whom they are selling. Most of them have centered their interests on production. They fail to realize that it is of little avail to produce large amounts of beef and dairy products economically, unless they are also disposed of to good advantage. Marketing seems rather distant to them, because they think it is too difficult and concerns them but little, because in a way, all they can do is to send their products to market and take whatever returns may be offered to them. That a study of market conditions in regard to variety needed, kind of product and package desired, when and where to send the product in order to secure the highest returns would be a very profitable investment, does not seem evident to many of them.

Agricultural colleges should give instruction on marketing conditions to all students, and should train men to help the farmers in their dealings with railroads, packers and other organized interests. Research work should be carried on in price fluctuations, production costs and the function of our speculative markets. There should be a careful study of the law of supply and demand; and especially of cattle, should be developed. The Government should take control of the packing industries, stock yards, commission agents and the marketing of the live-stock products of the country. Transportation, cold storage plants, and abattoirs should be regulated and enlarged to properly handle the trade. The Government should do everything in its power to assure a safe world market for Canadian live stock, meat and dairy products. A. Cox.

Stock of Grain in Canada.

Under date of April 25, the Dominion Bureau of Statistics issued the following bulletin giving in summary form the result of its annual inquiry as to the total quantities of the various grains on hand.

"Returns collected from elevators, flour mills, railway companies and crop correspondents show that on March 31, 1919, the quantity in Canada of wheat, and wheat flour expressed as wheat, was upwards of 117,739,000 bushels, as compared with 77 million bushels last year, 126 million bushels in 1917, 197 million bushels in 1916 and 79 million bushels on February 8, 1915. The total for 1919 comprises 75,373,000 bushels in elevators, flour mills and afloat in winter storage, 32,315,000 bushels in farmers' hands and 10,051,000 bushels in transit by rail. Of oats, including oat products expressed as grain, the total quantity returned as in Canada on March 31, 1919, is 164,120,000 bushels, as compared with 155½ million bushels last year and 184 million bushels in 1917. The total for 1919 comprises 17,809,000 bushels in elevators and flour mills, 141,694,000 bushels in farmers' hands and 4,617,000 bushels in transit by rail. The total quantity of barley in Canada on March 31, 1919, is returned as 30,542,000 bushels, as compared with 16 million bushels last year and 14,871,000 bushels in 1917. The figures for 1919 comprise 8,135,000 bushels in elevators and flour mills, 20,026,000 bushels in farmers' hands and 2,381,000 bushels in transit by rail. Of flaxseed the total quantity in Canada on March 31, 1919, is returned as 2,259,000 bushels, as compared with 2,420,000 bushels last year, and 5,662,000 bushels in 1917. The total for 1919 comprises 881,000 bushels in elevators and mills, 1,039,000 bushels in farmers' hands and 339,000 bushels in transit by rail. For wheat and barley, therefore, the quantities in stock at the end of March this year are considerably in excess of those in stock a year ago, whilst for oats and flaxseed the quantities are more but not to so great an extent."

Do you need a herd sire?
Why not come to the home of
The New Fifty-One Pound Cow
I have two young bulls; one a four-months show calf who is the only bull in the world to carry the combined blood of Kollo Mercena De Kol (the new 51.93 lb. cow) and May Echo Sylvia (the world's greatest milk producer). The eight nearest dams of this youngster average 31 lbs. of butter in 7 days and four of these are under full age. I also have a three months bull from a 28.67 lb. 3-year-old sister of the new 51.93 lb. cow. He too is a choice well made youngster and has an average of 30.87 lbs. for his 7 nearest dams. Write us about these and others of similar breeding or better still come and inspect them and at the same time see the world's first and only 51-lb. cow.
J. B. HANMER OXFORD COUNTY NORWICH, ONTARIO

Premier Keyes Korndyke No. 33890
Born Jan. 19, 1918. Ready for service. A show bull, lots of size and nicely marked. Sire,—King Sylvia Keyes, with a 100 lb. dam, 5 sisters that average 115 lbs. milk in a day, a brother to May Echo Sylvia, the World's Greatest cow with 1,905 lbs. of milk and 41.01 lbs. of butter in 7 days and 152 lbs. of milk in 1 day. Dam,—with a 7-day record of 32.66 lbs. of butter and 755.9 lbs. of milk and 110.4 lbs. of milk in a day, over 3,000 lbs. of milk in 30 days. He is priced for immediate sale. Write for extended pedigree and this BARGAIN price.
H. H. BAILEY, Mgr. Oak Park Stock Farm, PARIS, ONT. CANADA

Sunnybrook Farms
Send for our list of bulls, among which are, 36.51 lb. son of the \$85,000.00 bull, Avondale Pontiac Echo, 32.59 lb. grandson of May Echo Sylvia and Rag Apple Korndyke 8th; Sire of the \$68,000.00 bull calf at Worcester sale, 30.93 lb. son of Six Lyons Hengerveld Segis, brother to the Sire of the World's Record Cow, Fayne Segis Johanna.
JOSEPH KILGOUR
Eglinton P. O. North Toronto

Raymondale Holstein-Friesians
A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje) and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. These youngsters should not remain long. Write to-day.
RAYMONDALE FARM Vaudreuil, Que. D. RAYMOND, Owner Queen's Hotel, Montreal

At Service—Son of Ormsby Jane King
ORMSBY JANE HENGERVELD BURKE
The services of our 18 months herd sire are now open for a limited number of approved cows—at a moderate price. Individually, he is one of the strongest young sires of the breed and his sire Ormsby Jane King is a son of Ormsby Jane Segis Aaggie (the great white heifer) 46.33 lbs. of butter and 879.40 lbs. of milk in 7 days. The dam of this great young sire, Dolly Hengerveld Korndyke is a 21.75 lb. two-year-old daughter of Earl Burke Korndyke and he again is a 31.30 lb. grandson of Pontiac Korndyke. Write for particulars. Ask us also about our herds.
L. I. METCALF J. D. STEVENS
L. C. SNOWDEN R. R. STEVENS
Bowmanville, Ontario

33-LB. GRANDSONS OF LULU KEYES
I have at present ten young bulls all sired by my own herd sire, King Korndyke Sadie Keyes, a son of Lulu Keyes, 36.05 lbs. of butter and 785 lbs. of milk in 7 days. These youngsters are all first-class individuals, and their dams' records run as high as 33.28 lbs. of butter in 7 days. Several of them must go quick to make room.
D. B. TRACY (Hamilton House Farms) COBOURG, ONT.

Manor Farm Holstein-Friesians
If it's a herd sire you want, write me. I have sons of both my senior and junior sires, King Segis Pontiac Posch and King Korndyke Sadie Keyes. All from good record dams. Choice bull calves at present to offer—average for two nearest dams, up to 34.71 lbs. butter to seven days. Correspondence solicited. Visitors welcome.
GORDON S. GOODERHAM, Clarkson, Ont.
Stations: Clarkson and Oakville. Farm on Toronto and Hamilton Highway.

Highland Lake Farms
For Sale: Two extra good (30-lb.) thirty-pound bulls ready for heavy service Priced to sell. Also younger ones by a son of May Echo Sylvia.
R. W. E. BURNABY - JEFFERSON, ONT.
Farm at Stop 55, Yonge St. Radial

HOSPITAL FOR INSANE
HAMITON - ONTARIO
Present herd sire is one of the best sons of King Segis Alcartra Spofford. We have three of his sons born during May and June last, and also a grandson of Lakeview Lestrangle. Apply to Superintendent.

