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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

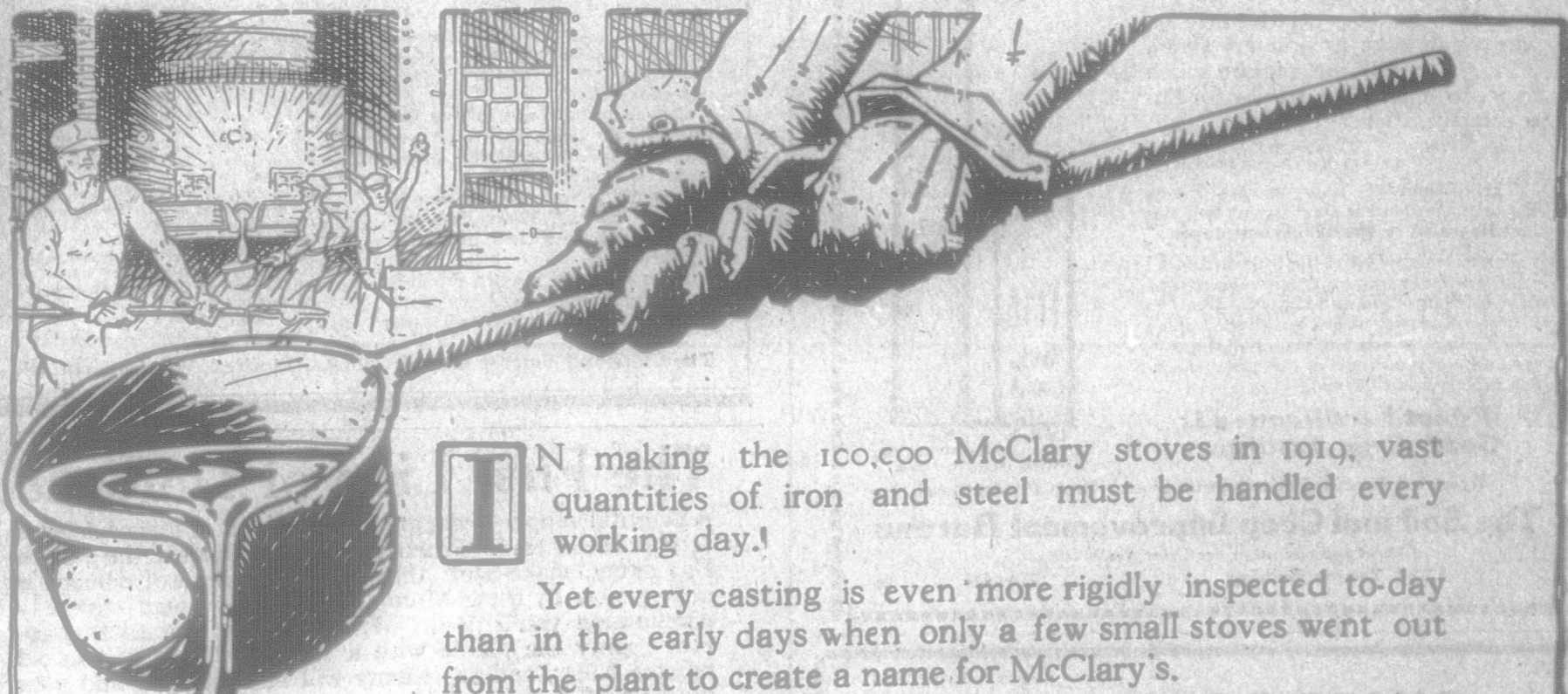
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LONDON, ONTARIO, JULY 3, 1919.

No. 1397

LIV.



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Rothamsted, Eng.	63	12.6	30.5	17.9
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Ontario	5			5.3 to 8.3
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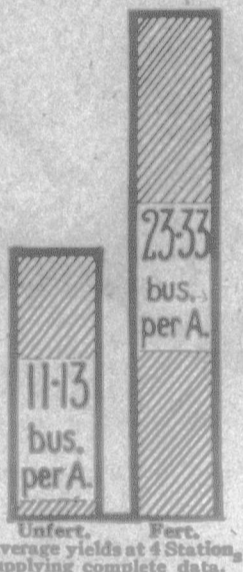
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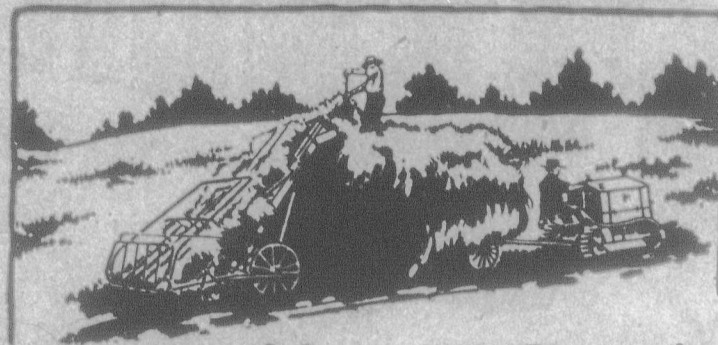
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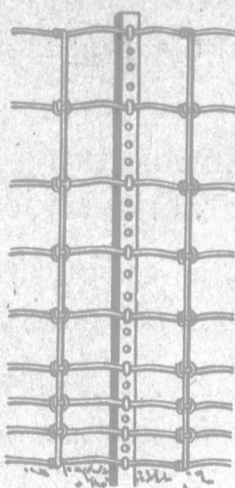
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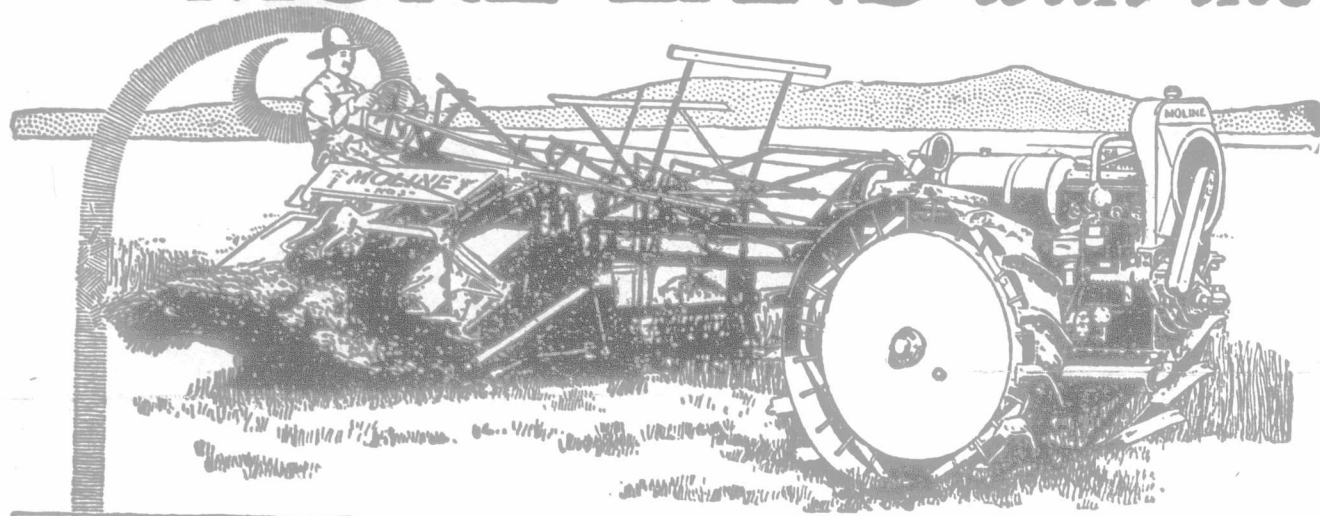
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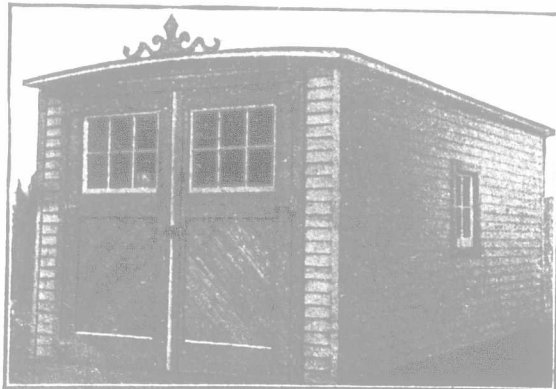
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The Farmer's Advocate and Home Magazine

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LIV.

LONDON, ONTARIO, JULY 3, 1919.

1397

EDITORIAL.

Cows will be needed for a long time yet; don't sacrifice the likely-looking heifer calves.

It is not too late yet to sow a small field of rape if it is likely to be needed by the cattle, sheep or swine.

We read in a daily paper that "very few farmers are now without their automobiles"—would that it were true!

This is an opportune time to get rid of the poor layers. Many of them have already "eaten their heads off" and will never make good.

After the European war Villa cannot get much nearer the front of the daily papers than the sporting page.

The Cost of Living Committee has unearthed considerable information, but what is going to be done about it? This Committee has a splendid opportunity to distinguish itself.

No one seemed surprised when the Germans failed to fulfill the terms of the Armistice by attempting to destroy their vessels in Scapa Flow. Germans will be Germans.

How would it do to appoint one of our high-profit manufacturers as Minister of Agriculture, and have him show farmers how to make more than a meagre four or five per cent. on the capital invested?

We have heard considerable about the inflation of currency being responsible for the high cost of living, but, having in mind a large proportion of the evidence given before the Cost of Living Committee, one cannot help but think that the inflation of profits has more to do with it.

According to official reports, the surplus of clover seed on this continent is practically exhausted. Considerable seed is usually produced in Western Ontario, but the dry weather last season injured the stand so the outlook is none too good there. Anyone with a clean field and a good stand of red clover ought to plan on a crop of seed.

While the labor question and serious unrest may appear like a city problem, it vitally concerns the farmer. Industrial depression will react against the farm just as agricultural failures or depressions will react against the whole of the country. After all, farmers are being affected by the labor situation just about as badly as anyone.

The baker's help ride to their work in a street car. The fares are raised because the operators of the cars must have more pay in order to buy bread for their families. The baker's helpers then must get higher wages because their expenses are greater, so up goes the price of bread. But when the car men asked for their last increase they did not figure on the price of bread advancing, and they are now no better off than before; another increase is in order, but this affects the bakers just as did the last increase to the car men, so they must have still more wages and bread must cost still more. This is not an actual case; it is only a parallel. Increased wages mean increased living costs—the laborer has no avenue of escape. If a united effort were made to reduce the cost of living instead of enhance it, the results would be more satisfactory.

A World Awakening in Live Stock.

The country without an agricultural policy would be like a ship at sea without a compass, and no one will dispute the statement when we say that the agricultural policy for Canada must be built upon and around the live-stock industry. We must have a policy that will give the greatest volume of exportable surplus, and at the same time enhance the fertility of Canadian soil. For years the crop-producing ingredients have been mined from the Western prairie lands and transported eastward in the form of wheat or millfeeds. Ship after ship has been filled to the deck with soil fertility, only to deliver its precious cargo somewhere on the other side of the ocean. While the Prairies were especially adapted to wheat growing, and we would naturally expect settlers to engage in that method of farming, it has its weaknesses and Western Canada is now gradually but surely drifting around to a more stable and permanent agriculture. So it is in the East. In spite of labor shortages and extra demands on the whole farming community, Eastern Canada has gone ahead in regard to the live-stock industry, as shown in an article in the live-stock department of this issue, until now the nine provinces of Canada show a live-stock population far in excess of anything heretofore recorded. We are not alone in this advance, however. We are only getting into the race. We cannot afford to be on-lookers.

From our English correspondent comes the word that at British ports there are being daily enacted scenes of great activity in sending abroad thousands of head of pedigreed cattle, sheep and pigs, which buyers in all parts of the world are gathering together with a view to the expansion of the output of meat. "On the high seas as I write," he says, "over a thousand head of beef cattle chosen from our leading herds of Shorthorns, Aberdeen-Angus, Herefords, Sussex, Devons, and other native breeds, are going either to ranches in Rhodesia, Argentina, Uruguay, Brazil and other countries south of the equator, or to Canada and U. S. A., to strengthen existing herds there reduced by the call of war conditions. Sheep and pigs likewise have sailed in considerable numbers to Japan, Morocco, Australasia, Canada and the Argentine."

No mean or second-rate sires are being taken by these countries. Their purchases include champion winners at Perth, Birmingham, Perth, Hereford, Cookstown, Aberdeen, Bristol and other leading exhibitions, and though some of these bulls have cost over £3,000 each, their exporters have no fear but that on the other side of the world they will prove worth their cost when mated with native herds. Argentine buyers have been paying up to £1,000 each for rams, and taking first choice of the English breeders' flocks. In spite of this heavy drain on the British pure-bred herds and flocks, that country is still replete with potential breeding stock, and our correspondent says that an extraordinary development has taken place. New men with fresh ideas are entering this branch of agriculture, and are running it on commercial lines. Despite the enormous development in practically all countries of the world, it is certain that Britain will retain her premier position and still remain the stud farm of the world.

It should be realized by rulers and ruled alike in this Dominion that we must have a progressive agricultural policy which provides every opportunity possible for the development of our live-stock industry, if we are to compete with all the other courageous young countries of the world. No half-way policy will be effective. A ridiculously small amount of our arable lands are now being cultivated or grazed. We have railroad facilities capable of serving ten times the population we have, but which must be maintained by eight and a half million people. Our packing facilities are capable of expansion, and the whole industrial fabric of the country is capable

of looking after a vastly increased live-stock production. We, like other young countries of the world, are entering a new era and we should prepare for the race.

Quantity and quality are the two factors upon which breeders and producers must focus. We have shown that with a diminished agricultural population the live stock of Canada can be increased; now it is up to us to increase the quality of our product so as to compete more successfully with our rivals on the markets of the world. Producers generally should get a firm grasp of the situation, for upon them depends, to a very-large extent, the future prosperity of the live-stock industry and the welfare of the whole nation.

Cull The Flock.

While to many farmers the flock of poultry may appear like an insignificant factor, yet one hundred hens are capable of yielding quite as handsome a dividend as any live stock of the same value left on the farm. Some good poultrymen claim that it is just as easy to get winter eggs as it is to get winter milk. Both require extra exertion, extra feed and extra attention. The culling operation of farm flocks has reached its highest development in Prince Edward Island, where experts have assisted farmers in culling out the non-producers and establishing a flock on a productive basis. There are a few fine points which guide experts when separating layers from non-layers, but there are also a few features which are apparent enough to permit almost anyone to make a reasonable selection. As a rule, poor layers are fat, lazy hens which sit on the roost late in the morning and go back early in the evening. They molt late in the season, and, as a rule, are easily distinguishable as slackers. One hundred hens now represent an investment of approximately two hundred dollars. Buildings and equipment would raise this to the neighborhood of three hundred dollars. No farmer can afford to have three hundred dollars tied up in such a form that it will not return a revenue. A rigorous selection of the flock, followed up with the addition of a number of early-hatched, well-developed pullets so as to bring the entire flock up to the neighborhood of one hundred, will, in many cases, change a neglected adjunct of the farm into a revenue-producing investment. Put the flock in the charge of some member of the family, and do not belittle the work they are doing.

Soldiers Settling on the Land.

While soldiers have not rushed headlong into farming upon their return from overseas, the Soldier Settlement Board has been fairly busy in examining applicants and finding suitable locations for them in the various provinces. Up to the middle of June, 17,109 applications for qualification certificates had been received and 12,594 soldiers qualified to participate in the benefits of the Act. The heaviest rush of applicants has been in the Western Provinces. British Columbia has 1,914 soldier settlers; Alberta, 3,385; Saskatchewan, 3,124; Manitoba, 2,349; Ontario, 723; Quebec, 271; New Brunswick, 366; Nova Scotia, 269; Prince Edward Island, 193.

During the same period, \$14,467,974 were dispensed in the operation of the Act for the purchase of land, stock and the making of improvements. The total number of loans granted is 4,262, and the average of loans made is \$3,394. The Act provides that an "approved" returned soldier may secure a loan up to \$7,500, of which \$4,500 is for the purchase of land, \$2,000 for the purchase of stock and implements, and \$1,000 to cover the cost of improvements. A certain amount of these liabilities are retired by the settler annually, by paying interest and a certain amount of the principal. This is known as the amortization plan,

The Farmer's Advocate and Home Magazine.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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and permits the soldier to discharge the debt in a period of twenty-five years.

When the majority of the soldiers returned from overseas they found industries busy and work plentiful, and consequently were not overly enthusiastic about farming. It is possible that in the readjustment of conditions from a war to a peace basis it may be necessary for a large number of urban dwellers to seek employment in the country, or to operate farms of their own.

Farmers are using the automobile to good advantage this season in their excursions into nearby counties and neighboring states of the Union. The practice of travelling in a party has much to commend it, for the information can be arranged so as to make, possibly, the time well spent most profitably, and the parties called on are obliged to take sufficient time to discuss methods and crops, and the numerous visits to their own farms. Not only can Ontario farmers visit the adjacent counties, but several excursions have been made into the States. Farmers take only a few hours, and with a few arrangements can be made to visit the States, where, at home, the crop reports are not so fresh.

The Worry Habit.

BY SANDY FRASER.

Talkin' about the crop reports frae the different parts o' the country an' that sort o' thing, reminds me o' something I saw in the paper a few weeks back. I thought at the time the thing wis worth keepin', and I cut it oot and laid it by 'for future reference,' as oor meenister says aboot ony question that comes up that he doesn't feel like expressin' an opinion on.

But havin' rin across this clipping juist noo, that I wis tellin' ye aboot, I think I'll copy it oot for yer benefit. Here's the way it reads:

"Ottawa reports that crops in the Ottawa Valley and other low-lying grounds are very much behind those of last year, and in many cases behind those of 1915, when heavy rains retarded crops to an almost disastrous extent. The high lands are very green and promising. One of the chief troubles over which farmers are brooding is the probability of a prolonged dry spell which would bake the clay lands."

It wis that last sentence that took my eye and made me laugh a wee bit. "The poor farmers," thinks I to myself, "they hae their ain hard times. Or if conditions ever happen tae be right wi' them they are very sure it won't last long." Like an auld chap I used tae ken in my younger days. If it happened to be a fine winter's day an' you mentioned the fact tae him, he wad say, "Oh aye, but it looks tae me like a 'breeder.' Ye'll see a bad day to-morrow."

But I dinna think I ever read anything in a regular crop report that wis a better illustration of the natural state o' mind o' a guid percentage o' us farmers than that one I copied oot for ye above. It says the farmers were "broodin' at the chances o' a lang dry spell, and them at the same time kickin' aboot bein' halt-drowin' doon." The way some chaps are built they dinna gie themselves muckle rest. They remind me o' a story I heard once, aboot a young fellow that came frae the city to spend a few weeks o' his holidays wi' his uncle in the country. It seems it wis the fashion at this place for everybody to "wash up" at the kitchen sink in the mornin', and the city chap had to tak' his turn wi' the rest. It took him some time, however, what wi' all the extra touches he wis used to puttin' on himsel'. He had to brush his teeth as well as his boots, and he seemed to think that his collar wis as necessary a part o' his clothing as his shirt.

The hired man had been sittin' in the corner all this time waitin' for his breakfast and takin' in the performance at the sink an' the lookin'-glass. At last his curiosity got the better o' him an' he got up an' went over to where the ither fellow wis juist puttin' the last o' his hairs into place an' says he to him: "Say, mister, are ye that much trouble tae yerse' every day?"

So that's the way wi' a lot o' the men that are in the business o' farmin'. They're an unco' lot o' trouble to themselves. If they juist took what they got in the weather line an' quit worryin' aboot what might be comin' to-morrow or next week they'd find this auld waird a muckle sight better place to be stoppin' off at than they think it is the noo.

As it happened, (in the case o' the farmers doon this way that were "broodin'" aboot the dry weather that wis maybe comin'), after five or six days o' fine weather that let the maist o' us finish up the seeding, we had another o' the regular auld-fashioned soakers that should hae satisfied ony man that wis afraid o' his clay land "bakin'." I wis in town that day an' got talkin' wi' Jim McCallum that lives doon on the fourth road. "Weel Jim," says I, "that wis a great auld rain we had last night, eh?" "Too much, too much," he replies, shakin' his head. "My low land is that wet I willna be able tae go near it for a week. It's a blue lookout for ony kind o' crop this year, Sandy," says he.

Where some men hae high land thers hae low, where some hae clay and thers hae sand, it's pretty hard tae satisfy everybody and gie them what they think they want, but it beats all how many o' us, that ken enough aboot oor business to deserve to be called farmers, mak' oot to hae some kind o' a harvest ilka year, on which we seem to worry through to the beginnin' o' another round. Some way, the worst never happens, an' we never hear o' ony farmer an' his family being found starved to death by their neighbors, or see aye some that they couldna' be brought back to life, some way or ither.

For a while this last spring black looked aboot as blue as they could wi'oot gettin' black entirely. When it wasn't rainin' it wis snawin' or freezin', and the prospects for gettin' the coos oot on pasture by the middle o' May, as a guid noo guid, hays wis sellin' an' anywhere between thirty an' forty dollars a ton, and no roads to draw it on, even if ye could scare up the price. A chap wi'oot ony past experience wi' similar conditions might hae been excused for gettin' a wee bit nervous over the situation, maybe, but as things turned out it wouldn't hae been worth his while. The weather turned warm juist in time. In fact, it wis what we might call hot for quite a spell. And wi' the fields soaked wi' water the way they were the grass grew then comin' along, and at the present time I dinna remember ever seein' a better prospect for hay or better pasture on the north. And they were tamed oot on them as early as usual too, I noticed that. At they could hae been green glasses put on them for the first time I'm thinkin' the poor bosses wad hae eaten the grass wi' ease an' aha!

So that the point is that the troubles we saw in the dry weather had all disappeared as we got on our way to the north, an' all they were waitin' for was to be there as at the present time is what bays a guid

to the country if the grasshoppers come or the Bolshevik chaps get too many for us or something like that. The man that worries by nature or, as a matter o' principle, will never be oot o' material to work on. But it's a poor business as a rule, wi' small pay an' lang hours.

There's juist one kind o' a man that I wad advise to get the worry habit. That is the chap that is inclined to be a wee bit lazy, tae put it in plain language. He has, as ye might say, gone tae the ither extreme. If the reason for ony man being behind with his work this year is the fact that he found it easier to put on his plowing till this spring when he might hae done it last fall, I wad say to him, "Gae ahead an' worry all ye can. It may be as guid as a condition powder for ye."

But for the mon that has done the best he can there is na mair need o' worryin' than there is to be sittin' up nights to see if the sun is gaein' to rise. The sun will be there on time, an' so will be the results o' oor labor.

Nature's Diary.

A. B. KLUGH, M.A.

Ranchers of the Northland.

The ranches of Canada are gradually but steadily giving place to farms, and it does not take a very long look into the future to see the day when all the southern portions of the Dominion will be utilized for general farming or grain-growing. In view of this fact it is interesting to examine Vilhjalmur Stefansson's scheme for turning the sub-arctic regions lying west of Hudson Bay into a meat and wool-producing country.

The domestication of the cow and the sheep took place in sub-tropical Asia, and for generations man has been engaged in the task of extending the range of these animals to the north. In far northern countries these animals require housing and feeding to such a large portion of the year as to render their culture unprofitable, and in place of attempting this, Stefansson proposes the establishment of herds of Reindeer and the domestication of the Musk-Ox.

The Reindeer has been in domestication in Northern Europe for a long time, and has more recently been introduced into Alaska with such success that the herds have doubled every three years, and about 1,500 carcasses of some 150 lbs. each were sold last year on the American markets, and 100 carcasses were shipped to London, where they sold at a price of about ten cents per pound-ox more than beef.

In the Musk-Ox we have an animal about three times the size of a sheep which produces meat and wool of good quality, an animal of which Canada has a monopoly, and which is by nature thoroughly adapted to the far northern regions. From a long and intimate acquaintance with the Musk-Ox Stefansson believes that it would prove easy of domestication. This animal is less given to wandering than most of the other hooved mammals, and they are able to protect themselves against all enemies except man, as when attacked they form a circle with the calves on the inside.

Stefansson states that the idea that there are only lichens and mosses on the northern tundra is erroneous, and that in reality there is an abundance of grasses. The explorer says that there are a million square miles of fine grazing country in the north, and that the summer varies in length from six months north of Slave Lake to three months in the more northern islands. "But whether the summer is six months or three," he continues, "it is abundantly long enough for the development of nutritious vegetation, which although it is green only in the summer, is satisfactory food for grazing animals throughout the winter as well. The snow-fall in most parts of the far north is less than half that of Manitoba. I was brought up in Manitoba and Dakota in sections where houses were far apart, and I speak with the authority of ample experience when I say that at that time a man brought up in Manitoba, if he could have been magically transported to the middle of Banks Island, would not have been able to realize that he was not in his own country. Had the month been July, he would have seen the rolling prairie stretching away to the horizon in either place, green in either place, and differing in Banks Island only by the larger percentage of small lakes and the greater number of flowers. And the same would have been true in winter, for as in Manitoba, he would have found deep snow-drifts in some places, but in most places a negligible amount of snow on the ground and the grass here and there sticking up through it, so that only in a few places would grazing animals have to use their feet for pawing away the snow as they fed."

To many people the utilization of the northern prairies seems an impossibility on account of the distances and the difficulties of transportation, but, as Stefansson remarks, it would have been difficult fifty years ago to convince the ordinary citizen of Montreal or Toronto that Manitoba was a fit place to live in, or that it could ever be of any value. In about a year we shall have a railway to the west coast of Hudson Bay, and we already have an ocean route to Europa from Hudson Bay, so that only the interior of this northern grazing area is as inaccessible as Manitoba was in 1875. Practical railway men like Lord Shackleton and Mr. Beatty see no insurmountable difficulties in the matter of transportation in the far north.

While it does not do to wear glasses of too rosy hue when looking at a scheme like that proposed by Stefansson, at the same time it must strike the naturalist as fundamentally sound to attempt to utilize the native animals of a region or to bring in animals from similar regions rather than to seek to introduce those whose normal environment differs radically from that of their new home.

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THE HORSE.

Take time to let the air circulate under the collar of the horse. There is more than sentiment behind this practice.

It is better to coax than drag a young colt when teaching it to lead. A little cajolery is more effective than much force.

Regular and ample grooming are necessary this time of year to keep a horse in the best condition, but an occasional wash will help to keep the pores open and the skin clean.

The feet are an important part of a horse, but they are only a means to an end. Washy animals with insufficient substance and poor quality are undesirable no matter how good their feet may be.

If you intend showing a young horse at the coming year make its training a part of the preparation. Uneducated young horses shown on the halter are almost always a disappointment to the exhibitor, judge and onlookers.

Classifying Horses for Sale or Show-ring

Horses as found the country over are capable of considerable classification, not only in regard to breed characteristics, but according to their qualifications to meet the numerous market demands. Show ring standards are based to a large extent on market requirements so as to encourage the breeding of more commercial horses to supply the various needs of the country.

The one important class is undoubtedly the draft horse, which group in Canada is made up principally of Clydesdales, Percherons and Shires. The classifying in this category is simple compared with the many uses to which light horses are put and the grouping of the same. A good draft horse should not be less than 1,600 pounds. The city takes horses and wants them up to 1,800 pounds or a ton, but perhaps a lighter draft horse is better suited to agricultural purposes. Some markets classify heavy draft as between 1,500 to 1,700 pounds, and light draft as weighing from 1,400 to 1,500 pounds. There is frequently no minimum stipulated in exhibition prize lists, but the exhibitor who goes into the ring with a team of horses weighing less than 1,600 pounds each must expect to compete with those weighing considerably more, and consequently his chances for success are minimized.

When a horse drops very much below 1,600 pounds, it is frequently termed an agricultural horse, the weights for which vary around 1,400 to 1,600 pounds. The agricultural horse is a small draft horse, and with sufficient flesh added, might qualify for the latter class. Small horses of draft type, but lacking in weight and substance, are sometimes erroneously designated as general-purpose, but this is a mistake. Such a horse would be called a farm chump, or a misfit.

Small agricultural horses are not general-purpose horses. No one would ever think of hitching a compactly built horse, typical of the real draft horse, only smaller, to a buggy, nor would one think of putting a saddle on him preparatory to riding horseback five or ten miles. The real general purpose horse is such that one can hitch as an extra horse to the reaper, can be used on the wagon, or other farm implements, carriage, buggy, or, in extreme cases, be ridden. Obviously one would never attempt to breed general-purpose horses. The requirements to be met are too numerous, and one's efforts would likely result in continuous failures.

Many disappointments in the show-ring are due to horses not being properly classified and entered where they belong. We have seen horses entered in classes for which they were manifestly unfitted on account of the owner feeling that entries in that section were very light and he would have little competition. Exhibitions are supposed to be educational, and a horse entered in the wrong section simply to win a prize should be ruled out.

LIVE STOCK.

Our Scottish Letter.

The calendar reminds me that it is time I was writing something for the "Farmer's Advocate." The weather during the last three weeks of May has been of the kind which poets credit to that month, but experience has not often therein confirmed the poets. The May of 1919 will long be remembered as a month of most remarkable sunshine and warmth. We do not say that we have never seen a May to equal it, but we do say that

such spells of genial warmth have been rare in a month which, despite the poets, is proverbially fickle. One drawback to a warm and genial May without much moisture is a small hay crop. It is an ancient saying that a "dripping May makes hay," and that will be about right. Meantime, writing on June 2, the hay crop on heavy, deep land promises well enough, but on light soil it is otherwise. The fickleness of the Scottish climate is well illustrated by the experience of the closing week of April compared with the period just commented on. Throughout the most of Scotland a snow storm of unusual severity was experienced only five weeks ago. It boded ill for the hill lambing season, and undoubtedly where lambing had begun a heavy death-rate in both ewes and lambs fell to be recorded. On the later hirsels the lambing season has been favorable to a degree, and flockmasters are smiling broadly. The foaling season in the Clydesdale world had been favorable, although one does hear ominous rumors about joint-ill. This disease is now being grappled with in a vigorous fashion both North and South. One very notable champion mare has this year brought her foal all right. This is especially gratifying, as during the past three years her foal was lost from this disease. It appears in studs in which the utmost care is taken, and cleanliness, one would say, is reduced to almost a fine art. On the other hand, it is seldom seen among foals dropped outside, with only their dam's eye upon them. A nobleman who breeds Thoroughbreds, Shires and Highland Ponies has never known the disease to appear among his Highland ponies, while he has had heavy losses through it in both his Thoroughbred and Shire studs. The Highland ponies are reared under natural conditions in the north-west of Ross-shire. There is a lesson in this surely. Nature makes her own provision for the perpetuation of species, and when left to herself she proves a careful and successful mother.

Shows have again been resumed. So far all held in Scotland have been remarkably well attended and conspicuously successful. Apparently the people want some such relaxation after the strenuousness of the years of war. It has been a dreadful experience, and



Two Wexford-County Farmers who are still loyal to the Horse.

there is something relaxing and pleasant in the show-yard and the inspection of horses and cattle. It must, however, be acknowledged that the attendance of the public has been a much more conspicuous feature of the shows than the numbers of the exhibits. Clydesdales have been well represented at all events, but cattle exhibits have been relatively few and sheep have been shown in units.

Pig breeding is extending in Scotland and record prices are being made for all breeds, but the show yard type is not taking up much attention. The truth is that there is no labor to spare for the preparation of stock for the show-ring. Clydesdales have to be kept in good shape in any case, hence both at Glasgow and at Belfast the displays of the breed have been fully as good as ever they were. The extent to which the breeding of Clydesdales goes forward in Ireland is a significant feature in modern agriculture. The recently-published report of the Department of Agriculture contains some arresting figures. They almost suggest that the breeding of light horses is on the move in the Emerald Isle, and that the breeding of heavy horses is to be an important feature of Irish agriculture in days to come. On the Department's Register in 1914 there were 83 Clydesdale stallions; in 1915, 90; in 1916, 131; in 1917, 141, and in 1918, 135. The relative figures for Shires were: 22, 22, 29, 28, and 25. Nominations for Clydesdales under the Irish Department's premium scheme in 1918 numbered 2,696; for Irish draft and half-bred stallions, 2,092, and for Shire stallions, 299. In proof of the decrease in light-horse breeding the nomination for Thoroughbred stallions may be quoted. In 1914 there were 2,313; in 1915, 1,966; in 1916, 1,457, and in 1918, 795. A praiseworthy effort is being made by the Irish Department of Agriculture to preserve or re-suscitate the Irish draft horse. This is a very useful, hardy type of horse. His build and conformation suggests a dash of Thoroughbred in his breeding, but there is also something highly distinctive about the type. In Scotland he is usually spoken of as an "Irish 'gasp' horse." How that name came to be given to him we do not know. He is usually a dark colored brown horse

with black legs, also with sound blue hoofs, as one would expect from his being reared on the limestone. He stands about 17.2 hands high and is perhaps inclined to be "leggy." He has a fine outlook and high withers. Altogether he is a strong, wiry, tough specimen with no end of grit and vim, and with his clean legs and eager spirit has long been a favorite for what is called here, heavy van work, or, on your side of the Atlantic, express work. The resuscitation of a breed is always a matter of difficulty; still, it can be done, and the Irish Department of Agriculture is a live institution with a reputation for doing things and doing them well. It is largely manned by Scotsmen.

