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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE AND SUCCEED
FOUNDED 1886

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

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LV.

LONDON, ONTARIO, JANUARY 8, 1920.

No. 1424

Modern Farms and Wire Fences

FROST

FENCE

Every year thousands of farms throughout the Dominion are equipped with woven wire fence. The owner of each one of these farms has a story he could tell—the passing of the old snake fence, that sprawled over good farm land; the old stump hedge; annoyances of stray stock and damaged crops—days fraught with knotty fence problems.

Wire Fence came as a great improvement and saving—a saving in temper, time and money. Another improvement, and FROST WOVEN WIRE FENCE, backed by the advantage of low price and long service, came to the front. The farmer gave it a fair chance along with the others, and FROST FENCE

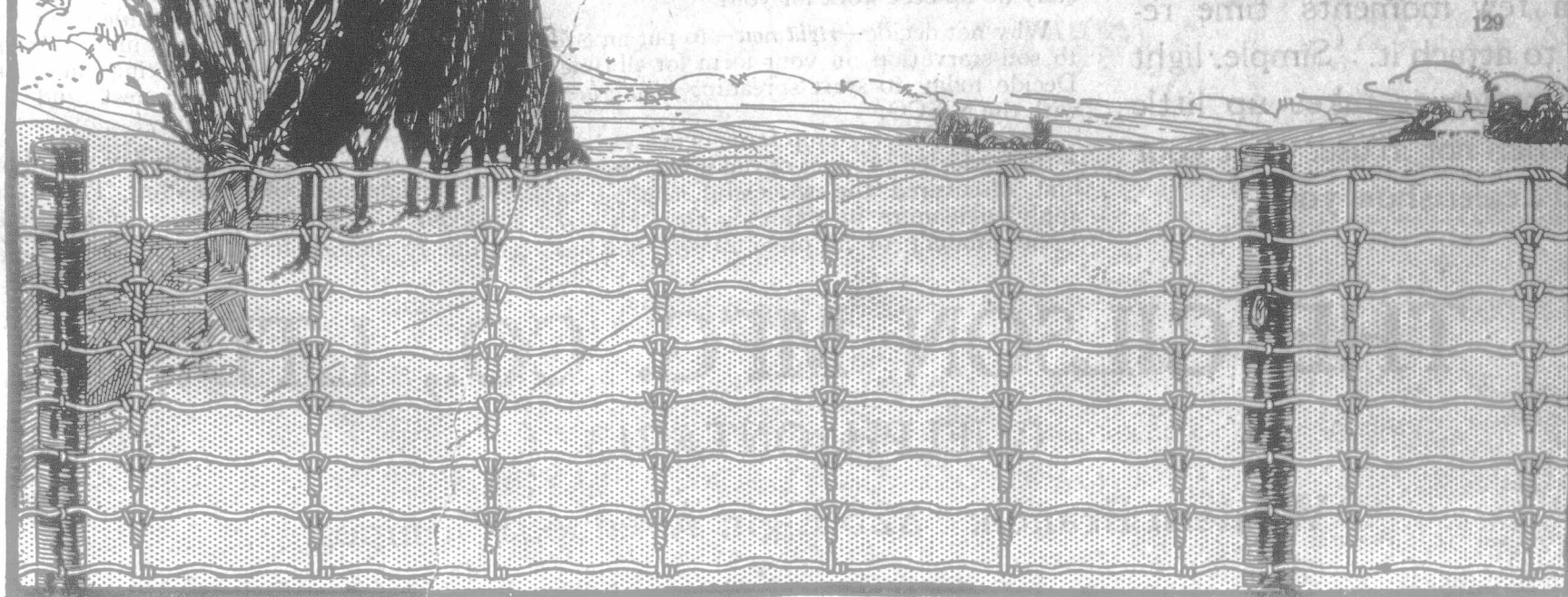
made good. The farmer was satisfied.

The wire of TIGHT-LOCK Fence is tough, strong, heavily galvanized. It is Canadian Made. The tight-lock grips as no other lock does. The stays are straight and evenly spaced; that means a fence easy to stretch. The laterals are unkinked at the lock and have a free, deep wave that holds the fence taught and straight as an arrow on your posts. Eighteen styles standardized from study of farm requirements and convenience.

Your nearest FROST dealer will give you some interesting information about FROST TIGHT-LOCK FENCE. Ask for our new illustrated folder for 1920.