Elderslie Farm Holstein-Friesians
Special offering—One bull fit for service, fine individual; dam gave 195.26 lbs. milk, 782.50 lbs. butter for year. He is a son of Judge Hengerveld De Kol 8th, who is a 32.92 lb. grand son of De Kol 2nd. Butter Boy. We have others younger equally as well bred. Write at once for prices or better come and see them. (Take Kingston Rd. cars from Toronto, Stop 37.) A. MUIR, Scarborough P. O., Ont.

Holstein Bulls and Females
—Only four bulls left—of serviceable age. All are from good dams, and their individuality should sell them. Two are sired by May Echo Prince, ¼ brother to May Echo Sylvia. Can also spare a few nice straight heifers and young cows bred to our 33-lb. sire Gypsy Pontiac Cornicopia. Prices right.
JOS. PEEL. Port Perry, Ont.

6 BULLS BY KING SEGIS PONTIAC DUPLICATE
Brother to the \$50,000 bull. Three of these are ready for service and all are show calves. Write us also for females. We are pricing a number of heifers, bred to our own herd sire, Sylvius Walker Raymondale, a grandson of the great May Echo Sylvia. We now have bull calves a few months old by this sire. Let us know your wants. R. W. WALKER & SONS, Manchester Station, G. T. R. Port Perry, Ont., R. R. No. 4.

Silver Stream Holsteins Choice Bulls
We have six from 7 to 14 months old, sired by King Lyons (หลาน) the records of his six nearest dams average 30.10 lbs. butter in 7 days, and by King Lyons Hengerveld 5 nearest dams average 31.31 and from R.O.P. tested dams. Individually as good as their breeding. If interested write for particulars and prices or better come and see them. Jacob Mogk & Son, R.R. 1, Tavistock, Ont.



The Old-time Painter says:

"Believe me, there is this much about paint.

It costs more not to paint than it does to paint with good paint like

Maple Leaf Paint

Makes Good Because It's Made Good.

If I can get on the job first—with MAPLE LEAF PAINT—I've got wind, weather and moisture beaten forty ways and I can save you money.

But if you let them at your property first they've got me beaten a hundred ways for piling up expense bills.

You know appearance counts a whole lot when you buy a house—well, it counts a whole lot more when you come to sell and want a good figure for it.

If you knew as much about paint as I've learned in the last thirty years you wouldn't take long in getting a coat of MAPLE LEAF hugging the sides of your house.

And you'd hustle down to the hardware dealer with the M. L. sign around his store for it.

If you want to know something more about M. L. lines write THE MAPLE LEAF DECORATIVE AID DEPARTMENT.

IMPERIAL VARNISH & COLOR CO.
WINNIPEG TORONTO VANCOUVER

FISH NETS

WE SELL NETS AND NETTING OF ALL KINDS. WRITE FOR PRICES.

GUNS TRAPS SPORTING GOODS
JOHN HALLAM, Limited
13 Hallam Building - TORONTO

Twenty-five Years Breeding Registered
Jerseys and Berkshires

We have bred over one-half the world's Jersey champions for large yearly production at the pail. We bred, and have in service, the two grand champion Berkshire boars. If you need a sire for improvement, write us for literature, description and prices.
HOOD FARM, Lowell, Mass.

JUST JERSEYS
Baldwin's
REGISTERED
COATICOOK, QUE.

CITY VIEW AYRSHIRES

Bulls ready for service. Bull calves, some have 7 crosses of R.O.P. blood. Heifers just freshened. Two-year-olds bred for early fall. Nothing reserved at present. James Begg & Son, St. Thomas, Ont.

Please mention Advocate

Questions and Answers.
Miscellaneous.

Fencing Adjoining Land.

A bought a strip of land for back taxes on one side of one hundred acres, which has been used for a commons for years. Can A put a fence across the front of said one hundred acres?

W. H.

Ans.—He is not legally entitled to do so.

An Intestates Estate.

1. If a farmer in Ontario dies without a will, leaving a wife and small children, what is the law regarding the disposal of the property?

2. Has there been any new legislation concerning the same lately? J. A. P.

Ans.—1. The widow may take her dower, that is, a third of the land for life; or she may elect to make a lieu thereof, a third of the whole estate real and personal. The children would be entitled to the rest in equal shares. In order to the winding up of the estate the widow should take out letters of administration from the Surrogate Court.

2. Yes. Hardly a session of the Ontario Legislature is held without some legislation being enacted affecting the matter of distribution of estates.

Feeding Young Pigs.

What ration would you advise feeding young pigs so that they will be ready to market as quickly as possible?

M. G. M.

Ans.—We have found young pigs to do particularly well on sifted oats, a little shorts and oil cake, mixed to a thin batter with skim-milk. We like to have skim-milk for starting the pigs, but good litters have been raised where tankage was used in place of milk. The finely-ground oats is one of the best grains we have for growing pigs. It contains a fair amount of protein, ash and carbohydrates, all of which are required in the development of bone and muscle. When the pigs are from three and a half to four months of age, heavier feeds might be added. However, up until near finishing time the bulk of the ration may advisedly be oats.

Settling Up An Estate.

1. Father dies leaving no will. What proceedings must we commence? He leaves, to mourn, a widow, four sons and three daughters.

2. His estate consists of farm, farm implements, furniture, mortgages, victory bonds and cash in the bank. Can the Government take a part?

3. One son is running the farm. He has been keeping the house and paying his father \$150 a year by word agreement only. Will this stand law if he has a witness?

4. Son bought the stock from his brother, who in turn acquired them from his father, through a word agreement, as an inducement to stay on the farm and keep the home from breaking up, he being the youngest son. Can the present owner lawfully claim the stock?

5. Family are all of age. One son has been sick, not able to transact any business for the past six months, and the prospects are not bright for his immediate future. Should we go ahead and settle, or what part of the proceedings can we go through pending his recovery?

J. R.

Ans.—1. Letters of administration should be taken out. Application for same, to the Surrogate Court, should be made without delay.

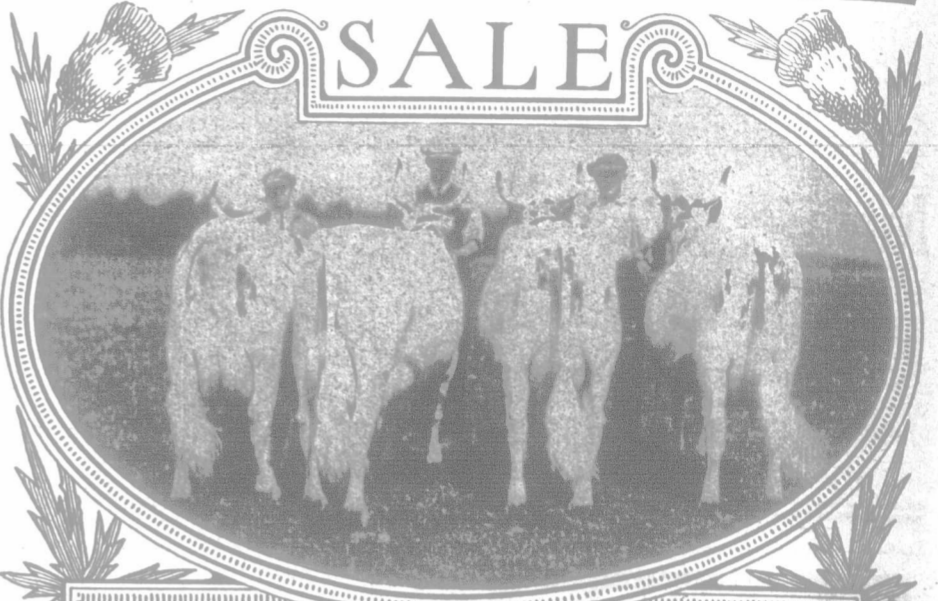
2. Not unless the estate exceeds \$25,000.