We have been having great times recently with our overseas men. Classes for their training in agriculture have been held in Edinburgh and Aberdeen, and in connection therewith there have been excursions and tours of visitation to great breeding herds, studs, and flocks in different parts of Scotland. Notable addresses on the breeds have been delivered by specialists in each, and judging competitions have also been inaugurated. At Aberdeen the College authorities were fortunate in being able to enlist three notable Shorthorn breeders - William Duthie, Tarves; William Anderson, Saphock; and James Dinno, Rothiebrishane, Exvie. All three delivered addresses to the men. These addresses were full of sound, practical commonsense experience. The speakers gave their views as to the type of Shorthorn bull and cow to aim at in founding a herd, and were especially successful in handling the knotty question of the right use of pedigree. Aberdeen-shire breeders in the front rank are rigid disciples of Amos Cruickshank. However others who come to buy at the Aberdeen sales may act, the native breeders absolutely refuse to allow pedigree to become a master. They insist on pedigree being made a servant; they believe strongly that no combination can excel a good pedigree and a good animal, but they steadfastly refuse to believe that a fashionable pedigree can atone for lack of individual merit. The three great Aberdeen-shire Shorthorn breeders of a past generation were undoubtedly Amos Cruickshank, of Sullyton; W. Smith Murr, of Uppermill, Tarves; and James Bruce, of Invergolumery. Of the three, the last was the most scientific. He could best tell why he did things, and how cause and effect operated. His great achievement as a breeder was the formation of the celebrated Augusta family. A real Augusta must have three special crosses in its pedigree, and lacking either he or she is not perfect as an Augusta. The three are Waverley, Clear the Way, and Banadullaie. Amos Cruickshank and W. S. Murr could not so ably expound the principles upon which they proceeded as James Bruce, but each possessed the peculiar instinct of the born breeder and could convey to listeners, if not scientific reasons, reasons in sound practice which justified all their doings.

The Aberdeen Angus lecture was delivered by J. R. Barclay, the capable Secretary to the Breed Society, whose headquarters have now been removed to Aberdeen. That granite city of the North Sea is now the home of two breed societies - the Aberdeen-Angus Cattle Society and the Shetland Pony Society. Mr. Barclay has a thorough mastery of the history of the Aberdeen-Angus breed, and is fully informed concerning the prominent successes of the "Blacks" at the block and in the carcass and carcass competitions. His lecture to the overseas men was capped by a splendid practical discourse by James Booth, Downmills, Peterhead, a gentleman who began life as a butcher, in Peterhead, and knows the first and last thing about breeding, feeding, slaughtering and selling beef. He is a strong advocate of the Aberdeen-Angus breed, and in a very vigorous speech gave the men from overseas abundant proof of the supreme excellence of the beef produced by the breed to which McCombie gave world wide fame. Mr. Booth insists on giving the breed its ancient name of the Buchan Humble. 'Tis a good homely Scottish name and none will grudge a worthy son of Buchan the right to claim that the local name be not forgotten. He told the men that Buchan was famed for flesh, fish and bonnie lassies. He also credited Strathspex with being the home of "fechters," fat cattle, and whiskey. An overseas man who followed Mr. Booth said he preferred the Buchan products. Following the academic lectures came visits to noted herds. On the Saturday following the Shorthorn lecture, the men visited the Tarves district and saw the herds at Collynie, Tillycain and Uppermill, and on the Saturday following the Aberdeen-Angus lecture they were at Kenmurey and Abertown, in Strathspex. The writer gave a Clydesdale lecture with sixty slides showing great sires and mares of the breed, and on the Saturday following a visit was paid to James Gray's stud at Birkenwood, Gungahook, and Stephen Mitchell's fine herd of Shorthorn cattle and stud of Clydesdales at Boquhan, Kippen, in Stirlingshire. A splendid service is being done by these classes for training overseas men. At the same time the various breeds are securing a great advancement among the very best class of rising young farmers from overseas. We are delighted to see them and to know and meet with them. SCOTLAND YET.

We wish to correct a typographical error which occurred in our report of Prof. Wade Toole's testimony before the Court of Living Commissioners, and which was published in the issue of June 19. Prof. Toole declared that it would cost \$21.25 for food to make the 170 pounds of gain in a hog between the time it was weaned and when it was ready for market. The report read "70 pounds," which would make the cost many times as high.

The Live Stock Industry in Canada.

OF the aggressive hard fighting combatants of the great war and among the decisive factors in the ultimate issue, none were superior to agriculture. In the keeping of peace, permanent peace, there can be suggested no other factor of equal potency with agriculture, and in "the return," as well as in further empire development, the Dominion of Canada with other countries in the new world places her faith, absolutely, in agriculture. Metaphorically speaking, agricultural Canada is girding up its loins after making a tremendous contribution to the success of the Allies; is taking its second wind, preparatory to subscribing the lion's share in the wiping off of the financial burden that has piled up during the five years of the war. It assumes its logical position in the industrial life of Canada partly on the foundation of a splendid war record as is herein recorded, and partly on economic principles that commend themselves to all true economists and builders of nations. The country is fortunate indeed that it can pay its debts, and bring prosperity and plenty to its people through the development of natural resources, and, broadly speaking, the greatest natural resources of Canada and the only ones capable of non-exhaustion, are her three hundred and fifty million acres of land suitable for crop and live-stock production, and her vigorous climate. No country need go into the hands of a receiver while possessing such assets.

Live Stock the First Move.

In the broad field of agriculture, there is one department of primary importance in that upon its development depends, the expansion of the remainder. We refer to the live-stock industry. First principles of agriculture teach us that the permanent fertility of a soil cannot be maintained unless live stock occupies a prominent place on the farm. Patently the only factor that can perpetuate natural resources deserves, demands, and will receive first consideration. A first principle taught in our high school chemistry, the "Law of the Indestructibility of Matter," is graphically illustrated in the relation existing between live stock and the soil.

Considering the situation from every conceivable angle, there can be no hesitation in reaching the conclusion that agriculture is the most dependable asset the Dominion has to rely upon for her future development, and the easing of the financial burden incurred during the war.

A Remarkable Performance.

This statement is based on sound premises,—the record of a remarkable performance. During the five years previous to the war agriculture returned an average of 51 per cent. of the annual revenue from all sources of the export trade of Canada. During the year 1918, the return from agriculture represented 49 per cent. of the revenue from the total trade of the Dominion, which included the aggregate of exports from all sources, mines, fisheries, forests and agriculture. If the value of war materials exported were deducted from the manufactures, the products of the farm would represent approximately 87 per cent. of the total value of export trade of the country. In the light of this remarkable performance it is very evident that in our effort to maintain our national credit, to pay our national debt, build up a solid Canada, and meet the obligations due to returned soldiers and their dependents, we must first consider the returns that may be obtained from agriculture, as also the favorable and inevitably premier position occupied by agriculture in the necessary and permanent development of industrial Canada.

The agricultural export trade of Canada is divided into two main classes: namely, agricultural produce and animals and animal products. It is on the development of this trade that, to a large extent, depends the future prosperity of our farming industry. The available farm lands of Canada have an enormous acreage, while the population of Canada is very small, consequently it requires no great effort to supply domestic demand, and an outlet of considerable capacity is an absolute necessity to the proper expansion of agriculture in general and live stock in particular. Furthermore, the larger the percentage of our total exports that is made up of meats and meat products the stronger the producing value of our soils.

In that connection we may well consider what has been accomplished in developing our meat trade up to the present, because it will indicate the possibilities of the Dominion as a contributing factor to the needs of the United Kingdom, our chief outlet, and serve as a basis, or as information, for future business.

As is demonstrated by the following tables the United Kingdom has been, during recent years, the destination of practically the total exports of the animal produce of the Dominion, while our live cattle, sheep and swine have gone almost entirely to the United States markets, although as will be shown later in this article, Canada formerly found an outlet for over 80 per cent. of her export cattle in the markets of the United Kingdom. In the year 1913 it will be remembered that free access was obtained to the United States markets for Canadian cattle. This new outlet, or rather freer outlet, is not, however, a market for butcher cattle only. Statistics of exports show that a large per cent. of the cattle going across the line from Canadian live-stock markets are of stocker and feeder quality, and are imported into the States for finishing. There is not only a shortage of young cattle on the farms across the border, but also a recognition of the vigorous, well-doing character of

Before, During and After Five Years of War.

BY P. E. LIGHT.

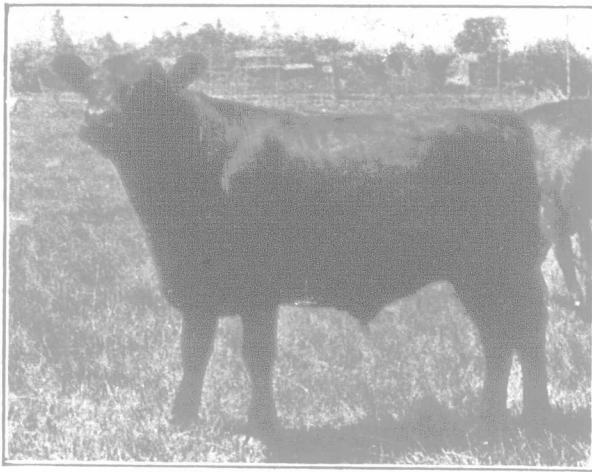
The accompanying article is the first of a series of three which have been prepared for "The Farmer's Advocate" by P. E. Light, of the Live-Stock Branch, Ottawa. These articles are indeed a stock-taking of the whole live-stock industry, with a picture of the past and a full explanation of our position after four-and-half years of war effort. Canada's cattle stocks have increased 46 per cent. Our possibilities for production are practically unlimited, but what of the market? Here is where the Canadian farmer must play his part and to do so he should have a thorough understanding of the whole situation. This series of three articles gives a graphic picture of the industry, and suggests a program for the future.

the stocker and feeder cattle from the farms of Eastern and Western Canada.

In confirmation of the statements made regarding the volume of our trade with Great Britain, the following tables are submitted.

Volume of undermentioned animal produce exported from Canada to the United Kingdom for the following fiscal years.

	1913	1918
Bacon.....	lbs. 35,963,916	lbs. 199,474,161
Beef.....	782,920	33,515,035
Hams.....	2,423,074	6,215,735
Mutton.....	181,513	
Pork.....	4,053	5,538,790
Wool.....	697,390	nil.
Lard.....	34,500	1,767,859
Butter.....	681	3,332,297
Cheese.....	153,893,085	168,220,704
Canned Meats.....	245,533	1,549,254
Eggs (Dozen).....	51,294	2,942,953
Cattle.....	No. 12,609	No. nil.
Horses.....	75	15,743
Sheep.....	nil.	8
Swine.....	nil.	4
Poultry (value).....	\$5,368	\$9,400



Ready for Market.

Total exports of the undermentioned animal produce from Canada during the fiscal years ending March 31st, 1913-1918.

	1913	1918
Bacon.....	lbs. 36,214,690	lbs. 200,117,178
Beef.....	1,940,077	89,176,923
Hams.....	2,476,654	7,935,289
Mutton.....	45,994	856,141
Pork.....	789,306	8,094,604
Wool.....	978,406	11,167,158
Lard.....	50,365	1,957,401
Butter.....	979,047	5,037,512
Cheese.....	155,300,379	169,623,252
Canned Meats.....	277,929	20,576,709
Eggs (Dozen).....	147,419	3,283,975
Cattle.....	No. 44,338	No. 191,359
Horses.....	3,821	30,476
Sheep.....	13,363	131,687
Swine.....	654	15,647
Poultry (value).....	\$97,082	\$378,605

It is well also in connection with the above export statement for meats to briefly consider the numbers of cattle, sheep, and swine, slaughtered at inspected establishments in Canada during the two years previous

to the war and the two years preceding the signing of the Armistice, and to particularly note the tremendous increase in the slaughtering of the classes of stock mentioned, in 1918 and 1919, compared with 1912 and 1913.

Number of live stock slaughtered at inspected establishments in Canada, fiscal years ending March 31st, 1912, 1913, 1918 and 1919.

Ontario:	Cattle	Sheep	Swine
1912.....	153,735	156,957	1,253,104
1913.....	171,408	146,861	1,990,843
1918.....	335,029	159,100	1,254,868
1919.....	366,915	193,712	1,254,171
Quebec:			
1912.....	134,755	125,585	1,429,718
1913.....	158,967	155,537	367,198
1918.....	176,155	92,951	288,888
1919.....	231,212	89,381	332,069
Manitoba:			
1912.....	56,246	41,221	85,984
1913.....	70,095	59,553	123,406
1918.....	105,425	14,264	197,936
1919.....	124,458	32,450	314,482
Sask., Alta. and B. C.:			
1912.....	53,213	34,899	58,823
1913.....	48,849	64,867	107,239
1918.....	118,890	40,708	371,088
1919.....	161,045	55,708	411,051
Maritime Provinces:			
1912.....	452	17,775	25,368
1913.....	1,061	19,614	19,055
1918.....	3,586	29,874	16,902
1919.....	4,143	27,152	62,037

Live-Stock Holdings.

After having noted the heavy increases in killings at inspected establishment, it is highly encouraging to find that our live-stock holdings have not only met the keen demand of the war period, but have been materially increased.

The numbers of farm live stock in the Dominion during the year preceding the war, compared with the number of head at the time of the signing of the Armistice, indicate that despite the scarcity of labor, high cost of feed, and many other contributing factors to the high cost of production of meat during the period of the war, the holdings of farm live stock in the Dominion made marked increases. For example, the cattle and sheep population was increased during the period mentioned, and in the face of heavy killings in response to the tremendous call for pork and pork products to feed the Allied Armies in Europe, the Dominion increased her swine population by 24.4 per cent.

Strong Position of the West.

The accompanying statement of population shows that the most noticeable increases during the five-year period were made in the Western Provinces. This is significant, indicating as it does that the dream of a western wheat belt is now considered by the Western farmer as being a fallacy, and that in the scheme of his farm operations, live-stock production must be made the foundation. It is interesting to note that in Manitoba, Saskatchewan and Alberta, there has been an increase in the number of cattle during the period under discussion of 100 per cent.

It is evident that Western Canada represents the Dominion's most favorable area for rapid live-stock development. Indeed, the progress of the industry in the Prairie Provinces is one of the most pleasing and satisfactory features of the agricultural advances of Canada during the past decade, and the assurance of a continuous and permanent export outlet for the products of live stock, together with the guarantee of facilities to take care of the products is the one consideration which will insure the development of the industry into a great national revenue bearing asset. While in Eastern Canada the increase in population is not so marked as in the West, the provinces of Ontario and Quebec made a remarkable contribution to live-stock population during the closing years of the war, and while the Maritime Provinces do not show as satisfactory a comparison between 1913 and 1918 as do the other parts of Canada, the steady decline of the period previous to the war seems to have been arrested. There is every probability that given sufficient encouragement, the remarkable increase in live-stock population of the Dominion will be trebled and quadrupled during the next five years. Farmers, breeders and prominent live-stock men, and prominent men in other pursuits, of both Eastern and Western Canada, have never before had such an appreciation of what may be accomplished through a movement to establish and maintain a greater national revenue bearing industry, and as well to take advantage of the means to establish agriculture upon a permanent basis, which latter objective can only be reached through the keeping of sufficient live stock to maintain normal fertility of the soil.

Handling Facilities.

It is hardly necessary to mention that we have

Stat

Canada:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

Prince Edward I.
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

Nova Scotia:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

New Brunswick:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

Quebec:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

Ontario:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

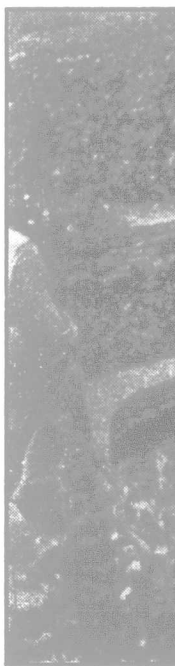
Manitoba:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

Saskatchewan:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

Alberta:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

British Columbia:
Horses.....
Milch cows.....
Other cattle.....
Sheep.....
Swine.....

adequate railway.
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Abattoir facilities
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storage of live a



Statement of Population.

Canada:	1913	1918
Horses.....	2,866,008	3,609,257
Milch cows.....	2,740,434	3,543,600
Other cattle.....	3,915,687	6,507,267
Sheep.....	2,128,531	3,052,748
Swine.....	3,448,326	4,289,682
Prince Edward Island:		
Horses.....	35,952	32,620
Milch cows.....	48,565	41,429
Other cattle.....	64,261	69,092
Sheep.....	85,660	73,046
Swine.....	43,762	40,814
Nova Scotia:		
Horses.....	62,550	70,101
Milch cows.....	130,468	157,829
Other cattle.....	153,726	249,422
Sheep.....	217,734	259,847
Swine.....	56,850	68,238
New Brunswick:		
Horses.....	65,103	66,590
Milch cows.....	106,904	120,123
Other cattle.....	107,864	166,624
Sheep.....	135,115	140,015
Swine.....	77,014	79,814
Quebec:		
Horses.....	369,974	496,811
Milch cows.....	761,816	1,163,865
Other cattle.....	693,540	1,245,819
Sheep.....	602,751	959,070
Swine.....	661,768	997,255
Ontario:		
Horses.....	902,628	732,977
Milch cows.....	1,141,071	1,102,039
Other cattle.....	1,460,015	1,770,683
Sheep.....	705,848	972,341
Swine.....	1,652,440	1,656,386
Manitoba:		
Horses.....	304,088	384,772
Milch cows.....	152,792	225,659
Other cattle.....	256,926	521,240
Sheep.....	42,840	136,782
Swine.....	184,745	284,596
Saskatchewan:		
Horses.....	580,386	990,009
Milch cows.....	194,843	352,989
Other cattle.....	468,255	926,342
Sheep.....	115,568	134,177
Swine.....	386,784	521,240
Alberta:		
Horses.....	484,809	791,246
Milch cows.....	168,376	328,702
Other cattle.....	610,917	1,362,880
Sheep.....	178,015	332,179
Swine.....	350,692	601,534
British Columbia:		
Horses.....	60,518	44,131
Milch cows.....	35,599	50,965
Other cattle.....	100,183	195,165
Sheep.....	45,000	45,291
Swine.....	34,541	39,805

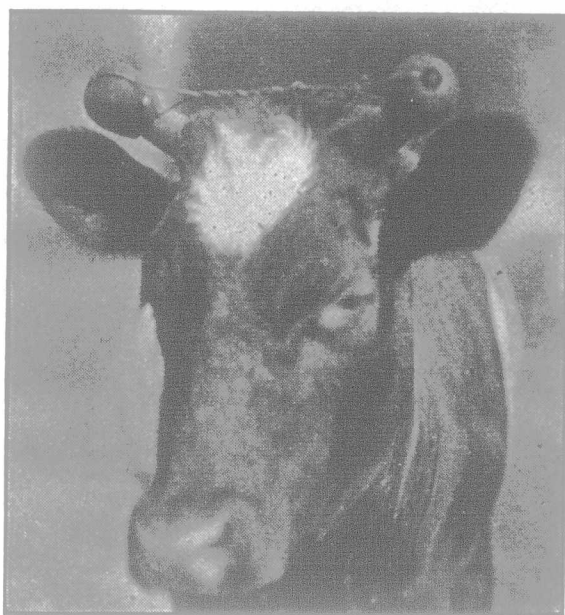
adequate railway mileage, and water ways to transport the product from almost any part of the Dominion. Abattoir facilities which are capable of expansion in keeping with future development of the meat trade have been established at all leading live-stock centres, with the exception of the Maritime Provinces, which however, are at this time contemplating the erection of public stock yards with facilities for the sale and storage of live and dead meats. There are fairly

commodious cold-storage plants in the Dominion for the holding of supplies, and with an eye to larger business, additional ones are being considered. Chartered banks in Canada are taking a vital interest in the live-stock industry, and the local branch managers, numbering some four thousand, are practically all devoting some parts of their business hours to the furtherance of the animal industry in their locality.

Co-operative marketing is being encouraged by our Governments, both Federal and Provincial. Meats and other products are under Federal control as regards freedom from disease. Public stock yards in the Dominion are now under Federal control, and will be operated in a manner contributing to the most satisfactory movement of cattle for sale and purchase. A markets information system has been established which is now providing the producer with information respecting prices, receipts and marketings of stock at the leading live-stock and produce centres, and is providing detail information as to the class and quality of the stock marketed from every county in the Eastern Provinces and Ontario, and from definite areas in the Western Provinces. The agricultural press of Canada

Shaping Cattle Horns.

The appearance of an animal is very often spoiled by coarse, unshapely horns. This coarseness may be characteristic of the sire or the dam and is transmitted to the progeny. While little can be done to make a finer horn, other than by breeding for that, the herdsman can improve the shape of the horn. Weights of different sizes are on the market to be fastened on the ends of the horns to bear them down. If the horns are spreading too much, the two can be pulled together by means of a wire. The accompanying illustration shows both the weights and wire in use. Do not tighten the wire too much at a time, as undue pressure hurts the animal. Each breed of horned stock has a characteristic horn, in regard to length, shape and size. Short-horn breeders like the horn tipped down and the points facing each other. The Herefords have a more spreading horn, and the appearance of the horn on each dairy breed differs. The shaping of the horns should commence when the animal is around a year old, as they will yield to treatment easier then than later on. We have seen large nuts screwed on to the tips of the horns with very satisfactory results.



Weights and Wire used to shape the Horns.

among the most insistent advocates of greater live-stock development, is playing a prominent part in the educational field in respect to production and as well of marketing.

Under the Car-Lot and Free Freight Policies of the Department of Agriculture, it has been possible to return from the public markets to the Prairie Provinces for breeding purposes during the past eighteen months 39,219 cattle and 27,114 sheep. Government distribution of bulls, rams and boars has been productive of much good, and very marked improvement in the quality and condition of our live stock has resulted therefrom. The Policy is further strengthened by the aid given the fairs to enable them to offer larger prize moneys in the utility classes of live stock. In effect, a live-stock movement has been created, among breeders, feeders and farmers, while if followed up and properly expanded, will achieve results commensurate with the opportunity in establishing a permanent and comprehensive meat trade with the United Kingdom, and as well, if the British embargo against live cattle is removed, a profitable trade in cattle on foot, providing an outlet for stock which, through crop and pasture conditions, might not possibly be fed to a better finish in the Dominion.

Sheep Washing in the Cotswolds.

EDITOR "THE FARMER'S ADVOCATE":

We Canadians are often too prone to think that there are no methods as efficient as our own. I am no exception to the rule.

Many a time my memory wanders back to the old Credit river bridge in Peel County. How I delighted to watch the various flocks of the country side being given their annual dip. The sheep were herded into a pen, and one by one were dragged into the rushing torrent and soused up and down by the various washers. It never entered my young head that there might be a better and easier way of doing the job. Nor was I ever disillusioned until yesterday. The other day, I enquired of the old shepherd when he intended washing the sheep. The reply came terse and to the point "tomorrow afternoon."

Mildly interested I made it a point to be present. Lunching early I wended my way down the valley, by footpath and meadow to the little village of Upper Swell. Arriving on the little bridge by the inevitable old mill, I found the flock huddled together on one side of the road panting with the heat. "When do we begin Shepherd?" I asked.

"Uh," he replied, nodding his head towards another flock in the pen "they be here since marnin, and they be still at it, with only a flock of one hundred and thirty. I see it be late afore we be done with ours."

He was quite disgusted. We were obliged to rest on our oars until four o'clock. While lounging there on the bridge with the old shepherd, I was favored by a full account of the latter's life. He has lived with sheep all his life. His father was a shepherd. The first job he did in his life was to help his father herd the flock when he was but seven years old. His term of employment, some forty-seven years, was spent with six masters, one of whom he was with for twenty years.

After this information I was wont to treat the old gentleman with increasing respect. There he stood a picture in himself, garbed in a pair of the ever-present laborman's corduroy trousers, a little sweater coat, neck scarf and slouch hat of great age, silently pulling at an old pipe, which he held far down his throat. Behind him lay his sheep dog, whining, and emitting little restless howls to give expression to the absolute need of spending some of his pent up energy.

About four o'clock the gates were flung open and the flock pushed, pulled and shud' into the stone walled pen of doom. The sheep dog did his duty well, running back and forth at the rear of the flock, nipping here and biting there at the various lingering sheep. Forty-five were driven straight through the first pen and into the enclosure. The only exit to this place was via way of the water depths. The four of us down'd coats, rolled sleeves and took our places. Little Charlie, a one-



Sheep passing through the Washing Tank.



Sheep Washing in the Cotswolds.

time baker, took up his position in the enclosure ready to battle with the woolly ones. The old shepherd, an assistant and myself each armed ourselves with a pole, which had attached to its end a wooden hook two feet in length and not unlike a scythe blade in shape. The shepherd and his assistant took a position directly over a little six-inch water fall which ran into the ten-by-ten-foot tank.

After a heated, but brief struggle with a ewe, Charlie flung it into the water with a splash. I immediately collared it with my pole and led it over to the reach of the shepherd and Bill, who in turn grappled the plunging beast with their hooks and raked her under the falling water. After a minute of this the sheep was released and passed out the little exit and was soon standing on the rocks, letting the water drain from the fleece, while I was leading the next one over to the shepherd. It was my particular business to have one on my hook in readiness to pass across to the shepherd when he was ready. The excitement prevailed when Charlie had particularly good luck and four or five sheep were swimming about the pool at one time. While I was engaged in holding a particularly keen nanny, an over zealous sister or two or three of them often made a bee-line for the exit. Such incidents were not without their compensations. Charlie provided no end of mirth for us all during his frantic struggles with the high spirited "sheep." He in turn did not forget to laugh heartily when he took a few sheep by surprise and shoved them all in together. After putting the whole flock through in this manner, they were left to dry at the other side of the stream for a quarter of an hour, and then the poor water-soaked creatures were herded into the enclosure a second time. Again they were put through the "wet" process. This was the real washing, the dirt coming out in such quantities after the soaking that the tank was often like a mud puddle in spite of the hurried exit of the water.

We finished in good time to everybody's satisfaction. As I wended my way across the meadow I came to the conclusion that the English method of sheep washing is much in advance of our methods in Ontario.

N. J. LAUGHLIN.

Nether Swell Manor, Stow-on-the-Wold.

THE FARM.

Settler's Views on Fire Protection.

EDITOR "THE FARMER'S ADVOCATE":

I have noticed that the Government have patted themselves on the back at the end of every year over the success of their fire-rangin' plans; but to tell the truth, around here the seasons have been too wet to make any serious fire possible. The question is, are they doing good or not? one thing I do know there is not the same amount of land cleaned up as there would be if we could burn when dry enough. It is not a bit of use trying to burn brush and logs unless dry and then you cannot get a permit when you want it, or by the time you do get it it starts to rain and is too late. It is not easy to get in touch with your fire ranger, especially when it is dry, but after a rain he is usually around. What does this mean? Around here there are thousands of acres of land that have been timbered or partly timbered leaving the ground covered with logs, brush, stumps, etc. Each year they are getting dryer, but one is not allowed to burn it as we used to at a dry time. It amounts to this, we will get another dry season and another fire and when it does come you might as well

try to stop a tempest. I think it would be better to burn some every year as we used to for it has got to burn and burn it will.

Timiskaming, Ont.

A PIONEER.

The British Minister of Agriculture Resigns.

EDITOR "THE FARMER'S ADVOCATE":

Lord Ernle has resigned his post as British Minister of Agriculture. There is not a farmer in Britain but will agree that his Lordship has had one of the most difficult tasks ever set a Minister of the Crown. During

created under the Act, threw the balance of the scale dead against the cereal producing farmer. To this moment Lord Ernle has his own opinions as to the future of British agriculture. He took office with these ideals: To see the land cultivated to its utmost capacity; to see more live stock maintained; more produce raised; and more laborers employed at higher wages. He essayed to attain those results by increasing arable cultivation. He wished to make wheat the pivotal and most profitable crop of English farming, but behind it all there stood the fear that such a very necessary wartime remedy would not or could not, be expected to be effective for long after the war. During the war he combated the argument that the sacrifice of pasture would reduce the number of live stock in the country. He argued that, besides producing an additional quantity of human food, a larger head of cattle could be carried on arable land than on grass. But therein he failed to convince the farmer.

ALBION.

Real Prosperity.

EDITOR "THE FARMER'S ADVOCATE":

The true prosperity of any country cannot be measured in dollars and cents; and all attempts to judge our well-being by the trade and commerce statistics are utterly foolish.

So far as material things are concerned true prosperity depends first, on the abundance, or quantity of those things; secondly on the kind, or quality of those things; and thirdly on the character of the people who use the things.

1. If the supply of commodities is short we cannot be said to be a prosperous people. Starvation will follow if we do not have sufficient food. Inadequate housing and clothing will produce bad results from various standpoints. If school buildings are lacking, the education of our children will be defective. And so one might go on to enumerate many examples where the lack of quantity unquestionably works to our disadvantage. Abundance, therefore, is one factor in making for prosperity.

2. But it is not enough to have plenty of material good things; we must have abundance of the right kind. A people whose material wealth consisted of alcohol, gunpowder, precious stones and fine public buildings, would be in a most precarious condition, even though the quantity of these commodities was tremendous. We must have those things which are necessary to sustain and produce life. Good food is necessary, light is necessary, fresh air and exercise are necessary. Education, recreation, inspiration are necessary. Music and painting, literature and the like may be of great value. Therefore, even from the standpoint of abundance, we must never forget that quality is just as important as quantity.

3. But neither quantity nor quality will suffice without character. Dynamite may be used to clear land of stumps and stoves, to tunnel through mountains, or to help us dig precious minerals from the earth. But it may also be used to destroy life and lay waste the countryside. Even good food may be a curse to the glutton; and clothing or houses may be used for ostentation instead of for protection. A horse may throw an unskilled rider with fatal results, while to put microscope or telescope into the hands of the typical navy would be pure waste. People must have that within them which responds to good music, painting or literature else they are not profited. Everything, in fact, may be used or abused. The great war, just over, exemplifies this on a huge scale. When was the ingenuity of mankind, or the vast material wealth of the modern world ever put to more life-destroying purposes?

Everyone should keep in mind, then, when our sleek politicians are talking about our marvellous prosperity and our great wealth, that it is not enough to have a big production or trade in things which have a money value in the market. It matters a great deal what kind of things are produced or traded; and it matters still more what the character is of him who uses these things. "Man's life consisteth not in the abundance of the things which he possesseth."

Brant Co.,

W. C. GOOD.

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Installing the Spark Plug.

The porcelains of spark plugs are often broken by screwing the plug too tightly into a cold cylinder. When the cylinder becomes heated, it expands, and exerts a crushing force on the frail spark plug which finally results in a fractured porcelain. Screwing a plug too tightly into a cold cylinder makes its removal difficult when the cylinder is hot, as the expanded cylinder walls bind on the threads and grip the plug. The plug should be screwed into the cylinder just tight enough to prevent the leakage of the gas.

A short, thin wrench (bicycle wrench) should be used on spark plugs, as it will be difficult to exert excessive force on the plug with the short leverage.

Wide-faced wrenches often cause damage by gripping the bushing or packing nut. Packing leaks are often occasioned by the wrench loosening the bushing when the plug is being screwed home.

Avoid any gas leaks around the plug, as they reduce the compression and cause a loss of power.