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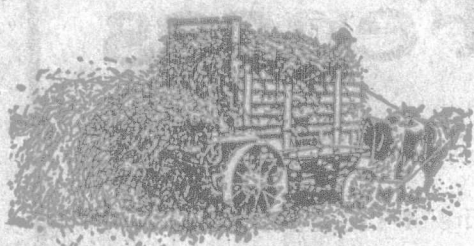
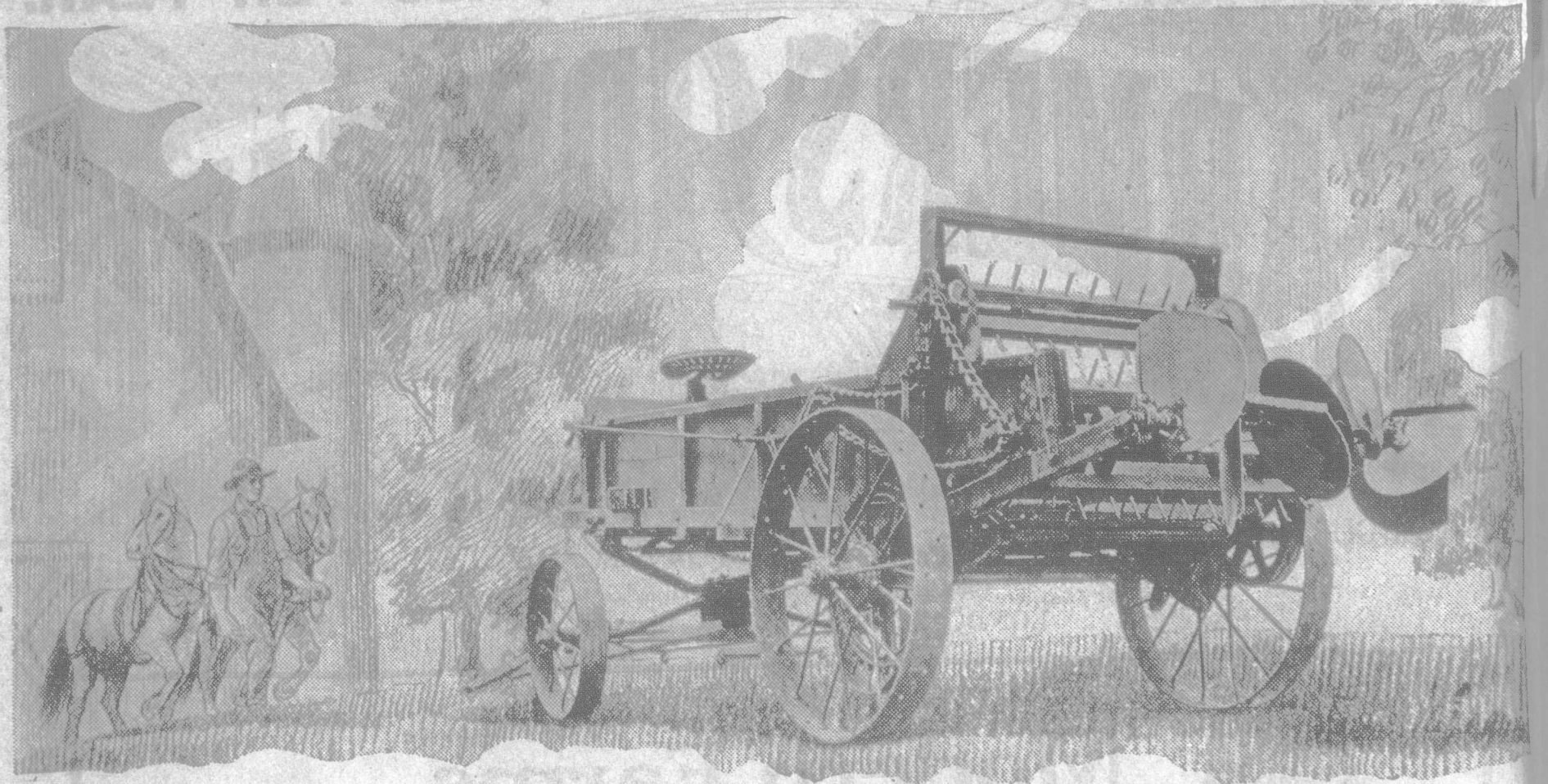
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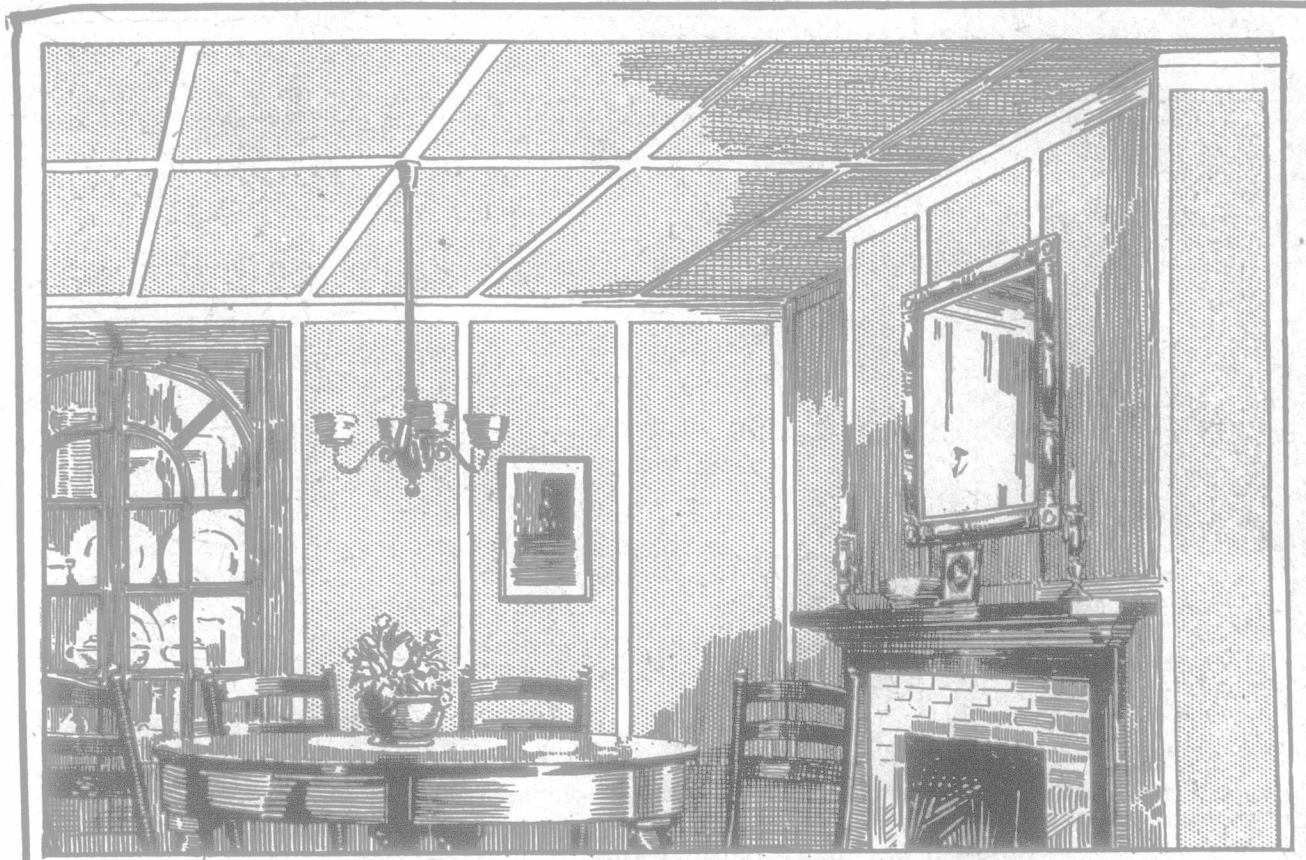
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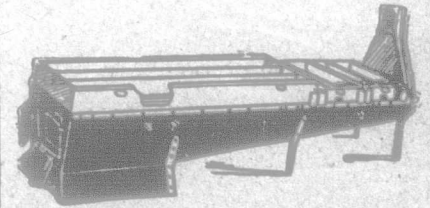
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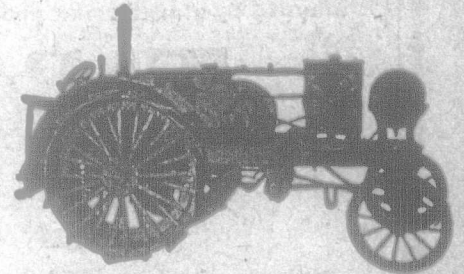


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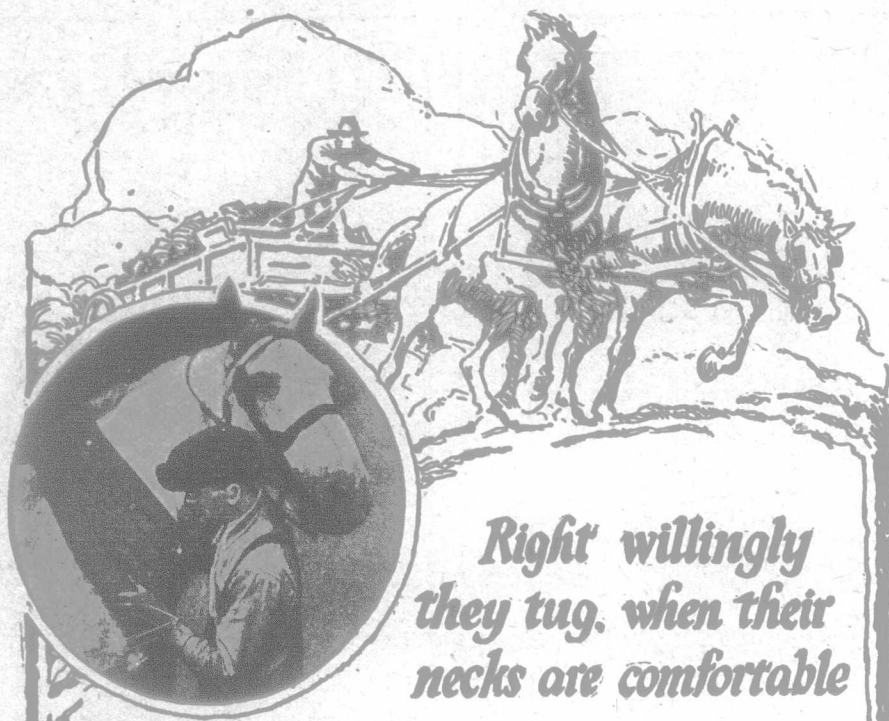
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Canadian Patent April 6, 1915

Made of a splendid grade of drill, stuffed with a special composite "stuffing," these Pads fit snug to the neck, absorb the sweat, and so completely "cushion" the shoulder muscles that the comfort of your horses is ensured.