3 and 4. There are matters to be taken up with the administrator and disposed of by him. As to the respective rights of the parties we could not venture to advise without having before us a much fuller statement of facts.

5. The illness of the son in question ought not to be permitted to delay the necessary proceedings for administration and winding up of the estate. When the assets have been realized and debts and expenses paid, and distribution is in order, his share might be set apart pending his recovery.

Robert Miller writes that through the medium of "The Farmer's Advocate," he has recently disposed of a 13-months-old bull to J. Speedie, of Brechen, and a Duchess of Gloster and a Crimson Flower heifer calves and a Jenny Lind bull to Howland Bros., of Kleinburg.

THE NATIONAL AYRSHIRE SALE



SPRINGFIELD, MASSACHUSETTS

Thursday, June 12, 1919

The day following the Annual Meeting of The Ayrshire Breeders' Association

FIFTY HEAD OF

Real Ayrshire "Tops"

From twenty-five of the best herds in United States and Canada, personally selected by L. E. Ortiz, Dr. E. S. Deubler and A. H. Tryon, the Selection Committee appointed by the Ayrshire Breeders' Association.

The Greatest Array of Dairy Cattle Ever Assembled

Tuberculin tested and sold subject to 90-day re-test. For Catalogue (mailed only on request) address:

ARTHUR H. SAGENDORPH, Box 1E, Spencer, Mass.

Bissell Silos

A Silo is almost as necessary on a farm as a pasture. It gives cattle green feed in the winter and when drought dries up the meadows in the summer. A Silo filled with green feed while it is fresh and succulent preserves it and improves it and it gives cattle an appetizing and stimulating ration. Bissell Silos are of pine or spruce staves preserved in creosote oil, steel splined, steel hoops, doors and staves are air-tight. Made in popular sizes. Prices have been made attractive. Consult us freely as to your requirements. Illustrated folders on request.

T. E. BISSELL CO., LTD.,
10 MILL STREET, ELORA, ONT.

LAKESIDE AYRSHIRES

Our bulls took the Senior Championship, Junior Championship and Grand Championship in Sherbrooke, and first in their respective classes at Quebec, in addition to taking the special prize for the best bull on the grounds any breed. We have others like them. Write for catalogue.

Geo. H. Montgomery

Dominion Express Building, Montreal

D. McArthur, Manager

Phillipsburg, Quebec

Westside Ayrshire Herd—I can price females with records up to 12,000 lbs. milk, and have one fine, young bull, 14 months old, a maternal half-brother of Snow King, and closely related to Briery 2nd of Springbank and Lady Jane on his sire's side. Also two young bull calves, with dams giving 65 lbs. per day in mature class and 45 lbs. per day as 3-year-olds. Write, or come and see them.

DAVID A. ASHWORTH, Denfield, R. 2, Middlesex Co., Ont.

Brampton Jersey Bulls

We are offering a half dozen young bulls of serviceable age at prices that should clear them fast to make room for our coming importation. These bulls are all from R.O.P. dams and sired by our Bright Prince and Raleigh herd sires.

B. H. BULL & SONS

BRAMPTON

ONTARIO

The Edgeley Champion Herd of Jerseys

Present offering: Two young bulls dropped June 1918, one sired by Brampton Prince Stephen, dam Rhoda of Pine Ridge Farm, 10,801 lbs. milk 593 lbs. fat in one year. Others sired by Edgeley Bright Prince, son of Sunbeam of Edgeley, champion butter cow of Canada.

JAMES BAGG & SON

(Woodbridge, C.P.R.; Concord, G.T.R.)

EDGELEY, ONTARIO

The Woodview Farm JERSEYS

London, Ontario

JNO. PRINGLE, Prop.

CANADA'S MOST BEAUTIFUL JERSEY HERD

Herd headed by Imported Champion Ronwer, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows.

In the report in our issue of Posch, a two E. C. Chamber reaching the to Johanna from ment, that br the day, going donia, at \$405

City View

The high-re pure-bred Ay Begg, of St. T well known t who are reade Begg has alv utility type o near a 4 per ce no doubt Cit always been in five young bu sales list in so age are conce 17-months' bul sire Senator, a individuals as breeding sire. dams, all of w and prove the calves each ye months' calf record cow wi well as a Collie has been usin bull is Ross of adds that he h of milk and 4 as any sire i The female of of young heifer bulls mentione calf to the ser Breeders wish bred heifers s tion regardin elsewhere. Ac 1, St. Thomas, "Advocate."

R. M. H.

Of the scores use these color their surplus a more favorab Holthy, of P Holthy is ofte his brother H Holstein enth while this may this Advocate a few other breed possibilities in "White" breed He appreciates preciates his r it was of his ow Mr. Holthy's almost 100 h Burke, the yo cow Victoria E service. Vict young sire, is lb. cows in Car better than 30 while Ormsby Ormsby Jane 46.33-lb. six-ye Segis Aaggie. old record of 4 days, and 183, two nearest dar 7-day records t butter and 685 but one bull at with a higher a he can scarcely lacking somew ut he has size essentials neces That he will be is quite eviden record produc of the number o records from 30 days. The 38- might add, has heifer calf to t the Great, the Johanna 51.38 l sales list is mad bulls, several o dams, and a m by the former Pontiac Dordie Pontiac, a bull w priced sires tha breed. For co and female, w Perry, Ontap,

NAL RE

Gossip.

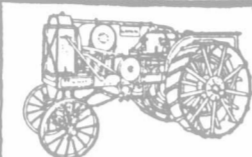
In the report of Brantford sale, given in our issue of April 3, Madeline Beauty Posch, a two-year heifer consigned by E. C. Chambers, was given the credit of reaching the top price for the day at \$395. It was the mature cow, Tidy Calamity Johanna from Mr. Shellington's consignment, that brought the high figure for the day, going to Jno. F. Nelles, of Caledonia, at \$405.

City View Ayrshire Offering.

The high-testing City View herd of pure-bred Ayrshires, owned by Jas. Begg, of St. Thomas, Ontario, is already well known to most Ayrshire breeders who are readers of these columns. Mr. Begg has always advocated the big, utility type of Ayrshire with something near a 4 per cent. test, and for this reason no doubt City View bred bulls have always been in good demand. At present five young bulls make up the complete sales list in so far as bulls of serviceable age are concerned. Three of these are 17-months' bulls sired by the former herd sire Senator, and they are three as good individuals as were ever left by this great breeding sire. All are from R. O. P. dams, all of which are still in the herd, and prove their worth by raising show calves each year. There is also one 11-months' calf from a 10,500-lb. yearly record cow with a 4.6 per cent. test, as well as a Collier-bred bull which Mr. Begg has been using for the past year. This bull is Ross of Fernbrook, and Mr. Begg adds that he has as strong a combination of milk and 4 per cent. fat production as any sire in use in Canada to-day. The female offering comprises a number of young heifers similar in breeding to the bulls mentioned above and well along in calf to the service of Ross of Fernbrook. Breeders wishing a herd sire or a few bred heifers should write for full information regarding this offering before buying elsewhere. Address Jas. Begg, R. R. No. 1, St. Thomas, Ontario, and mention the "Advocate."