Bad leaks may be located by a hissing or popping noise that is in step with the speed of the engine. Small



It is only Oat meal and Water.

his tenure of office he accomplished much well meaning and effective work, but the conditions created by the war, in the way of control and the restrictions imposed upon agriculture by two other new departments, those of Food Production and Food Control, have, with the difficult position in which the industry stands at the moment in regard to wages and the fixed prices paid for cereals raised under the Corn Production Act, brought about Lord Ernle's head much hostile criticism.

Perhaps Lord Ernle's greatest accomplishment was the evolution of the Corn Production Act, a perfectly good measure, as far as it went, until the Wages Board,



Good Scenery and Good Fishing Combined.

gas leaks may occur around the three will pass up the

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balance of the scale farmer. To this opinion as to the book office with these its utmost capacity; and; more produce at higher wages. increasing arable wheat the pivotal farming, but behind a very necessary not, be expected. During the war sacrifice of pasture back in the country. additional quantity could be carried herein he failed to

ALBION.

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W. C. Good.

MACHINERY
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Plug.

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gas leaks may be found by pouring a few drops of water around the threads of the plug. If a leak exists, bubbles will pass up through the water showing its location.

The threads of old spark plugs become worn and sometimes cause leakage. The remedy is to install a new plug, or to run a new sharp tap into the spark plug hole and re-form the thread.

Temporary relief against leakage may sometimes be had by covering the threads with a thin coat of soap, care being taken that no soap gets on the insulation, as it will cause a short circuit.

Plugs are more easily removed from a cold cylinder than a hot. If the plug sticks firmly when engine is cold squirt kerosene around the threads. This will generally allow the plug to be removed.

Never exert any force on the porcelain or insulation. The high tension cables should be connected to the plugs by means of some type of "Snap Terminal," such terminals may be had from automobile dealers.

These terminals make a firm contact with the plug, and do not jar loose from the plug by the vibration of the engine. They are easily disconnected when the inspection of the plug becomes necessary, and are generally a most desirable attachment.

The high tension cable should be firmly connected to the plug terminal under all circumstances. A loose connection will cause misfiring or will bring the engine to an abrupt halt. If snap terminals are not used the plug binding screw should be screwed down tightly on the wire. When making connections see that the wire is bright and clean, and that frayed ends of the wire do not project beyond the plug and make contact with other parts of the engine.

Wires becoming disconnected from the plugs have caused broken down spark coils and magnetos, for the reason that the length of the gap was increased beyond the capacity of the insulation of the coil.

Make Needed Repairs on the Binder.

The season of the year has arrived when the mower and binder, two of the most complicated machines in use on the farm, must be brought into operation. In reality these machines are not altogether complicated, but they have a large number of working parts which must be kept properly adjusted and oiled. If the cutting bar of the mower is not in alignment, or if the plates in the guards are dull or chipped, the draft on the team is considerably increased and, at best, rather poor work is done. Many farmers take pride in keeping these machines in proper repair, but there are others who keep them going as long as they can, and, when they absolutely refuse to work, cast them aside. Unless the cutting bar runs straight, there is likely to be a side draft. Keep the knife sharp at all times. Put new plates in the guards if necessary. By making timely repairs, keeping the machine oiled, and seeing that bolts and nuts are tight, the life of the machine is greatly prolonged. There are some parts that are not subject to wear. Why discard the whole machine when new parts can be purchased for a small sum to replace the worn or broken ones? This is a time for economy, and no implements should be discarded if it can be put in repair.

There is a multiplicity of working parts to the binder, and yet when all are in order this great labor-saver runs very smoothly. Care must be taken of the canvasses. They are likely to give trouble before some of the other parts, unless they are properly looked after. When putting them in, see that they are straight. If by accident a slat or buckle is broken replace it without delay, and do not leave the canvass exposed to moisture. If the binder cannot be housed every night it is advisable to have a large waterproof cover for the machine. When the cutting season is over the canvass should be taken out of the binder and hung where there is no chance for dampness. Possibly the most delicate part of the binder is the mechanism which drives the knoter. We have seen binders discarded because a considerable percentage of the sheaves were being thrown out loose. Implement agents were possibly responsible for urging upon the purchaser a new machine. As a rule, all that was needed were two or three small parts to replace the worn ones which were causing the trouble. If the binder gave a little trouble last harvest, it is well to look it over before the grain is ripe and have the needed repairs made before the machine is really required for use. A day lost in harvest time waiting for parts means a good deal and should, if possible, be avoided. With both the mower and binder, have the knife sharp; good work cannot be done otherwise.

Both these implements are rather heavy on the horses. There is very often a good deal of weight thrown on the tongue. Trucks have been designed and are in use for taking the weight off the binder tongue. They may also be used on the mower. Anything that can be done to ease the horses is an advantage. Where tractors are owned, it is customary to attach this mechanical horse to such machines, and, barring accidents, they continue to work all day regardless of the heat. The draft of the binder may be lightened by attaching a small gasoline engine to run the moving parts, so that the horses will only have the machine itself to draw. This is a particular advantage when the ground is soft and the grain lodged.

An expert plowman will look carefully to the adjustment of his plow, but a novice, or careless plowman, will often wrestle all day with a poorly-adjusted implement, and then blame the tool for the bad work done. Adjust the cutting parts and the draft properly, and better work will be done, with less exertion, on the part of the man and team.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

Getting the Farm Boy Interested.

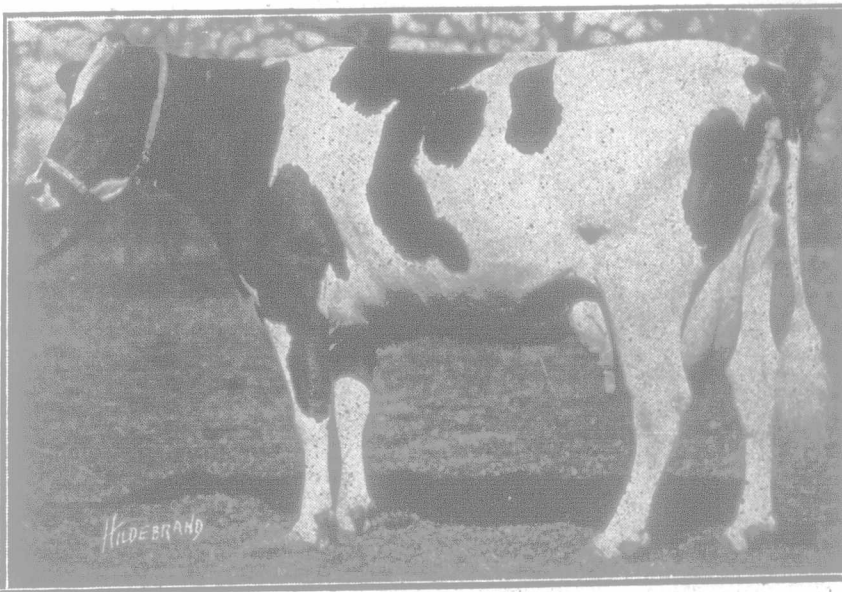
All boys are not intended by nature to be farmers, but there are many of them who would remain and develop the old homestead to the credit of the family name rather than seek employment in some line for which they are unsuited, if they had the proper education and encouragement. We recently read a book entitled "Farm Boys and Girls," written by Wm. A. McKeever, and published by the MacMillan Company, in which a chapter is devoted to this very subject. Boys as well as parents can find many useful suggestions in the following paragraphs, which we are reproducing.

The one who undertakes to develop a boy's interest in business affairs has really before him a problem in experimental psychology. Many of the youth's best aptitudes are necessarily still slumbering and unknown to either himself or others. The fundamental steps preparatory for a successful commercial venture on the part of a young man are comparatively few, but none of them can safely be omitted. They are as follows:—

WILLINGNESS TO WORK.—In this connection, perhaps something will be recalled from Chapter IX. We may at least be reminded of the difference in the attitude of mind of the boy who regards labor as a painful necessity, and the one who enjoys a willingness to work. So long as the youth feels as if he were driven to his tasks there is little hope of arousing his interest in the business side of it. His mind will continue too much on the problem of avoiding work, and on ways and means by which to get something for nothing.

There is probably a period of dishonesty in the life of every normal youth. Following the dawn of adolescence there is a great wave of new interest and new meaning coming to him out of the business and social world. The world is so full of interesting enticements. Everything looks to be good and within easy reach. He is especially prone to accept material things at their advertised value. He spends his dimes for prize boxes thought to contain gold rings and other such finery. His quarters and half dollars frequently go in payment for the "valuable" things offered "free for the price of the transportation," the purpose of this tempting gift being "simply for the sake of introducing the goods."

But it is well to see the boy safe through this period of allurements. So long as the world seems to hold out so many highly valued things which may be had for a trifle the youth will see little need of his working to obtain them. So, attend him in his efforts to get something for nothing. Permit him to be stung a few times, and thus teach him how and where to look for the sting. Finally, impress him with the thought that every material thing worth while represents the price of somebody's honest labor. At length he will see the reasonableness of industry, and settle down with a purpose of making his way through life by means of



"Fairview Korndyke Mata" Sold for \$35,000 at Pine Grove Farm Sale.

honest endeavor. You now have the youth so far on his way to successful business undertaking.

ABILITY TO SAVE.—All healthy boys are naturally inclined to spendthrifts. Saving a part of one's means is a fine art acquired only through judicious practice. It is assumed that the young son is being reasonably paid for certain required tasks. So the next duty is to see that he saves a part of his earnings. For the purpose of this training in saving, a toy bank may be produced; or he may be directed in depositing a small weekly sum in a penny savings bank. Still another way is to teach him to keep a book account of his earnings, giving him due-bills for the amounts withheld from his wages.

There is one small business practice, the importance of which for the boy is too frequently overlooked; that is, the practice of carrying a small amount of change in his pocket. He must learn to use his money thoughtfully and not merely on every occasion of his

being allowed to have it. He must acquire the habit of self-restraint in the use of money. To do this is to learn to spend judiciously. To have reached this stage of financial training is a sufficient guarantee that the youth is proceeding well on his way toward success in business enterprise.

Then, give your growing son as wide a variety of experience in work and in watching business affairs as the situation will permit of. During the process of this mental growth help him to make a small investment in something that will grow and increase under his intelligent care. Let us assume that your specialty is a certain strain of corn or a certain breed of cattle. If the boy shows an interest in this matter, start him at an early age, say ten to fourteen, on his own account. Give him in exchange for his work a small plot of ground on which to grow corn, perhaps with a view to his later entering the boys' contest for a prize. Or, help him to get a small beginning in the cattle business.

But in case the lad shows no interest in your business, do not let the matter seriously trouble you for a moment. Simply continue to give him his general education, including the best school course available and a training in the performance of work as well as the judicious use of the spending money that may come into his hands. Careful study of the boy may indicate to you that his aptitude for business runs in the direction of something to which you are giving little or no attention, but to which you may in time bring him.

There is the case of a successful wheat raiser who discovered his son's fondness for pure-bred cattle. So the boy was carefully started on a small scale in the business of raising Shorthorns. To-day that son is known far and wide as an able specialist in this line of stock breeding. Now, if the father in this case had done as thousands of other farmers are still doing; namely, if he had attempted to force the boy, against the latter's natural inclination, to take up wheat raising or any other undesirable business, then, the son would have most probably skipped off for the city and secured a fourth-rate place for the mere wages it would bring. Some day this tragic, oft-repeated story of mismanagement and misdirection of the growing boy will come out in all its distressing details.

Deal with your young son on business principles from the beginning. Do not hastily and unwisely give him a piece of property that will have to be taken from him in the future because of its having grown into a disproportionate value. This old form of mistreatment of the country boy has been the means of thwarting the business integrity of many a promising youth.

THE DAIRY.

No animal responds to comfort, good care and feed like the dairy cow. It pays to be kind to her.

Some dairymen find that it is profitable to keep the cows stabled during the day, and use silage or hay to supplement the grass.

It pays to milk regularly, even during the rush of haying and harvest. It takes no longer to do the milking one time than another.

Keep the milk flow up to normal, if possible, even if extra feed must be used. Once the flow drops in mid-summer it is difficult to bring it back.

Using fly repellent on the cows gives them a certain amount of relief. Cows kept busy fighting flies all day cannot do their duty at milk production.

Driving cows long distances to pasture during hot weather materially reduces the milk flow. Plan on having one pasture field near the buildings.

Cows should have access to water at all times. If it could be arranged to have water in every pasture field, we believe that it would pay well in the increased milk flow.

Pails, cans and other dairy utensils should be thoroughly scalded and then left in position for the sun's rays to do their disinfecting and sweetening work.

At the National Holstein-Friesian sale, held in Philadelphia, 37 bulls averaged \$2,335, and 157 females \$1,545. J. B. Hamners 6 head made an average of \$6,267.

Milking the hind-quarters first has a tendency to stimulate milk production in the back-quarters to the detriment of the front-quarters. To keep a well-balanced udder milk the fore-quarters first.

Parturient Troubles in Cow.

Retention of the After-birth or Foetal Membranes.

Retention of the after-birth or foetal membranes (frequently called the placenta or the cleanings) is not uncommon in cows. It is met with in cows in all conditions and at all seasons. While probably it is more frequently noticed in cows in low condition and unsanitary surroundings, no care, food, surroundings or drugs act, with any degree of certainty, as a preventive. We cannot understand why it occurs or why it cannot be prevented, but experience teaches us that such are the facts. In ordinary cases the membranes are expelled shortly, or at most in a few hours after parturition, while in others they are retained for 24 hours or even longer, and then spontaneously expelled. In other cases spontaneous expulsion will not take place until decomposition is well established, when they escape in pus and small pieces.

The symptoms of retention are generally evident by the protrusion through the vulva of a portion of it, but in some cases this symptom is not present, the after-birth being wholly retained within the uterus. In such cases, provided the cow has been untied it is hard to decide whether the membranes are retained

or have been expelled and eaten by the cow. Cattle-men all know that cows have the objectionable habit of eating the after-birth. We cannot account for the taste. When possible it should be prevented. In some cases its consumption does not appear to affect the animal in any way, in others it causes more or less derangement of digestion and consequent illness, while in others it causes death. The placenta contains a large number of arteries of different sizes, the coats of which are largely composed of yellow elastic tissue

which is practically indigestible. When the mass is taken into the stomach the soft tissues appear to digest readily, but the arteries (at least in some cases) remain practically intact, reach the fourth compartment of the stomach, form into a ball (resembling a bunch of twine) and remain there. This interferes with digestion, and if this ball reaches the pylorus (the exit from the stomach to the small intestine) it will occlude it and death will soon follow. Hence its consumption should be prevented.

Some claim that it is wise to allow nature to take her course when the after-birth is retained, that manual removal is not advisable, but this has not been our experience. When not expelled or removed it decomposes, and, in most cases, interferes materially with the health and thriftiness of the cow, and there is danger of absorption into the circulation of some of the decomposed matter, which may cause blood-poisoning.

While comfortable quarters, sanitary surroundings, exclusion from drafts and cold water, and allowing warm drinks and mashes for a day or two after parturition in cold weather, tends to favor spontaneous expulsion, it does not always act, and we find that when nature fails to act medicines are useless, and the only means of removal is by hand. Just what length of time should be allowed to elapse after parturition before it is wise to interfere, depends, to some extent, upon the weather. In warm weather decomposition commences quickly, hence it is not wise to delay interference longer than 24 hours, while in cold weather it is safe to allow 48 hours or even longer.

Having decided to operate, the owner or cattleman must decide whether his knowledge and skill in the matter are sufficient to warrant his interference, or whether it would be wise to employ a veterinarian. If the cattleman has a knowledge of the anatomy of the parts, has patience, and is not afraid to tackle a tedious and disagreeable job, he can operate himself,

otherwise it will be profitable to employ an expert. A pail of antiseptic solution should be made, as a warm, 1-per-cent. solution of one of the coal-tar antiseptics or carbolic acid. A couple of gallons of this should be introduced into the womb by the use of an injection pump, a syringe with a long nozzle or a rubber tube with a funnel at the exposed end, the end of the tube to be introduced into the womb, the funnel held high, and the fluid poured into it. The hands and arms of the operator should be washed with the solution and then well oiled. Before commencing the operation the finger nails should be trimmed, to prevent scarification of the tissues. The hand is then introduced into the womb, an attendant holding the cows tail to one side and—keeping her steady. The operator will discover (if he does not already know) that there are many (50 to 60) lumps (called cotyledons) varying in size from that of the end of a man's thumb to 2 to 3 inches in diameter attached to the womb by constricted necks. He must be careful not to tear these off. If a few be removed the consequences are not liable to be serious, but it is better to not remove any. The after-birth is attached to the womb by these cotyledons. When separation has taken place the surface of a cotyledon has a rough surface, while it is smooth on those to which the mem-



Part of J. A. Morrison's Ayrshire herd at Mt. Elgin, Ont.

branes are still adherent. In rare cases a little gentle traction is sufficient to cause separation, but in most cases they must be carefully detached by manipulation with thumb and finger of each cotyledon. As a portion of the membranes is detached it should be drawn out and held by the other hand. The operator should be careful to keep hands and arms well oiled and disinfected in order to prevent danger of infection, as he may have abrasions or sores on them, and there would be danger of infectious matter entering. Care should be taken to remove all the membranes, after which some more of the warm solution should be injected into the womb. In mostly all cases the removal of the after-birth is followed by a discharge, and in some cases it is not possible to reach all parts of the womb, hence small portions of the membranes may remain, which will be discharged in pieces or corruption, hence it is wise to administer antiseptics to prevent danger of blood-poisoning. For this purpose probably nothing gives as good results as carbolic acid given in 40 to 50 drop doses diluted in a pint of water, and given as a drench or sprinkled on the food three times daily until the discharge ceases.

WHIP.

Dairymen at Mount Elgin Own Their Cheese Factory.

The Dairymen in the vicinity of Mt. Elgin own one of the best appearing and most fully equipped cheese factories in the Province. It is built of cement blocks, and has a capacity for handling a large quantity of milk, and for churning and manufacturing whey butter. This factory is another instance which proves that agriculturists will pull together for mutual benefit. Prior to 1917 the majority of the farmers in the vicinity of Mt. Elgin patronized the local cheese factory which was under private ownership. Early in 1917, however,

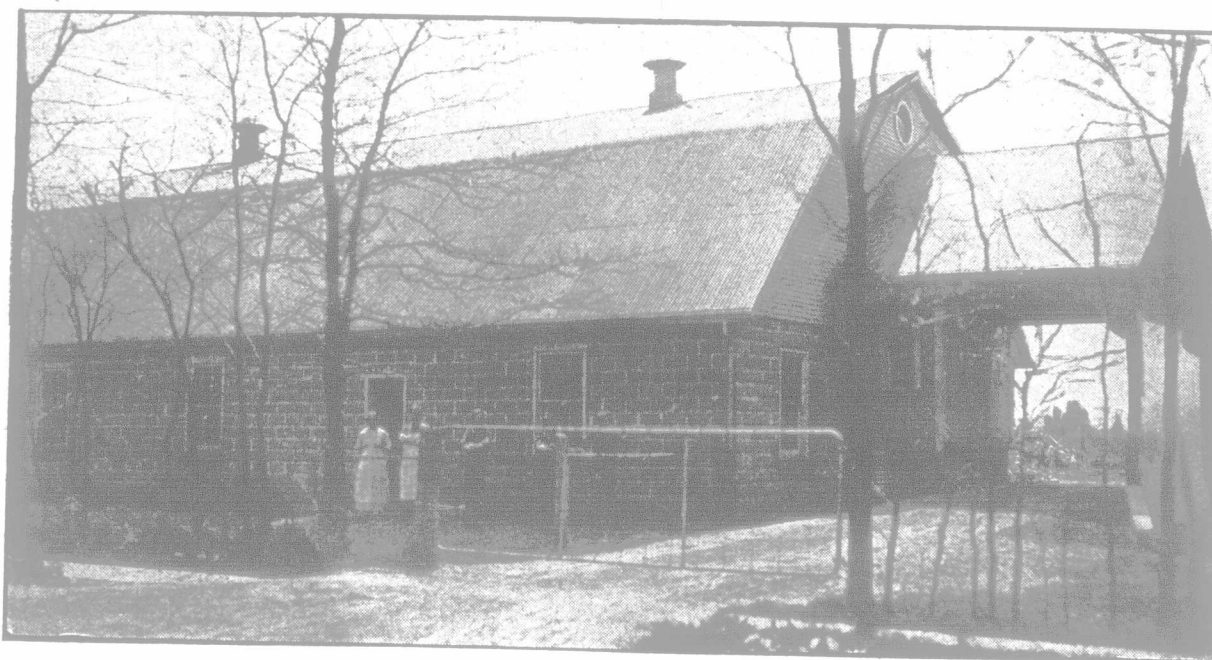
the owner of the factory sold out to a large milk condensary company without even hinting the fact to the patrons. Word soon got around that on a certain morning the company would take possession, stop cheese-making and haul the milk to the condensary. Immediately a meeting of the dairymen was called and arrangements were made for organizing a company to build a factory. A provincial charter was obtained and the company was named the Mt. Elgin Milk Products, with a capital stock of \$10,000, divided into 400 shares of \$25 each. The condensary company were very fair and allowed the patrons the use of the factory for a time, and even offered to make the milk into cheese during the summer at a very cheap rate. This may have been to prevent a new factory being built in competition to them. However, the required amount of stock was subscribed and the shareholders worked harmoniously together in the building of their own cheese factory. The teaming and much of the work was done by bees, with the result that operation was started in the new factory on May 1. During 1918, a butter-room and the necessary equipment for manufacturing whey butter was added. A large separator was used together with a power churn. From two to two and three-quarter pounds of butter is obtained from the whey per one thousand pounds of milk used, which adds considerably to the returns. This also gives the patrons the privilege of obtaining good, fresh butter for home use. A representative of The Farmer's Advocate sampled some of this whey butter and found that it compared favorably with butter manufactured from cream. J. Basket, the manager of the factory, informed us that there was a ready demand for all the whey butter that could be made. Besides separating the whey from the Mt. Elgin factory, the whey from a couple of other factories in the vicinity is also separated and churned. J. A. Morrison, the secretary-treasurer of this Company, to whom we are indebted for the information regarding the commencement and working of the factory, informed us that some were prejudiced against the use of whey butter at first, but now nearly every patron uses it and prefers it to the creamery butter which they are able to obtain.

After May 1, 1917, the factory made 165 tons of cheese and shipped 150 tons of milk, which gives some idea of the extent of the dairy industry in the vicinity of Mt. Elgin. It must be remembered that there are factories in close proximity to the place, and the condensary has a receiving station within a stone's throw of the factory. During 1918, 2,204 tons of milk were received at the factory; 355 tons were shipped and the balance made into cheese. On all milk shipped, the factory retain a commission of thirteen cents per hundred, ten cents of which goes to the maker for weighing in and teaming it to the station. The three cents is retained by the company. By this means the cheesemaker is retained the year around, so that at any time, when whole milk is being shipped, which is generally during the winter months, the company can switch to cheesemaking, if it is deemed advisable, on short notice, to stop shipping the milk. The price paid the patrons for milk during 1918 ranged from \$1.70, in April, to \$2.80, in December. Then they had the whey as a by-product during the cheese-making season. While the high price of whole milk has been tempting during the past two winters, many of the patrons of the Mt. Elgin Milk Products Company believe that, if they had hogs to take the whey, they would have obtained as much money had the milk shipped been made into cheese.

The aim is to make the factory pay interest on stock and be self-sustaining. During the past two years the patrons were charged 30 cents per cwt. for cheese above the price paid the maker, or the same margin as the private owner received for many years. The stockholders have received five per cent. per annum on their stock, and, in addition, the profits have paid for part of the equipment. This year the Company are only retaining 25 cents per cwt. for cheese. The maker gets \$1.35 per cwt., thus making the cost to the patron for the handling of the milk equal \$1.60 per cwt. of cheese made. In May, the patrons received \$2.44 per cwt. for their milk, and the cheques issued to them amounted to \$15,274. The cost of the factory and equipment was \$7,000.

There are usually from fifty to sixty patrons, including a number of village patrons with one or two cows. Occasionally a patron on the outskirts of the territory deserts the factory, but new ones come in from other points. Apparently the patrons are satisfied with factory returns, and the majority of them remain loyal to the farmers' company.

In a number of sections cheese factories have been bought out by condensary or milk-powder companies when there was a heavy demand, with the resulting high prices, for condensed products. Now, when the demand is lessening and the price of cheese has advanced, the local factory is closed and the condensary affords the only market available. Taking it one year with another, and considering the value of whey as a hog feed, the cheese-factory patrons are about as well off as the patrons of creameries or condensaries. In the early days the cheese factory was a boon to many farmers, even though the price of milk was from 80 cents to \$1 per cwt. The cheques from the cheese factory coming in monthly have met current expenses, helped to keep up improvements, and have been no small factor in lifting the mortgages off the land. It is an advantage to have a factory so equipped that the milk can be turned into the avenues which will bring the largest returns. If the price for whole milk is more remunerative than for cheese-making, it may be shipped, but when the supply exceeds the demand, as it always does during the



Cheese Factory at Mt. Elgin Owned by Farmers.

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summer months, the milk may be turned into the vat and manufactured into cheese, a nutritious food product which does not deteriorate rapidly. Some cheese factories are equipped for making butter during the months when it is most profitable to do so. It is readily seen that patrons of such a factory have an advantage over patrons of a factory where the milk can be used one way only. The dairy industry of Canada is growing by leaps and bounds. For several months of the year the supply of whole milk for city and town trade is inadequate, unless drawn long distances by rail or truck. The amount of milk used for ice-cream and other delicacies is increasing every year. In order to keep pace with the demand, dairymen will of necessity either have to enlarge their herds or improve the quality of the individuals in the herds. Present indications are that the market for dairy products will remain good for some time.

HORTICULTURE.

Don't Throw Old Vegetable Seed Away.

After the garden is planted each spring, there are usually broken packages of seed remaining unused, and frequently these disappear before the next season comes around. One can effect a small saving by preserving these seeds. Prices are higher than formerly, seed is scarcer, and when it will germinate with good vitality there is no reason for not saving the seed from year to year. Unused packages of seeds should be kept in a cool, dry place, free from attacks by rats and mice. A Purdue University bulletin gives the life of vegetable seeds as follows: Asparagus, 2 years; bush beans, 3 years; pole beans, 3; beets, 6; Brussels sprouts, 5; cabbage, 5; carrots, 4 or 5; cauliflower, 5; celery, 8; celeriac, 8; Swiss chard, 6; citron, 6; sweet corn, 2; upland cress, 5; cucumber, 10; egg plant, 6; endive, 10; kale, 5; kohlrabi, 5; leek, 3; lettuce, 5; musk melons, 5; watermelons, 6; onions, 2; parsley, 3; parsnip, 2; peas, 3; peppers, 4; pumpkins, 5; radishes, 5; spinach, 5; winter squashes, 6; tomatoes, 4; turnips 5.

When garden seeds of any kind are kept over from year to year they should be tested for germination, and if there is any diminution in vitality, or particularly in germinating ability, more seed can be sown. However, old seed has a value and should not be wasted.

The Weak Spot in Farmers' Gardening Methods.

When asked recently regarding what he considered to be the weak spots in farm methods in so far as they apply to the garden, A. H. MacLennan, the Ontario Vegetable Specialist, said: "Farmers generally would have far better gardens if they would use from two to four times as much manure as they commonly do. Vegetable gardeners apply as much as 100 tons of manure per acre, but the general practice in the country is to give a scanty dressing amounting to very little more than is used for ordinary farm crops."

Those who plan and, to some extent, work ahead of the season are usually most successful, and in no connection is this more universally true than in gardening. Manure for the garden should be composted the summer previous so as to rid it of weeds and have it well rotted to permit of heavy applications in the spring. Humus is essential in garden soils, and it is this necessity for humus that causes vegetable gardeners to apply such large quantities of stable manure. Sometimes this is only secured at great expense, and usually it costs much more to haul it than the manure itself is worth. Stable manures are everywhere regarded as fertilizing materials of the greatest general value, but nowhere are they so prized as in a vegetable growing area. For the successful production of vegetables of all kinds they are always relied upon, and although they may be, and frequently are, supplemented by quite heavy applications of artificial fertilizers, they still remain the basis of all methods of maintaining fertility in vegetable soils.

If it were not for their great value in adding humus to soils barnyard manures would often be too dear to apply in such large quantities, but in market gardening, for instance, the ground is so fully utilized for the growing of cash crops to be distributed fresh to the consumer that there is no opportunity to grow green manures, and consequently stable manures are the main dependency for maintaining the supply of vegetable matter in the soil. Stable manures are valuable even for muck soils, although these contain large percentages of vegetable matter at first, which must be replaced. Humus increases the capacity of soils to hold water, and water is a prime requisite in growing vegetables of high quality at a profit. Humus also acts as an aid to soil aeration, assists in bringing about necessary chemical changes in the soil, increases the soil temperature early in the spring, assists friendly bacteria to work, improves the texture of soils so that they are easier to work, and thus acts as an aid in reducing the labor of tillage. Stable manures decompose more rapidly than green manures and, therefore, come into action more quickly. For the same reason they can be turned under fairly close to planting time for some crops and still benefit them in time.

Most gardeners find that they can get manure for very little initial cost from livery stables or stock yards in large cities, and if it does not need to be hauled too far it can be put on the land very reasonably. The bulk of manures from cities is horse manure, which is practically the only kind of manure used in the making

of hot-beds. It is drier (containing only about 48 per cent. of water) than cow manure, which contains 75 per cent. of water and is looser in texture. Because of its rapid decomposition it must be very carefully handled to prevent the loss of ammonia. Cow manure is slow acting, and because of this may be more safely applied near the time of planting than horse manure, although the cash value of each is much the same when the amount of fertilizing constituents is taken into account. Hog manure is another slow-acting manure, and is in strong contrast to sheep manure, in that it generates very little heat in decomposing. Sheep manure, if fairly moist, decomposes rapidly and contains a large amount of nitrogen for which it is highly valued. Hen manure is a splendid manure for intensive cropping, and while rich in potash and phosphoric acid, is, like sheep manure, especially rich in nitrogen. Both hen and sheep manure are especially good for onions and other succulent vegetable crops requiring much nitrogen.

Fresh stable manures are not suited to intensive forms of gardening, nor to a great many crops, because they are too slow to act and too coarse to become properly incorporated with finely-cultivated soil. Moreover, fresh manures cause too rank a growth of such crops as tomato, egg-plant, melon, cucumber and other fruit-bearing plants, which result in large plants bearing relatively small quantities of fruit. The same holds true with root crops like radish, turnip, beet, carrot and parsnips, since poor root development follows excessive top growth. Therefore, it is that gardeners maintain a compost pile to provide for a continuous supply of well-rotted manure. Besides, when manure is allowed to ferment in piles a very great many weed seeds are killed. Generally speaking, coarse manures should be plowed under, while fine manures like hen, hog and sheep manures should be applied as top-dressings and harrowed in.

Intensive gardeners sometimes spread manure 3 inches thick or more over the entire surface and apply as much as 100 tons per acre. Twenty-five tons is a moderate application for small crops such as are grown in market gardening. For truck gardening the amounts used are not nearly so heavy.

POULTRY.

Commercialize the Farm Flock.

Under no circumstances should a flock of hens be able to show better returns than on the farm. With the abundance of green feed available, or easily produced, with skim-milk or butter-milk on hand at all times, and with plenty of grain in the bins, suitable for poultry, the flock numbering up to 100 ought to pay a good dividend amounting to at least \$1 per bird. One hundred hens to each farm, and 100 eggs per hen annually, is a fair standard to set up. The average hen comes considerably short of this production, and it is doubtful if the ordinary bird will produce much more than fifty eggs per year. With proper selection and breeding methods, it is easily within the range of possibility to reach 100 eggs per hen. This means winter production, and here is where the majority of farm flocks fall down. In too many cases, the flock spends the winter in idleness and only begin to lay in the spring when the natural laying season arrives. Almost any kind of a hen will lay from March to September and for that reason prices are the lowest. The profit on the year's work is most easily made in the winter when a little extra feed and a little extra attention will produce eggs and thus show a balance on the profit side of the ledger.

Just to show what can be done in the way of winter production, we wish to draw attention to the results of an egg-laying contest held in the City of Ottawa, under the auspices of the local poultry association. The results were analyzed by F. C. Elford, Dominion Poultry Husbandman, as follows:

"There was an average of 299 laying hens in the contest, and for the fifteen weeks they produced a total of 20,050 eggs, or an average of 67 eggs each.