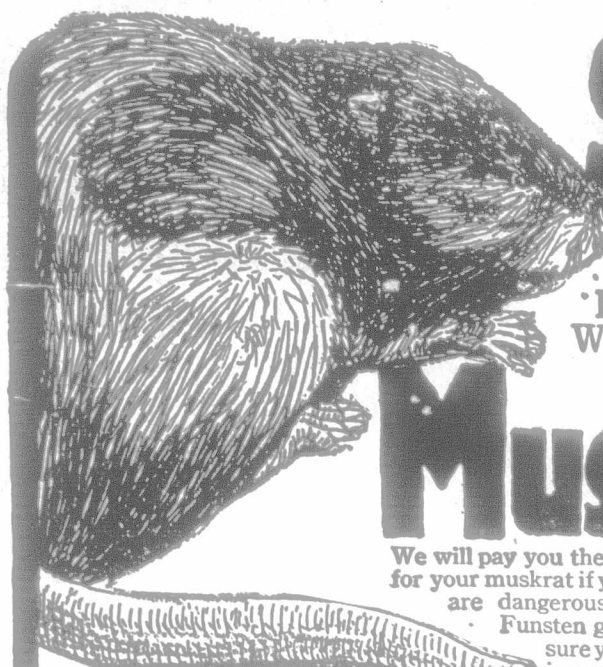
Think of the loss you suffer when horses are laid off—do away with sore shoulders by this sure protection, and so keep your horses at work every working day in the year. Tapatco Pads are soft, springy,

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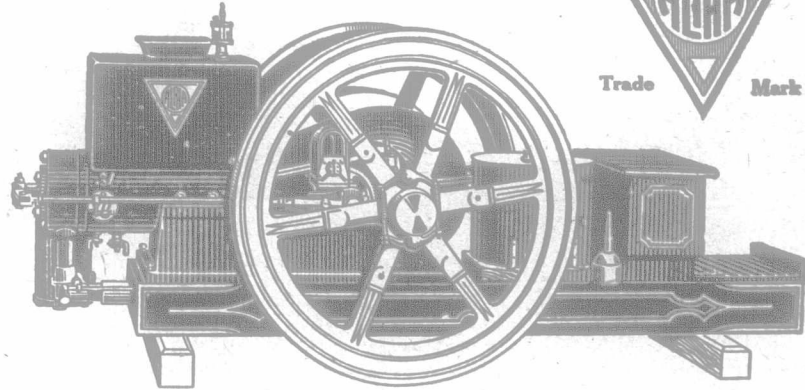
Many men who have no gas engines are often obliged to hire one when there is work to be done that requires power.

The money paid for hiring a gas engine and the much greater amount of work that could be accomplished with an engine all the time, would soon pay for an Alpha.

The usefulness of the Alpha does not end with doing only work which absolutely requires power. It can be used to do a lot of things that now have to be done by hand—such as running the separator, churn, washing machine or pump. An Alpha will save many hours of hard work for everybody.

There are many reasons why the Alpha is the most satisfactory engine to buy. It is always dependable, always ready; it is so simple a boy can operate it, and it requires a minimum of fuel—either gasoline or kerosene. And it is sold by local dealers who are ready to give gas engine service.

Write to the nearest office for illustrated gas engine catalogue and name of dealer.



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Of course you realize that a washing machine, even run by hand, is quicker, easier, better than washing by muske-power. But here's a washer that does everything—all you have to do is "turn on the juice."

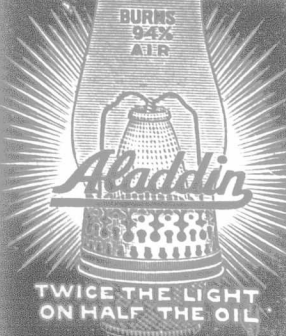


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—will do the washing while you do other work! No need to watch it—it can't go wrong. It will do the wringing too. Easy to operate—simple and strong in construction—perfect in mechanism. Made in one-, two-, or three-tub size; operated equally well by 1/6 h.p. electric motor, or any gasoline engine. Write us to-day for full particulars—it will be time well-spent.

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Agents Wanted

The Farmer's Advocate and Home Magazine

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1866

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LV.

LONDON, ONTARIO, JANUARY 8, 1920

1424

EDITORIAL.

Reading good books and papers is educative.

There is a back-to-the-land movement now being realized, but it is back to the Holy Land.

Make a chart of the farm and plan a system of crop rotation that will be workable and adapted to local conditions.

A few tons of ice on hand will be a convenience next mid-summer. January is the month for harvesting the ice crop.

Have you broken any of your New-Year resolutions? It is the keeping of resolutions, rather than the making of them, that counts.

Have you the proper screens for your fanning-mill? Don't leave the cleaning of seed grain until April—clean it now.

Farmers now have three months for planning, but they will only have about three weeks for seeding. Plan well for the offensive next spring.

Before the snow gets too deep is a good time to get next winter's wood supply cut. Procrastination now will leave a lot of jobs on hand when spring opens up.

We are presented with a brand New Year; let us so live and work that in the dying days of December next we may look back upon it without regret for our thoughts or actions.

Short hours and inefficient work will not reduce the cost of living or hasten the day when conditions will be normal. Increased production is necessary in the city as well as in the country.

Government appointments according to competency are as they should be, and will meet with the approval of the vast majority of the people. The old party heelers will be the chief mourners at the burial of the patronage system.

The hog has apparently gone as far down the incline as he intends to at the present, and has started climbing up again. Hog feeders who have been feeding three-dollar-a-hundred oats, and three-and-a-quarter corn, will want him to climb quickly.

The city man grumbles at the price of eggs, butter and poultry, and the farmer complains at the cost of clothing, hardware, implements, etc. It is doubtful if either has a just grievance. Increasing the supply of these things, at home and abroad, is the shortest road to price reduction.

A man recently told us, with some glee how he had fooled his wife by changing the wrappers on a pound of oleomargarine and a pound of butter. We know that to be possible, but we know also that after using the best brands of oleo for a month, it is good to change back permanently to creamery butter and pay the difference in price.

The necessity of farmers being able to give voice to their thoughts on the platform was brought out vividly at a recent township nomination meeting. A candidate for the reeve-ship completely spoiled his chances for election by saying what he did not intend to say and neglecting to say what he wanted to say, but could not because of his inability to express his thoughts.

Let Live Stock Do It!

Inside of a month the breeders of pure-bred live stock from all over Canada will assemble in Toronto for their annual meetings. The air will be surcharged with enthusiasm, and live stock will receive its annual boost into the prominence which it deserves. The premier branch of the farming industry and the mainstay of agriculture will, during the first week in February, engage the attention of some of the best minds in the country, and it is well that for one week each year breeders of pure-bred live stock should cease from the ordinary routine of their diversified labors to focus on one particular phase of their industry, a phase which will function more pronouncedly in the future development of this nation than mining, manufacturing or commerce of any kind.

Those who are in a position to grasp the significance of a national debt exceeding two billions of dollars are building their hope upon agriculture, the great primary wealth-producing industry, to ease the burden and assist in the liquidation of this enormous mortgage. Those who understand the broad, under-lying principles of agriculture are looking to the live-stock industry to balance, with exportable surpluses, the debts chalked up against us in foreign countries, and at the same time guard and conserve the great heritage handed down to us in fertile fields and green meadows. "Let live stock do it!" is the slogan, for then we shall become richer and richer as we pay our debts, and when we burn the mortgage we shall have so enriched the agriculture of this country that prosperity will abound.

When we export pulp or paper we are depleting our natural resources, which cannot be replaced for half a century at least, and other natural resources, when drawn upon, are gone forever. We could, in time, satisfy our creditors with wheat, but that policy would only deplete our soil and transfer the fertility of Canadian lands to foreign fields, there to build up and sustain an agriculture more lucrative than our own. Paying in live-stock products is like satisfying our creditors with paper money and keeping the gold, which it represents, at home. Our foreign obligations will be satisfactorily met, but the farmers of Canada would have two billions of gold dollars, as it were, if the entire national debt were paid with live-stock products. Therefore, we say, "Let live stock do it!"

The Long View.

While the breeders of pedigreed farm animals must concern themselves particularly with breed business when at their annual meetings in February, they ought not to forget that after all the pure-bred stock of this country, important as it is for the purposes of foundation and improvement, bears about the same relation collectively to the commercial stocks as cents do to dollars. Without the invigorating and up-building influence of the pure-bred and the blood which it infuses into the ordinary stock of the country, the industry would slump back into insignificance and become of no consequence. Yet, in the last analysis, it is the commercial stocks that will bring revenue to the national treasury and convert the products of the farm into gold dollars for the husbandmen. Breeders in their deliberations should take the long view, and after keeping their own household clean set out as missionaries to preach the gospel of more and better live stock. They are men of experience and good judgment who exert a wonderful influence; and if they will but use their influence to encourage live-stock husbandry they will give the pedigree stock business an impetus that will benefit every one connected with it from the man with only a modest herd or flock up to the big constructive breeder and importer.