R. M. Holtby, Port Perry.

Of the scores of Holstein breeders who use these columns annually to dispose of their surplus stock, none are better or more favorably known than R. M. Holtby, of Port Perry, Ontario. Mr. Holtby is often referred to by many of his brother breeders as the greatest Holstein enthusiast in all Canada, and while this may not be a title justly earned, this Advocate representative knows but few other breeders who can see greater possibilities in the great "Black and White" breed than can Mr. Holtby. He appreciates his own herd; and he appreciates his neighbors' herd also, but it was of his own herd we started to write. Mr. Holtby's herd at present numbers almost 100 head, and Ormsby Jane Burke, the young son of the 31.30-lb. cow Victoria Burke, is the chief sire in service. Victoria Burke, the dam of this young sire, is one of the best known 30-lb. cows in Canada; she has twice made better than 30 lbs. of butter in 7 days, while Ormsby Jane King, the sire of Ormsby Jane Burke, is a son of the 46.33-lb. six-year-old cow Ormsby Jane Segis Aaggie. She has also a four-year-old record of 44.42 lbs. of butter in 7 days, and 183.16 lbs. in 30 days. The two nearest dams of this young sire have 7-day records that average 38.82 lbs. of butter and 685 lbs. of milk, there being but one bull at service in Canada to-day with a higher average. As an individual he can scarcely be called a show bull, lacking somewhat in straight top line, but he has size and depth, the two great essentials necessary in a successful sire. That he will be given every opportunity is quite evident from the list of great record producing dams in the herd, five of the number of which hold official 7-day records from 30 to 38 lbs. of butter in 7 days. The 38-lb. cow in question, we might add, has just recently dropped a heifer calf to the service of Rag Apple the Great, the only son of Segis Fayne Johanna 51.28 lbs. butter. The present sales list is made up principally of young bulls, several of which are from 30-lb. dams, and a number of which are sired by the former herd sire, King Segis Pontiac Dediccate, a son of King Segis Pontiac, a bull which has sired more high-priced sires than any other bull of the breed. For complete sales list of bulls and females, write R. M. Holtby, Port Perry, Ontario.

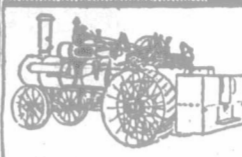


For Gasoline Engines, Tractor, Auto or Stationary
POLARINE OIL STANDARD GAS ENGINE OIL
For Kerosene Engines Tractor or Stationary
POLARINE OIL HEAVY
POLARINE OIL A IMPERIAL KEROSENE TRACTOR OIL IMPERIAL KEROSENE TRACTOR OIL EXTRA HEAVY
(Recommended by many tractor manufacturers)

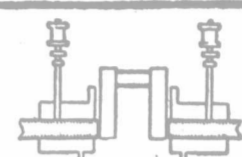


For Open Bearings of Farm Machinery
PRAIRIE HARVESTER OIL
—very heavy body, resists cold, won't thin out with moisture

ELDORADO CASTOR OIL
—a thick oil for worn and loose bearings



For Steam Cylinder Lubrication, whether Tractor or Stationary Type.
CAPITOL CYLINDER OIL
—the standard product for steam cylinder lubrication



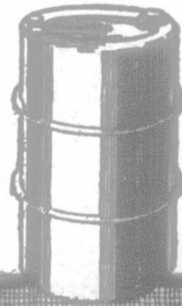
THRESHER HARD OIL
For Grease Cup Lubrication of Bearings, a clean solidified oil high melting point.

A Correct Lubricant for every Farm Machine

Lengthen Engine and Farm Machine Life with Proper Lubrication

Durability and good service from each farm machine depend upon each getting oil exactly suited to it. If you are using Imperial Farm Lubricants, the high quality of your oils and greases is assured, but this is not enough. It is of vital importance that the right lubricant be used for each purpose and each machine. The lubrication needs of a steam engine differ greatly from those of a gas engine. Different types of bearings—different machines—all require different lubricants. Knowing the right oils and greases to use, and using the proper

Imperial Farm Lubricant for each machine, may save you the price of a truck or tractor. Imperial Farm Lubricants are available everywhere. Sold in one-half, one and four-gallon sealed cans and in steel half barrels and barrels.



IMPERIAL OIL SERVICE
Imperial Service clears up the subject of oils and there uses for you. The *Imperial Oil man* is ready to advise you on lubrication problems. You can consult him free, but his advice may be worth a lot of money to you.

IMPERIAL OIL LIMITED
Power · Heat · Light · Lubrication
Branches in all Cities

Chester Whites

Choice young pigs, both sexes. Write for particulars.
Geo. E. Norry, R.R. No. 3, Tilbury, Ont.

Choice Seed Corn—White Cap and Bailey, equal to any we have ever offered. Also the best in Poland China swine. Prices moderate.
GEO. G. GOULD, Essex, Ontario

BERKSHIRES

ADAM THOMPSON, R.R. No. 1, Stratford, Ont.
Shakespeare Station G.T.R.

TAMWORTHS

Boars ready for service—a choice lot to select from; also young sows bred for spring farrow. Write:
JOHN W. TODD, R.R. No. 1, Corinth, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock; all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R.R. 1, BRANTFORD, ONTARIO.
Langford Station on Brantford and Hamilton Radial.

Maplehurst Herd of Tamworth Swine—Present offering: A choice lot of young stock, either sex, from the leading herd of Canada for the last 15 years. We also have standard-bred hoes. Present offering: One first-class young stallion, S.-C. White Leghorns. D. Douglas & Sons, R.R. No. 4, Mitchell, Ont.

WALNUT GROVE TAMWORTHS

My present offering: Young Tamworth sows and boars three months old. Also young pigs ready to wean.
C. R. JAMES (Take Radial cars from North Toronto) Richmond Hill, Ont.

Meadow Brook Yorkshires

Sows bred, others ready to breed. Six large litters ready to wean. All choicely bred and excellent type.
G. W. MINERS, R.R. No. 3, Exeter, Ont.

Shropshires and Cotswolds—A lot of young ewes in lamb to imp. ram, and ewe lambs, good size and quality, at reasonable prices.
JOHN MILLER, Claremont, Ont.

WANTED—AT ONCE

A Registered young Yorkshire sow, due to farrow in July or August. Write stating price to Geo. Grundy, Charlton, Ont.

Big Type Chester Whites—Our fourth importation has just arrived, including an 800-lb. sow with litter at side, sired by the 1,000-lb. Champion of the National O. I. C. show. Ten litters March and April pigs for sale. John G. Annesser, Tilbury, Ont.

My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.

YORKSHIRES

Choice male pigs from spring litters.
WELWOOD FARM
Farmer's Advocate London, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock; all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDERLIP, Breeder and Importer, R.R. 1, BRANTFORD, ONTARIO.
Langford Station on Brantford and Hamilton Radial.

Inverugie Tamworths

Still to the fore, wi' a bonny bunch o' gilts, bred and ready to breed; a few weaned laddies. Ca' in as ye're passin' or write me a bit note. Leslie Hadden, Pefferlaw, Ont., R.R. No. 2.