"The value of these eggs at an average of 60 cents per dozen would be \$1,002.50, a gross return for each hen of \$3.35.

"The cost of feeding would be about five or six cents per hen a week, but suppose that since the hens were fed a little extra and it amounted to seven cents a week, or a cent a day, then the cost of feeding each hen for the fifteen weeks would be \$1.05, which would leave \$2.30 clear over cost of feed for each hen, or for the 299 hens the margin over cost of feed for the time of the contest would be \$687.70.

"Look at it another way. Each egg is worth five cents and it cost seven cents a week to feed a hen, and 1.4 eggs each week would pay for the feed and whatever number of eggs a hen lays over 1.4 would be clear over cost of feed. Each hen, then, in fifteen weeks had to lay 21 eggs to pay for her feed, but she laid 67, so the 46 she produced after her board was paid were worth five times 46, which is the \$2.30 already figured out."

As another example of winter egg production, we might draw attention to results obtained at the Ontario Agricultural College, where early-hatched pullets were brought out and forced on for winter egg production. Five hundred and forty pullets were included in this trial and altogether they laid 8,441 eggs in November; 8,378 eggs in December; and 6,396 eggs in January, or a total of 23,216 eggs, which is nearly 43 eggs per bird during what is generally considered to be the worst producing months of the year. These eggs would represent at least, at cash value, over \$2 per hen. There are commercial poultry farms doing as well as this or

better, but under farm conditions not enough attention is paid to the early hatching of chickens and the culling out of poor layers so as to obtain eggs during the "off" months of the year.

Any amount of feed and attention will not guarantee production from birds of all types and descriptions. One must select the flock and here again it may be opportune to refer to work done along this line in Prince Edward Island. The Island is well organized into local poultry associations, which have a large central in Charlottetown. Inspectors go out each year culling farmers' flocks and designating the producers and non-producers so the latter can be disposed of before they molt. The average production of the approved pure-bred flock last year was 78 eggs per hen, giving to the owner a return of \$2.60 from eggs only. The production of the best flocks on the Island, whose owners were members of the Co-operative Association, was 150 eggs per hen, giving the owners a return of \$5 per hen. The average production per hen in the flocks of 3,500 members was 62 eggs per year, having a money value of \$2.06. An analysis of these figures will show what can be accomplished by proper selection and breeding.

In order to get winter eggs, one cannot make up his mind late in October or early November and whip the flock into shape for winter. The pullets must be hatched early; sexes must be segregated when the birds vary around eight to twelve weeks of age, and the pullets must have ample feed so they will make the proper development and be sufficiently mature to lay in the fall. All flocks do not consist of pullets only. Usually a number of yearling hens are kept over, and a very rigorous selection should thin out the slackers during this month and next. Poultry experts are now in a position to judge the laying ability of hens at the end of their first year's work, and several demonstrations are being staged in Ontario this summer to show poultrymen how to cull their flocks. Plan to attend one of these demonstrations, if such be held in your neighborhood and thus acquire the knowledge that will help you to build up a flock that will give returns for the feed and care expended on them.

FARM BULLETIN.

The Winnipeg Riot.

As Witnessed From the Confederation Life Building, 7th Floor.

BY ERNEST WELD.

At 2.30 p.m. Saturday the sidewalks were crowded with people who were moving slowly. A street car hove in sight going north on Main Street and a small body moved into the street. The motorman ran the car slowly through the crowd and someone jerked the trolley pole off the wire, the car, however, had sufficient momentum to carry it pretty clear of the denser part of the crowd, and the conductor quickly replaced the pole on the wire and the car moved off; in about five minutes a car southbound showed up, by this time the street in front of the City Hall was packed solid. The motorman stopped just at the edge of the crowd and let off the passengers, then moved forward into the centre of the crowd where he stopped, owing to the solid jam. He stayed at his post for a few minutes, and was then ordered by the crowd to get down, which he did. The crowd did not molest him in any way, and he was shortly lost in the mob. A young chap then poked a stick through one of the windows, and the very sound of breaking glass started a loud cheer. Immediately a tremendous shower of sticks and stones were hurled at the car, and very quickly every particle of glass was broken. A young man, who looked very similar to the one who broke the first pane of glass, started pounding the side of the car with a stick, and then began to wave his arms in the direction of the car; in about thirty seconds a crowd started to push the car over, but in this they failed, the car would swing over at an angle of 45° and here the outer base of the car would touch the pavement, but the trucks were still on the tracks, and immediately the pressure was released the car would right itself. The crowd then tried the other side with no better success. Someone then set fire to the cane seats in the car, and this burned away slowly.

A great rush now started for the sidewalks and sides of the street, as thirty-seven R. N. W. M. P. came slowly up the pavement in line from curb to curb. The crowd pressed in on both sides shouting, waving hats, arms and coats, trying to frighten the horses, and a few of them became very excited. After going a block past the crowd, the squadron wheeled and came slowly back again, the crowd pressed closer and much the same performance took place, and a few stones and sticks were thrown. After getting clear of the crowd the mounted police wheeled, lined up and waited for about five minutes, then drew their batons which up to this time had been fastened to the pommels of their saddles. At a word of command, they moved forward at the trot, and were immediately met with a fusillade of stones and sticks. The horses were pretty hard to manage by this time, owing to the roar of the mob and the shower of missiles which was like thistle-down blowing over a field. However, the company kept fairly good order and got through, but had to use their batons pretty freely on people who jumped at brides and men on the horses. After clearing the crowd they formed in line and started back again on the trot, and were greeted with much the same treatment only a little worse this time. When they got through there were two empty saddles. A great many people had

now been hurt by clubs and missiles, and as they dropped in the streets they were carried to the sidewalks.

The Mayor then read the Riot Act from a safe distance, and the first that was known of it by the crowd was a weak cheer by those standing near him.

The mounted police then drew their revolvers and in perfect line moved forward to the City Hall, and there fired a warning volley into the air. A couple of hundred people, at the first crack of a pistol, dropped flat in the roads, thinking they were being shot at, and then promptly got up and disappeared out of the crowd. After waiting a few minutes to allow the people to leave who wished to do so, and to give time for the Riot Act to be announced so that everyone might know about it, the mounted police moved forward to clear the streets of the crowd. They were again met by a shower of missiles and the command was given to charge, which they did on the dead gallop right through the crowd, the men with a revolver in one hand and baton in the other. In this charge they used only batons. After going a few blocks past the mob, they wheeled and waited to give them time to remove the hurt and give the rioters time to disperse. Back they came again, galloping, and this time there were more stones and sticks, and also cracked heads. The mob didn't run; right in the centre of the street they stood and put up a mighty good fight. This time a few more saddles were empty, and pistols began to crack. The mounted police, after going through, wheeled and while getting reorganized and tying up cuts, were reinforced by about the same number of Fort Garry Horse, who promptly charged at the gallop. These men

were not held in much awe, and received a frightfully hot reception. They cleared the mob, wheeled, and came back again, and then drew up behind the R. N. W. M. P. These mounted men used only clubs in their charge.

The volunteer police now showed up about two blocks from the disturbance. They came down the street in line from building to building, two deep in four cordons of them, all armed with revolvers and batons. They wore a large nickel shield and a band around the arm to distinguish them from the general mob. They moved in a very orderly line and looked pretty much like business. They were received by hoots and a few souvenirs, the givers of which were promptly grabbed by other members of the force which were now mingling with the crowd, and promptly marched out into the street under arrest. The firemen now arrived and put out the fire in the street car, which by this time had begun to get away to a merry blaze. Ambulances were not interfered with by any one, and were certainly doing a land-office business. Individual fights were going on in every direction between civil police and the mob, and a great many arrests were being made. The police now began to clear the streets, and after this was completed the side streets, which by this time had become filled. The volunteer militia, all in khaki uniform now, arrived in motors with carbines and bayonets fixed, followed by motor lorries with machine guns, and a number of ambulances in the rear.

Pickets were quickly placed, and the riot was over, but great crowds of people stood around still, more to

see what was going on than anything else, no fight whatever in any of them.

There are about 1,500 special police in the city, mostly returned men, and bad customers to deal with if you didn't move on when told, and there is a volunteer militia of 5,000 consisting of all classes from labor men to bank presidents.

The rioters were game fighters; there is no doubt about that when they would stand up to charging cavalry, not only once but every time they charged.

It is very hard to tell just what the casualty list will be, but the R. N. W. M. P. took a terrible beating before resorting to their guns, and used their clubs on every occasion where possible. We saw one mounted man shoot one of the rioters (who was trying to club another mounted man who had been knocked out and was leaning over the saddle) to death; this man got the bullet in the chest and was dead before he hit the pavement. We also saw another man shot that was just in the act of throwing a big stone at a mounted man whose back was turned; this man hit the pavement hard, and was probably done for.

The civil police are deserving of a great deal of praise, as they arrived in time to help disperse the crowd and save a great many people from getting killed. If the cavalry had charged again they would have been obliged to shoot their way through, or call on the machine gun company to do it for them. We can tell absolutely nothing about what the outcome will be; time alone can tell.

The riot, from start to quietness, took about two and a half hours.

Soldiers' Land Settlement Schemes Adopted with Amendments.

During the past week several interesting discussions have taken place, the most important being those centered about the soldiers' land settlement scheme. The bill embodying the principles of this scheme, which is unique among all of the Allied Nations, was passed with less opposition than was at one time anticipated. There were a few amendments brought forward by Hon. Arthur Meighen, Minister of the Interior, who had charge of the bill, but these were in no sense radical. In fact, the scheme seems to have been a great deal more of a success thus far than was anticipated even by the Government and the returned soldiers evidently approve very strongly of it. In speaking of the work done so far, the Minister spoke as follows in Committee: "The great primary object of this Bill is not to afford a gratuity or reward to the soldier. If that were its basic principle and its first purpose, it would inevitably follow that the same gratuity or reward, or one on equal scale, would have to be extended to all. The primary and great principle of this Bill is to secure settlers on the lands of this country—to secure settlement of our idle lands, and to make settlers of those who have proven themselves the backbone and stay of the nation in its trouble. We believe that we cannot better fortify this country against the waves of unrest and discontent that now assail us, as all the rest of the world, than by making the greatest possible proportion of the soldiers of our country settlers upon our land. Of course, every class of citizen is necessary to constitute the national life, but the class of citizen that counts the most in the determination of the stability of a country against such forces as I mentioned a moment ago is undoubtedly the basic class—the agricultural class. That class is the mainstay of the nation. So the purpose of this Bill is a national one primarily. Its purpose is to strengthen the fibre of this country by building into the basic industrial structure of the best blood and bones of our nation."

Up to June 14, a total of \$14,467,974 has been loaned to soldier settlers, of which \$8,710,128 was for land, \$4,848,491 was for purchase of stock and equipment and \$673,729 was for improvements. In all, 17,109 applications for qualification certificates had been received and 4,262 loans actually granted for sums averaging \$3,394. Many applications are not yet disposed of, but of 14,726 which were disposed of, only 2,132 were refused. Of the 12,594 whose applications for qualification certificates were approved, 6,176 were in Class A, that is, men who have farmed practically all their lives and are reasonably certain to succeed. Class B includes men who have had experience in farming but have worked at other occupations and there were 3,494 of these. Class C men need careful supervision by experts after they get on the land and these numbered 2,924.

Continuing, the Minister said: "Our first step was the passing of the Order in Council of the 11th February last. Under the terms of that Order in Council the Soldiers' Settlement Board was empowered to acquire in any province of the Dominion privately owned lands and to sell to any individual returned man as defined by the Soldiers' Settlement Act, a not greater acreage than 320 acres, with the provision that the land should be sold at the price at which it had been acquired, and that the amount owned by the returned man on the land should not exceed \$4,500, he paying 10 per cent., as the minimum percentage, of the cost. It was also provided that the board should have power to acquire stock and implements and to sell the stock and implements also at cost to these men, \$2,000 being the maximum allowed to each, and to loan to a man upon his improvements, or upon improvements to be made, a sum not exceeding \$1,000. In this connection it must be remembered that under the old Act of 1917 power was given to loan not only upon the homesteads of soldiers, but as well to men who owned their land, a sum not exceeding \$2,500.

"By the terms of the Order in Council of the 11th February last such land as was acquired by the board must be resold to the soldier and the unpaid balance of the sale price should be repayable in twenty-five annual instalments including interest and amortisation, the interest being at the rate of 5 per cent. The \$1,000 maximum loan for improvement was to be repayable on the same terms but the stock and equipment loan as it was made on perishable articles, was to be repayable in four instalments, commencing in the third year and the settler was to be relieved entirely of any obligation in respect to it for the first two years."

One of the amendments passed raised to \$3,500 the amount that can be loaned to a man owning his land. Such a man can now borrow from the Board \$3,500 to clear his land of encumbrances, \$1,000 for improvements and \$2,000 for stock and implements provided the total loan does not exceed \$5,000. The soldier settler who does not already own his land can borrow \$7,500 or even \$8,000 in special cases.

It is worth noting, too, that arrangements have been made to get equipment at less than ordinary prices for the settlers. Speaking of this Mr. Meighen said: "We have managed to succeed in effecting arrangements with the producers of all the goods that the soldier will require and pay for, out of his own money which redound to the very great advantage of the soldier settlers. In the first place, we have affected arrangements with all, or at least all the principal manufacturers of agricultural implements, whereby the manufacturers of implements use their organization for the delivery of the implements the soldier may choose, and they get those implements to the soldier at the wholesale factory price, and the wholesale cash price at that, without any further charge whatever. In addition to that, the manufacturers pay the cost of distribution. They pay the agent's commission for handling the implements. The soldier pays nothing at all except the ordinary bulk freight rate on his implements, and the wholesale cash price."

The same or better arrangements apply to harness, hardware and lumber, while experts assist the soldiers in the purchase of live stock so as to secure them at reasonable prices.

United Grain Growers Limited, Criticized.

Now that Mr. Crerar has retired from the Cabinet, some members of the House seem to delight in criticizing the grain growers of the Western provinces, and particularly the United Grain Growers, Limited, of which Mr. Crerar is president. This week it was H. H. Stevens, Vancouver, an aspirant for a cabinet position. The occasion was a discussion on the Canada Grain Act which was up for amendment. The principal amendments asked for were the establishment of a board of appeal in Western Canada in substitution for the survey board which now hears appeals from the grain inspectors, and a limitation of "overages" in connection with terminal elevators, the proceeds from these overages to go to the Board of Grain Commissioners for the purpose of defraying the cost of administering the Canada Grain Act. It was in this latter connection that Mr. Stevens launched his attack on the grain growers and from his remarks we quote briefly as follows: "By allowing one-half of one per cent., the quantity mentioned in the Bill, you are allowing elevators, such as the Canadian Pacific Elevator D, to take on an average of several years, an overage of \$1,000,000 a year, the Eastern elevator, \$110,000 a year, the Emoire elevator, \$160,000 a year, the Fort William elevator, \$110,000 a year; the Grain Growers' elevator, \$110,000 a year, the Western elevator, \$125,000 a year. The Grain Growers' elevator at the head of the Lakes had in five years 357,000 bushels of overages. Now what was the shortage for the same period? 3,800 bushels of shortage, or approximately a shortage in its relation to the overages of just one per cent. In the

five years under survey, from 1912 to 1917, we find that the Grain Growers' Grain Company had lost in value in their grain in No. 1 wheat, \$8,000. What did they get out of screenings, leaving out overages altogether? They got out of screenings in one year \$15,000; the next \$30,000; the next \$47,000; then \$80,000, then \$51,000. That is in screenings in addition to overages.

In these same years the overages for the same elevator were, in thousands: \$72,000, \$33,000, \$54,000, \$94,000 and \$132,000. Those figures, added to the ones I have given, are net surplus retained by the elevator after making all accounts to the farmers.

J. A. Maharg, speaking later with reference to overages spoke well for the grain growers when he said: "We would have given almost anything to have had the hon. gentleman use exactly the same argument twelve or thirteen years ago that he has used on the floor of this House to-day. We tried our best then to get redress but it was not forthcoming. It is exactly what we farmers have maintained for years and years, in the old Parliament Building and in the city of Winnipeg. Hon. gentlemen may smile, but I would ask them to look up the records of the Canada Grain Commission to see what we have been asking for; I think those records contain almost verbatim reports. So this is nothing new, only that it was in a more intensified form twelve or fifteen years ago. The company with which the hon. member for Marquette is associated has asked for these reductions to be made. That company belongs, like the other organizations, to the Canadian Council of Agriculture, which is the organ they speak through. We have asked the Grain Commission to make a change in these charges. We asked for the confiscation of the overages years and years ago. We knew what was being done; it is not a new thing. Just so long as the present regulations exist my hon. friend will be able to make the same argument with regard to all the other companies that he has made in regard to this particular company."

Mr. Crerar also replied and with regard to the United Grain Growers, Limited, said: "I have stated that our concern has 35,000 shareholders, 90 per cent. of the business handled by the concern being for its own shareholders. The total value of our turn-over in dollars and cents last year was \$102,000,000, and the profit on that was \$441,000. I leave it to the judgment of the committee if that is an exorbitant profit, if that demands the attention the hon. member for Vancouver Centre (Mr. Stevens) gave it the other day. The shareholders of the Farmers' Companies do not look on the profits they make as profits at all. They are savings they have made in operation by the fact that the shareholders are banded together in a company to do their own business, and the profits consequently are not made from the public in the sense ordinarily understood. Therefore, to give the impression, as I am afraid the House was the other afternoon given the impression that this was a profiteering concern, in the front rank of profiteers in Canada, is decidedly unfair to the grain growers of Western Canada."

The Technical Education Bill, the Divorce Bill and the Highways resolution have each been up for discussion. Most Western members strongly oppose the latter, Roman Catholic members naturally oppose the Divorce Bill and the Opposition criticized the first named on the score that it would interfere with provincial rights. In the meantime a permanent Union party has been formed with Sir Robert Borden as leader, the cost of living committee has unearthed some rather astounding profits, and will recommend the establishment of a commercial tribunal to prevent combinations for the restraint of trade. The hot weather has made members anxious to get away and it is expected that the session will conclude within a few days of the time this reaches our readers.

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Edmonton.....

Toronto (Union)
Montreal (P.
Montreal (Eas
Winnipeg.....
Calgary.....
Edmonton.....

Markets

Toronto (Union)

A decline of sustained on the market, but was when sales were than at any three weeks; the day with a strong demand prevailed for butcher cattle, to forty-seven head to meet the requirements of the week. A number offered, and a ninety-five head via New York purchased at prices to \$15, one lot while a few head steers weighing twelve hundred range of \$13 to \$14 on the later market of loads sold for a hundred, and a hundred; these finished in the with a demand below the previous steers and heifers few extra choice nine hundred per hundred, a at \$14; the top was \$13.50 per sales were down butchers sold from quality from bulls were in choice cows so hundred, good, with an active from \$10 to \$11 quality stock from bulls sold from and Bologna limited demand and feeders, a made to count were in demand \$13, and good \$11.50 per hundred was a trifle easier quotation; most from \$17 to \$14 to \$16.50 were shipped to the week.

The lamb and steady, although a trifle lower in \$19.50 to \$21 per were in poor moved freely from

Hog quotations levels, the market watered hogs at per hundred. The open market the decline of Thursday market

Of the disposal the week ending ing houses put butcher cattle lambs. Local calves, 114 but 543 lambs. made up of 9 c stockers, 101 f sheep. Shipments

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending June 26. Receipts and Market Tops.

Dominion Department of Agriculture, Live Stock Branch, Markets Intelligence Division

Table with columns for Receipts and Market Tops for CATTLE, CALVES, HOGS, and SHEEP. Includes sub-headers for Week Ending, Same Week, and Top Price.

Market Comments.

Toronto (Union Stock Yards).

A decline of 50 cents per hundred was sustained on cattle on the Monday market, but was regained later in the week when sales were made at higher levels than at any time during the previous three weeks; the market closed on Thursday with a strong undertone, keen demand prevailing for all classes of good butcher cattle.

The lamb and sheep market was about steady, although spring lambs were a trifle lower in price, selling mostly from \$19.50 to \$21 per hundred.

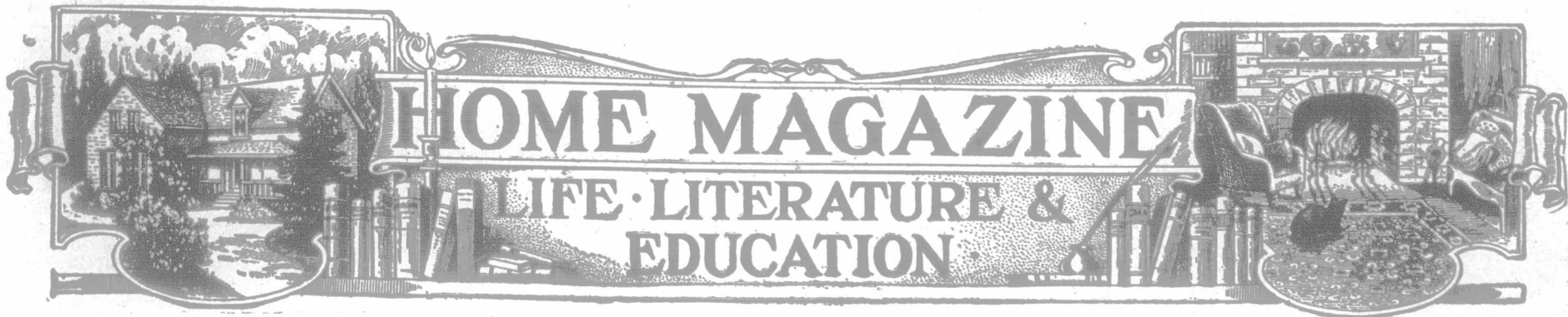
Table with columns for TORONTO and MONTREAL (Pt. St. Charles) showing classifications like STEERS, HEIFERS, COWS, and their respective prices and ranges.

consisted of 673 calves and 18 butcher cattle. The total receipts from January 1 to June 19, inclusive, were 139,852 cattle, 32,596 calves, 172,481 hogs and 31,016 sheep; compared with 120,399 cattle, 33,032 calves, 181,388 hogs and 15,423 sheep, received during the corresponding period of 1918.

on Thursday. A few good heifers changed hands at \$13 per hundred, common heifers around \$9, while the best cows were worth from \$11 to \$11.50. Lean, grass-fed cows sold at \$8, cutters at from \$6 to \$7, and top bulls from \$11 to \$11.50.

19, Canadian packing houses and local butchers purchased 1,623 calves, 8 canners and cutters, 30 bulls, 240 butcher cattle, 1,911 hogs and 546 lambs. Canadian shipments were made up of 45 milch cows and 10 hogs. Shipments to United States points consisted of 852 calves.

Winnipeg. As during the previous week cattle receipts were light, consisting of only...



Life's Common Things.

The things of every day are all so sweet,
The morning meadows wet with dew;
The dance of daisies in the noon, the blue
Of far-off hills where twilight shadows lie,
The night with all its tender mystery of
sound
And silence, and God's starry sky!
Oh, life—the whole life—is far too fleet,
The things of every day are all so sweet.

The common things of life are all so dear,
The waking in the warm half-gloom
To find again the old familiar room;
The scents and sights and sounds that
never tire;
The homely work, the plans, the lil of
baby's laugh;
The crackle of the open fire;
The waiting, then; the footsteps coming
near,
The opening door, the hand-clasp and the
kiss,
Is Heaven not, after all, the now and
here?
The common things of life are all so dear.
—Anonymous.

The New House.

(Continued.)

AN architect has said, very tersely, that when building the new house spaciousness must be expressed in the living area, compactness in the working area, and privacy in the sleeping area.

This is a very good rule to remember. Privacy in the sleeping area is usually a foregone conclusion, but too often it is forgotten that spaciousness in the living area means comfort and beauty, and compactness in the working area, convenience. . . . Another point the architect might have emphasized is the planning of the house to save steps, not to make them. Some houses make steps—thousands of them in a year's time; in going about in them one always seems to have to go around something instead of taking short-cuts, or there is a continuous traffic, with consequent muss and confusion, through rooms which should be quite apart from such interference.—On a farm, where so many steps must be taken, there is special need to plan for short-cuts, for convenience as well as comfort and beauty.

The Hall.

UNLESS the house is a very large one, condense the hall-space as much as can be managed without giving the house a stuffy, poky appearance as one enters. The old-fashioned long hallway with stairs, quite through the house, had some good points, but it took a lot of room, made a good deal of extra floor-space to be cleaned, and was drafty in winter. In modern houses the half-way hall is in greater favor, or the hallway may be little more than a roomy vestibule with the stairs running up at the side or across the back (see illustration), the stairs turning once or twice on the way



No. 1—First Floor.

flight of steps sufficing for the rest of the distance to the upstairs floor.

The Living Area.

A point to remember is that no matter how small a house may be spaciousness is "expressed" if the doorways are wide and there are plenty of grouped windows. Broad archways also add to this effect, but it is a mistake to use them to connect any room that is in constant use and requires much sweeping, as the dust can thus spread through the house; the use of a vacuum cleaner, of course helps to minimize this difficulty.

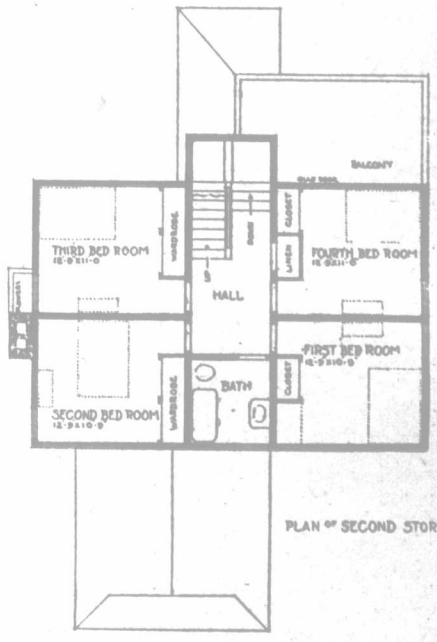
Usually an archway leads from the hall to the living-room. In the latter there should invariably be a group of windows along one wall—two if possible. If one group is thought enough, then the adjoining or opposite wall should have a crosswise window or two high enough up to leave room for furniture below. In this way the much-desired cross-ventilation is assured. The same device is good in the dining-room where the sideboard may stand beneath this auxiliary window. If there is a fine landscape about, however, groups of windows on two sides are very desirable. If well-fitted and supplied with good weather-strips not too much cold will be admitted to a house furnished with a good furnace.

The advantages are that they help to furnish a room, giving cheerfulness, good ventilation, the healthfulness of sunshine (which can be shut out by blinds on the hottest days), and the beauty of a changing picture all the year round. With a grouped window, a fire-place, and a built-in bookcase, a living-room is already more than half furnished so far as appearance goes.

In some houses a group of windows in the living room opens upon a sun-room, which is heated and can be used as a sleeping-room. This assures the warmth of the living-room in cold weather, while still admitting the light and view. . . . Never use stained glass windows anywhere. If a window must be "fancy" use diamond panes of clear glass. If an unsightly view is to be shut out draw a curtain across or have the window frosted. Stained glass, unless of the very best quality, which is very expensive, is invariably crude in color and unpleasing in effect. Even at best it should be very sparingly used.

In the living area see to it that as

few doors as possible lead from any room. This gives an effect of greater harmony and leaves wall-space for furniture. . . . Glass doors between rooms, by the way, afford a very convenient way of helping to light a room that might otherwise be rather dark; also they help out the effect of spaciousness.



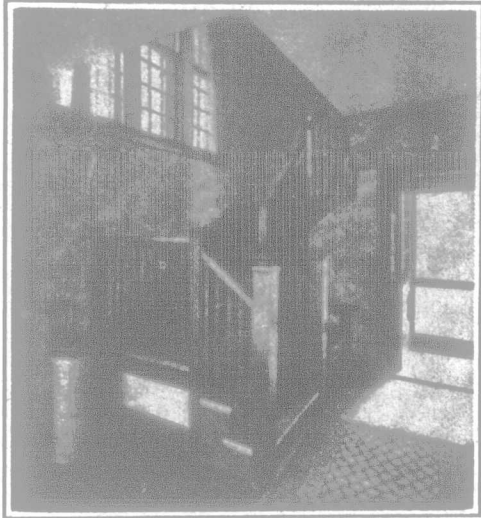
No. 1—Second Floor.

The Working Area.

COMPACTNESS in the working area is a positive necessity if steps are to be saved. The kitchen, of course, is the center here, and care should be taken to have stove, sink, pump, etc., as near together as possible, neither should any more steps than are absolutely necessary be required to reach woodshed, dairy, cellar stairs and laundry—if there is one.

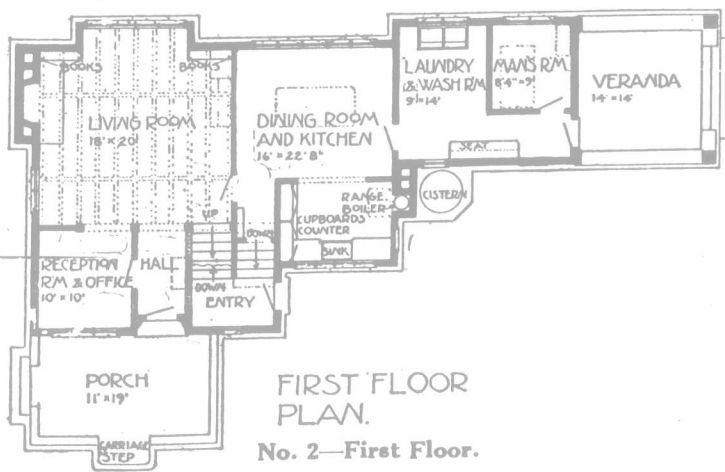
In planning the house for the farm a great deal of thought should be given as to whether one wants kitchen, dining-room and living-room entirely separate, or arranged in combination. Some women (and the women should certainly decide in this matter) like a small and well-equipped kitchen, a small dining-room adjoining, but connected by a doorway only, and a large living-room entirely by itself also.

The advantage of this plan is that the dining-table can be kept practically "set" all the time,—the cloth left on, the dishes returned as soon as they are washed, the whole covered over with a cheese-cloth spread, and the dining-room shut up until needed for the next meal. . . . Others like the small kitchen or "kitchenette" very well, but prefer to have a large dining-room which can be used as a living room, also. In this case it is necessary to clear the table entirely after each meal, and remove the white cloth; but the advocates of the idea say that with the aid of a china cupboard in the wall, and a "rubber-tired" dinner-wagon, for running things to and from the kitchen, the work can be done with very little trouble. . . . Yet other women—and these are usually women with a great deal of work to do—say, "Have the living-room quite separate, but combine kitchen and dining-room." This combination may be effected by having a quite large



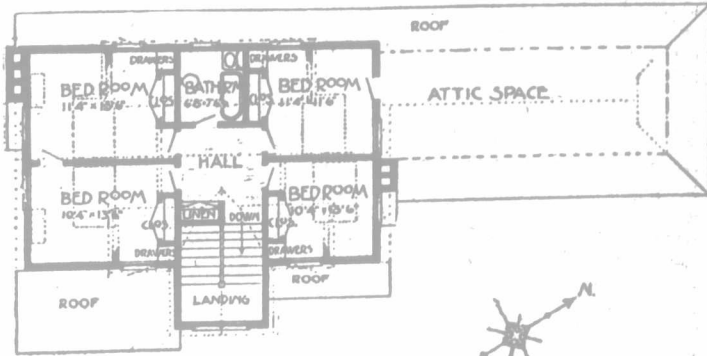
Entrance Hall.

Showing stairs with landings.



FIRST FLOOR PLAN.

No. 2—First Floor.



SECOND FLOOR PLAN.

No. 2—Second Floor.

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kitchen, one end of which is transformed into a dining-room by the simple addition of dining-table, sideboard and chairs. Or a wide archway, across which chintz curtains can be drawn when needed, may give some semblance of separation to the kitchen end. The great advantage of this plan is that it seems to keep the work "all together," and that it gives plenty of room at threshing-time. If there are plenty of windows affording cross-ventilation, odors and heat can be driven out in short order, while a big screen (if the curtains are not liked) can always be set up to shut away the sight of the cookstove or baking table.

Speaking of windows, a good point to remember is that *always*, if possible at all, they should afford cross-ventilation, that is, they should not be all at one side or one end, but should be so disposed as to create a movement of air across the room. This holds good for kitchen, dining-room, living-room and bed-rooms, as will be appreciated in hot weather. The best ventilation is always needed to give healthful living conditions, and undue admission of cold in winter can be avoided by having the frames very closely fitted and using good weather-strips.