Breeders should endeavor to carry a large portion of the enthusiasm, which characterizes their annual meetings, back home with them to their respective

communities and there scatter it broadcast until every farmer in Canada has come under its influence. We are all too much inclined to grumble if hogs drop 50 cents per hundred or the cattle market is temporarily weak; we take the short view of the situation, thinking only of the present and remain, for the most part, unmindful of the great future which is ours if we but hitch our wagon to a star. Instead of a granary Canada should be known as a country thickly dotted with abattoirs and coldstorages where the great consuming populations of the United States and Europe can most quickly and satisfactorily supply their cupboards with meats and animal products. It is upon such a development as this that our future depends as an agricultural country, and the breeders who assemble annually at Toronto are the men most capable of carrying this gospel to the people.

Some Breed-Boosting is Useful.

Several of the prominent breeds of cattle and the Clydesdale horse are badly in need of more publicity in order that they may increase and prosper commensurately with the merits they possess. It is not that one breed of cattle or horses may gain a more favorable position than another in the estimation of farmers generally that we urge this extra expenditure on behalf of certain breeds, but to the end that the merits of all breeds may be kept constantly and persistently before the people. When this is done and the value of a good sire is preached by competent field men going about endeavoring to replace scrubs and worthless pure-breds with good, useful pedigreed animals of the breed they represent, there is going to be a marked improvement in the general quality of our commercial stocks. Breed rivalry and keen competition is good for the whole live-stock industry, because it eliminates the indifferent or careless breeder, necessitates a high standard of quality in all breeds in order to remain in favor and encourages progressive, active salesmanship which leads to a displacement of the scrub.

Just at present the Clydesdale horse is badly in need of some enthusiastic boosting. It has stood on its reputation for a long time, but it now faces the competition of other breeds and that of the powerful motor. Its foremost patrons have assumed a smug attitude of satisfaction and refuse to acknowledge that other draft breeds have anything good about them or any rightful place in Canada. When a breed association or any kind of an organization gets so steeped in self-conceit that it fails to recognize competition of a serious character and slumbers on in a "laissez-faire" frame of mind, its future is none too promising. Surely steps will be taken soon by the guardians of this noble draft horse to place its merits plainly and proudly before the public, and secure for it a permanent place in the affections of all horse lovers and owners.

Many Solutions to the Big Problem.

Practically everyone we meet nowadays has a solution for the big problem which confronts the world, and can place his finger on the cause which has contributed most to the ever-increasing high cost of living. One says the farmer is profiteering and grinding the poor consumer under his feet. Another says that labor, through high wages and short hours, is creating the hardships and bringing us to such a plight that a collapse is inevitable. Still another condemns the manufacturer for grabbing everything within reach, robbing right and left, and ruthlessly lapping up huge dividends out of the public trough while the masses cannot obtain sufficient to quench their thirst or appease their appetite. Financial experts claim that currency has been enormously inflated, hence the trouble. A common statement is that under-production is the reason for it all, and so

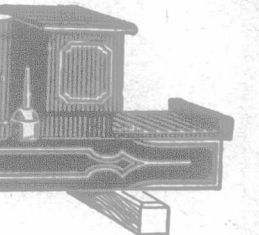
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THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

Published weekly by
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.
Agents for "The Farmer's Advocate and Home Journal,"
Winnipeg, Man.

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London, Canada

on ad infinitum. Each in his little world sees the cause and the remedy. If the Government would only do this or that relief would be instantaneous and reconstruction complete.

With all due respect to the wisdom of people generally who opine on this great economic question it is a pretty safe guess that so long as Europe is in a turmoil, hungry, half naked, and willing to pay two or three prices for a loaf of bread or something to wear, we are going to feel the effects of it here. Prices on this continent are influenced by the European demand. They bid high for food and clothing; we must make an equivalent or higher bid to obtain the same commodities even though we do take part in their production. Parts of Europe are still on a war footing with men withdrawn from production and other nations were so shattered and disabled that they still may be likened to a shell-shocked soldier.

There may be some minor disturbing influences at work among us, but until Europe gets on her feet and her production, in all lines, approximates to normal we can expect a continuance of the trying times we are now experiencing.

Too Much Selfishness.

BY SANDY FRASER.

Weel, we've made a start on anither year, and here's hoping that it will be a better one than the last. I'm no' meaning to say anything in particular against the year that is gone, as it's aye a guid time to speak weel o' the deid. But, as a matter o' principle, I'm thinkin' we should aim to be gettin' a wee bit further ahead all the time and the end o' one year, or the beginnin' o' the next, is an unco' guid time to be takin' stock, as ye might say, an' to be findin' how muckle better off we are than we were twelve months back.

I dinna mean how much mair money we have, a'-tgether, although that is an important item, I canna deny. But if oor extra money has no' been the means o' makin' better men oot o' us it hasn't been worth the trouble we were at to get it.

The year o' the twa nineteens' has been a pretty exciting one to the majority o' the civilized inhabitants o' the airth, whatever. The world is in the way o' juist gettin' over a pretty bad sickness, an' the medicine that has been hagd oot in different quarters has gone against the grain, as usual, and has been taken much against the will o' the parties maist concerned. Frae Germany on the one hand, doon tae the auld political machine in oor Province o' Ontario on the ither, the

first year o' peace has been but little o' an improvement on any o' the years o' the war. The angel o' peace seems to hae turned into a Red Cross nurse, or something o' the kind. Onyway, she doesna seem to be the kind o' a person we thought she was a year ago.

I dinna ken juist what everybody was wantin' an' expectin', but whatever it was they dinna seem to hae got it. We're a hard bunch to satisfy. In the auld days when the price o' everything, frae a day's labor to a bushel o' wheat, was aboot quarter o' what it is noo, there was great kickin' on account o' the "hard times." But it wasn't half as bad, if I mind richt, as it is to-day over what they call the "high cost o' living." What's gaein' to please them onyway? It looks as though everybody wad like the ither fellow to wark for naething so that they themselves might be able to draw double pay. Ilka mon thinks he should get mair for what he gives an' pay less for what he gets.

Of course, there's something wrang at bottom when things are gaein' like this and are gettin' worse instead o' better. And it's no vera hard for ony person that thinks for a meenute to pit his finger on the root o' the trouble. He can say it in one word, an' that wad be—selfishness.

If men had always kept an eye on the welfare o' their neighbor, things wad be unco different to what they are. The reason that some people hae to pay mair than they can afford for their bread an' meat, to-day, is because the producers hae been ootnumbered by the consumers. Men an' women hae left the farms because they thought they'd hae an easier time o' it in the city. All they thought aboot was their ain immediate interest. The welfare o' the community they were leaving didna count for a feather.

Noo some o' these same people are havin' an unco' hard time o' it and are callin' their auld neighbors doon for profiteers, an' that sort o' thing.

Suppose noo, if ye can, that humanity wasna sae short-sighted as it is, and that ilka person took na thought for himsel', except as it affected the community as a whole. What wad be the result? It wad juist be that there wouldn't be an honest, industrious, poor man left in the world. There is plenty for everybody gin it were properly divided, and when we ken as much as we noo ken little, we'll see that it is properly divided. The trouble wi' us, as we are, is that we've forgotten how to divide two into four the way it was taught to us in the auld log school-house. We mak' it come oot three for ourselves, an' one over, which we let the ither chap hae.

I guess the reason we rin oor lives on this principle is because we never juist took the time tae sit doon an' think oot for what we must hae been put intae this place o' wark an' worry an' "hard times." There's a tendency to follow oor instincts, juist as we see a pig will be startin' to root as soon as we put him where there's onything tae root in. Maist o' us hae been given brains o' a higher order than that o' the pig, an' I suppose the idea was that we wad hae oor reason to guide us when we might itherwise rin off the track. Gin we're instinctively selfish here's where oor reason can help us oot.