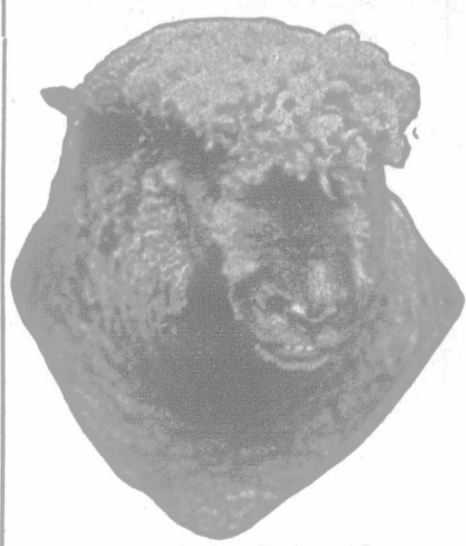
WALNUT GROVE TAMWORTHS

My present offering: Young Tamworth sows and boars three months old. Also young pigs ready to wean.
C. R. JAMES (Take Radial cars from North Toronto) Richmond Hill, Ont.

Don't Waste Wool

Old methods of shearing leave too much wool on the sheep. Shear the modern way with a good machine. The Stewart No. 9 Ball Bearing Shearing Machine works wonders with flocks up to 300 head. Saves time and money—shears 15% more wool. Does away with second cuts. Soon pays for itself. Get one from your dealer; if he can't supply you send us his name. Write for catalogue.
CHICAGO FLEXIBLE SHAFT COMPANY
Dept. B 161, 12th St. and Central Ave., Chicago, Illinois

Summer Hill Oxfords



The Sheep for the Producer, Butcher and Consumer.
Our Oxfords Hold an Unbeaten Record for America.

We have at present a choice offering of yearling ewes and rams, as well as a lot of good ram and ewe lambs—the choicest selection of flock-heads and breeding stock we have ever offered.

PETER ARKELL & SONS
R. R. No. 1 Teeswater, Ontario
H. C. Arkell W. J. Arkell F. S. Arkell

FOR SALE

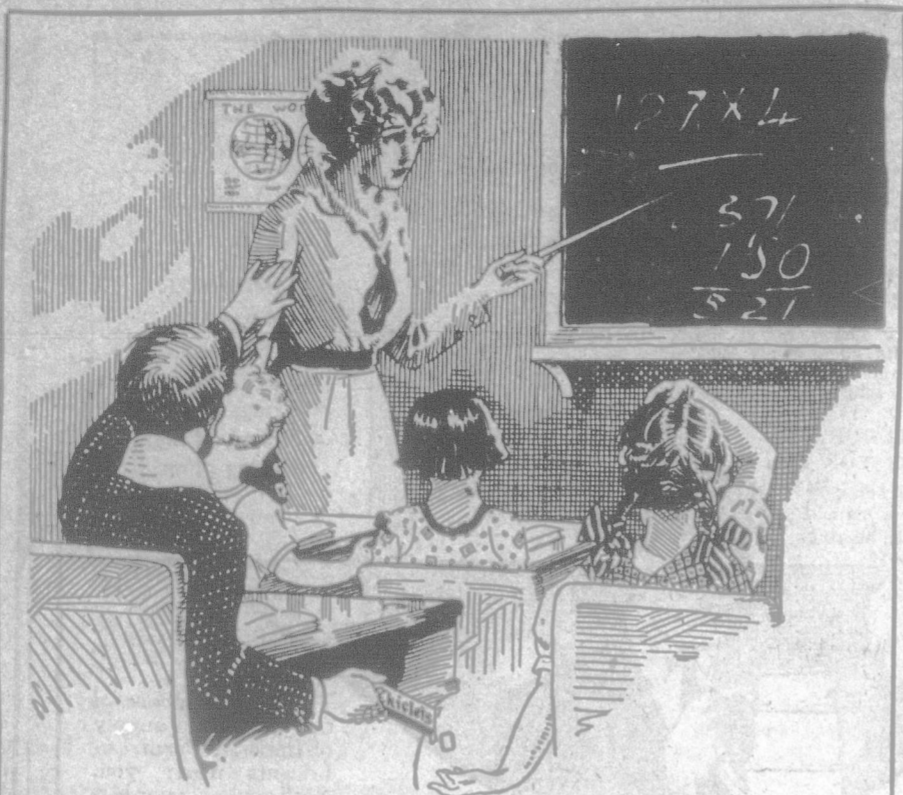
Shropshire ewe lambs and young ewes, two Clydesdale Stallions, four Shorthorn bulls.
W. H. Pugh - Myrtle Station, Ont.

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RES
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Quebec, in addition to
breed. We have others

Arthur, Manager
Milpburg, Que bec
12,000 lbs. milk, and have
maternal half-brother of
one on his sire's side. Also
45 lbs. per day as 3-year-
Middlesex Co., Ont.
Bulls
should clear them fast
dams and sired by our
ONTARIO
Jerseys
ton Prince Stephen, dam
sired by Edgeley Bright
EDGELEY, ONTARIO
SEY HERD
mer of first prize with five
in 1916, and again first
e bull calves, ready for
formance imported prize-
nt. We work our show



Youngsters Love Chiclets



Let the youngsters have gum in its daintiest, most appealing form—Chiclets, coated in peppermint candy; flavor and goodness sealed in waiting to satisfy young appetites and keep young tempers smooth.

Undoubtedly the chewing of pure gum is beneficial. Medical and dental authorities endorse the practice. You'll find it comforting, too, if the table has been a little too tempting.

Adams Chiclets are sold everywhere. You can buy the box containing 20 packets, because the candy-coating seals in the flavor and goodness.

Ten Chiclets in each packet.

MADE IN CANADA

—an Adams product, particularly prepared.

CANADIAN CHEWING GUM CO., LIMITED, TORONTO, WINNIPEG, VANCOUVER.

ADAMS Chiclets

CANDY COATED GUM

Our School Department.

The School Garden As An Experimental Plot.

J. G. ADAMS, UNIVERSITY OF TORONTO SCHOOLS.

The school garden may be an advertisement for the school because of the success in producing vegetables and flowers. This feature will interest the pupils also and stimulate their enthusiasm for the work. But another feature of the plot should not be overlooked, that of making it experimental.

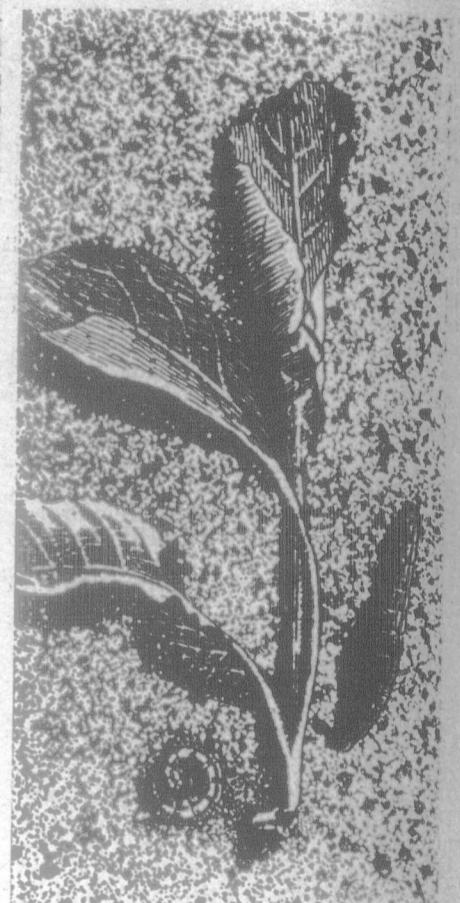
In the class certain principles and facts about growing crops will be given as something to be learned but which may be demonstrated only by growing these crops. Certain methods of cultivation may be practiced in the section and accepted as the most desirable, but is there any experimental basis for so doing? Certain fertilizers are purchased from agents by the farmers of the community for particular crops. If the farmers understood the use of the simple fertilizers they should be able to mix their own fertilizers at less price than is usually paid for those offered ready for application. Farmers in every section are using seed which they have chosen largely by chance. They have not experimented to find whether the seed used is the best for their particular section. They are also using seed which is annually decreasing in production because of their not practicing selection of seed. It is said that leguminous crops may be more successfully grown in some places by inoculation of the seed before planting with cultures furnished by bacteriological laboratories. Has this been demonstrated to the farmers of the section. Or if some have tried it have they tried it as an experiment to determine whether this treatment is really beneficial or not. An almost endless list of topics for experiment might be suggested. Their practical value will not be difficult to see. But the habit of experimenting will be formed by those who are to be farmers in a few years and they will see that they can get much information for themselves which because it applies to their particular district is not found in tests or even in bulletins. The habit of observation and recording of results will be formed and its value demonstrated. And the pupils will be given a true scientific outlook just as well as by a course in laboratory work.