But why describe further. A glance at the accompanying plans will explain more than a great deal of talk. In both saving of steps has been considered. Note in both the union of back and front stairs, saving both steps and space. In No. 1. Note the end cupboards with sink between and window over it; also rear porch affording a cool place upon which much kitchen work may be done. No. 2 is a plan supplied by the Cornell Reading Course, planned and drawn "frankly for farm life," as the footnote tells us. In it note the position of laundry, kitchen cupboards and sink, also the office at the front, a boon to any farmer who transacts much business and keeps books just as any other business man does. The apartment marked "man's room" in No. 2 is apparently intended as a sleeping room for the help. When not needed for this purpose it might very well be used as a room for working coats and boots, also as a place for "washing-up" in, before coming into the house. Such a spot may, of course, be provided in the basement, as described in last week's article. Also, if the farmer finds a desk in his bedroom or in the living-room sufficient for all business purposes, the "office" in No. 2 may be transformed into a study and library.

The Bath-Room, Etc.

JUST a few more notes in closing: Without-fail put a bathroom somewhere in the new house. It is one of the most important spots in the whole place. Give it a good equipment of all necessities, and, as soon as possible, if this cannot be immediately done, provide it with an adequate supply of both hot and cold water that can be turned on from taps, instead of being carried from the kitchen stove. This can be managed by a tank filled by windmill power or hydraulic ram, or water may be lowered from a strongly built rain cistern on perfectly strong bracing in the attic.

When planning the various rooms see to it that it is not necessary to cross one room to get to another, especially the bedrooms. A little planning will be sufficient to avoid this mistake.

Ceilings are not made so high as they used to be, high ceilings being a waste of heat in winter and necessitating greater expense when papering the walls. Eight to nine feet is a good height. Of course the house with two full floors, and an attic, and the "hip-roofed" style, give the best height for the rooms upstairs, but the sloping ceiling is not utterly taboo. The apparent height may be increased by a broad dormer window, running almost two-thirds the length of the roof; or the trouble may be averted by other window arrangement. The writer of the Cornell bulletin already referred to says: "It is commonly supposed that bedrooms located under a sloping roof must necessarily be low and hot. This is not true. The fact that some bedrooms so located, are stuffy does not argue that all need to be so; it implies rather that there is no cross-ventilation, or that the windows are placed so low as to leave a pocket of hot air confined near the ceiling. Every one knows that hot air rises, and that it will remain until it finds an outlet. This outlet should be furnished by windows placed

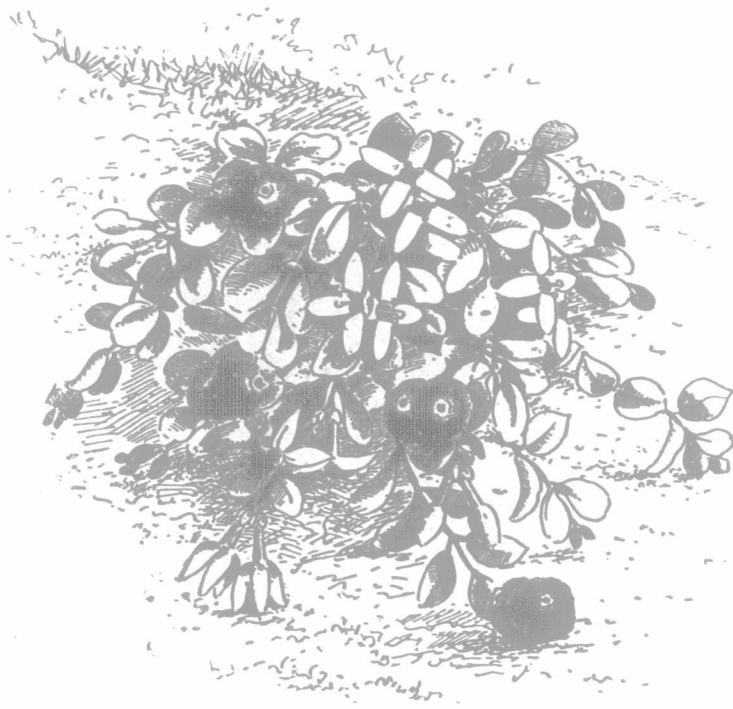
high in the room. If the roof pitch and dormer windows are studied to fit the height of the second-floor rooms, a full second story with high or full-length windows may be commodiously arranged under a long roof, and the low parts may be used for closets."

When ordering the woodwork have it with as few dust-catching grooves as possible. A plain surface perfectly clean is vastly preferable to an ornate one filled with dust, as it must be unless one is always working with it. The best floor is, of course, hardwood—an expensive item nowadays—but many houses make a well-finished cheaper one do. Rounded edges next the baseboard are a consideration in keeping a room clean.

Another point: Plan to have, sooner or later, a broad verandah or porch with a sleeping-porch above, also a back porch or verandah. Sometimes an "arbored terrace" that is a cool cement-floored, arbor with vines above and about, is especially liked for an outdoor living-room in summer, but a good tight roof has the advantage of making the place usable on warm rainy days.

Canadian Wild Flowers.

Partridge Berry (*Mitchella repens*), also called *Pigeon Berry*, *Twin Berry* and *Squawberry*. Who, in Canada, does not know this beautiful little trailing plant? Go out to the woods in very early spring and there you will find its green vines, bright with red berries if the birds and animals of the woods haven't taken them all off, for the berries remain on all



Partridge Berry.

winter, as well as the glossy evergreen leaves, under the snow. In June and July the flowers come, and very pretty they are, set in pairs at the ends of the little sprays. Quite fragrant they are, too. The stems of the plant trail along the ground to a length of from 6 to 12 inches, and the leaves are set, like the flowers, in pairs, opposite. The plant belongs to the Madder Family.

Hope's Quiet Hour.

The Secret Meeting.

Nathanael said unto Him, Whence knowest Thou me? Jesus answered and said unto him, Before that Philip called thee, when thou wast under the fig tree, I saw thee. Nathanael answered and saith unto Him, Rabbi, Thou art the Son of God; Thou art the King of Israel. —S. John 1:48, 49.

I thank Thee, Lord, that here our souls,
Though amply blest,
Can never find, although they seek,
A perfect rest—
Nor ever shall until they lean
On Jesus' breast.

A. A. PROCTOR.

I am alone in the house—alone with Christ. There is no need to retire to my cellar-study to-day, for a delicious breeze is coming in through my window; and I can glance out for inspiration and see the waving green leaves of a maple tree against the blue sky.

Is it any wonder that my thoughts turn to that secret meeting under the fig tree long ago? Before S. Philip hurried to his friend with the wonderful tidings that he had found the Messiah, Nathanael had met his Master under a fig tree. He knew that he had met his rightful Lord, but he did not know that the Name of that Lord was "Jesus". As soon as he learned that truth his soul bowed in adoration before the young Carpenter from despised Nazareth.

The story has been repeated millions of times since that day—the story of that secret meeting which meant so much to Nathanael.

Jesus said to him: "Hereafter ye shall see heaven open, and the angels of God ascending and descending upon the Son of man." The Shining Ladder is set up everywhere, but our eyes are not always open to see it. As I sit at my window I can mount, more swiftly than any aviator, straight to the foot of the Throne. This little room is a real "Bethel"—a House of God, and Gate which opens into Heaven.

It is wonderful to know that God cares about the secret fellowship with your soul and mine. He loves to meet His friends one by one. I am sure the joy of the disciples on Easter Day was a reflection of the joy in the heart of Christ. He showed Himself to the weeping Magdalene, then to the other

force which we call electricity, but it is easy to see its effects.

If your life is at a standstill don't waste time looking at yourself and becoming morbidly introspective. Try the plan of secret meetings with God, and ask Him for the power of the Holy Spirit to work in and through you.

A few months ago one of the "Advocate" readers sent me a little book, "Retreats for the Soul," which was written by a Methodist especially for the use of Methodists. The writer pleads with weary and discouraged souls, begging them to leave the rush of busy life sometimes, and go apart with Christ for a few days to repair the spiritual armour for the battle of life. He says: "It is only when the soul is naked in the presence of God that the stain of sin is fully revealed and we understand how evil it is." We are called to "follow" Christ; and as we read the story of His earthly ministry we find that He renewed His strength by many quiet times of communion with the Father—in the mountain, in the desert and in the moonlit Garden. Sometimes He spent whole nights in prayer. Sometimes He arose a great while before day and departed into a lonely place to pray. My little book says:

"Unless He is our example in this as in other matters, the command to follow Him loses all its meaning. Let us follow Him, not only in the crowded street, or in the daily round of work, but also into the desert and to the summit of the mountain and we shall find that His words are not vain, but precious and true, when He says, 'All things are possible to him that believeth'."

We do not need to go out of the world to find God. Christians were told that they were the salt of the earth, and salt is needed in every house. It is not only under a "fig" tree that the Master meets His disciples; He is to be found also under the trees of the wood or under an apple tree in the orchard. Are we seeking Him every day? Then we can meet Him under the solemn glory of the stars and the lovely blue of the summer sky. Then we can recognize His loving care in the restful green of the grass and the beauty of wonderful flowers. Then we can hear the tenderness of His voice in the song of birds and the happy laughter of children.

You do not need to go far from home to meet the Divine Lover:—

"In wonder-workings, or some bush
afire,
Men look for God, and fancy Him concealed;
But in earth's common things He stands revealed,
While grass and flowers and stars spell out His Name."

Many thousands of years ago a man lived on the earth whose name will never be forgotten, though we only know the history of his secret life. "Enoch walked with God; and he was not; for God took him," is the record in Genesis. In the Epistle to the Hebrews we are told that God translated him, that he should not see death, because he pleased God. He walked with God and pleased God! Could a grander epitaph be written of any man? That record may be written about you in the Book of God. You don't need wealth or learning,—not even leisure,—to win the praise of the King of earth and heaven. Before the Carpenter of Nazareth had begun His public ministry a Voice from heaven declared that the Father was well pleased with Him (S. Matt. 3, 17)—all through that life of hard and monotonous work the golden thread of fellowship with the Father had glorified every moment.

Farmers have many opportunities of meeting God in the beautiful out-of-doors. They can speak to Him and listen to Him without topping the plough or the reaper. And then there are the evenings in the garden!

"Oh Adam was a gardener,
And God, who made him sees
That half a proper gardener's work
Is down upon his knees;
So, when your work is finished,
You can wash your hands and pray
For the glory of the garden
That I may not pass away!
And the glory of the garden,
It shall never pass away!"

DORA FARNCOMB.

For the Needy.

Two gifts for the needy reached me this week. Mrs. R. C. S. sent \$2,

and "Reader of a dollar's worth of parcels of S. senger," etc. could have a woman who Quiet Hour Pu day. I had neighbors that selling some o buy food, so I board was y bounty helped woman's grat husband is ov of a hospital. scatter good th

The L

Rules for corre Departments: (1) paper only. (2) with communicatio the real name will enclosing a letter place it in stamped (4) Allow one n answers to questio

Flowers V Foot

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Perhaps that yet it is really n of jars and vase always at their who has about Tiny glass basko lilies-of-the-valle other such low- in season; low, in for pansies a clear glass and give the right se sweet peas, nast pis; a yellow De deep blue glaz ox-eye daisies, (Susans), zinn specimens; still dull green or r right for bran japonica, spiraea like; while t or green glass varying form co lilies, larkspurs etc., that would in lower vessels.

Of course this an amount of holders—she ha for years; yet had with compar if one keeps o proportion. Put low vessels, ta de irate ones i sturdy ones in this rule and y astray in flowe sies or daisies dinary kitchen will be delightfu n, sturtiums look glass tumbler; v sorts may be in such sturdy gro golden glow and trees.

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A FARNCOMB.
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dy reached me
C. S. sent \$2,

and "Reader of Hope's Quiet Hour" sent a dollar's worth of stamps. Various parcels of S. S. papers, "Northern Messenger," etc., also arrived. I wish you could have seen the face of one poor old woman who received help from the Quiet Hour Purse" the day before yesterday. I had heard from one of her neighbors that an old couple had been selling some of their scanty furniture to buy food, so I called and found the cupboard was very bare indeed. Your bounty helped to fill it, and the poor woman's gratitude was pathetic. Her husband is over seventy, and just out of a hospital. The Q. H. P. loves to scatter good things in such a bare home.

DORA FARNCOMB,
6 West Ave., Toronto.

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.]

Flowers With Their Best Foot Forward.

FLOWERS are so beautiful that it seems as though they need never be requested to "put their best foot forward." Surely their best foot must be forward all the time.

Not so, so far as cut flowers for the house are concerned. Indeed it is quite possible to take away quite half of their beauty by putting them in the wrong holders, or by bunching them together inartistically.

"It is almost necessary to have as many holders as flowers," said Dorothea a few minutes ago.

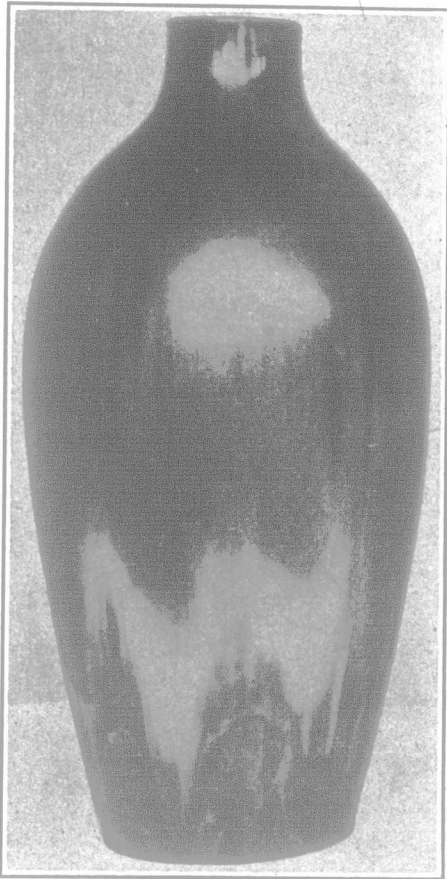
Perhaps that is a sweeping statement, yet it is really necessary to have a number of jars and vases if our flowers are to look always at their best. I know a woman who has about two dozen of them.—Tiny glass baskets hold hepaticas, violets, lilies-of-the-valley, forget-me-nots, and other such low-growing, delicate favorites in season; low, saucer-like dishes come in for pansies and daisies; rose-bowls in clear glass and low jars in dull green give the right setting for marsh-marigolds, sweet peas, nasturtiums, roses and coreopsis; a yellow Doulton jar and another in deep blue glaze are brought out for ox-eye daisies, cone-flowers (Black-eyed Susans), zinnias and other sturdy specimens; still stouter jars, chiefly in dull green or glazed black, seem just right for branches of apple-blossoms, japonica, spirea, garden hydrangea and the like; while tall slender vases in clear or green glass and tall opaque jars of varying form come to the top for the tall lilies, larkspurs, hollyhocks, foxgloves, etc., that would be simply unmanageable in lower vessels.

Of course this woman has spent quite an amount of money on her flower-holders—she has been picking them up for years; yet pleasing effects may be had with comparatively little expenditure if one keeps one necessity in mind—proportion. Put low-growing flowers in low vessels, tall ones in tall vessels, delicate ones in dainty vessels, and sturdy ones in stout vessels. Follow this rule and you cannot go very far astray in flower arrangement. Put pansies or daisies in a bed of moss on an ordinary kitchen soup-plate and the effect will be delightful; sweet peas, roses and nasturtiums look very well in a clear glass tumbler; while little crocks of all sorts may be improvised as holders for such sturdy growers as sunflowers and golden glow and the branches of flowering trees.

As a rule cut flowers—especially those of herbaceous plants whose stems are green, not woody—look well in perfectly plain, clear glass vessels. Woody stems call for opaque holders; but this should be kept in mind:—Flowers cry out against being placed in ornate or highly decorated holders; their beauty just begs for plainness and unobtrusiveness in the vessel in which they are placed. The effect of the most beautiful flowers that ever grew must be utterly ruined if they are put, say, in a bright blue or green vase or jardiniere "decorated" with brightly colored painted flowers or design. Better the plainest little gray jug from your pantry shelf.

The accompanying illustrations show two very good holders of the tall variety. Imagine No. 1 with a single straggling branch of apple-blossoms, a branch of sumach scarlet in autumn tints, or one of maple leaves shimmering with pale gold! Doesn't it seem just right? No. 2 rather spreads at the top, so think of it with a few stalks of hollyhocks or June lilies, Tiger lilies or morning glory. Either would be charming with a single trailing vine of clematis or honeysuckle.

As a rule people put too many flowers in their holders. The Japanese are more artistic, choosing rather a single flower,



A Jar Suitable for a Single Branch of Flowering Tree or Shrub.

a single spray, or at most a very few flowers, arranged to show the full beauty of each. Almost never should more than one kind be placed in any vessel, although tiny feathery kinds such as "baby's breath" may be used, occasionally to give lightness.

People used to be practically compelled to put great masses in the holders to make them "stand up"—but all that is of the past. There are brass network contrivances made nowadays to slip over the top of the vessels, the flower stems being put through the mesh. Still better are the little glass things with holes, made to drop right into vessels in which flowers are to be placed. I got two little ones in Eaton's not long ago for 35 cents each; there were others, much larger, for 75 cents. The holes are for the stems, and hold up the flowers naturally instead of letting them tumble over at the sides, so that a great many more are required to to fill up the gap in the middle.

Just try exercising your artistic skill in flower arrangement and see how fascinating it is. In some places nowadays prizes are given at the fall fairs for the best arrangements,—a very good step so long as the judges themselves are artistic.

For really all this is more important than it may seem. A bouquet or a flower in a vase is not only a bouquet or a flower in a vase; it may affect the whole room. Invariably a flower or two, exquisitely arranged, gives a touch of refinement and beauty to the whole place—and that means so much, doesn't it? Not many are needed—indeed an over-abundance of flowers like an over-abundance of anything else may only suggest clutter and lack of harmony if not positive vulgarity.

Just to close: I saw a floral arrangement several weeks ago which I shall not soon forget, so perfect was it, the most beautiful thing in the quite beautiful room in which it stood. The holder was one of those low, broad bowls made on purpose for flowers, and was a bright opalescent yellow in color, absolutely

without decoration of any kind. Its center was occupied by one of the "hole-y" glass things of which I have spoken, and into the holes were thrust a few sprays of forsythia or "golden bells."—You know the forsythia, don't you? It is a shrub whose bright yellow scattered blossoms come out in early spring before any of the leaves appear. You can imagine how beautiful the yellow flowers in the yellow bowl were in a room whose leading tone was an unobtrusive green. The arrangement seemed to give the one touch of "high light" needed. Later, when the mid-summer flowers run riot in the garden, blue larkspurs in tall jars are sure to be seen in that room—for blue is the coolest color, you know—but sometimes the choice may be a few spikes of gleaming white gladioli or masses of mauve phlox or shell-pink "Daybreak" asters.

Needle Points of Thought.

"Tax the profiteer as much as you like, but leave the food and raiment of the poor man alone."—F. Pardee.

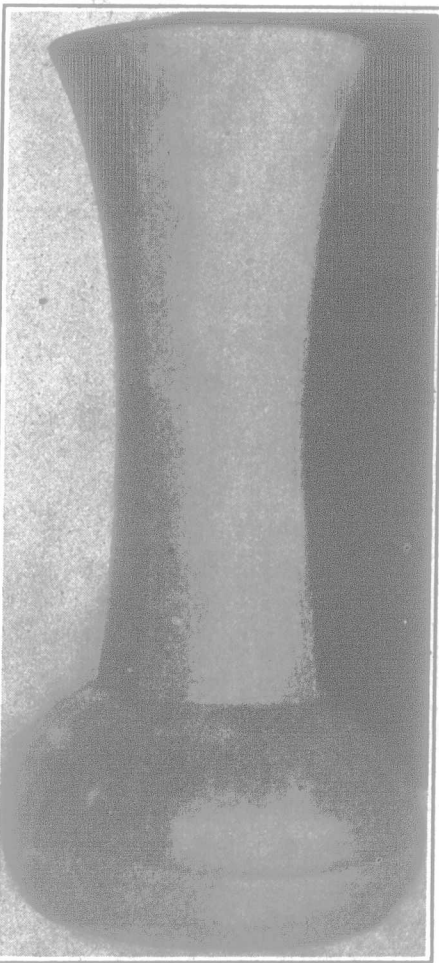
"A world whose schools are unreformed is an unreformed world."—H. G. Wells.

Stained Book Cover.

Dear "Schoolgirl": I am very sorry to have to tell you that I do not think the milk stain can be really removed from the red cloth cover of the book. If it were mine I should just make a pretty slip-cover of colored mercerized cotton and baste it on over the cover. You could embroider the name of the book on the cotton. Of course linen would be prettier than cotton, and brown and blue linens are ideal for book-covers, but I doubt if you could find a shred of it now.

A Cake Recipe.

[We apologize to the writer of the following for the mistake. Often very pretty writing is somewhat hard to read, as in this case. When writing for the



Mirror Glaze Vase, Suitable for Tall Flowers.

press great care should be taken to have every word legible, especially those that are at all unusual.—Ed.]

Dear Sir—I sent in a recipe for a Scotch Galla Ruchie cake, which owing to poor handwriting, I suppose, appeared slightly altered.

Galla Ruchie cake.—3 (three) eggs; ½ cup cream or rich milk; ½ cup butter or other shortening; 1 cup sugar, 1 cup cornstarch; 1 cup flour; 1 teaspoon baking powder; salt and seasoning if desired.

Syrups for Canning Fruit.

For strawberries and sour cherries, 2 cups sugar to 1 cup water.

Peaches and plums, 2 cups sugar to 1½ cups water; (more sugar if liked richer.)

Pears, sweet plums, sweet cherries, raspberries, blueberries, blackberries, 2 cups sugar to 4 cups water.

Rhubarb Wine.

For Mrs. A., Grey Co., Ont.: Cut in bits and crush 5 lbs. rhubarb. Add the grated yellow rind of a lemon and 1 gallon water and let stand covered for 2 days. Strain off the liquid and add 4 lbs. sugar. Put this into a small cask with the bung hole covered with muslin and let it ferment 2 or 3 days, then put in the bung and let stand 4 months, when it will be ready to draw off and bottle.

Time Table for Cooking Fruit.

PASTE this in your scrap-book: Minutes.

Blueberries and cherries.....	5
Currants, blackberries, raspberries.....	8
Gooseberries and halved peaches.....	10
Strawberries.....	15
Whole peaches.....	20
Halved pears and quinces.....	20
Whole crabapples.....	30
Sliced pineapple.....	20
Sliced pears.....	30

TABLE OF PROPORTIONS.

Fruit	Qts.	Water, Qts.	Sugar, Cups
Strawberries.....	5	1	2-3
Red currants.....	5	3	1
Red raspberries.....	5	2	1-3
Black raspberries.....	5	5*	½
Raspberries, currants.....	5	5*	½
Blackberries.....	5	3*	¼
Gooseberries.....	6	2	2
May cherries.....	5	3	2-3
Grapes.....	6	2	1
Cranberries.....	2	3*	1
Peaches.....	6	1	1
Pears.....	7	1	1
Damson plums.....	6	5*	2
Green gages.....	6	3*	1

Custards for Hot Weather.

CUSTARDS are palatable only during hot weather, when they invariably prove popular as well as nourishing. Modern ingenuity, too, provides many variations. The name "custard" no longer suggests the one dish known to our grandmothers.

Cocoanut Custard.—Mix together the yolks of 3 eggs and 2 whole eggs, well beaten, ½ cup sugar and 1 quart milk. Add a small cupful of grated cocoanut or of desiccated cocoanut soaked for half an hour in a little milk. Bake in a slow oven just until it becomes firm, then cover with a meringue made of the beaten whites left over and ½ cup pulverized sugar. Sprinkle with cocoanut and set back in the oven to brown slightly. This may be used either as pudding or for the chief dish at supper.

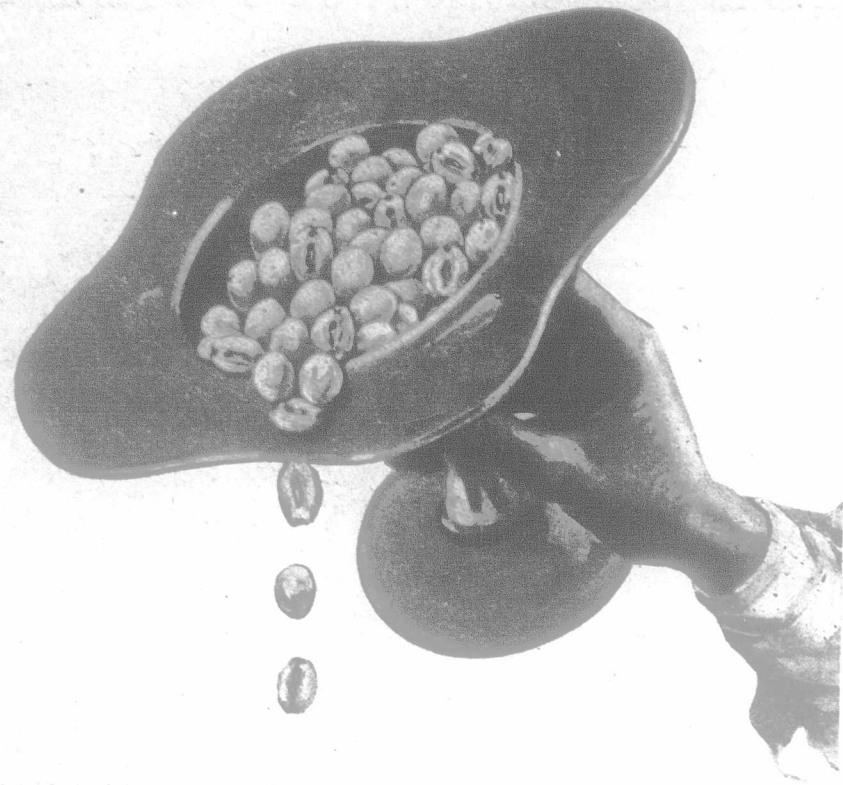
Plain Custard.—Omit the cocoanut and flavor with any flavoring liked.

Caramel Custard.—Make as for plain custard but flavor with caramel syrup.

Caramel Syrup.—Brown sugar (do not burn it at all) in a shallow pan. When it becomes a brownish yellow pour on enough water to dissolve the sugar. Leave until the hardened sugar all dissolves, then bottle. Add to the milk for caramel puddings, to pudding sauce, even a little to soup and stew when a brown gravy is desired.

Moulded Custard.—Soften ¼ package of gelatine in ¼ cup milk. Make a soft custard by cooking slowly over hot water a mixture of 3 egg-yolks, ½ cup sugar, ½ teaspoon salt and 1 pint milk. When done add the gelatine, stir until dissolved then let cool, add ½ teaspoon vanilla and strain into a wet mould. Let stand several hours, or over night, in a cold place. Before serving unmould and pour over it ½ cup fruit jelly half dissolved in ¼ cup boiling water. Or serve with half beaten cream.

Custard Pies.—Custard pie may be given many variations by using different kinds of fruit. For the plain custard use a pint of milk, 2 eggs, a little sugar, a pinch of salt. To this add raw berries, peaches cut in bits, canned or fresh pineapple cut in bits, or any kind of



Wheat Bubbles

Puffed Wheat is whole wheat, puffed to bubbles eight times normal size.

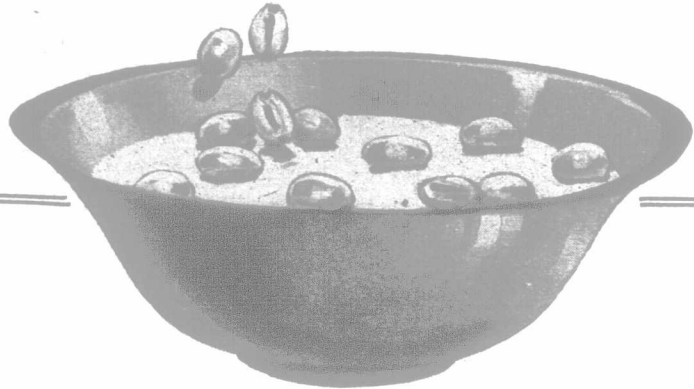
The grains are thin and crisp and flaky. They are four times as porous as bread. And they taste like food confections—like airy nut-meats, toasted.

Steam Exploded

The grains are heated to a high degree, then shot from guns.

Every food cell is exploded, so digestion is easy and complete.

Nothing makes a milk dish so enticing. Nothing forms such ideal whole-grain food.



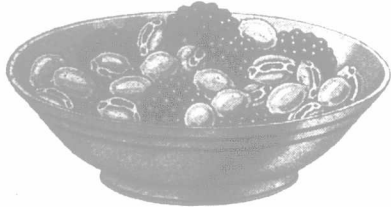
**So Thin, So Airy
That They Seem Like Fairy Foods**

Prof. Anderson created the greatest grain foods in existence. Never were whole grains made so delightful, never so digestible as these.

Puffed Grains are not mere breakfast dainties. They are all-hour foods—foods for playtime, foods for bedtime, foods for every hungry hour.

Let no day pass without them. Children need whole grains. And here they are as ever-ready, tantalizing tidbits. No supper dish you ever served compares with Puffed Wheat in milk.

Puffed Wheat Puffed Rice
Each 15c, Except in Far West



Mix With Fruit
To add delightful blend.



Eat like Peanuts
Crisp and lightly butter.

The Quaker Oats Company

Peterborough, Canada

Sole Makers

Saskatoon, Canada

3175

dried fruit—figs, dates, etc.—soaked, cooked then cut in small bits. Do not add the juice. Bake in a very moderate oven as usual. A plain custard pie may be given a new flavor by adding 1/4 teaspoonful of cinnamon.

A Fireless Cooker Dish.

Boiled Beef With Sauce.—Take 4 lbs. round or top sirloin, 1 qt. water, 2 table-spoons butter, 2 table-spoons flour, 1 table-spoon horseradish or catsup, chopped parsley, salt and pepper. Wipe the meat and skewer or tie it in shape if necessary. Place in one of the vessels of the cooker, add the water and bring slowly to boiling point. Cook over the fire for 20 minutes, season with salt and pepper, close the lid tight and place immediately in the fireless cooker. Cook at least 6 hours—8 will do no harm. Just before serving, make the sauce. Mix flour and butter together, add 2 cups of the water in which the meat was cooked and stir until boiling. Cook 2 or 3 minutes, add the horseradish or catsup and pour over the beef. Sprinkle the chopped parsley over the top and serve at once. This dish may be cooked over night and just warmed up for dinner.

The Scrap Bag.

White Soaps.

Be sure to use a mild white soap and cool water for washing gingham, colored muslins, voiles, etc. Lux is good, but the suds should be let cool before using for colored goods. White silk waists should always be washed in cold or almost cold water, then rinsed well, rolled up in a cloth and ironed; hanging out in the sunshine yellows them.

Coloring at Home.

White silk waists, stockings, etc., that have become off color may be given a new lease of life by tinting them any color one chooses. A little colored "crinkle paper" is often used for this and possesses the advantage of being easily washed out, so that one can use another color next time. Boiling is not needed for this. Old cotton dresses or undershirts of any kind may be given a permanent color by using any of the popular dyes "Sunset," "Dyola," "Diamond," etc. "Magic Dye Flakes" make a dye that does not require the goods to be boiled.

The Dingy Hat.

"Never throw away a hat as long as it hangs together," said a one-time milliner. No matter how disreputable your old "chapeau" has become, a coat of liquid shoe-polish, colorite, or a good bleach—according to the color one wishes to have it—will make it look quite respectable, while re-blocking, with a new facing and freshening up of the trimming will work absolute wonders. So little trimming is required nowadays that almost anyone can manage that part at home. Gone are the days when a mass of tulle, a feather, a flower and two or three fancy pins were all piled on one poor inoffensive hat; may they never come back!

Fertilizer for Poor Soil.