I mind o' hearin' someone say that it was what we gave away that made us rich, and I wouldna wonder but what there's something in it. But to be takin' anither and mair far-sighted view o' the case, I'm sure that it never pays a man to be puttin' himsel' first a' the time, and at the expense o' ither's.

I figure it oot this way. There's one thing we never stop doing while we're alive on this earth, and that is, makin' character o' some kind or ither. Gin we dinna try to mak' a guid one we'll mak' a bad one wi'oot tryin'. It was for the makin' o' men an' women that this world has been pit in shape. It has taken a guid mony million years to dae it, they tell us, but, seein' it was for a character factory, we canna say it wasna worth the trouble.

And noo, after all this has been got guid an' ready, a lot o' us slide through wi'oot a thought but to dodge the rough spots and to mak' the rest o' humanity pay oor bills.

There's a law o' compensation at wark amang us, an' because o' that law it seems to be pretty hard for a man to live an easy, selfish life here, an' then get a certificate o' guid character when he's leaving.

Gin I were asked to name some o' the best people I had met in the course o' my life-time, it wouldn't tak' me lang to pick them oot. They wad be some o' the mothers I hae kened, that have brought up large families, and never thought to get an unco' amount o' credit for it either. Ilka thought they had was for their boys an' girls, an' their present an' future welfare. For themselves they had never a care. But it must hae been that same law o' compensation that made up to them for what they gave o' their strength an' time to their bairns. For they seemed to develop mair o' the virtues an' guid qualities that can come to a human being, in the course o' a few years, than the average mon would in a couple o' life-times.

It's the auld story o' getting by giving. It tak's a lang time for some o' us to get tae applyin' that principle in oor regular business, but it's guid practice juist the same.

One o' the worst failures I ever kened was that o' a man of whom one o' his relatives said that "with him it was naething but self, self, self." That mon lost his money an' his health an' his reputation, and I suppose he never had ony friends or he'd hae lost them as weel.

I dinna tak' over muckle stock in New Year's resolutions, for I've noticed they willna stand much rough handling, but I hae half a notion to try thinkin' aboot the ither fellow as weel as mysel', for the next

twelve months. I canna lose onything great by the experiment in that time, whatever. And gin it warks weel I will be reportin' tae the rest o' ye an' ye can see how ye like it for yersels'. We've got to dae somethin', I'm thinkin', the way things are gaein', or in a couple o' years the hale universe will be oot on strike, frae t the doctors to the undertakers.

Nature's Diary.

BY A. BROOKER KLUGH, M.A.

A rare visitor from the far Northwest, the Bohemian Waxwing, has appeared in Ontario. This species is eight inches in length, and the general coloration is fawn-gray, shading into clear ashy gray on the tail, which is blackish towards the end and broadly tipped with yellow. On the head is a conspicuous crest which can be erected or depressed at will. The under tail-coverts are chestnut. The wings are blackish-gray, the primaries (the main quills of the wing) are tipped with white or yellow or both white and yellow, the secondaries (the inner-quills of the wing) are tipped with white as are also the primary coverts (the feathers overlying the base of the primaries.) In individuals in full plumage the secondaries have peculiar appendages, which resemble little scales of red sealing-wax, at their tips. The throat and chin, and a line through the eye, are black.

From the above description it can be seen that this species resembles the Cedar Waxwing, a common species well-known to all observers of birdlife, but differ from that species in the white markings on the wings, the chestnut (instead of white) under tail-coverts, the absence of yellow on the abdomen, and the slightly larger size (8 instead of 7 inches in length).

The Bohemian Waxwing breeds in the far north of both Europe and America, and derives its name from its habits of wandering—like a "Bohemian"—irregularly during the winter.

It is one of our rarest winter visitors in eastern Canada. In Nova Scotia a flock was recorded near Halifax in the winter of 1864-5, and none have been reported since that date. In New Brunswick it has been reported from St. Stephen and from York County. It has been recorded occasionally from Quebec City and Montreal. In Ontario a large flight of these birds occurred in the winter of 1894-5, and some were seen at Toronto in 1896. In the latter year they remained till late in April and Mr. J. Hughes-Samuel saw them in the tall elms of the University grounds and noticed that they had changed their food-habits with the season and were then catching winged insects in the air after the manner of the flycatchers instead of feeding on the mountain-ash berries and other fruits which remain hanging on the trees over winter. In southern Manitoba and southern Saskatchewan this species is seen rather more frequently than further east, but is decidedly irregular in its movements, being common in some winters and absent in others.

This species breeds in the Rocky Mountains in the vicinity of Banff and Canmore, in the interior of northern British Columbia, in the regions west of Hudson Bay and in the Yukon. The nest is loose and bulky and is composed of fine twigs, rootlets, the lichen *Usnea* (the so-called "Gray Moss" which is often so abundant on coniferous trees) and grass. It is usually placed at a height of twenty-five feet, or over, in an evergreen tree. The eggs are four or five in number and are slaty-blue, spotted and blotched with brownish-black.

The note of the Bohemian Waxwing is like that of the Cedar Waxwing, a weak and lisping trill, and it has no song.

In its winter wanderings the Bohemian Waxwing sometimes goes as far south as Pennsylvania, Illinois, Kansas and northern California.

This flock of seventeen that I saw at the end of December in the grounds of Queen's University, is the first that I have seen of this species since 1907 when a flock remained in Kingston for some length of time.

The best place to look for these birds, as well as for the Evening Grosbeaks and some other winter visitors, is in Mountain-ash trees which have fruit still hanging on them, and in places where there are such wild fruits as Nightshade and Red Cedar berries.

I shall be glad to hear from readers of "The Farmer's Advocate" who observe these distinguished visitors, so that we may ascertain how general the present migration of this species is. I should also be glad to receive notes as to what they were feeding on when observed more particularly when they are eating some native species of fruit. If the observer is not familiar with the bush or tree upon the fruit of which they are feeding I shall be pleased to identify the species if a twig bearing fruit is sent to me.

Western farmers have been liquidating their live stock at an alarming rate, and the movement to market has been limited, it seems, only by the inability of the railroads to handle it. This condition is due mainly to the drought of last summer and the early severe winter. The West will have to restock, and it will be with breeding animals of good quality. Eastern breeders have a responsibility and a duty in this regard, namely, to maintain a volume of animal products for export and stand prepared to assist the West in the rehabilitation of their herds and flocks.

THE HORSE.

Itchy Legs in Horses.

Horses, especially those of the draft type, are more or less subject to an itchiness of the skin of the legs, particularly in the region of the fetlock and cannons. This is more noticeable in horses with bone and feathering of poor quality, commonly called "round bone," or bone of a fatty or beefy type. It is seldom seen in a horse with good quality of bone and feathering. In many horses there undoubtedly is a congenital predisposition inherited from sire or dam or both. While this predisposition exists to a more or less marked degree in all breeds of heavy horses, it is probably more marked in the hairy-legged classes.

The trouble is much more marked during the winter months than in other seasons, and is noticed much more frequently in horses that are practically idle than in those at regular work. As stated, the predisposition exists, and the exciting causes are idleness, lack of brushing and grooming, dirt, alternate wet and dry conditions of the legs, changes from heat to cold, high feeding without sufficient work, etc. Probably the most fertile cause in working horses is the too common habit of washing the legs to remove mud, ice, etc. Anything that has a tendency to check the circulation, even for a short time, tends to swelling of the legs, itchiness and eruptions. Whatever the cause, the legs become itchy, the horse stamps with his feet, bites the parts, rubs one leg with the shoe or foot of the opposite limb, etc. This continues until the legs become raw in places, small quantities of blood escape and adhere to the hair, collect dust, etc. If this be not removed the parts become foul and fetid and the trouble becomes aggravated. When warm water and soap are used for the cleansing of the parts, and the legs instead of being rubbed until dry are allowed to dry from the heat of the parts, the reaction causes a more or less marked stagnation of the circulation, which tends to increase the trouble. Hence, the accumulation of blood, dust, etc., should be allowed to become dry and then removed by rubbing and brushing instead of by the use of fluids, unless the attendant has the time and inclination to rub the legs until dry, and this requires so much time and labor that it is seldom properly carried out. The question then arises: "How can we prevent the trouble?"