Insect Life In The School Garden.

A very interesting and instructive study of insect life can be made in the school garden without going deeply into the classification and long scientific names common to entomology. The life history of insects is the important thing to know and it is upon this that all economic entomology is based. During the life of an insect it may assume several different forms; and if we must combat it in order to protect crops, garden or orchard it is necessary to know at what particular stage in its career it is most open to attack. We try to destroy the potato beetle when it is in the slug or larva stage and so it is with the Codling Moth, but its larva must be poisoned just as it is entering the blossom end of the apple for when it once enters the fruit it is beyond all harm, unless the fruit be injured or destroyed. There is some stage in the life history of every insect when it is most vulnerable, so to speak, and this is why a knowledge of the transformations common to the various species is of so much importance. A complete school garden will teach with insect life and it is there that the very

elementary but useful information can be imparted.

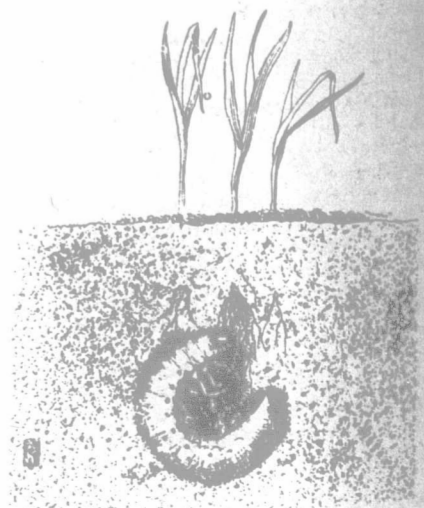
What child does not know the ordinary "June bug," or more correctly speaking, the May beetle. It comes thumping and humming into the room during the evening when the lamps are lighted and the doors or windows are open. However, many who are well acquainted with the beetle are not aware that it is really the same insect as the white grub only in a more advanced stage. These May beetles or "June bugs" have a life history which covers a period of about three years. First we have the eggs laid by the beetle. The small white grubs hatch from the eggs and go down into the soil where they may remain for a period of two years. During their second



Characteristic Work of the Cut Worm.

year in the soil they come near the surface and destroy many plants, the strawberry being one of the favorites. The grub finally goes into a pupal or resting stage from which it emerges a full-fledged beetle. The May beetle or June bug cannot be economically combatted with poison. It is by cultivating the land properly and at the right time that this pest is kept in check.

Then again we have the cabbage worm which is also most destructive in the larval stage but it does its bad work all above ground so we can poison it when it is devouring the heads of cabbage in the garden. There will be dozens of different kinds and species of insects in the garden and a study of them will explain away many of the mysteries of insect life.



The White Grub at Work on Plant Roots.

Sci

Friction is enemy of e

The pract to reduce f the first us oils and ani

It was la leum would of lubricati superiority.

Developm of different lubricating o time. For m ed rapidly.

Unless the cating pro were proper mechanical opment woul in its aim, the properly cated engine yield the effici aimed at.

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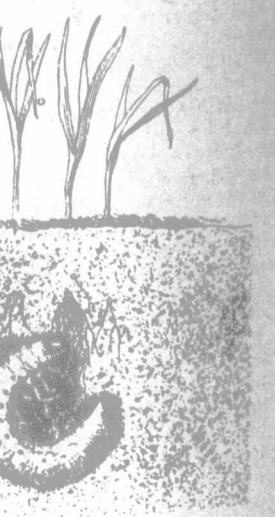
but useful information can be obtained. If you do not know the ordinary life of a June bug, or more correctly speaking, the life of the white grub, it is not until it comes thumping into the room during the night when the lamps are lighted and the windows are open, and any who are well acquainted with the life of the white grub are not aware that it is in its advanced stage. These grubs, or "June bugs," have a life span of about a year, and covers a period of about 12 months. First we have the eggs, which are laid in the soil. The small white grubs then hatch and go down into the soil where they may remain for a number of years. During their second



Characteristic Work of the Cut Worm.

When they come near the surface many plants, the straw, are the favorites. The grub goes to a pupal or resting stage and emerges a full-fledged beetle. The grub or June bug cannot be combatted with poison, and a study of them will reveal many of the mysteries of

we have the cabbage worm, the most destructive in the garden. It does its bad work all the time, so we can poison it when it is on the heads of cabbage in the garden. There will be dozens of species of insects, and a study of them will reveal many of the mysteries of



Grub at Work on Plant Roots.

Science vs. Guesswork

How "Hit-or-Miss" Lubrication Gave Way to the Scientific Use of Oils.

Friction in an engine is the worst enemy of economy and full power.

The practical need for something to reduce friction brought about the first use of lubricants. Fish oils and animal fats were first used.

It was later found that petroleum would yield different types of lubricating oils of marked superiority.

Development in the manufacture of different grades and classes of lubricating oils came at a fortunate time. For mechanical arts developed rapidly.

Unless the lubricating problems were properly met, mechanical development would fail in its aim. Only the properly lubricated engine could yield the efficiency aimed at.

Manufacturers of Gargoyle Mobiloils were the first manufacturers of petroleum residual lubricants; and were the pioneers in the field of scientific lubrication and demonstration of power-saving by the use of proper lubricants.

Write for "Correct Lubrication" booklet containing complete discussion of your lubrication problems, lists of troubles with remedies, and complete Charts of Recommendations for Automobiles, Motorcycles, Tractors, and Motorboat Engines.

In taking up automobile lubrication they simply pursued their professional methods which were already well established in other fields of power-production and transmission.

The Chart of Automobile Recommendations shown in part at the right, represents the professional advice of a Board of Automotive Engineers, based on technical knowledge of gas engines and actual tests on the road.

In using the oil specified for your car you will use oil whose correctness was determined by very thorough and careful engineering analysis of your engine. The oil specified combines high quality with correct body.

It will give you:

- Increased power—Noticeable particularly on the hills.
- Reduced Carbon deposit.
- Reduced Gasoline consumption.
- Reduced Oil consumption.
- Freedom from unnecessary repairs.