Fertilize the "almost sterile soil" with shredded cow-manure, or pulverized sheep-manure, bone-meal and ashes. Do not mix these before using, but spread the cow- or sheep-manure on the surface from one-half to one inch deep, and spade or fork it in so as to mix it thoroughly with the whole body of soil, and not bury it at the bottom of the border. Next, spread on enough bone-meal to make a white covering on the ground, and rake or hoe it in; lastly, spread on a like coat of wood-ashes, and work them in the same way as the bone-meal. Once or twice each season, after the plants are growing, apply and rake the bone-meal. At the end of the season, after the ground has frozen, cover the whole surface between and around the hardy plants and shrubs with any stable-manure to the depth of two or three inches. The following spring, rake off the coarser part, and work the finer into the ground by shallow cultivation. Use bone-meal once or twice during the

summer, same as first season, and ashe too, if convenient. All the above fertilizers except stable-manure may be purchased at the large seed-stores. Where the ground is sour, an application of air-slaked lime, sufficient to make the surface white, well raked in, will correct this acidity, and also hasten the action of the other fertilizers, and in some degree will itself be a fertilizer.—*Surburban Life.*

Killing Rats.

One chemical for destroying field rats is bisulphide of carbon. Cotton or rags are saturated with it and pushed into the holes. The inmates are thus suffocated. Ernest Ingersoll, the noted nature writer, recommends this, but adds, "this is of little use in buildings, for it escapes too easily." He goes on to say: "While endeavoring to kill off the rats by these various methods, precautions should be taken against their return. Their runways and harboring places must be sought out and made untenable. The wisdom of stopping up all holes by which they enter houses, barns, or cellars, need hardly be mentioned to common-sense readers. Freshly slaked lime placed in their dry burrows and runs is effective. A strong solution of copperas is good, and gas tar daubed about their holes, as also is caustic potash."—*Surburban Life.*

In Berry Time.

BY GRACE STONE FIELD.

Oh, long ago, so long ago that I can just remember.

When one short week was "most a year" before a holiday;
When August slowly waxed and waned, to merge in bright September,
And all the air was scented sweet with new-mown hay—

Oh, in those long-gone golden days, with all the birds a-singing
For every joy of being in the glad free world,
We used to start at early dawn with pails and baskets swinging,
And seek the upland meadows, through the grass, dew-pearled.

For there above the little town were berries for the taking,
The nectar of the gods in ev'ry luscious, juicy one;
The wine of sweetest August days, for thirsty childhood's slaking,
Epitomes of summer and her gracious sun.

Oh, was it berries that we sought or just the joy of 'venture?
Explorers, each and ev'ry one, were we, those happy days.
Oh, who of us that minded scratch, or torn frock, waiting censure?
Oh, who of us that heeded time, or earth's set ways?

The bushes were a fairy maze, with ogres grimly peopled,
A harmless snake, that fled us, was a dragon, breathing fire;
The forest was a castle, moated, turreted and steepled,
To storm its bodeful portals was our heart's desire.

Perhaps the pails and baskets were not filled to overflowing;
Perhaps our hands and garments were not tidy, as at morn—
But no one thought to chide us when we came home, laughing, glowing,
Our blouses stained with berries and our aprons torn.

Ah well, 'twas long ago indeed, and yet the upland meadows
Still yield their treasure and delight to ev'ry questioning soul!
And often when the valley lies in quiet and in shadows
I take the winding pathway to my childhood's goal,

And live again with fairies and with ogres and with dragons!
And drink again the nectar that we quaffed so long ago—
For nature, as of old, presenteth magic in her flagons
To him who seeks with understanding heart, I trow!—Sel.

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Our Serial Story.

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

Serial rights secured by The Farmer's Advocate and Home Magazine.

CHAPTER XXXVI. The Journey.

October 15th, 1838.

THE letter came about a week after my last writing: "I think I am ready for the journey, Alan, if you can take me on pillows, very slowly, in a waggon. I want to see the Golden Winged Woods before the snow falls."

So it was that I set off with the only spring waggon in the neighborhood, Tom Johnson's. Indeed the whole settlement was aroused over my going, and everyone wanted to contribute something. Tom provided, besides the waggon and a horse to go with Billy, a little tent that has often stood him in good stead in trips through the forest. My mother had fixed up a feather bed to go under it, and at the last moment Mistress Jones came bustling along with stone jugs "fer her feet", to be filled with hot water in case it should turn cold.—And so I set off very fully equipped.

But when we were about ready to leave the city, Uncle Joe arrived with his family coach, and came more than half of the way home with us, insisting that I ride in the coach with Barry while he followed behind in the waggon.

"It'll be a change for her to move from the one to the other," he explained, "she'll not be so tired."

Thus it was that we travelled off in fine style, with our private physician, and often enough we looked back, to wave a hand to him or call to him, as he followed, sitting very erectly on the seat, with his hat-off and the sun shining on his bald head, happy as a robin in April, and smiling at us as he touched Billy and Nell along to keep up with his own more spirited bays in our coach.

"Tear an' ages!" he would exclaim, rattling up as we waited, "How do you expect an old fellow like me to keep up with that gait? I'll warrant you weren't so spry in the courting days."

Before we separated, somewhere past the Half Way House, he let me first build a bed of balsam boughs, —deep, and springy, and odorous—in the bottom of the waggon, and then he arranged the feather bed on that and I put the little tent over it and laid my girl down, propped up with pillows so that she might miss nothing of the scenes for which she had longed, as we passed by.

"It's the darling girl she is!" he said, kissing her roundly on the mouth, "and it's the lucky dog you are, Alan, ye spalpeen! Well, give my love to your mother and father.—Nora and I'll be down New Years sure, if we have to come on snowshoes."

At the Village the Doctor and his wife and daughter—and some of the others, too—came out to bid us welcome, but at the Corners not a soul appeared, except Hank's father, who came bustling out of his store with the glad hand ready.

"Where's everybody?" I asked, somewhat puzzled. "The place seems to be deserted."

"Why they're all off on a picnic," he replied.

But when we had gone up the road a bit, there were they all—all that were left of them. They came out from the trees, and stood in the road, and waved their hands to us.

"Why there are Jimmie and Hannah!" I exclaimed, as we drew nearer.

For there the two dear souls were, smiling from ear to ear; and there were father and mother, and Tom Johnson and his wife, and Mistress Jones and her "toppler," and Dimple, and Ned Burns, and Micky Feeley, and all the other boys and girls, big and little, of the whole neighborhood. . . . At the very last someone sprang out from the undergrowth, and there was Dicky boy himself, proudly beamed upon by his mother, and anxious to have a talk with me so that he could tell me all the "noos."

"How is Meg?" asked Barry, when she could get in a word between the laughing and chaffing.

"Oh, she's fine," volunteered Mistress

Jones. "She's up at the house waitin'. The supper's all spread out o' doors, an' someone had to stay to keep the cat off an' shoo the hens out o' the yard.—We're jist goin' to eat an' run, Barry. We know ye'll be wantin' to rest, darlin', but we couldn't let the day go by without celebratin'. It isn't every day a bride comes to us from furrin' parts. We've been sittin' on pins an' needles fer fear it 'ud rain, but ye'd jist think the weather had been made on purpose."

"And how is it that you're here, Jimmie?" I asked.

"Got a chanst o' buyin' a bit o' land behind the tavern," he explained, "an' we're goin' to turn the tavern into a dwellin' house. Ye see I made good money over'n the States, an' got a start, enough to pay down a payment or two, yes sirree!—No goin' back behind the Block any more fer Hannah!—Now then, boys!" turning away from us and holding up his hand to the others, exactly as I had seen him do many a time at a raising before he began to yell "yo-heave!"

But with that he himself picked up my mother as if she had been a bird, and placed her, laughing heartily, beside Barry, and the lads fell upon the horses and took them out of the waggon, and my father led them off, while the lads fell along on each side of the tongue and behind the waggon, and so pulled and pushed us the rest of the way home, in the midst of such laughing and hallooing as had seldom before been heard along the old road.

I looked at Barry, and she was smiling through tears. "How dear they are! How very dear they are!" she said.

—And so we turned in at the gate, and on to the house where, indeed, was Old Meg standing guard over the tables laid out in gala array in the evening sunshine before the door, with bright autumn leaves festooned about and above them, and great bunches of Michaelmas daisies and purple wild grapes in jars along the centre.

It was a gay and glad scene, but even in the midst of it the sense of a great blank came to me, for Hank was not there, nor The Schoolmaster, nor Red Jock.

As the dusk came on they all left but Dicky, who waited to have a little talk.

When I had come out of the house after seeing that Barry was resting, we sat down on the bench by the door, and Dicky handed me a parcel, neatly tied in brown paper, but it was not to be added to the pile of gifts left on the living-room table, nor to be given to Barry until she was rested.

"It seemed sort o' sad like to give ye afore," he explained, "but The Master told me to give it to ye."

Curiously I tore off the wrapper, and there was a little walnut box such as the prisoners had been in the habit of making and about it had been painted, with The Schoolmaster's own painstaking perfection of lettering, this verse:

"When Lout and Matthews met their doom,
It seemed that Freedom died;
But not the sword of Death can stay
The Powers that onward ride.

"For Right shall triumph over Wrong;
The body, only, dies;
And they who died ere long shall see
Their shining goal arise.

—Not very good poetry, perhaps, but filled, to those who could read between the lines, with The Schoolmaster's philosophy of life,—that not one effort for liberty or right, even though apparently defeated, can be lost, and that the soul that struggles shall know and be satisfied.

"He was in the goal when he made it," said Dick, indicating the box." He got away somehow, an' made a beeline fer the States. Him an' Hank's together again, thick as bugs in a rug. I seen them often fer a while, an' they were alwus talkin' about gettin' Canada's liberty goin', an' The Schoolmaster was alwus makin' speeches. They sort o' fired me up too fer a while, but I guess I got homesick. There jist didn't seem anythin' worth while but the old swimmin' hole; an' so I cut it an' run, an' here I am."

"Do you think ther'll be a real invasion of Canada, Dick?" I asked.

"The Lord only knows, he replied.

Three days have passed since then, and very gently my mother is nursing



Chiclets Shorten — the Rows

WHEN the hoe grows heavy in your hand and the rows seem to meet in the distance, let a Chiclet brighten the day. The candy-coating of refreshing peppermint is "Really Delightful."



The benefits from the regular use of Adams Chiclets are very real—a good digestion, sound teeth; sweet breath. Always have a packet handy. Buy the large dollar box containing twenty packets—no danger of it going stale, because the candy-coating seals in the goodness. Sold everywhere. Five cents for ten Chiclets.

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Tested Stock and Poultry Feeds

We have purchased the farm of Dr. McWilliam, at North Dorchester, Ontario, where we will continue to carry out experiments as we have been doing in the Old Country for the past 50 years.

Our Head Office and Mills are located at Dundas, Ontario.

my girl back to strength, there in the little "spare room," which has been given over to her, making her sleep early and late and feeding her on the best of the land, which, indeed, is easy enough to do, for every day someone comes with some tid-bit,—a speckled trout from the creek, or a partridge cooked to a turn on a spit, or a mug of jelly of the wild grape or high cranberry.

This evening Barry sat for the space of two hours by the fireplace, with mother and father as proud to see her there as was I.—Very soon, if there comes a fine enough day, I must carry her to the Golden Winged Woods.

CHAPTER XXXVII. The Home Going.

October 25th, 1838.

"SO we are here together, just as Old Meg said we should be," I remarked to Barry, looking beyond her, as she sat on a rug near me, to the little waterfall, which was now brawling merrily because of the fall increase in flood; and then I told her the story of the old weaver's visit to me at this spot.

"After all, her prophecy is easily explained," returned Barry. "She was the only one I wrote to."

"I suspected as much," I said. Barry settled herself back against the mossy log and crossed her little feet which she had chosen, this day, to encase in moccasins embroidered with stained quills of the porcupine.

I drew my mother's Paisley shawl about her and stooped from my perch on the log to twine a bit of green vine about her head. "There," I said, "Now you are Pocahontas again."

She smiled, but her thoughts were still with Old Meg.

"I think I wrote to her," she continued, in the hope of hearing something about you, Alan, although I wouldn't let myself think that, then. Now I know that I

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H. A. MACDONELL, Director of Colonization, Parliament Buildings, Toronto.
G. H. FERGUSON, Minister of Lands, Forests and Mines.

was beginning to discover what you had been to me from the first, Alan. You had always been my haven and my rest.—I was very homesick when I wrote to Meg.—Oh, Alan, you don't know!—I just told her everything."

"Meg knows how to hold her tongue," I said.

I knew that," replied Barry. "She's really superior to—to many women, in spite of her oddness."

"Yes," I assented. "What strange people drift to this new country, Barry." She looked up at me and smiled.

"But what a beautiful country it is!" she said, slipping her hand into mine.

And then together we looked all about and listened to the sound of nuts dropping and squirrels leaping from branch to branch.—Everywhere the trees were bare save for a few shreds of yellow and red hanging like banners among the branches and, here and there, the deep, dark green of the pines, but the ground below was covered with a rustling carpet of golden and crimson leaves, which had settled about the clumps of green fern and burning bush all drooping with scarlet berries.

"Yes, it's beautiful," she repeated. "Alan I've quite lost all my longing for palaces and mirrored walls and silken dresses.—Do you remember?"

"I remember," I said.

"We'll never leave these woods," she went on, "unless when we go up to see Elizabeth, and Nora, and Uncle Joe and the rest. —I love them all."

"And they love you," I added. "Barry when do you think you'll be able to go to Riverdale?"

"Why, very soon, I hope," she replied. "I want to go before the ice forms on the river."

But we can go again in the spring waggon," I said, looking down at her, "or in the sleigh, if the snow's here then."

"No," she said, quite determinedly, "I want to go by the river. You're sure you'll buy Hank's canoe, Alan?"

"Cross my heart' sure," I said, willing to humour her whim.

For a little she said nothing, but kept gazing into the waterfall, and then she crept towards me a little and I slipped down on the rug beside her and took her in my arms.

"Riverdale' is down the river, Alan?" she remarked, although she must have remembered quite well.

"Yes, down the river."

"I could paddle along it quite well, then, even if I weren't very strong," she continued.

"Yes, at this time of the year it would carry the canoe almost of itself," I said. And then I stopped, wondering, and drew her very close to me, and knew that the thought of a hundred generations was working through her.

"You want to paddle me home, Barry?" I said, very close to the little pink shell of her ear.

"Yes," she whispered, and looked into my eyes with all the sweet frankness of her and smiled.

—Dear child, I knew then that to her the real day of our marriage must be sanctified by this ceremony of the tribe. Only thus, to her, could the *Great Munedoo* come, placing the seal of a sacred rite on our union.

"I'm very foolish, Alan," she said, presently, with a little laugh of apology; "I can't explain this wish, but it is there."

"It shall be as you wish, Barry," I replied. "It will be a very sweet home-going."

And then, almost as the last words left my lips, there warbled, from the top of a tree near us, a faint and sleepy, yet clear, call



"The whitethroat!" we exclaimed simultaneously, almost startled, and then we looked at each other and smiled.

"He's on his way South," I said. "And he seems very tired," she added. "But he'll come next spring."

"Yes, we'll be here together again with the whitethroats," she said.

I am writing this in my little room beneath the roof—perhaps I shall never write it again, but sometimes I shall come into it, for the two homes will be almost one.

Just a few days ago Barry and I sat by the waterfall. In just a few moments, she and I will set out for Riverdale.

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A Valuable Feed for all Classes of Stock

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This Standard Stock Feed which is in store at Ft. William, consists of re-cleaned elevator screenings.

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also makes an excellent poultry feed. It contains 14% Protein, 5% Fat and 8% Fibre.

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Orders should be sent direct to Feed Division, Live Stock Branch, Ottawa, for straight car lots only—(about 30 tons to a car.) Join with your neighbor and order a car on shares. Terms—Sight draft with bill of lading attached, payable on arrival of car. Orders filled strictly in turn as received.

GROUND
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f.o.b. Fort William

Pamphlet No. 18 giving full particulars sent on request with samples of the feed.

Live Stock Branch (Feed Division)

The Dominion of Canada Department of Agriculture

OTTAWA

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305

The last load has been taken, Barry is tying on her bonnet downstairs.

ANOTHER day has almost passed. Outside great snowflakes are falling. It turned cold in the night. Barry is lying asleep on the couch that I made with so much loving thought of her;—like a little child she drops asleep anywhere and at any time, but it is bringing back to her, little by little, the strength of the old Barry,—my Oogenebahgooquay my Wild Rose Woman—whose springing step used to carry her through the Golden Winged Woods. . . Near us the fire-place is filled with blazing logs, and on the drawn-out coals the kettle is beginning to sing. . . Looking out of the window, with its blue and white curtains drawn back so far that they do not cover it at all, I can see the river. It is very gray and leaden this evening, and the great white snowflakes, coming down like flowers, disappear instantly when they fall upon it. Last night it was all crimson, and amber, and gold—for, as Mistress Jones says, "the weather has held off" wonderfully.

They came with us as far as the river—mother and father—the four of us riding in the spring-waggon, then, when we had come to the little cove where the canoe lay on the bank, they kissed Barry and went back.

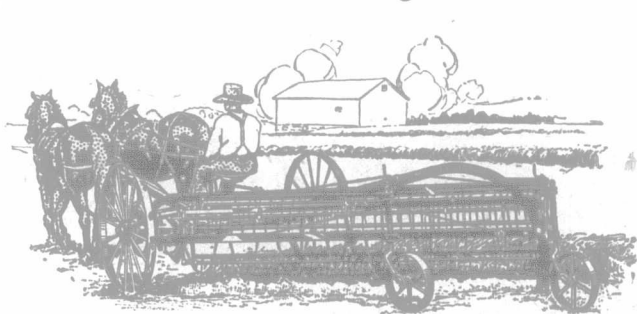
We watched them until they had gone over the hill, and the last rattle of the waggon had died away on the still evening air. Then Barry and I were folded in each other's arms.

In a moment or so, I pushed the canoe down into the water. When I turned to her there she stood, in her dress of buckskin color, with the red sash about her waist, and a little sprig of squawberry in her hair, which hung straight about her shoulders. On her feet were the little moccasins embroidered with porcupine quills.—Smiling she stood, and the light of the sunset shone on her white face and into the depths of her great dark eyes. But her lips were very red, and on her cheeks a glow that was not altogether of returning health.

Beside her, on the bank, were her bonnet and the long cloak she had worn.

Almost breathless I stood, but when

Massey-Harris



Does the Work of Two Machines

A combined Tedder and Side Rake which can be changed in an instant, by simply pulling one Lever, from Tedding to Raking or reverse and satisfies the most exacting in either capacity.

It saves the cost of one Machine, the extra storage space required, and the time hitching and unhitching when changing from Tedding to Raking.

The Massey-Harris Side Rake and Tedder has a frame of Angle Steel, strongly braced and trussed, giving great strength. The Gearing is strong and simple—fast speed for Tedding and a slow reverse motion for Raking.

The motion of the Teeth is easy but positive, their action being very similar to the work of hand Rakes, handling the hay gently, without beating or threshing.

MASSEY-HARRIS CO., Limited
Head Offices—Toronto, Ont.
Branches at
Montreal, Moncton, Winnipeg, Regina, Saskatoon,
Swift Current, Yorkton, Calgary, Edmonton.
Transfer Houses—Vancouver and Kamloops.
Agencies Everywhere

I would have spoken she placed her fingers on my lips.

"Come!" she said, and stepped into the canoe.

Silently I followed her and took my place, pushing my hand against a spur of root to send the light craft out towards the current.

Already she was kneeling in her place, beginning to wield the paddle, and so, with her body swaying with the stroke and her long hair blowing on the light breeze, we passed out upon the water, all chequered with the sunset and the deep shade of the trees along the shore.

Thus they went their way to the wigwam in the Penahqueewene Keewis, the moon of the falling leaf, and she paddled the canoe.

To be continued.

His Dog.

(He also Serves Who Only Wags 'and Waits.)

I'm sure I sniff excitement in the air— Perhaps he's coming home! If I could know!

But up and down the street and everywhere I've watched about a hundred years or so;

Yet somehow I expect him any day— With cheers and shouts, as when he marched away.

And when I hear that whistle, and you see A streak of dog, in frenzied happiness, You'll understand He'll pat my head and say:

"Hello, old pal! You missed me some, I guess!"

I leap to kiss his hand, and then—oh, boy!

I wonder if a dog can die of joy!

—Laura Simmons, in "Life."

The skunk has been classified as an animal of great economic importance by the Department of Agriculture. As an enemy to destructive insects and vermin, against which the farmer could not successfully cope, this animal, so commonly despised and destroyed, should be protected at all times.—Our Dumb Animals.

For Men Who Know What They Want

FOR the man who knows a good hog, who knows how it should lengthen out for the first few months and fatten in the last few weeks.

For the man who knows the feed a good hog should have, we have something to offer.

He will find that



Milk Hog Feed

is the most satisfactory, most economical, most rapid pork-producer that has yet appeared on the market. This has been proved beyond a doubt.

We invite you to compare it with other feeds.

It is guaranteed to contain Canadian peas, No. 1 Argentine Maize, No. 2 American Corn, Fine Thirds, fifteen per cent Powdered Milk, and an imported high protein food that is superior to tankage.

This can be used with absolute safety from birth to finished pork.

The price is **\$4.25 per cwt., freight paid on five bag lots to your nearest railroad station in Ontario. On 100 lb. lots, sent by express, 50 cents extra.**

Sold by all first class dealers, or by the manufacturers direct.

ANDREW MOTHERWELL OF CANADA, LIMITED
VALLEYTOWN FEED MILLS
DUNDAS - ONTARIO

Successors to
THE CALDWELL FEED AND CEREAL COMPANY, LIMITED

Money Saving Tires

During the period that these tires have been advertised at cut rates hundreds of people throughout the Dominion have taken advantage of these prices and saved money.

Are you one of them—have you sent in your order and had tires sent on approval? If not, do so now; take advantage of this offer and save money. Receive brand new tires that are guaranteed to give you more mileage per dollar invested than any other tire—irrespective of price paid. Each tire bears the name and serial number of one of Canada's four largest tire manufacturers, an assurance of the highest quality of material and workmanship.

Your order is sent express paid C.O.D. to any address in Ontario, Quebec or the Maritime Provinces for free inspection and return at our expense if not satisfactory.



Size	Plain	Non-Skid	Size	Plain	Non-Skid
30 x 3 1/2	\$13.45	17.80	33 x 4 1/2	25.00	35.00
32 x 3 1/2	13.00	16.70	34 x 4 1/2	25.00	27.50
31 x 4	18.00	.....	35 x 4 1/2	28.00	38.00
32 x 4	19.00	22.00	36 x 4 1/2	29.00	39.00
33 x 4	22.60	27.10	37 x 4 1/2	.....	.....
34 x 4	23.40	.....	35 x 5	.....	42.50
35 x 4	25.75	28.30	37 x 5	35.00	45.00
36 x 4	.....	29.20	.....	.....	.....

30 x 3 1/2 Tubes, Fully Guaranteed \$2.25

Security Tire Sales Co.

516 1/2 Yonge St.

TORONTO

BRANTFORD BINDER TWINE

WE have no tariff protection. Our business has grown because our customers are convinced that our twines are the highest quality. We submit them to a special preserving treatment to make them insect proof.

BRANDS :

- Gilt Edge - 650 Ft.
- Gold Leaf - 600 Ft.
- Silver Leaf - 550 Ft.
- Maple Leaf - 500 Ft.

Write for full information and calendar.

BRANTFORD CORDAGE COMPANY, LIMITED
BRANTFORD, ONTARIO

Live Poultry Wanted Strictly Fresh Eggs Wanted

We have a good demand for eggs of good quality at top market prices. Sell your live hens to us. We pay top prices for good hens. Also other kinds of poultry. Be sure and sell to C. A. MANN & CO. 78 King St., London, Ont

POULTRY AND EGGS.

BABY CHICKS, Strong Healthy Laying Strains Place your order for prompt delivery. Barred Rocks, White Wyandottes, Rhode Island Reds. Satisfaction guaranteed. Tay Poultry Farm, Perth, Ont.

When writing please mention Advocate.

Current Events.

British Columbia farmers are organizing a Council of Agriculture for the Province.

The Winnipeg strike was called off on June 26. The Government has appointed a commission to probe the causes.

An airplane company has been chartered to make planes at Brantford, Ont.

Mr. John H. Lillico was nominated for the North Oxford seat in the Commons by the United Farmers' Clubs of North Oxford and Independent Labor Party of Woodstock.

By a vote of 105 to 34 the House of Commons at Ottawa voted in favor of nation-wide prohibition in Canada for 12 months after the proclamation of peace.

Mr. Herbert Hartley Dewart, K.C., M.P.P., a Toronto barrister, was selected by the Ontario Liberal Convention as the leader of the Provincial Party.



ALMA LADIES' COLLEGE

Canada's National Residential School for Girls

combines all the advantages of health, culture, and practical and aesthetic training.

Thorough courses in Music Art, Oratory, High School, Business, Domestic Science, and Superior Physical Training.

Opens its thirty-ninth year on September the fifteenth, nineteen hundred and nineteen.

PERRY S. DOBSON, M.A., Principal. R. I. WARNER, M.A., D.D., Principal Emeritus
For terms address Registrar; ALMA LADIES' COLLEGE, ST. THOMAS, ONTARIO

Field Marshal von Hindenburg has resigned as Chief of the German army.

Admiral Reuter and his whole staff of officers were arrested for sinking the German fleet at Scapa Flow, Orkney Islands on June 21, and on June 25th the Peace Conference sent a note to Germany declaring that the sinking of the ships was a violation of the armistice agreement. Premier Clemenceau added that the burning in Berlin of the French flags captured in 1871, which were to be re-

turned to France, was another breach of good faith for which Germany must make reparation.

Von Bethmann-Hollweg, who was Chancellor of Germany when the war began, has formally asked the Allied Powers to put him on trial instead of the former Emperor of Germany. He declares that he assumes the responsibility for the acts of Germany during his term of office.

One June 28, in the Hall of Mirrors at Versailles, Herr Mueller and his associates signed the Peace Treaty, the event being acclaimed with great joy by the French people. The Chinese delegates, who were unable to accept the Shantung settlement, absented themselves, and Gen. Smuts entered a written protest advising greater moderation; otherwise the event was marked by no especial feature.

The Dollar Chain

Exclusively to help blind and maimed Canadian soldiers, unless otherwise requested.

Contributions from June 20 to June 27: "Lest We Forget," Melanclon, Ont., \$2; "Scotia," London, Ont., \$1.

Previously acknowledged..... \$6,041.50

Total to June 27..... \$6,044.50

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

LIGHT

You cannot help to invest strain, and for your s

This is what happens to a fence when the Posts are of Cedar.

PRESTON, I

ONTARIO Public Schools Yearly Music: Inst

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FOUNDED 1866

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been advertised at the Dominion saved money.

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D. to any ad-time Provinces expense if not

Plain	Non-Skid
25.00	35.00
28.00	27.50
29.00	38.00
	39.00
	42.50
35.00	45.00

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LIMITED

ND EGGS.

Healthy Laying Strains not delivery. Barred Rhode Island Reds. Tay Poultry Farm.

vention Advocate.

Hall of Mirrors at ler and his as- eace Treaty, the with great joy by he Chinese dele- le to accept the absented them- entered a written ater moderation: is marked by no

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blind and maimed ess otherwise re-

ne 20 to June 27: anchon, Ont., \$2; \$1.

.....\$6,041.50

.....\$6,044.50

Contributions to The Home Magazine,

Motor Efficiency Depends on Spark Plug Service

Spark Plug service depends on the ability of its insulator to resist vibration, shock of cylinder explosions and extremes of temperature changes in all types of motors, in all kinds of weather, in all climates, and under every known load and road condition.





Champion Dependable Spark Plugs

are equipped with our new 3450 Insulator, the result of ten years of tedious research and 3450 distinct experiments.

- It offers three times the breakage resistance to sudden temperature changes; and*
- It has two and one-half times the breakage resistance to shock and vibration; and*
- It has fifty per cent. more resistance to electric current when heated than the best previous Champion Insulator that made the name a synonym for dependability.*

Besides these Insulator tests, Champions are subjected to an air pressure test of 140 pounds to the square inch for compression leakage and a final inspection for imperfections. "Champion" on the Insulator is your guide to better spark plugs for efficient service in every make of motor or engine, each guaranteed to give "Absolute satisfaction to the user or full repair or replacement will be made."

Sold wherever Motor Supplies are sold
Champion Spark Plug Co.,
of Canada, Limited
Windsor, Ontario.


Champion "O" for Overland Cars. A 14 "O" 1/2 in. Price \$1.00.

76



LIGHTNING PROOF FENCE POSTS that will not rot, break, burn or buckle.

You know how Cedar Posts decay, break off, and heave with the frost. You cannot have a good-looking fence for long unless your posts are of Steel. We want you to investigate Preston Steel Posts. They are unbreakable—will resist any shock or strain, and as the Steel "grounds" the Wire they are lightning proof and therefore safe for your stock.

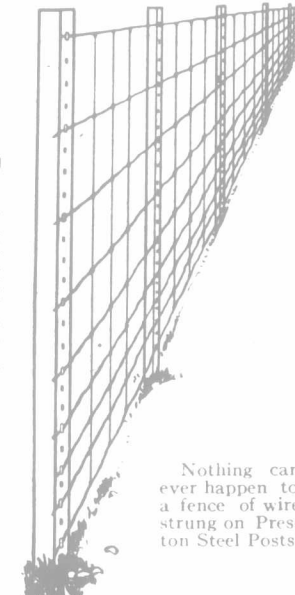


This is what happens to a fence when the Posts are of Cedar.

PRESTON STEEL POSTS

* Many head of cattle are destroyed annually by coming in contact with wire fences struck by lightning. That cannot happen if your fence is strung on Preston Steel Posts. They are so easy to drive that a man and a boy can put in 250 in a day. The bevelled-edge point enters the earth with a few blows of the sledge and the anchor plate takes firm hold in any soil and binds the post permanently in place. Replacements need not be figured on with such a post as this and there is no cost of upkeep, therefore, Preston Steel Posts are the cheapest post that you can buy.

Write for our folder which fully describes the posts and explains its many fine features.



Nothing can ever happen to a fence of wire strung on Preston Steel Posts.

THE METAL SHINGLE & SIDING CO. LIMITED
PRESTON, 120 Guelph St. TORONTO, 40 Abell St. MONTREAL, 86 DeLorimier Ave.

The High Price of Oil Cake.

The high price of Oil Cake and Cotton Seed Meal can be largely offset by the regular use of Herbageum. It enables the feeder to use more roughage and reduce the ration of expensive meals while maintaining his animals in prime condition. Corn-stalks, coarse hay and straw contain a large amount of food that animals are unable to fully assimilate and they can only be given in limited quantities. Regular use of Herbageum overcomes this difficulty and a much larger quantity of roughage can be profitably used and the animals maintained in prime condition with their maximum production of flesh, milk, butter or wool.

Herbageum given regularly twice daily as directed requires but 1 lb., per month for a horse, cow or hog and the cost is only 25c. per lb., which is less than one cent a day per animal.

As good calves can be raised on skim or separated milk seasoned with Herbageum on new whole milk without it. It is more economical than flaxseed or oil cake for calves. Try it. Pigs will thrive on fresh whey and Herbageum. As good weights can be assured with hogs at six months with Herbageum as at eight months without it, and the pork will be firmer and sweeter and the lard of a better quality.

Herbageum is without equal for poultry and when given regularly to sheep there is no trouble with ticks and sheep dips are not required, the wool clip is heavier and in every way superior.

Herbageum has been in regular use during over thirty years and all we claim can be substantiated by thousands who use it.

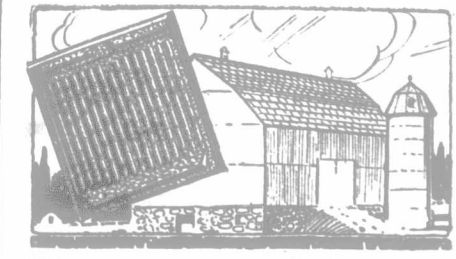
The Beaver Mfg. Co., Ltd. Sole Manufacturers, Galt, Canada. Advt.

ONTARIO LADIES' COLLEGE

WHITBY - ONTARIO. School Re-opens Sept. 16th.

Public School to Second Year University, Household Science, Music: Instrumental, Vocal, Commercial, Elocution, Art.	Civic and Parliamentary Studies, Gymnasium Work and Swimming.
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For Calendar apply to Rev. F. L. Farewell, B. A. Principal.