Of course, the principal point is to produce horses with clean, hard, flinty bone, with fine feathering and an absence of roundness of bone, or beefiness. This can be done only by mating mares of the desirable quality with sires of equal quality.

The next question is: "Having horses in which the predisposition exists, how can we prevent it?" This can be done only by taking care to prevent the operation of any exciting cause. Horses that are idle or partially idle should be fed on easily-digested, laxative feed. The use of drugs or medicines as preventives is not advisable. Regular exercise, ordinary feed of good quality, and in reasonable quantities, with an occasional feed of bran, and a few roots daily, combined with daily rubbing and brushing the legs in order to prevent the accumulation of dirt, etc., and the removal of scurf and dandruff, goes a long way towards preventing trouble. We are aware of the fact that it is usually considered unnecessary to groom idle horses, and also of the fact that the legs of work horses seldom receive the grooming they require. Experience teaches us that while general grooming can probably be dispensed with in idle horses, if they be of the hairy-legged classes, the legs must receive regular attention, else trouble is liable to follow. When the legs become covered with ice or mud, they should not be washed, but allowed to become dry and then well brushed. All the exciting causes already mentioned should, as far as possible, be avoided.

Curative Treatment—When the trouble under discussion appears, of course, curative treatment is necessary. In the first place the patient should be prepared for a purgative by feeding on bran alone for eighteen to twenty-four hours; then a purgative of eight to ten drams of aloes, according to the size of the patient, with two or three drams of ginger, should be given, and bran alone fed until purgation commences. After the bowels regain their normal condition, alteratives, as one to two ounces of Fowler's solution of arsenic, should be given twice daily for a week. This can be given either mixed with bran or chop, or mixed with a pint of water and given as a drench.

Local treatment consists in regular brushing and rubbing of the legs, and the daily application of some antiseptic that tends to remove and prevent itchiness. A solution of corrosive sublimate, about twenty grains to a pint of warm water, or a solution of Gillet's lye,

about a teaspoonful to a pint of warm water, gives good results. Whichever is used should be applied warm and rubbed well into the skin, which can be done only by parting the hair in many places and applying the liquid carefully and thoroughly. It is good practice to then rub with cloths until the legs are dry, but at all events, cold and drafts must be excluded. If this treatment be well carried out, it usually results in a cure, but if carelessly conducted it will not lead to satisfactory results. When the trouble has reached the eruptive stage, treatment for scratches or mud fever must be adopted. WHIP.

LIVE STOCK.

Keep the calf pen clean.

Those loafing animals should be consigned to the butcher's block.

Don't throw away the dirt from the root-house, carry it to the pigs.

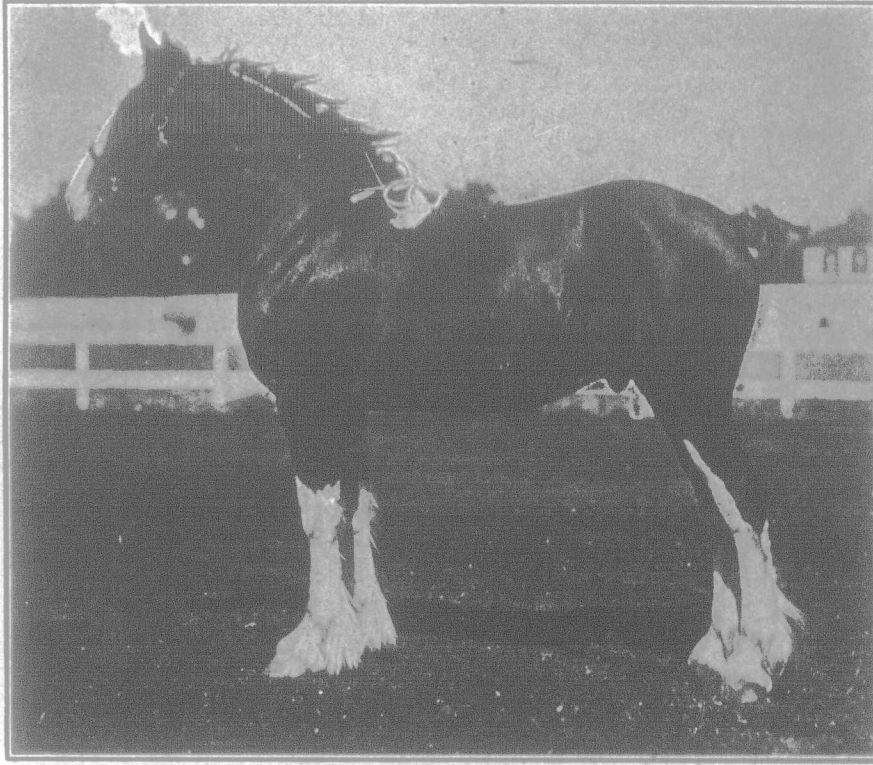
Watch both ends of the animals if you would detect ailments in their first stage.

At time of writing the price of hogs is stiffening a little. The fall litter may yet be profitable.

Brood sows require exercise. A shelter in the corner of the barnyard is an ideal place for them.

Have you a supply of remedies for common stock ailments on hand? By rendering first aid you may save some animal.

Keeping the calf pails clean helps prevent scours in the calves. Washing them isn't enough; they need scalding frequently.



Denholmhill Prince [20811].

First as a foal at London and Ottawa and second at Guelph. First yearling Clydesdale stallion and sweepstakes at London, 1919, and first at Guelph. Sire, Denholmhill David; dam, Farmer's Belle (imp.) Owned by W. W. Hogg, Thamesford, Ont.

Try and keep the chaff and clover leaves from getting on the sheep's back. It is easier to prevent dirt getting there than to clean it out.

A little silage or a few roots left in the corner of the manger soon sour and become distasteful to the animals. See that mangers are cleaned thoroughly before each feed.

Compared with price of feeds seven or eight years ago there are no cheap feeds to-day, but then, hogs, cattle, butter-fat, hay, eggs, etc., have risen as well as the price of feeds.

The sow that is very thin in flesh at time of being bred is not likely to have as large nor as strong a litter as the one in fair flesh. It is better to delay breeding a thin sow for a few weeks.

The man who started into pure-breds a few years ago by purchasing a few females of good breeding and then mated them to an outstanding bull from the standpoint of both individuality and breeding is to-day reaping his reward.

A pen six feet square and five feet high makes a very good farrowing pen. It is small and the body heat of the sow will keep it reasonably warm. If the piggery is cold a corner of a pen could be boarded up for a farrowing pen.

The Prince of Wales who has purchased a farm in our Canadian West takes a keen interest in good live stock. It is reported that he has purchased a choice selection of Shorthorns and Shropshires for use on his new farm. The Prince is President of the Royal Agricultural Society of England for 1920.

An examination of some of the cows which cannot be got in calf, may disclose the fact that the neck of the womb is closed. The veterinarian may be able to open it resulting in the cow conceiving at the first or second service. Before beefing the valuable female on account of sterility endeavor to rectify the causes of sterility.

Our English recorder tells us that English Herefords have been making high prices in Montevideo. The Royal Cardiff champion bull, Goodenough, bred by W. Griffiths, Aldersend, Tarrington, Hereford, has been sold to Senor Felipe Monteros for £6,587 10s. in English money. Goodenough is by Royal Oyster, out of Godiva. H. Weston & Sons' Bounds Ideal, by Conquest, made £3,298; Coston Shylock realized £3,191 10s.; Abdale, £2,552; and ever so many passed the £1,550 mark.