A grade for each type of motor

IMPERIAL OIL LIMITED

Manufacturers and Marketers of Polarine Motor Oils and Greases
Marketers of Gargoyle Mobiloils in Canada

BRANCHES THROUGHOUT CANADA

Correct Automobile Lubrication
In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, A means Gargoyle Mobiloil "A," Arc means Gargoyle Mobiloil Arctic, etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

AUTOMOBILES	Superior	Standard	Normal	Light	Medium	Heavy	Extra	Special
Alco	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Alford (4 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Auburn (4 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Auburn (6 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Auburn (8 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Autocar (4 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Autocar (6 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Autocar (8 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Beck	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (4 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (6 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (8 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (10 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (12 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (14 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (16 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (18 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (20 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (22 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (24 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (26 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (28 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (30 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (32 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
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Chrysler (42 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (44 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (46 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (48 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (50 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (52 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (54 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (56 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (58 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (60 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (62 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (64 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (66 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (68 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (70 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (72 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (74 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (76 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (78 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (80 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (82 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (84 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
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Chrysler (88 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (90 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (92 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
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Chrysler (96 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (98 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (100 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
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Chrysler (106 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
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Chrysler (112 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (114 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (116 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (118 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (120 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (122 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (124 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (126 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (128 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (130 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (132 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (134 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (136 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (138 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (140 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (142 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (144 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (146 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (148 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (150 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (152 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (154 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (156 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (158 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (160 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (162 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (164 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (166 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (168 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (170 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (172 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (174 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (176 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (178 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (180 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (182 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (184 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (186 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (188 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (190 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (192 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (194 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (196 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (198 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chrysler (200 cyl)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc



Carhartt's Overalls

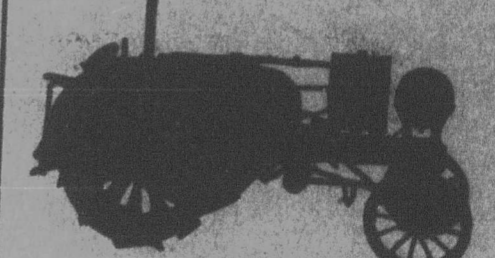
Any man who wants to know why he ought to wear my Carhartt Overalls will find most convincing reasons in the garments themselves. Consider these advantages for example:

- 1 Seams double stitched.
- 2 Every button riveted.
- 3 Points were hardest strain comes doubly reinforced.
- 4 Angular rule pocket.
- 5 Pockets roomy and convenient.
- 6 Give-and-take suspenders.
- 7 Tough, durable denim cloth that wears like leather, and ignores washing and rubbing.

You can be sure of getting my overalls by looking for the Carhartt button.

Hamilton Carhartt, President
Hamilton Carhartt Cotton Mills Limited, Toronto, Montreal, Winnipeg, Vancouver.

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"The Way to the West"

How to Fertilize.

Every farmer knows that plants need Food as much as cattle. He knows, too, that plants cannot get all the Food they need out of the ground alone. He must supply them with certain Foods himself, or they will not thrive and bear their full yield of fruit. Exactly as he supplies hay and oats to his horse, so he must supply Nitrogen and phosphate to his plants. He may buy these in the open market exactly as he does his hay or his oats, or he can buy them in combination. Moreover, there is no secret value in the "complete fertilizer," it is nothing more nor less than the ingredients combined and sold at a higher price. Nitrogen is by far the most expensive as well as effective of plant foods, and it will pay the farmer well to stop and think before he buys it in this combination form or waits season after season for legume nitrogen, or organic nitrogen to become available.

These compounds generally averaging 8-2-2 do not supply what nature requires, for the crops take out more nearly the equivalent of a 2-4-3; that is why we can, in most cases, and in most soils, use Nitrate alone as a straight top dressing, and the earlier the better.

Translated into Commercial Fertilizer terms, the comparison is as follows:

	What Nature Requires	What the Average Brand Supplies
Phosphoric Acid.....	2.02	8.00
Nitrogen.....	4.33	2.00
Potash.....	3.65	2.00

The Best and Cheapest Nitrogen.

The cheapest and most practical form in which to furnish Nitrogen to plants is Nitrate of Soda. In the rainless region of Chile are stored away vast quantities of Nitrogen in what are known as Nitrates—the only form in which Nitrogen can be utilized by plants. The Nitrogen which exists in organic, vegetable or animal matter—that is, roots, stems, dead leaves, weeds, leather, tankage, dried blood—and Nitrogen as well in the form of Ammonia salts, must first be changed to Nitrate before it can be taken up by plants. This change is dependent upon conditions of weather. If the season be backward, or there be a prolonged drought, this change may be so retarded as to deprive the plant altogether of Nitrate Food at the very time it needs it most; moreover, certain mineral forms of commercial nitrogen leave acid residues in the soil. Nitrate of Soda, on the other hand, is entirely independent of weather and leaves the soil sweet. It is immediately available under all circumstances, for it is readily soluble, and as soon as it comes within reach of the roots of plants it is taken up by them. It can, therefore, readily be seen that the practical value of various forms of Nitrogen ranges from nothing at all, where conditions of temperature or soil prevent Nitration, to 100 per cent. as Nitrate of Soda, where Nitration has already completely taken place. Moreover, the process of transforming the Nitrogen of cottonseed meal, dried fish, dried blood, tankage, and other Nitrogenous constituents into Nitrate is very wasteful, for much valuable nitrogen is lost in the process, as well as by natural oxidation. Official soil experiments have shown that 100 pounds of Nitrogen in these organic forms has only about one-half to three-fourths the manurial value of 100 pounds of Nitrogen in its NITRATED form of Nitrate of Soda.

A Great Saving.

In view of these facts it seems extraordinary that farmers should continue to purchase their Nitrogen in compounded form in a ready mixed fertilizer, when they can procure it much cheaper, and ready for the plants' immediate use, in the form of Nitrate of Soda.

Nitrogen is often in a form which is not available as food for the plants, for it must first be converted into Nitrate. The time required to do this varies from a few days to a few years, according to the temperature of the soil and the kind and condition of the materials used.

It must be recognized that the grower should have a chance to derive some profit from the use of a fertilizer, and wise buying is a prerequisite to successful use.

How it Helps Crops.

If a young pig or a young calf does not have an abundance of the right kind of feed when it is young, it becomes stunted in growth, and never recovers fully, no matter how judiciously it is afterwards fed. The intelligent cultivator has learned

Results With Nitrate.

For four years in succession samples of Nitrate of Soda were sent to farmers. In each experiment two patches were marked out side by side. One received an application of Nitrate of Soda at the rate of 100 pounds per acre, the other had none.

Why Europe Makes Bigger Crops Than America

Average Production of European Crops is as Follows:

Wheat.....	33 bushels per acre
Oats.....	45 " " "
Potatoes.....	199.84 " " "
Cotton in Egypt.....	400 pounds " "

Europe uses a Home-Mixed Nitrate Fertilizer containing 8 per cent. of Phosphoric Acid and 4½ per cent. of Nitrate Nitrogen.

Average Production of American Crops is as Follows:

Wheat.....	14 bushels per acre
Oats.....	40 " " "
Potatoes.....	97.15 " " "
Cotton.....	185 pounds " "

America uses a Fertilizer containing 8 per cent. of Phosphoric Acid and 2 per cent. of Nitrogen which is mostly not readily available.

The difference in yields is largely due to a larger amount of Nitrate Nitrogen used in Europe per acre as Nitrate of Soda. Our small American acre yields are due to failure to appreciate this necessity.

Write for "What Chilean Nitrate Has Done in The Farmer's Own Hands."

DR. WILLIAM S. MYERS

CHILEAN NITRATE COMMITTEE, 25 Madison Ave., New York, U.S.A.

that this holds good in the feeding of plants. Nitrogen is the element which enters most largely into the building up of the plant itself—roots, stems and leaves. Most plants need to take up the greater part of their Nitrogen during the early stages of their growth, as in oats. It is plain, therefore, that the cultivator cannot afford to overlook Nitrate, and thus endanger the chances of his crops, which must have Nitrogen in a form the growing plants can use. The presence of Nitrate at the outset enables the plant to get its food when it needs it most, and develops a vigorous growth of roots, leaves and stems capable of withstanding the scorching rays of the sun or sudden changes of temperature, disease, or the attacks of parasites. It is then able to mature properly. Without Nitrate present, the young plants will fail to attain stem and leaf growth sufficient to mature its fruit or grain. Why take chances with makeshifts or substitutes when the real thing is 100 per cent. effective?