PEDLARS GEORGE SHINGLES

Lightning-Proof

THESE shingles lock on all four sides, forming practically a one-piece roof of heavily galvanized steel, which, when properly grounded, causes lightning strokes to be evenly and harmlessly distributed. Proof also against fire, wind, rain or snow, and will not rust or decay, but will last a lifetime without need of repair. See your dealer or

Write for Roofing Booklet L. F.

THE PEDLAR PEOPLE LIMITED
(ESTABLISHED 1881)
Executive Office and Factories:
OSHAWA, ONT.
Branches: Montreal, Quebec, Ottawa, Toronto, Winnipeg, Vancouver.

SPECIAL OFFER

Strong Steel Gates

We are prepared to ship at once (FREIGHT PAID) to your nearest station.

Write to-day for Illustration Special Prices.

The Guidal Sales Co.
Factory Distributors
C.P.R. Building Toronto, Ont.

FARMERS! "COOKE" WIDE-TIRED STEEL WHEELS



The cost is small, and the labor-saving qualities are unexcelled.

For the month of July we will prepay freight, without additional charge, on all wheel orders to be shipped to points in Old Ontario and Western Quebec. Send to-day for illustrated circular and price list describing our Steel Wheels, also free chart showing how to take measurements correctly. "COOKE" wheels are giving satisfaction all over Canada. They are made to fit any axle or skain.

THE COOKE METAL WHEEL COMPANY
19 West St., Orillia, Ont.

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

ROOFING MILL ENDS CHEAP

A limited quantity of High-Grade Mill Ends for sale cheap. Samples Free

FACTORY DISTRIBUTORS
BOX 61 HAMILTON CANADA.

WANT AND FOR SALE.

FOR SALE FOUR FARMS IN FAMOUS Annapolis Valley, Nova Scotia, comprising about thousand acres and including two hundred acres of apple orchards. Excellent shipping facilities via water, and rail. Apply Box 30 "Farmers' Advocate" London, Ont.

FARM WORK DESIRED BY YOUNG MAN, experienced; can plow, milk, handle horses, run motortruck. Box A, Farmer's Advocate, Toronto.

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And pay your accounts by cheque. You avoid the risk of carrying sums of money, and the cheque is an absolute receipt. Interest allowed on deposits.

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Let us send you
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a 'Johnny-on-the-Spot' Engine and pump jack—the Universal pumping engine—to try on your pump. It will give you fresh water whenever you want it at a cost of less than one cent for an average day's supply. In addition it will run the cream separator, churn, washing machine, pulper, etc. There are more

"JOHNNY-ON-THE-SPOT"

Engines pumping water and doing the other chores on Canadian farms than any other make. Life is too short to do this monotonous drudgery in the old expensive wasteful way.

Write us to-day for our free trial offer. Do not delay—you need this engine now.

GILSON MFG. CO. Ltd.
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DIXIE
"ACE"
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Ace High!

THE Dixie "Ace" Tractor has so many exclusive features that its superiority is unquestioned. It is the "Ace of Aces,"—acknowledged by everyone as setting an entirely new standard in tractor design and construction. The Dixie "Ace" leads,—others follow. You do not buy a tractor everyday—you cannot afford to do anything until you learn all about the Dixie "Ace."—A better Tractor at a better price!



GILSON Mfg. Co. Ltd.
869 York St., Guelph, Ont. 86

Credit.

Credit.—The question, with what to buy, involves the question whether to buy always with cash or to make a judicious use of credit. What advice to give farmers in general on this subject is an exceedingly delicate question. The farmer who has not a very keen sense of value or is not in the habit of keeping accurate accounts, who does not understand the importance of charging for deterioration, etc., would better avoid the use of credit as he would the plague. If he never makes use of it, he will probably not achieve a large degree of success as a farmer; but if such an unbusinesslike farmer does make use of it, he is pretty certain to become bankrupt. But the farmer who has a keen sense of values, who understands business methods, who keeps accurate accounts and knows what to charge for deterioration, and who at the same time is a successful manager in the sense that he is able to grow good crops and to sell them to advantage, should not hesitate to make a large use of credit. By means of it he saves time. He can secure fertilizers, farm machinery, live stock, etc., much earlier than would otherwise be possible. If he is very wise in his purchases or skillful in his management, he will make enough from the use of the credit he has borrowed to pay the interest and leave a handsome profit besides. This profit, that is, the sum which he makes from the purchases over and above enough to pay principal and interest, represents the advantage of making use of credit.

Bank Credit.—Generally speaking, the credit system works better where it is not mixed up with something else like storekeeping, that is, where the credit institution is purely one of credit and nothing else. In other words, bank credit is generally a better system than store credit. In the first place, when one borrows of a store he does not borrow money, does not receive money, and has, moreover, no liberty to buy where he chooses. He only borrows credit and must, furthermore, make use of it in buying at the store where he borrows. But when he borrows of a bank he either receives money or the right to draw it when he needs it. He is thus at liberty to buy with that money at whatever store or in whatever way he chooses. This puts him in a position of greater independence than he enjoys when he makes use of store credit. Where the banking system is well developed and there is competition among banks to get business, it is not likely that the rate of interest charged will be exorbitant, though it is never low. The bank is virtually a middleman, performing much the same function, and entitled to a reward for the same reason, as a merchant. So long as a borrower can borrow directly from the lender, the bank's profits can be saved; but where it is difficult for the borrower to find a lender, or a lender to find a borrower, or where the personal relations are such as to prevent dealing in a personal way with one another, the bank performs a real service. They who have money to spare can deposit it in the bank, and they who need money can always find it there. Both are saved the trouble of finding one another.

Again, the bank generally deals impersonally and according to fixed rules, which it will not vary for personal considerations. In such delicate transactions as borrowing and lending this is a matter of greater importance than farmers commonly realize. Probably no one thing has worked so much disaster in farming neighborhoods, or produced more bitterness of feeling or more financial loss, than making use of personal considerations in matters of credit. There is probably not a farmer above three score years of age, who has had a reputation for business capacity and integrity, who has not been burdened more than once because of his reputation. Such men are always acceptable as indorsers of notes for their less scrupulous neighbors. In times past they have continually been besieged by requests for favors of this kind, and he may regard himself as exceedingly fortunate who has never lost money in this way. One of the chief advantages of a good banking system is to protect men of honor and integrity against appeals of this kind.—T. N. Carver, in Principles of Rural Economics.

THE GENERAL ANIMALS INS. CO. OF CANADA
71 A ST. JAMES, MONTREAL

LIVE STOCK INSURANCE

AGAINST LOSS THROUGH DEATH BY ACCIDENT OR DISEASES

SPECIAL RATES for Registered Cattle and Horses. Short term insurance at low rates for Show Animals, Feeding Cattle, Animals shipped by rail or water, In-foal mares, In-calf cows, Stallions, etc.

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71 A St. James Street, Montreal.

JOHN H. HARRIS, Inspector, 31 Scott Street, Toronto. Phone Adelaide 2740

FARMERS' BUSINESS

For the past 54 years, this Bank has given particular attention to the business of Farmers.

We have helped many over the rough places, and have aided many more to the highest plane of success.

We are prepared to extend you every aid within legitimate banking practice.

Come in at any time and talk over your affairs with us. You are always welcome.



15

THE MERCHANTS BANK

Head Office: Montreal OF CANADA Established 1864.

With its 27 Branches in Manitoba, 41 Branches in Saskatchewan, 69 Branches in Alberta, 8 Branches in British Columbia, 119 Branches in Ontario, 37 Branches in Quebec, 1 Branch in New Brunswick and 2 Branches in Nova Scotia serves Rural Canada most effectively.

WRITE OR CALL AT NEAREST BRANCH.

Made in Canada
Tarvia
Preserves Roads
Prevents Dust—

How One Farmer Carried the Bond Issue—

A WELL-KNOWN engineer tells this story, and it's the best good-roads story we ever heard.

He says the district was in terrible need of better roads. The mud all through was so deep that it was impossible to use wagons, all traveling being done either on foot or horseback.

In spite of the need there was little enthusiasm for good roads when the Highway Board met. Everyone was afraid of the presumed high cost and increased taxes.

A farmer in the back of the room arose.

"Mr. Chairman," he said, "I ain't fit to address a dignified meeting like this, but that's because I've had to travel for ten miles over the kind of roads you give us.

"I couldn't drive, I had to ride horseback. My boots are covered with mud; my trousers are covered with mud; my coat is covered with mud; and if I hadn't stopped to wash it my face would be covered with mud, too.

"I look as if I had crawled here on my hands and knees, and I'm only half through because I've still got to go back, with five dollars' worth of groceries that I bought from brother Fletcher.

"If there had been a good, hard road that my old horse could climb up and draw in a load of lumber that I've got ready, I would have bought twenty-five dollars' worth of groceries instead of five dollars' worth, and there would have been that much more money in town to-night."

And the mud-covered farmer sat down! Other speakers took up his case. They pointed out that good roads were an asset instead of a liability: an economy instead of an expense; that they brought money into a town and greatly increased the markets.

The result was that the Commissioners enthusiastically passed a resolution to issue bonds enough to give them several miles of good roads.

Mud holes may look cheap, but they are the costliest thing any community can have around. If you will build and maintain your roads with Tarvia you will have dustless, mudless, frost-proof highways that cost little to construct and maintain.

Illustrated booklet free on request.

The **Barrett** Company
LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER
ST. JOHN, N. B. HALIFAX SYDNEY, N. S.

Can We Explore Sunken Continents?

If ever you get to sighing that, since both poles have been reached and man has conquered the air, the romance of the unknown is dead, just remember that considerably more than two-thirds of our planet—73.39 per cent. of it, to be exact—is still to be explored. To be sure this generous half portion is very, very wet, being covered by some consistently damp water, miles deep in spots, but it offers splendid rewards for the scientist, adventurer and seeker.

Man has been described as an animal that lives at the bottom or an ocean of air. He moves freely about in his appointed kingdom, but if he rises 28,000 feet above it (the record flight is 31,000 feet made by Adjutant Casale, a French aviator) he must have oxygen tanks to keep the breath of life in his body; and yet a little higher and the wings of his fast flying airplane will find nothing on which to take hold.

Lack of air halts man's explorations of the interstellar spaces, but it is too much air that checks him when he would enlarge the bounds of his knowledge in the depths of the sea. And to-day he is as anxious to go down as he is to go up, for not only do the ocean depths have the lure of the unknown, but the submarine has made of them a great treasure house.

According to an official statement of the United States Shipping Board the ships sent down by the German sea wolves total 21,404,193 tons. Even though we have become used to talking and thinking in billions the \$3,000,000,000 represented by ships and cargoes is still a sum to move the imagination. Add to them the treasure that the sea has swallowed up since the first gold laden galleon put out and you form some idea of the material gain that awaits the one who will solve the problem of transporting man from the bottom of his ocean of air to the bottom of the ocean of water—and bringing him safe back again.

Drowning is the least of a diver's dangers. The greatest is being blown up. It is comparatively easy to keep water at bay by opposing it with air, but the deeper the diver goes the greater must be the pressure of air within his diving suit to balance the increasing pressure of the water without.

When the first of the East River tunnels was building, a party of engineers went on an inspection tour. They took with them light refreshments including ginger ale. When they opened a bottle in the air lock where compress air was fighting back the river they noticed that there was no "fizz" to the drink. One of the men drank a bottle of the flat stuff. When he emerged into the outer air he was made aware in a most unpleasant way that the "fizz" had been present—plenty of it—but kept quiet by the air pressure in the lock. Something similar happens to the man who braves the deeps. The constituents of the air we breathe are, by volume, 78.1 per cent. nitrogen, 20.9 per cent. oxygen, and 0.03 per cent. carbon dioxide. Down 100 feet the terrific pressure of air necessary to counteract the water pressure that would otherwise crush a man to death forces the nitrogen into the blood. It does not combine chemically with the blood as is the way of oxygen, but charges fluid and tissues, ready to fizz out again, much as did the engineers' ginger ale, if the diver is suddenly returned to the normal pressure at the surface. Working at depths below sixty feet the diver becomes charged with nitrogen very much as a seltzer bottle is charged, and, just as your thumb on the valve reduces the pressure, and causes the liquid to bubble forth, so the nitrogen bubbles from the blood when nature puts the thumb of reduced pressure on the diver's system. The result is the agonies of "caisson disease," or the "bends."

To avoid this danger it is necessary to bring the diver up gradually, letting the nitrogen free itself slowly from his blood. Tables have been prepared which give the time necessary for a safe ascent from various depths and lengths of stay at the bottom. For instance, if the diver has been down sixty-six feet and at work over three hours he must be held for ten minutes at a twenty-foot depth and for thirty minutes at a ten-foot depth before being finally drawn to the surface. If he should descend as far as 200 feet and stay over an hour, his stages of rest on the way up would be every ten feet from eighty up, and the whole ascent would

occupy three hours and fifty-eight minutes.

The greatest depth to which men have descended is in the neighborhood of 300 feet, the record made by United States Navy divers in raising the submarine "F-4." That is probably the limit of human endurance with the equipment in common use, for so great is the air pressure at that depth that the divers could remain down only a few minutes.

It is evident, then, that the problem will have to be met in some other way than by opposing air to water pressure. It has been suggested that the present diving dress be replaced by a suit of steel strong enough of itself to resist the enormous pressure of the water of the deep sea levels—the pressure increases half a pound to the square inch for every foot below the surface. Thus protected the diver could breathe air at ordinary pressure, could ascend and descend quickly, and remain indefinitely at the bottom. Of course, he would have to be equipped with artificial hands, or claws, directed from within the armor, for if he should protrude his naked hand at a depth of several hundred feet it would be at once crushed into a jelly. Inventors have already been at work along these lines. Many ingenious ideas are on file at the Patent Office and suits of diving armor of quite wonderful ingenuity have actually been made, but the men who risk their lives in exploring the drowned continents are a conservative class and inclined to look with scorn on the ideas of the surface-keeping inventor. But the inventive genius, ingenuity and daring that have added the air to man's domain will not long be turned back by the sea; some day we shall be able to defy the crushing weight of tons on tons of water and make the deep our own.—From "The Independent."

British Record Sale for Dairy Shorthorns.

EDITOR "THE FARMER'S ADVOCATE":

The highest average on record in Great Britain for dairy Shorthorns was obtained on June 3rd at the sale of the entire herd of J. A. Attwater's cattle at Dry Leaze, Cirencester. Competition was extraordinary keen from start to finish. The stock bull Kelmscott Solus was responsible for 21 head of young stock which averaged £278 10s. each, while he himself realized 1,700 guineas. Starting at 200 guineas, he rapidly reached 1,000 guineas, and then a duel between Captain C. J. K. Maurice and Major G. J. Buxton resulted in the latter securing him for his herd at Tokenham Manor. All his calves are good, both in shape and color. E. E. Fairweather paid 900 guineas for the cow Wild Maid 3rd, and he bought seven animals at an average of 700 guineas apiece. He gave 1,160 guineas for the cow Leazon Barrington, for which there were four bidders at over 900 guineas. F. Mills paid 600 guineas for a charming young Musical tribe cow, and 400 guineas for a yearling Foggathorpe heifer.

Nine dairy-bred bulls averaged over £502 apiece. One goes to Mr. Tener, U. S. A., at 400 guineas. An unregistered cow made 130 guineas, and a score of the non-pedigree kind averaged £84 apiece.

The 67 pedigree cows and heifers offered realized £15,823 2s. 0d., or an average of £251 1s. 10d. each. The nine bulls fetched £4,525 10s. 0d., or a grand total of £21,348 12s. for the 76 head of pure-bred cattle, which were thus sold at an average of £280 18s. each. The unregistered stock made another £1,599 3s. 0d., the sale thus realizing all told £22,947 15s. 0d.

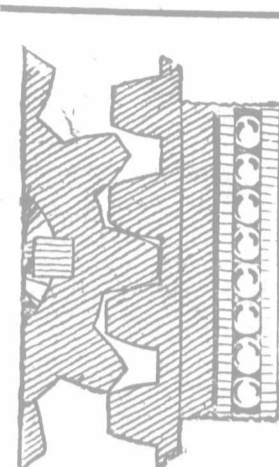
ALBION.

Duncan was driving home from market in Perthshire, where the roads are perilous by reason of the many headlong brooks or "burnies" that run across them. He was sitting on the front seat of the gig with his wife behind him, her back to his.

Presently he met Donald, who hailed him: "How are ye Duncan?" "Am fine. How's yersel?" "Brawly. And the wife?" "The wife's well. She's there behind me."

Donald eyed him curiously. "Na, na, man," he said at length, "she's no behind ye."

Duncan turned and meditated at the empty seat. "Aye, aye," he said deliberately; "that would be the splash."



Kelsey Ball-Thrust Bearings for Ford Cars

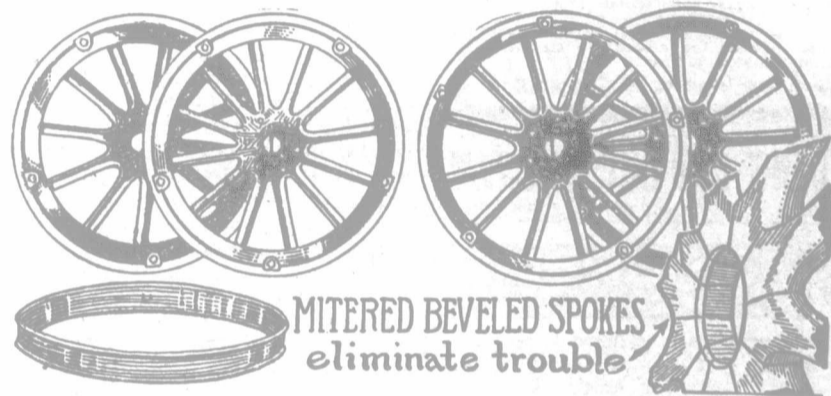
will save your differential gears and make your car run smoothly. The Kelsey Ball-Thrust saves four times their cost. Ask your supply man about them—Tell him to put them in your Ford.

Further, equip your Ford car with

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You can then carry a spare tire on the extra rim, and in case of tire trouble the change can be made in a jiffy. The complete outfit supplied by Ford Service Garages everywhere.

Kelsey Wheel Company Limited, Windsor, Ontario



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With the High Price of Butter CHURNING IS PROFITABLE

Don't sell your milk to the creameries or cheese factories—when it is far more profitable to make butter yourself, and so easy, too, with

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See the clean, sanitary and simple construction of this wonderful little money-making churn, its smooth, white, double glazed jar; with special top that prevents splashing.

See the clever mechanism, that gives the efficient perpendicular stroke, yet with rotary drive.

Then write for our booklet which illustrates every part, gives you full information of hand drive, belt drive and electric-motor driven machines.

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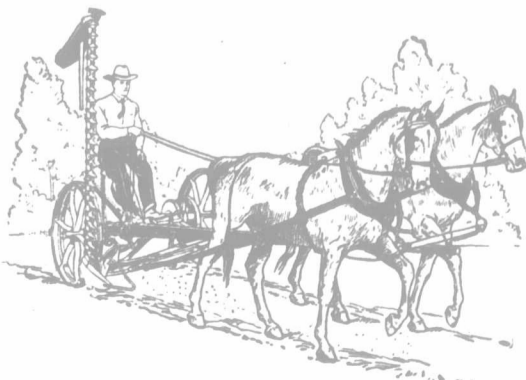
It cuts clean and close, and does not clog up when it strikes a piece of rough or uneven ground and heavy hay.

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Write for particulars.

The Peter Hamilton Company, Ltd. Peterboro, Ontario



Roosevelt as a Speaker.

A good story is told of one of Roosevelt's first efforts at declamation in school when he had undertaken the old familiar poem of Bozarris. He was lost in embarrassment on reaching the third line:—

"At midnight in his guarded tent,
The Turk was dreaming of the hour
When Greece her knee—"

There his memory gave out through stage fright and he made several attempts to start again: "When Greece her knee"—long stop—"When Greece her knee"—The old professor said from behind on the platform loud enough for the whole school to hear: "Grease her knee once more, Theodore, and perhaps she will go."

The writer recalls this familiar story of Roosevelt's beginning as a speaker to emphasize as a warning to teachers who very generally neglect this matter of elocution, that Roosevelt was scarcely better at speaking at the end through lack of proper voice culture. I was present when he came home from his world trip—the best known man in the world—to speak to an audience such as perhaps no man ever faced before. The choicest men in our country and diplomatic representatives of other lands were gathered in Convention Hall, where a Sunday School convention had been held shortly before, and at which even women had been heard, and many laymen unaccustomed to public speaking. But Mr. Roosevelt could not be heard by more than one-third of his audience. I was just about that far from the front and heard scarcely a word, and within ten minutes from the time this world hero had begun to speak the people in the rear were murmuring and leaving the hall, unable to hear anything of what he said.

One feels as if the teachers who had opportunity to prepare this man for his great work were entitled to some exemplary punishment for failing to train his voice as he was known to be preparing for public life, to discharge one of the most important functions of leading citizens, that of public discussion. Wendell Phillips used to say: "This is a government by talking." The fact that such a warning as this story should give is needed is seen in the fact that of the nearly five hundred legislators of the United States Congress there are not fifty speakers that can even be heard comfortably by the people in the galleries.

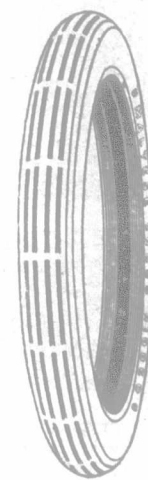
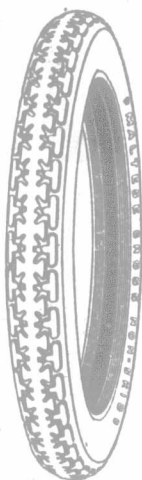
More than ever in this period of democracy, when the soap box orator of the street, who is reaching half of the population that never go to church and seldom to inside meetings of any kind, must be met with reason against rant, it is vastly important that every graduate of the public schools should be as much at home on his feet, to state the thing he knows and confute the demagog, as he is at home on a bicycle or horse or on skates or in the water as a swimmer. Three-fourths of the success of good speaking is sufficient practice to make a man absolutely free from stage fright when he stands on his feet and able to say in intelligible and effective language the facts that he knows.

WILBUR F. CRAFT.—In *Journal of Education*.

Sheep Account and Record Book

M. Stansfield, of the Sheep and Goat Division, Live Stock Branch, Ottawa, has recently prepared a Sheep Account and Private Record Book. This book will facilitate the keeping of breeding records and accounts. Sheepmen will undoubtedly find it of much use to them. Space is allotted for the inventory of the flock, expenses, permanent investment—which includes buildings, shearing machines, shipping tank, etc. There is a place for labor account and for receipts from the flock. Two pages are allotted to private records. It is divided off so that the number of rams and ewes, the number of lambs, date of birth, sex, private ear-tag number, registered number, and special remarks may be tabulated. We understand that only a limited number of these books were published.

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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 WELWOOD FARM, Farmer's Advocate, London, Ont.

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 Ramden, Whimple, etc. Make your selection early.
GEO. ISAAC, (All railroads, Bell 'phone) Cobourg, Ontario

Glengow Shorthorns—We have a choice offering in young bulls, fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the purple.
WM. SMITH, COLUMBUS, ONT. Myrtle, C.P.R.; Brooklin, G.T.R.; Oshawa, C.N.R.

Shorthorn Bulls and Females—Herd headed by Ruby Marquis, a son of the great Gainford Marquis (imp.). Our calves now coming are all by this sire. We are also offering a few females in calf to him. Get our prices before buying elsewhere.
PRITCHARD BROS., R. R. No. 1, Elora, Ont.

Walnut Grove Scotch Shorthorns—Established 1840. Gainford Eclipse and Trout Creek Wonder 2nd in service. We are in a position to supply bulls and females of the best Scotch breeding fit for either show or foundation stock. We invite inspection of cattle. Write your wants. 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 circuit in 1915, and sire of the G. Champion bull at Guelph Winter Fair, 1918. Young stock of all ages, 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

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

ROBERT MILLER, Stouffville, Ont., 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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A few choice young cows and heifers, 1 bull calf, 2 bulls 2 years old. A very nice bull 4 years old, would exchange for bull equal merit. See them, they are priced to sell.
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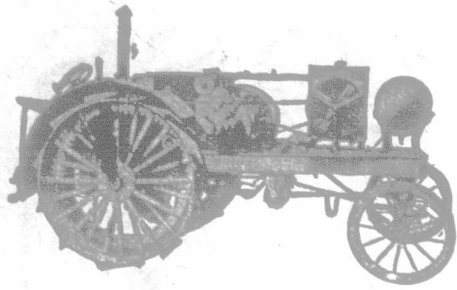
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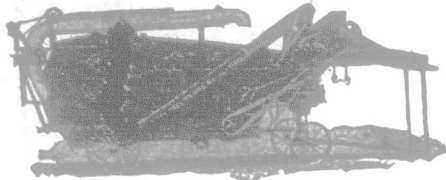
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I have a few imported ones ready for service, as well as several of my own breeding. The price is not high.

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English Dual-Purpose

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For sale: Bull calves and young bulls. English bred for milk and beef. The right kind to head Canadian herds to increase profits. From very moderate prices and up. English Large, Black Pigs. A great bacon type, long and deep, thrifty. Come or write.

LYNNORE STOCK FARM

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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.

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Two young Bulls fit for service, 1 roan, 1 red sired by King Dora (imp.), also some heifers in calf to King Dora (imp.). Their dams are good milkers.

SOCKETT BROS.
R.R. No. 5 - Rockwood, Ont.
Phone No. 22, R. 3

Maple Leaf Farm Shorthorns—Headed by a son of Master Ruby. Young cows in calf and choice bull calves. Berk-hires—boars and sows ready for service. JOHN BAKER, Hampton, Ont. Bowmanville, all railroads.

Guaranteed Shorthorns—If you want a good young herd sire or a few females (bred), get my sales list. Satisfaction guaranteed and prices right. CHAS. GRAHAM, Port Perry, Ont.

Please mention Advocate

Opportunities for the Trained Agriculturist

EDITOR "THE FARMER'S ADVOCATE":

Little has been said of late regarding the agricultural situation so far as it concerns the trained man. A few suggestions regarding this phase of the question, therefore, may not be amiss.

A glance at the situation shows at once that the number of men trained annually does not begin to cope with the increasing demands of the industry. Time was when agriculture was given only secondly consideration, but this is no longer true, and even at its present stage of development, it has come to be recognized as the basis of all industry. This being so, it is quite evident that steps should be taken to greatly increase the present compliment of trained leaders and assistants, if industrial progress is to continue.

In the first place, in the writers opinion, there should be a much larger number of trained men returning to our farms, and putting into practice the principles of scientific agriculture. There are those as we know, who contend that such training is neither necessary nor practical, but the fact remains that it is only when theory is linked up with practice, that maximum results are achieved. If, therefore, instead of probably a half dozen or fewer trained farmers in every county there were at least one on every concession, we might then hope for a marked improvement—in fact a reformation—in our agricultural system. We all of us strive to attain certain ideals and so an ideal farm in every district would undoubtedly aid in making for better farming.

Not only, however, would there be an improvement in the farms for the influence of the trained agriculturist is not inclined to crops and stocks, etc. Every rural community stands in need of competent leaders—men whose interests are in common with the people and are well acquainted with local conditions to whom could they better entrust such leadership? Some have said that rural life is stagnating, and lacks leadership.

Then, again, trained men are needed to represent agricultural interests in parliament. Under present conditions the farming population is largely represented by men of city birth. It is not reasonable to suppose, therefore, that farmers will be given, nor are they given, their rights at the hands of those who formulate our laws. Farmers comprise a considerable share of the population; they are recognized as being the backbone of the nation, and yet few rural voices are heard in the political arena. Here, then, lies the opportunity for the trained man. The country needs earnest efficient men who are capable of intelligently and forcefully presenting its case at the bars of justice.

These, however, are not the only opportunities awaiting trained hands. Considerable attention has been given to experimental work but still much remains to be done. Agriculture presents a broad field of labor and every farmer might well do a certain amount of experimenting annually in co-operation with his nearest experiment station, as well as doing original work. It is only by such means that we can look for progress and this field of opportunity is by no means exhausted.

Closely connected with experiment is the great work of research which in agriculture has scarcely been touched. It is one of the most interesting fields of labor that agriculture, or any other industry has to offer. In this, too the field is large and for those so inclined, the scope of opportunity is almost unlimited. The foreign field, also, calls for men skilled in the agricultural art. Southern lands, await those capable of directing her agricultural pursuits along modern lines. In this work alone there is opportunity for all those willing to undertake it.

In view of these facts, therefore, the opportunities for trained agriculturists are many and varied. Agriculture is a stable industry—a noble calling—and all who pursue it are assured a just reward for their services.

Durlam Co., Ont. W. J. LOWRIE.

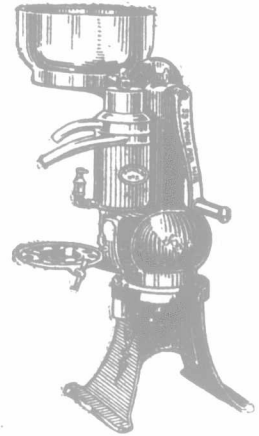
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is only one of the many merits of the SIMPLEX Cream Separator, but it's one that tells the real value of a Cream Separator. Cream lost in the skim milk is money thrown away, it's just like losing a few pounds of butter every week. All this loss is eliminated when you use

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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.

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Burlington Jct., G.T.R., half mile from farm. Phone Burlington.

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HERD HEADED BY GAINFORD MARQUIS, CANADA'S PREMIER SIRE

Write us about the get of Gainford Marquis. They have won more at Toronto and other large exhibitions than those of any other sire. We still have a few sons to offer, as well as females bred to Canada's greatest sire.

J. A. WATT - Elora, Ontario

The Plaster Hill Herd of Shorthorns

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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, whose two nearest dams average 12,000 lbs. of milk in one year. We have one high-priced bull calf from 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, ONT.

R. O. P. DUAL-PURPOSE SHORTHORNS

Herd headed by "Burnfoot Champion" = 106945 = whose two nearest dams average over 13,700 lbs. of milk with an average test over 4%. He is one of the best Dual-Purpose bulls in the Dominion, he now weighs over 2,300 lbs. at 3½ years old. We have in the herd "Buttercup" = 111906 = with a three-year-old R.O.P. record of 12,691 lbs. of milk and 482 lbs. of fat, and a four-year-old record of 16,596 lbs. of milk and 653 lbs. of fat in one year. We have only one bull calf 9 months of age, a good dark red, for sale. Visitors welcome to the farm at any time. G. W. Carter (Pinehurst Farm) Ilderton, Ont.

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Have a few choice bull calves left. See these before buying elsewhere. Also six Clyde Mares and fillies rising one to 6 years of age. Each by imported sire and dam. WM. D. DYER, R. No. 3 Oshawa. 2½ miles from Brooklin, G.T.R., 4 miles from Brooklin, C.N.R., or Myrtle, C.P.R.

WILLOW BANK STOCK FARM

SHORTHORN CATTLE and LEICESTER SHEEP. HERD ESTABLISHED 1855—FLOCK 1848 The great show and breeding bull, Browndale = 80112 =, by Avondale, heads the herd. Extra choice bulls and heifers to offer. Also a particularly good lot of rams and ewes all ages. Imported and home bred. JAMES DOUGLAS, CALEDONIA, ONTARIO.

SOUTHVIEW FARM SHORTHORNS

Herd headed by Victor Bruce, a Miss Syme by Victor. Present offering—two bulls of serviceable age by former herd sire Secret Champion, a few heifers by this sire and bred to Victor Bruce; also Yorkshire pigs either sex. C. J. STOCK, (R. R. Station, Tavistock 1 mile) Woodstock, Ont., R.R. No. 6

Spring Valley Shorthorns—Herd headed by Sea Gem Pride = 96365 = Present offering includes two real herd headers. One imported in dam, the other by Sea Gem's Pride and from a show cow. A number of other good bulls and a few females. Write for particulars. Telephone and telegraph by Ayr. KYLE BROS., R. 1, Drumbo, Ont.

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Remington UMC .22 Autoloader—streams 15 deadly-accurate shots as fast as you pull the trigger. Beautifully made, durable, hammerless; absolute safety devices.