According to our English correspondent a short-pedigree Shorthorn cow with a milk record of all 324 lbs. realized £196 7s. at Penrith, where a much-recorded sale of non-pedigree and short-pedigree milking Shorthorns was held. A five-year-old cow with 9,857 3/4 lbs. of milk in 289 days to her credit fetched £193 4s. A cow in calf, six years old, and a yielder of 5,522 lbs. in 270 days, made £177 10s. Other prices were £126 and £157 frequently paid for certified yielders.

Wintering Pigs.

Hog raisers have their greatest difficulties during the winter months. Pigs cripple and become stunted even under the best of care. Hogs will not remain thrifty on a cold, damp pen. They will do well in the cold provided there is dryness of air and pen. Favorable conditions are not easy to obtain on all farms. Then, too, young pigs do not do well in the same piggery with a bunch of shoats or fattening hogs. There seems to be something in the air that is detrimental to the health of the youngsters. On the average farm it seems that the cattle stable is about the best place for the young litter, although there are objections to this practice. When the pen is cold plenty of bedding should be used, and the sleeping quarters raised off the cold cement. Some of the most elaborate structures built to house the pigs have proven very deficient in something essential to the health and thriftiness of the hogs.

The old log building with straw piled on top made a much more suitable piggery than the modern stone or concrete walled and floored building. However, the latter buildings are more convenient and can be made to furnish the needs of the hog. Light, ventilation and dryness are essentials. Most buildings, have not the proper ventilation, and this causes dampness. Air shafts should lead from the pens to the roof, and if straw can be stored in the loft over a slat floor it will absorb dampness and permit the foul air to diffuse through. We have seen some of the windows displaced by cotton with good results. While the pen was cool there was a freshness and dryness to the atmosphere.

Feed is important. Although it is high priced it does not pay to feed merely a maintenance ration. If keeping pigs feed them. Low-priced pork and high-priced feed are not conditions to make a feeder smile, but while the hog may cost more to produce just now than one gets for it, there was a time not long past when there was a margin of profit on feeding hogs. That time will undoubtedly return again. There is no business but has its depressed times. The solution now is to so compound the ration that maximum returns will be obtained at minimum cost. Housing conditions must be right, and the ration must supply the nutrients necessary to the growth and development of the hog.

The young pigs will commence eating mangels and drinking milk from a trough when a few weeks old. By supplementing the milk they obtain from the sow, the pigs will be more growthy and thrifter at weaning time than if these extra feeds had not been given. Have you ever thrown a box of dirt from the root-house, or ashes from the furnace into the pen and watched the young pigs work? Try them with a bunch of alfalfa hay or leafy clover and see how they pick at it. These feeds are cheaper than grain, yet, serve a purpose in the development of the body. After the pigs are weaned they should have all the mangels and clover or alfalfa they will eat. When milk is not available it will, no doubt, pay to feed tankage in order to assist in balancing the ration. Finely-ground oats and shorts are bone and muscle-forming material, and should make up the major portion of the grain part of the ration until the pigs are possibly four months old. The heavy feeds can be held for finishing. In cold weather hogs do not drink as much water as during the summer, and care should be taken that they are not forced to take too much water in order to get their grain.

The injunction decree to be issued by the United States Federal Courts against the big five in the packing industry appears comprehensive enough to prevent them ever again getting a strangle hold upon the produce business of the country. Perhaps this will point out to Canadian packers the wisdom of taking the agricultural public a little more into their confidence regarding an important aspect of the farmers own business.

Caring for the Sick Farm Animals.

Of the many difficulties that are experienced by the practitioner of veterinary medicine, the greatest is without a doubt that of securing good nursing for his patients. Many a case results fatally because it has poor nursing, and yet there are many seemingly hopeless cases that recover when they have very good nursing during the course of the disease. A great deal of this could be remedied if the veterinary nurse would only do his best, but there are several discouraging features about the nursing, especially of a very bad, acute condition in the horse. In the first place, the ordinary stock owner or caretaker is compelled to give all of the medicine comprising the treatment through the mouth and you realize that this is no small task in the horse. Some of them are very obstinate, and you occasionally find one that becomes violent when treatment is pursued for any length of time. The average individual knows very little about the physiology of the domestic animals, and still less about hygiene and sanitation and its value in the treatment of some of the conditions with which animals are affected, and is not at all familiar with the diet that should be provided for the sick animal.

In caring for the domestic animals—for that seems to be a more applicable term than nursing—the owner or attendant usually does many things that are detrimental to the best interests of the patient before calling the veterinarian or before he arrives. It seems that some of them will never learn to wait until the doctor arrives to prescribe for the patient. This is many times the cause of the fatal termination of an otherwise simple condition. This would not be so bad in every case if the conditions were safely diagnosed, but many times the diagnosis is as faulty, and as far from being even similar to the condition that when treatment is applied it does not help the condition but rather aggravates it.

Very few stock owners are able to read a thermometer or to count the pulse rate of the domestic animals under their charge, and for this reason they are often in the dark as to the progress that the case is making, and this many times is very discouraging and causes them to neglect their charges and get discouraged.

The stock owner usually has some ideas of his own, and some of them are very erroneous and even ludicrous. Many times the owner simply refuses to be convinced that he is mistaken, or that things are any different from what he thinks them to be. It is very difficult as a rule to handle any conditions for this class of people, especially if they are any way serious. The best way to handle these fellows is to make them believe they know just what is wrong, and just how to take care of it, and advise them as to how good they are at caring for their charges, and soon you have them doing just what you want done, and much better than if you had tried to argue them down and convinced them that they did not understand the patient's condition. They are wise in their own conceit. Many of these fellows will use some little harmless procedures of their own during the treatment, and it does not matter how good the veterinarian's treatment may have been, they are there to claim the major part of the credit for the recovery if such be the case. These fellows will usually tax the average practitioner's control of temper, and many times if one is not very careful a spontaneous outburst of wrath is heaped upon the fellow, and many times he is, strictly speaking, deserving of a good part of it.

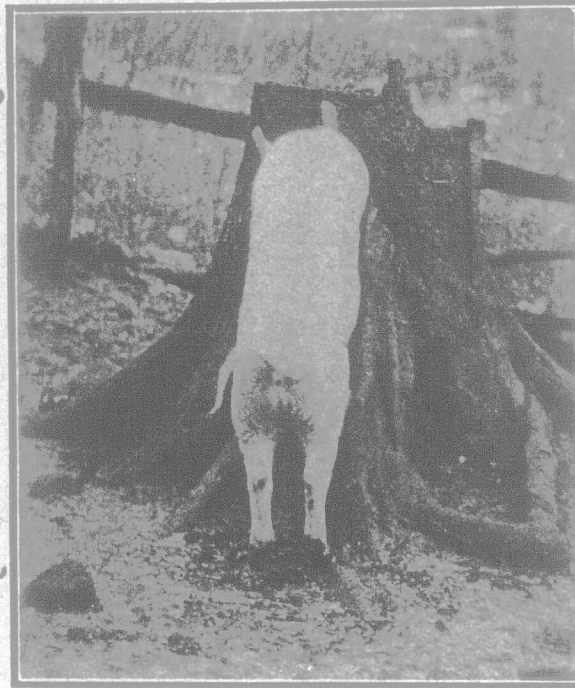
There often occur many circumstances during the practice of medicine that are very provoking, to say the least. It is a fact that some caretakers will tell an untruth concerning their caring for the patients under their charge. I have watched the medicine prescribed and have found that there are times when only a small part of the medicine prescribed has been given in the time specified, and yet if you ask them if they are giving the medicine regularly they will assert that they have never missed a single dose. When you suspect this, it is well to call for the container from which the medicine was formerly dispensed, and in this way you can determine just how they are carrying out your instructions to them.