Nitrate of Soda is of high value for early crops, such as peas, corn, beets, cabbage, where rapid maturity is desirable. It is a special help to hay, grain, rye, wheat, timothy, cereals and orchards, all of which are unable to obtain sufficient Nitrogen from the soil just when they need it. It is a great specific in the production of sugar beets, potatoes, cotton, cane and apples, or other fruits.

Small fruits, such as blackberries, currants, raspberries and gooseberries, which need a steady, even growth, are greatly benefited by Nitrate of Soda, which can be furnished all ready for digestion when the plants require it.

The highest agricultural authorities have established by careful experimentation that 100 pounds per acre of Nitrate of Soda applied to crops has produced the increased yields tabulated as follows:

Apples.....	100 bushels.
Barley.....	400 lbs.
Corn.....	280 "
Oats.....	400 "
Rye.....	300 "
Wheat.....	300 "
Potatoes.....	3,600 " Tubers.
Hay, upwards of.....	1,000 " Barn cured.
Cotton.....	500 " Seed cotton.
Sugar Beets.....	4,000 " Tubers.
Beets.....	4,900 "
Sweet Potatoes.....	3,900 "
Carrots.....	6,100 pounds.
Turnips.....	7,800 pounds.
Strawberries.....	37 per cent.
Onions.....	200 quarts.
Asparagus.....	1,800 pounds.
Tomatoes.....	100 bunches.
Celery.....	100 baskets.
Hops.....	30 per cent.
Hops.....	100 pounds.

Nitrate of Soda is a plant tonic and an energizer; it is NOT a stimulant in any sense of the word.

It may be used alone without other fertilizers, as a Top-Dressing, at the rate of 100 pounds to the acre.

The following are fair samples of the results reported:

Crop—Sugar Beets.

Name, E. C. CHATRAM,
P. O. Address, Ross,
R. F. D., 2,
State, Alabama.
Plot without Nitrate produced 1,200 lbs.
Plot with Nitrate produced 2,000 lbs.
Date of applying the Nitrate of Soda,
July 17, 1908.
Date of completing harvesting of the
crop, Nov. 8, 1908.

Crop—Grass.

Name, M. H. O'BRIEN,
P. O. Address, Upper Middleboro,
R. F. D.,
State, Cumberland, Co. N. S.
Plot without Nitrate produced 120 lbs.
Plot with Nitrate produced 210 lbs.
Date of applying the Nitrate of Soda,
May 15.
Date of completing harvesting of the
crop, July 28.

REMARKS:—Could see where the Nitrate was put on one yard away. The hay grew thicker and the quantity much heavier. Much pleased with Nitrate.

Crop—Barley.

Name, F. M. TRAVIS,
P. O. Address, Marlboro,
R. F. D., 1,
State, New Hampshire.
Plot without Nitrate produced 1½ bushels.
Plot with Nitrate produced 2¼ bushels.
Date of applying Nitrate of Soda,
May 18.
Date of completing harvesting of the
crop, Aug. 5.

REMARKS: The Barley where Nitrate was used was 8 inches taller than the Barley where no Nitrate was applied. I am well pleased with the results obtained.

Crop—Oats.

Name, J. M. WINDER,
P. O. Address, Williamsport,
R. F. D.,
State, Pennsylvania.
Plot without Nitrate produced at rate of 17 bus. per acre.
Plot with Nitrate produced at rate of 35 bus. per acre.
REMARKS: The plot with Nitrate could be very plainly seen while growing.

Crop—Wheat.

Name, FRANK I. STEVENSON,
P. O. Address, Perry,
R. F. D., 1,
State, Ohio.
Plot without Nitrate produced 75 lbs.
Plot with Nitrate produced 138 lbs.
Date of applying Nitrate of Soda, April.
Date of completing harvesting of the
crop, August.
REMARKS: Crop was on gravel land, rather dry for it most of the Summer.

Crop—Potatoes.

Name, T. J. RHODES,
P. O. Address, Leitchfield,
R. F. D., 1,
State, Kentucky.
Plot without Nitrate produced 5½ bushels.

Plot with Nitrate produced 11¼ bushels.

Date of applying the Nitrate of Soda, May 14.

Date of completing harvesting of the crop, Oct. 13.

The Rational and Irrational Use of Nitrate of Soda.

Everywhere in the world where there is progressive experiment station work, the unique qualities of Nitrate of Soda are putting it ahead of every other Nitrogenous plant food. Nobody who advocates the rational use of fertilizers ever recommends such large quantities of Nitrate of Soda per acre as would result in any abnormal accumulation of alkali salts. Moreover, the use of acid phosphates, associated as they are frequently with sulphate of lime, converts any alkali residue into harmless forms of soda.

The use of potash salts tends to leave acid residuals in the soil, as do acid phosphates even when rational quantities of acid phosphate and potash salts are used. Nitrate of Soda is needed to help neutralize these residues.

In most of our experiments where Nitrate was used alone at the rate of only 100 pounds per acre, with no further application of fertilizers to the plots, a decidedly marked effect was noticed. This speaks very well indeed for Nitrate of Soda not leaching out of the soil. The readily soluble elements of fertility are the readily available elements. The natural capillarity of soils, doubtless, is in most instances a powerful factor in retaining all the readily soluble elements of fertility, otherwise all the fertility of the world would, in a season or two, leach away into the ocean; and be permanently lost. A case is yet to be seen where the after-effects of Nitrate is not distinguishable, and in most cases such effects have been marked. The 2,000 or more tons of active service soil in an acre of land has a powerful holding capacity for all the useful, available elements of fertility.

How to Use Nitrate

Recent experience suggests that Nitrate may be applied as a Top Dressing to best advantage as soon as growth starts in the Spring, or even better, before seeding or planting.

Nitrate of Soda should be thoroughly cultivated in, as should other fertilizers, so that they may properly nourish the plant roots of the seeded and cultivated crops during the growing season. Most fertilizers should not touch the seed.

Nitrate has no acid residue to leave behind, and it will leave nothing deleterious in your soil after using. It will enable you to overcome the effects of droughts and frosts in the shortest possible time and prolong the bearing period of your trees. Nitrate does not have to wait to get busy.

Proof Positive.

In a twenty-year test to determine the value of various sources of Nitrogen, the New Jersey Experiment Station found "that crop yields and the percentage of Nitrogen recovered in the crop were greater when Nitrates were used."

Official figures are—

Nitrate of Soda.....	100.0
Ammonium Sulfate.....	76.1
Dried Blood.....	62.0
Manure.....	52.4

This research was published in "Soil Science," April, 1918.

Valuable Books Free

Numerous books have been written on the value of Nitrate of Soda in agriculture. These books deal with questions on which progressive farmers cannot afford to form incorrect opinions.

If you are farming to make money you owe it to yourself to send for the free books which pertain to your crop. If you want to know what farmers have done both in America and Europe, who grow the same crops as you do, these books will tell you. If you have any doubt of how valuable Nitrate of Soda would be to your particular crop, you should get the available information you possibly can on the subject.

These booklets are free—write for them addressing

DR. WILLIAM S. MYERS,
CHILEAN NITRATE COMMITTEE,
25 Madison Ave. New York, U.S.A.