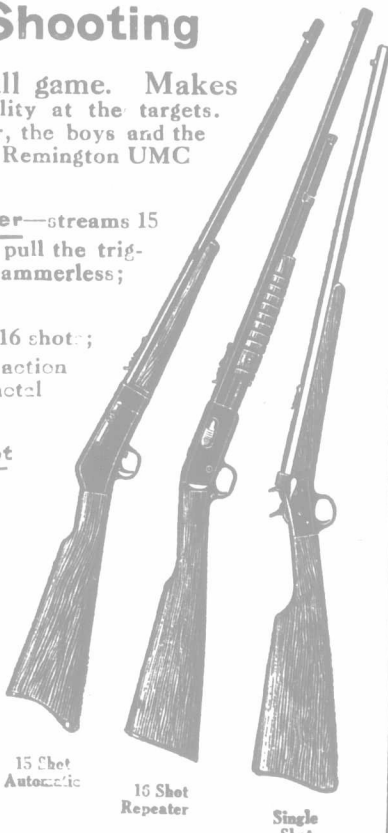
Remington UMC .22 Repeater—16 shot; reloads by fast, velvet-smooth slide action under barrel; hammerless, solid metal breech, graceful, safe.

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A rugged, straight shooting, trim little weapon built with all the advantages of our 100 years' experience.

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WINDSOR, ONT.



CREAM

We are buyers—still paying war-time prices and giving our shippers something even more important—**SATISFACTION**. Ask any shipper or any banker.

TORONTO CREAMERY COMPANY, LIMITED
9 Church St., Toronto, Ont.

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

Montrose Holstein - Friesian Farms

THE HOME OF 20,000-LB. COWS

Write us about our herd of 20,000-lb. R.O.P. producers. Every one is a choice individual—the breeding is choice, and they are rearing their offspring under choice, but normal, conditions. We have young bulls for sale. VISITORS WELCOME.

R. J. GRAHAM, Montrose House Farms - BELLEVILLE, ONTARIO

29 Pounds Butter—103 Pounds Milk

This is the seven day butter record and the one day milk record of the dam of my last bull of serviceable age—an exceptional bred youngster and a choice individual. Also have a month old bull whose dam and sire's dam average 34.36 lbs. of butter in 7 days, 135.07 lbs. of butter in 30 days and 111 lbs. of milk in 1 day. If you want bulls of this breeding I can save you money.

D. B. TRACY HAMILTON HOUSE HOLSTEINS OF QUALITY Cobourg, Ontario.

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 Pietertje) 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.

Questions and Answers.

- 1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
- 2nd—Questions should be clearly stated and plainly written on one side of the paper only, and must be accompanied by the full name and address of the writer.
- 3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
- 4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Ground-Hogs.

How can ground hogs be killed? I do not wish to trap them. E. B.

Ans.—Saturate a cloth with carbon bisulphide and place it in the burrow. This forms a poisonous gas which is heavier than air, thus settling to the bottom of the burrow and killing all life therein. This substance is very inflammable and therefore care should be exercised in handling it.

A Cribber

I have a four-year-old mare that is a cribber. Is there any way of curing her of this habit? L. R. S.

Ans.—Cribbing is a habit which is difficult to break. It is customary to have a strap buckled rather tightly around the neck at all times. Driving spikes along the edge of the manger so that the mare cannot grab a hold of the wood, may stop her of the habit when in the stable.

Miscellaneous.

1. Moles are tunnelling lawn and flower beds. How can I best get rid of them?
 2. What is the cause of ants persistently covering peony buds? Have used hellebore also black leaf 40, without the least effect. How can they be destroyed?
 3. Leaves of pansy plants turn yellow and after a while die. Have found grubs in the soil. If grubs are the cause how can they be killed? P.
- Ans.—The common way of combating moles wherever they are sufficiently abundant to require combating—a state of affairs which is rare in Ontario—is to trap them by specially made traps.

ORCHARD LEIGH HOLSTEINS

3 young bulls—5 months old—well marked—good individuals. Dam of No. 1. 29.20 lbs. butter in 7 days, 100 lbs. milk in one day. Dam of No. 2. 22.08 lbs. butter in 7 days. Sire's dam 34.98 lbs. butter in 7 days at 4 years old. Write for pedigrees or better come and see them and their dams.

JAS. G. CURRIE & SON (Oxford County) Ingersoll, Ont.

Hospital For Insane, Hamilton, Ontario

We have yearling grandson of King Segis Alcartra Spofford—a splendid individual. Also fine bulls of younger age, prices reasonable Apply to Superintendent.

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.

Silver Stream Holsteins—Choice Bulls

We have six from 7 to 14 months old, sired by King Lyons Colantha, 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 Mook & Son, R.R. 1, Tavistock, Ont.

Cedar Dale Farm—The Home of \$15,000 Sire—Lakeview Johanna Lestrage, the \$15,000 son of the 38.06-lb. Lakeview Lestrage, is our present herd sire. We have young bulls sired by him and females bred to him—at right prices. Also have bulls of serviceable age by our former herd sire, Prince Segis Walker Korndyke, son of King Segis Walker.

A. J. TAMBLYN, Cedar Dale Holstein Farms, one mile from C.N.R. Station, ORONO, ONT.

RIVERSIDE HOLSTEINS—CHOICE BULLS

We have several 10 months old, from dams with official records up to 100 lbs of milk per day and 32.32 lbs. butter in 7 days. These are well marked and straight individuals. Inspection invited.

J. W. Richardson, Caledonia, Ontario

WINDEMERE HIGH TESTING HOLSTEINS

Herd headed by Hill-Crest Rauwerd Vale—Sire Hill-Crest Ormsby De Kol; dam—Hill-Crest Pontiac Vale the former Canadian Champion 22,785-lb. four-year-old. We have young things (both sex) from this sire that we are offering and also cows bred to him. Our R.O.P. records run as high as 26,448 lbs. of milk and 1,040.2 lbs. of butter for the year. W. Fred Fallis, Millbrook, Ontario

I Have Holstein Bulls and Females at right prices. The bulls are from good record daughters of Louis Prilly Rouble Hartog, and sired by Baron Colantha Payne, a son of Canada's first 33-lb. cow. The females are of much the same breeding. If you want Holsteins, get my prices.

T. W. McQUEEN, Oxford County, Bell 'Phone, Tillsonburg, Ont.

Nothing for sale at present; except bull calves, born after January 1st, 1919

WALBURN RIVERS & SONS

R. R. NO. 2, INGERSOLL, 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, ONT.

If you would write to E. W. Nelson, Bureau of Biological Survey, Department of Agriculture, Washington, D. C., and ask him for a copy of Farmers' Bulletin 832, you would find there a description of the methods of trapping and all the types of traps used. No bait is used in connection with these traps. They are not the same as the ordinary traps for catching mice though they are of a somewhat similar nature.

The cause of ants persistently covering peony buds is that they are attracted by the gummy substance that occurs on the protecting envelope of the bud before the buds open. The ants are doing no damage to the plants and are merely feeding upon this attractive substance.

Ordinary house ants are usually best controlled in my experience by the use of tartar emetic, a white powder which should be mixed in the proportion of about 1/2 teaspoonful in 1/4 cup of honey. Molasses or any syrup would also do, but the honey is preferable in that it does not dry out quickly. The poisoned liquid is placed in very small quantities, just a drop or two, here and there wherever the ants are found running. Usually in two or three days they will have disappeared. The liquid may be put upon little pieces of cardboard or upon small pieces of shingle or on a chip, and thus not come in contact at all with the wood work or the floor if there is any objection to such contact. As to the leaves of pansy turning yellow and then dying, no satisfactory answer can be given without seeing specimens, also specimens of the grubs that are reported as being in the soil around these pansies. L. C. M.

"L-I-look here," said the stutterer at the horse sale, "that's a n-nice horse, m-my-m-m-man! How much d-do you want for it?" The owner looked his animal over lovingly. "And a beauty he is, sir," he urged; "a horse I can thoroughly recommend. But you must make the offer." "Well," said the stutterer. "I'll g-g-give you f-f-f-f-f—Forty pounds?" "Done!" said the dealer. "G-g-good!" closed the stutterer. "I was tr-trying to say f-f-fifty."



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They do their work perfectly, with the least possible effort on the part of the operator and the greatest possible comfort to the cows; they get the most milk, of the best quality in the least expensive way.

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to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Sidelbones and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a lameness, write for a free copy of

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Ninety-six pages of veterinary information, with special attention to the treatment of lameness. Durable bound, indexed and illustrated. Make a right beginning by sending for this book.

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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.

JUST JERSEYS Baldwin's REGISTERED COATICOOK, QUE.

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.

Edgeley Prince Sunbeam "5450"

A five-year-old Jersey bull offered for sale to avoid inbreeding. He is a son of Sunbeam of Edgeley, whose record is 18,744 pounds of milk and 926 pounds of fat. He is a large-type individual of excellent quality.

G. A. Jackson Downsview Ontario

Choice Offering in Ayrshires AT SPECIAL PRICES. Several young bulls of serviceable ages. All from R.O.P. sires and dam. Come and see them.

JOHN A. MORRISON, Mount Elgin, Ontario

Glencairn Ayrshires—Herd established 40 years. Producing ability from 8,000 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale. **Thos. J. McCormick, Rockton, Ont. Copetown Station, G.T.R.**

City View Ayrshires Write or come and see. We have them milkers, heifers and young bulls; all tracing to the best Canadian records. **James Begg & Son, St. Thomas, Ont.**

Questions and Answers. Miscellaneous.

St. John's Wort.

I am enclosing a weed which I find growing along the fences. What is the name and is it a bad weed? **A. S.**

Ans.—This weed is known as St. John's Wort. The plants may be very numerous along the fences and sometimes in pastures, but they are seldom trouble. some in cultivated land. This weed is a perennial and produces running root stalks. In waste places, repeated cutting will eradicate it or thorough cultivation where crops are grown. **J. D.**

Closing Road.

Have the county council the right to close a public road to rebuild a bridge and deprive a man of it when he has land on both sides of the place in question, and cause him to drive 6 miles when one would do had he the use of the said road, and when a road could have been procured for the sum of \$25? **A. M.**

Ans.—We think that they have the legal right to do so, but that they ought at same time, to give you compensation.

Cutting Asparagus.

I have an asparagus bed which I have been cutting since May 14, but have been leaving a lot of fine stuff. Is that good practice? Is it time to stop cutting? **C. W.**

Ans.—After the third year, cutting may continue from six to eight weeks. It is not advisable, however, to unduly prolong the cutting season, as it tends to weaken the plants. It is a common practice to spread manure between the rows after the last cutting to assist in building up strong crowns for next year.

Faulty Ignition.

I have a light-six touring car and have trouble when starting it. While running, the car will slow down and stop without any apparent reason. The only way I can get the car to run is to put an extra wire on the end of the generator and to the end of the coil. What is wrong with the ignition? **W. G.**

Ans.—There is no ground in connection with the breaker. Take off breaker arm and screw assembly, and clean them thoroughly. Then reassemble with care. There is a dirty connection somewhere, and this is causing the trouble. **AUTO.**

Fixtures.

I sold my farm to B and C. There was a short form agreement drawn up between us, but when said agreement was drawn there was no special mention made about storm windows and screen doors which were on at time of sale. B and C objects to my removing them.

The conveyancer that drew said agreement, says that the word appendage which is contained in the short form gives B and C a legal right to the above mentioned articles. Now to whom do they belong? **G. C.**

Ans.—Judging as well as we can of this case from your statement of circumstances we are inclined to the view that B and C now own the windows and doors mentioned.

Gas Plant.

We are enclosing a plant with a purple flower which grows at the end of a tall spike. What is the name of it? We would like to purchase seed to sow in our garden. **A. S.**

Ans.—The plant with the compound ash-like leaves and large panicle of purple flowers is *Dictamnus fraxinella*. In this country it is usually called gas plant on account of the fact or belief that when opening in warm sultry weather it emits gas which if touched by a match makes a slight puff of flame. In the old country it shares with two other plants the name of Dittany. It is said that in some parts of Europe the planting of a piece of the root or clump of dictamnus is part of the ceremony of establishing a new home. It grows from seed if planted on maturing, germinates the following spring and begins to flower in two or three years. For an herbaceous perennial it is long-lived having a record of nearly 100 years. The mechanism by which it catapults its ripe seeds is also interesting. **J. D.**

Summer Advantages of the DE LAVAL



The superiority of the De Laval Cream Separator is more apparent and is more appreciated during the summer months than at almost any other time of the year.

Farmers appreciate the De Laval during the busy summer season because of its large capacity and the fact that it is easy to turn and easy to clean.

With a De Laval, the milk is taken care of in the shortest time and with the least effort—both important in hot weather when

a number of other things have to be done.

Quick handling of milk and cream in hot weather maintains the highest quality of both, and often means the difference between profit and loss.

Over 2,500,000 De Lavals are in daily use the world over—more than all other makes combined. More than 50,000 local agencies look after the needs of De Laval users.

If you don't know the De Laval agent in your community, write to the nearest De Laval office.

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MONTREAL PETERBORO WINNIPEG VANCOUVER

PROSPECT FARM JERSEYS

The daughters of our senior herd sire, Brampton Bright Togo 5760, are just coming into milk, and they are a very promising bunch, with udders, teats and milk production, away above the average. Our junior herd sire is Torono of Prospect Farm 168010, A. J. C. C., a "Sophie Tormentor," the leading family of the breed for both milk and butter production. We will tell more about him and his breeding in a later edition. We offer for sale choice young cows or heifers, fresh, or to freshen soon, purebreds and high grades. Use Jersey milk—the milk of quality. Come and see our herd, they will please you.

R. & A. H. BAIRD, R.R. 1, New Hamburg, 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

Our present offering is a year-old bull calf, the 20th May. His two grandams will average 1,100 lbs. butter, and 17,500 lbs. milk. His sire is a son of Sunbeam of Edgeley, and his dam's dam is Fanny of Edgeley. His two grandams won 1st at Guelph, in aged class, in 1916 and 1918, and on re-test in 6 months have given 9,000 lbs. of milk, and are giving 47 lbs. a day now. He is a double grandson of the Champion cow, Sunbeam of Edgeley. Anybody interested please write at once. **James Bagg & Son, (Woodbridge, C.P.R.; Concord, G.T.R.) Edgeley, Ontario**

THE 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.

Homestead Farm R. O. P. Ayrshires

At the head of our herd at present we have a grandson of the great Jean Armour. He is being used on the daughters of our former sire Garglaugh Prince Fortune (imp). We can spare a few R. O. P. females of this breeding and also have young bulls. **MacVicar Bros., Phone 2253, Harrietsville, Belmont, R.R. No. 1, Ont.**

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-old. Write, or come and see them. **DAVID A. ASHWORTH, Denfield, R. 2, Middlesex Co., Ont.**

Benefici

Perhaps exists between tendency of erosion. The trees prevent the soul as it which they a snow in the forest soil act absorbs large in turn are pa of mineral finally the fallen twigs, trees acts as a prevent rapid off from forest amount and in similarly situated steeper and the more mark. In hilly course, inevitable. When the soil brush, and lit this is more o wise, since on are washed a in the more to their ferti tective cover by fire, dest grazing, or in for agriculture infertile mater greatly and t constructive structure force capable of doi

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The action o surface run-off the flow of stre away in unco water is absorbe of mineral soil, paid out to the tends to decrea and to increas Both results a in the high wat is less danger o less waste of the increase in that a larger su during the dry ticularly neede flow that to a the availability for municipal u electric developr will increas t factor of prime DANA IN CANA

"What are yo Mrs. Johnson. "We have tak cules" answerd "I hope you w practice constan "I tried to get y but he could not

Beneficial Effects of Forest Cover.

Perhaps the most obvious relation that exists between forests and water is the tendency of the tree cover to check erosion. The leaves and branches of the trees prevent the rain from beating upon the soil as it does in the open; the cover which they afford delays the melting of snow in the spring; the upper layers of the forest soil act as an enormous sponge that absorbs large quantities of water which in turn are passed on to the great reservoir of mineral soil underneath; and finally the surface cover of stumps, fallen twigs, branches, and even whole trees acts as a mechanical obstruction to prevent rapid run-off. The surface run-off from forest areas is less, both in total amount and in velocity, than that from similarly situated unforested areas. The steeper and more rugged the topography, the more marked is this contrast.

In hilly country some erosion is, of course, inevitable under any conditions. When the soil cover of trees, under brush, and litter is kept intact, however, this is more often beneficial than otherwise, since only the lighter soil particles are washed away, to be later deposited in the more level lands below, adding to their fertility. But when this protective cover is interfered with, whether by fire, destructive lumbering, overgrazing, or injudicious clearing of land for agriculture, the proportion of coarser, infertile materials washed away increases greatly and transforms erosion from a constructive into a dangerously destructive force, difficult of control and capable of doing untold damage.

As Water Users See It.

From the standpoint of the water user, the tendency of the mountain forests to prevent erosion is of the utmost importance. Wherever storage reservoirs must be used, whether for municipal supplies, irrigation, or water power, they are exposed to the ever-present danger of silting up. Every bit of soil brought down by the streams and deposited in them reduces their capacity and consequently their effectiveness by just so much. This sedimentation is serious under any condition, but doubly so when, as not infrequently happens, no other satisfactory dam sites are available and the reservoir can not be replaced at a reasonable cost.

Water heavily laden with eroded material often decreases the efficiency and increases the cost of maintaining diversion dams, pipe lines, flumes, canals, and other irrigation works. Sometimes such water damages the crops to which it is applied, and not infrequently it seriously injures or even ruins the land by burying it under a mass of sand, gravel, boulders, and other infertile debris. Excessive erosion may interfere seriously with navigation by filling the streams with material which is deposited in their lower reaches and in the harbors into which they empty.

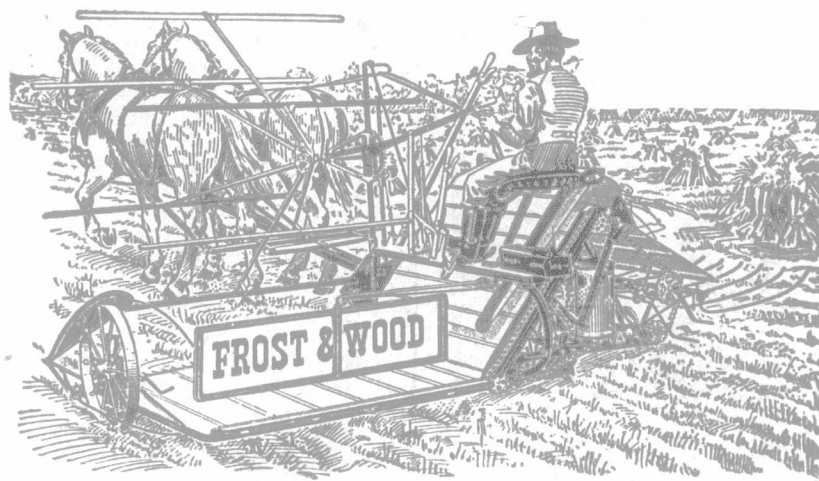
Even-Flowing Streams.

The action of the forest in reducing surface run-off tends also to regulate the flow of streams. Instead of rushing away in uncontrollable torrents the water is absorbed into the great reservoir of mineral soil, from which it is gradually paid out to the springs and streams. This tends to decrease the high water run-off and to increase the low water run-off. Both results are good. The decrease in the high water run-off means that there is less danger of destructive floods and less waste of valuable water; while the increase in low water run-off means that a larger supply of water is available during the dry season, when it is particularly needed. It is the low water flow that to a great extent determines the availability of any given supply for municipal use, irrigation, or hydroelectric development, and anything which will increase this flow is therefore a factor of prime importance. —BY S. T. DANA IN CANADIAN FORESTRY JOURNAL.

"What are you studying now?" asked Mrs. Johnson.
 "We have taken up the subject of molecules," answered her son.
 "I hope you will be very attentive and practice constantly," said the mother.
 "I tried to get your father to wear one, but he could not keep it in his eye."

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FROST & WOOD BINDER

It has won the reputation, during many years, and under all kinds of Canadian crop conditions as "the Binder that is always ready—and able to get ALL the crop." It's "ready" because its simple, superior, scientific design and its high grade materials keep it out of the repair shop—and it "gets all the crop" because it is so easy to operate that fast, clean work is always possible with it.

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 Before selling your Wool to anyone, write to us for prices, telling how many fleeces you have and breed of sheep clipped from.
 Address as follows:

John Hallam Limited 110 HALLAM BUILDING TORONTO

Shropshire Sheep—A choice lot of shearing ewes and rams, ewe and ram lambs from Campbell and Kellock foundation. Also aged ewes and rams. A few show fleeces. C. H. SCOTT, Hampton P.O. (Oshawa, all railroads.) Long-distance phone.

FOR SALE

Shropshire ewe lambs and young ewes, two Clydesdale Stallions, four Shorthorn bulls. W. H. Pugh - Myrtle Station, Ont.

OXFORD DOWN SHEEP

America's Pioneer Flock
 Present offering is between ninety and a hundred shearing and two shear rams. Flock headers a specialty. Also a number of shearing and the best breeding, and ram and ewe lambs. All registered. Prices reasonable. HENRY ARKELL & SON, 70 Beatty Ave., Toronto, Can.

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.

KNIGHTON LODGE YORKSHIRES FOR SALE

Either sex, 5 months old; good individuals, well grown. Let us know your wants in Angus or Holsteins. C. C. KETTLE, Proprietor. W. A. WOOLLEY, Manager, Wilsonville P. O., Ontario Phone Waterford 2930

Young Yorkshire Pigs For Sale
 5 boars and 4 sows 6 weeks old, sired by a Weldwood boar. This is a litter of good ones. For further particulars apply to David A. Ashworth R. No. 2, Denfield, Ont.

Oak Lodge Yorkshires, Shorthorns —We have one of the strongest selections of young sows and boars we ever had in the herd. We have them from great milking dams—all good families. Write us also regarding your next herd sire. J. E. BRETHOUR & NEPHEWS, Burford, Ontario

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Summer Hill Stock Farm
 Teeswater, Ontario

If you want a Breeding ram buy early. Forty head of Stud rams to select from, they are strictly first class. Ewes of same quality for sale. Write for prices.

Peter Arkell & Sons R.R. 1 Teeswater, 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.

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, Essex, Ont.

Inverugie Tamworths

Still to the fore, w/ a bonny bunch o' glits, 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.

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.

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

For Sale—Pure-bred York Pigs six weeks old, boars and sows for immediate sale. Dam bred by Duck, Port Credit. Sire bred by Brethour, Burford.

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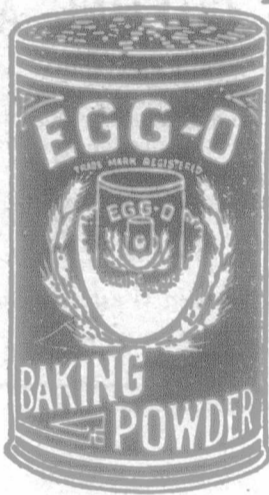
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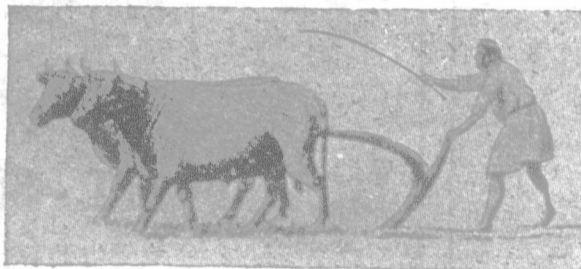
The Story of the Plow.

BY J. R. SPRY, B.S.A.

You have seen your fathers or brothers plowing in the fields, and are doubtless so accustomed to this commonplace farm operation that you may think that farmers always had horses, harness and plows like we have to-day. But plowing the fields was not always the simple and easy thing it is now. A long time ago the farmers had no horses, but had to use slow, clumsy oxen instead. They had no leather harness, but used willow branches twisted into thongs with which to hitch the oxen to the plow. They had no steel plow like your father's, but used a crooked stick as a substitute. The first plow was a pig's nose. Not that

cover the weeds and grass as a good plow should do.

A peculiar custom in some countries was to draw plows by tying them to the tails of the horses or oxen. They had no harness-makers such as we have, and leather harness was unknown. So tying the plow to the horse's tail was about as handy and cheap a way of "hitching up" the horse or ox as could be thought of. After a while people began to see that this was a cruel practice, and laws were passed making it a crime to plow in this manner. About the time the first houses were built where we now have the city of Montreal, an Irish Parliament passed a law entitled "An Act Against Plowing by the Tayle," which declared that any person plowing by hitching the plow to the tail of any animal should be fined and imprisoned.



Primitive Plowing, which Simply Scratched the Surface of the Ground.

The plow of those days left the soil lumpy, and the farmer or his sons broke up the clods with a club. One of the reasons for plowing is to make the soil fine and granular. It would never do to leave the ground all lumps.

A lumpy soil will not germinate seeds well, for to make seeds come up quickly the soil should be fine enough to touch the seed on all

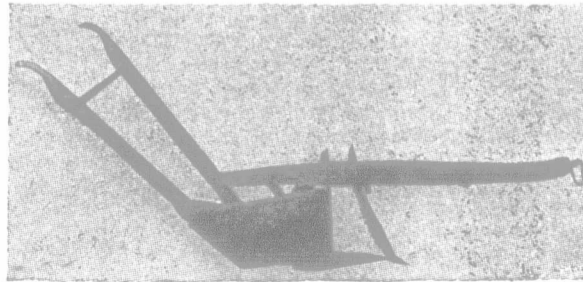
sides. A lumpy soil will not grow large and healthy plants for the roots find it difficult to obtain food and water. In Ontario if our plow should leave the soil lumpy when plowed in the fall, the frosts of winter push the little soil grains apart, the lumps fall to pieces, and the following spring where we had lumpy soil we have a loose, easily-worked soil layer. So in this country the frost does the work of breaking up the clods which the farmers' sons had to do in the olden times.

All the plows we have been telling you about were made of wood, but they used to break easily and would wear out quickly, so some one made one partly of iron, placing the iron on the parts of the plow that used to wear out first; the other parts were still made of wood. Later the plows were made of iron except the handles. But a peculiar thing happened. You may remember hearing your grandfather tell how that when stoves first came into use they were looked upon as something which would poison the air in a house, using up the good air and giving off air not fit to breathe. He might also tell you how that oil lamps were expected to explode and burn down houses, and how that people would sit away back from the table awaiting the calamity. These may seem queer ideas to you, but a new and useful idea is oftentimes ridiculed, and so it was with the iron plow. Some farmers said it made the weeds grow,

the farmer plowed with a pig's nose, but the first plowing was done by pigs as they rooted over the soft earth in search of juicy plant-roots or fat grubs. The farmer of long ago noticed the efficient manner in which the pigs turned over the soil and tried to imitate them. He cut down a small tree and trimmed off all but one branch, leaving this one about two feet long and sharpened on the end. A long stick was fastened to the trunk of the tree with which to steady it, and the plow was ready to use. This was dragged up and down over the area to be planted and the earth torn up until it was sufficiently loosened to give a covering of soil for the seed to be sown.

The only reason given for plowing the soil in those days was to get a covering of earth for the seeds. It was soon found, however, that the weeds got thicker and thicker after each crop, and as years went by and the field was plowed again and again the soil became harder to work. It would be very sticky when wet and bake into a hard mass when dry, and the plants were greatly injured by the dry weather.

Now the reason of this was that the stick-plow did not turn the weeds and weed seeds under the soil to smother and die, neither did it turn up their roots to be killed by the frost. Neither did the plow crumble the soil as do the plows we now use; nor did this stick-plow loosen the soil to any great depth, for had the soil been worked deeper it would have held more of the rains and the plants would not have died of thirst in the hot season.



The First Type of Plow with Moldboard.

And so we see with such a poor plow only poor crops could be produced, and farmers were not very prosperous at this time. Some men who have studied the history of farming tell us that the story of the plow is the story of farming; that if the plow used by the farmers of a nation is poorly constructed and gives but indifferent results, we are sure to find that nation lacking in agricultural knowledge, and the homes of the farmers not very comfortable. I suppose this shows that the man who is a good farmer is a careful plowman, and the boy or girl who would have a good garden must spade and hoe the ground carefully and often.

But even if these farmers of long ago had a poor plow they at least had grasped the idea suggested by the pig's nose, and many improvements were soon made in the shape of the plow, which increased its usefulness. But for many years the plow remained at best a clumsy implement which served to stir the soil to only a very slight depth, and did not

others that it poisoned the soil, and many refused to use it. However, this strange opinion soon died out, and the wooden plows can now be found only in our museums.

And so to-day the plow your father uses is the result of 4,000 years of slow improvement, from the crooked sticks that only scratched the ground to an implement that pulverizes the soil and exerts a more important influence on the productiveness of a soil than any other single tillage operation. As a result of all this your father works more land and grows better crops, and you live in more comfortable homes than did the early farmer and his family.

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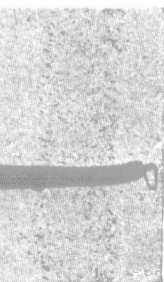
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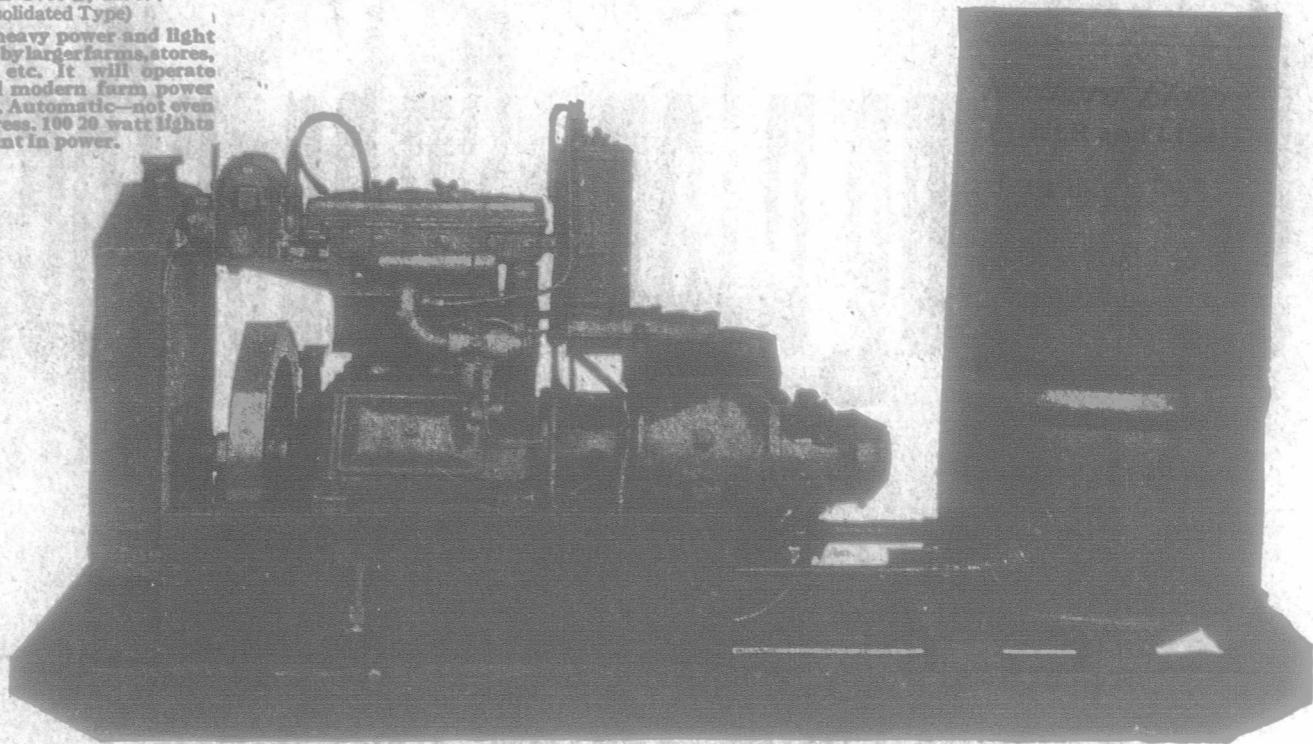


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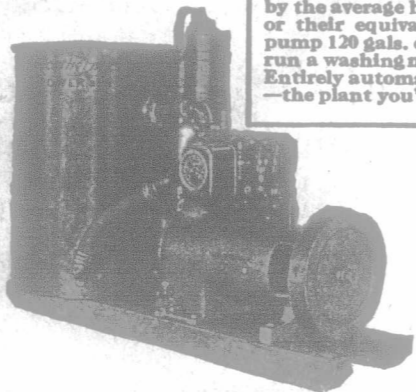
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