Very few caretakers seem to consider that the domestic animal's digestive systems or their general make-up is anything at all like the members of the human family, for when they are sick they feed them the same feed that they have been feeding all the time, and few of them think that a change to something that is appetizing would be valuable when the animal is sick, just the same as such things are appetizing to sick people. Another thing that I have noticed is in the preparation of mashes and the like; they are often placed before a horse or cow and if they do not eat them they sour and begin to ferment very rapidly, but most attendants will allow them to remain in the feed trough for several hours until they are unfit to eat, and besides the sight of them becomes repulsive. If a mash or any other feed is placed before an animal and it does not partake of it within an hour or so, it should be removed and some fresh placed in the feed rack at the next meal. If the animal refuses feed altogether, do not try to force it to eat, but wait, as it will let you know when it is hungry and wants feed. The same thing must be said of the water for the animal; it should be fresh and clean; should be kept where it can be offered to the animal several times each day, and should always be fresh. Under conditions in which there is apt to follow great weakness or shock, it is well to remove the chill from the drinking water, also, in most of the acute respiratory conditions.

The sick animal wants a nice clean bed, the same

How and How Not to Do It When the Veterinarian is Not Around.

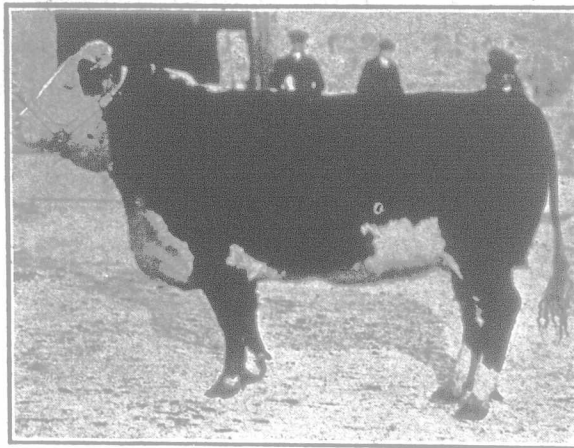
BY G. H. CONN, D. V. M.



Searching for Charcoal.

as the sick person, and wants all the comfort that it can possibly get. The animal with acute pain that wishes to lie down should be provided with a large, well-bedded box stall, away from drafts and noise and any other disturbing influences. Wheat or rye straw makes the better bedding, but shavings and sawdust may be used. In using sawdust for bedding, the animal sometimes becomes galled from lying in urine-soaked bedding. In conditions where the animal remains standing and it is difficult to get the feet a great ways from the ground, it is advisable to remove the bedding as the animal will find greater comfort in moving about when that is necessary.

It is also necessary to provide good light for sick animals, unless it be tetanus or some conditions of the eyes which would call for a darkened stall. Plenty of sunshine and fresh air are essential in the treatment and caring for sick animals; it is necessary, however, to avoid drafts.



Ruby Fairfax.

Champion Hereford heifer at Guelph Winter Fair, for J. Hooper & Sons, St. Mary's. Sold at Ontario Hereford breeders' sale, Guelph, for \$1,400.

It is many times possible by doing some small things in the treatment of the sick animals to get results from them. The sick animal that has a fever and has no appetite and refuses water and anything that may be offered him will sometimes feel much better after having his mouth washed with good cold water, and having a good grooming. They should be brushed and cleaned with great care, and if the extremities are cold they should be well rubbed with coarse cloths or bandaged. In cases where there are injuries with secretions that discharge over the other parts of the body, they should be cleaned as often as necessary for the comfort of the animal.

The foregoing remarks have been made concerning our larger patients, such as the horse and cow. But we have the smaller patients to care for, and they are much easier handled than the ones just named. Now, for instance, the dog can be handled in most cases just about the same as a person. It can be bathed and kept in more comfortable places away from disturbing elements and can be dieted if need be, and medicine can be much more easily administered to it than to our larger patients.

In the horse, by far the best way of administering medicine is with the use of the dose syringe, which is a

syringe of metal or of hard rubber, metal being the longest lived and also the best—that has a long nozzle and should hold either two or four ounces. I like the two-ounce, and use it altogether. I always take my left hand and pass it through the space between the incisor teeth and the molar teeth and catch the horse's tongue in my hand, and then turn my hand over so that my thumb is in the roof of the horse's mouth and my little finger rests upon the floor of the mouth; this holds the horse's mouth open and then you can insert the nozzle of the syringe over the base of the tongue, and expel the contents of the syringe. With care, the medicine will be thrown over the base of the tongue, and as soon as the tongue is released the horse is compelled to swallow. If you have no dose syringe and are compelled to drench the horse, never do so through the nose, as this is very dangerous. Take a small rope several feet long and make a loop in it that will not slip tight, and large enough that it will go around the upper jaw, and then place this rope over a beam or through a pulley and draw the horse's head up. This keeps the mouth open so that he cannot get his tongue back of the medicine and throw it out, and he is not nearly so apt to crush the bottle. This loop may be placed back of the nose band on the halter to keep it from slipping off the upper jaw when the horse's head is drawn up. Medicine may also be given in powdered form by placing it well back on the tongue with a spoon, or it may be made into a thick paste with licorice root, and molasses or syrup and then spread upon the tongue.

In giving liquid medicine to the cow, it is usually sufficient to catch the cow in the nostrils with the fingers the same as a cattle leader would hold her, placing the elbow back along the neck, and then slightly elevating the nose you can use a long-necked bottle or a dose syringe to place the medicine back upon the tongue where it is readily swallowed. It may also be given in powder form, or in the paste form, or mixed with some sweet substance, the same as for the horse.

In giving medicine to swine, it is best to catch them with a loop or small rope passing through the mouth and then draw them up to a post or something solid and tie them and allow them to settle back; then take a piece of rubber hose and insert in the mouth and allow them to chew at it while the medicine may be poured through the tube into the mouth. If you use a syringe, be sure and throw the medicine into the mouth while the hog is not squealing, otherwise you will strangle the animal with it. Never use a bottle in giving medicine to hogs, as they are very apt to bite it in pieces for you.

Giving medicine to dogs and sheep is comparatively a simple matter, owing to their size and the ease with which they may be handled. It may be given with a small syringe or with a spoon.

Of late years azoturia has claimed many hundreds of valuable horses and has been the bugbear of practicing veterinarians, not so much from their inability to cope with the conditions, as the mistakes made by the owner before calling the veterinarian. Azoturia is too well known to have a discussion of its train of symptoms here. When you have a horse that you suspect of taking azoturia, stop him at once and if he is very bad, or it is any distance to the nearest stable, do not attempt to move him, but allow him to remain quiet, just as quiet as you can possibly keep him. If you cannot get a veterinarian soon, give him a good dose of raw linseed oil and, if the weather is cool, or the horse seems to have a chill, cover him with sufficient blankets to keep him warm. Many times in very bad cases rest, if given at the first sign of the disease, will effect a return to normal conditions in a very short time. Take oats or salt and place in a grain sack, and place over the region of the loins, keep them hot, and massage the muscles of the hips and loins. Above all, do not walk him, as I have seen several that were simply walked to their death. If he is very weak and persists in wanting to lie down, permit him to do so; the exertion put forth in trying to remain on the feet sometimes proves fatal.

In cases of colic or indigestion, it always provokes me to see an individual on the opposite end of a strap dragging a poor brute of a horse around and continually clubbing him to keep him from lying down when he is so full of misery and pain. The first thing a person does if he has abdominal pain is to lie down and try to get into some position that will afford him some relief. The same may be said of the horse; make him as comfortable as possible and watch him that he does not injure himself and allow him to rest as well as he can. Never walk him, as it is unnecessary and cruel. If you cannot get trained help at once, give about two ounces of turpentine in a pint of raw linseed oil or in sweet milk and a tablespoonful of ginger. But be sure and tell the veterinarian what you have given. Allow them water if they will take it, especially in constipation and impaction.

In tetanus or lockjaw we have a condition that is easily recognized by any one that has ever seen a case of it. Just as soon as possible get the animal into a quiet place away from any other animals or anything that might excite it and make the stall dark, and do not allow any strangers or any one other than those necessary to go near it. Place water where it can have access to it at all times, and feed where it will not be compelled to undergo unnecessary exertions to reach it. Get a qualified veterinarian.

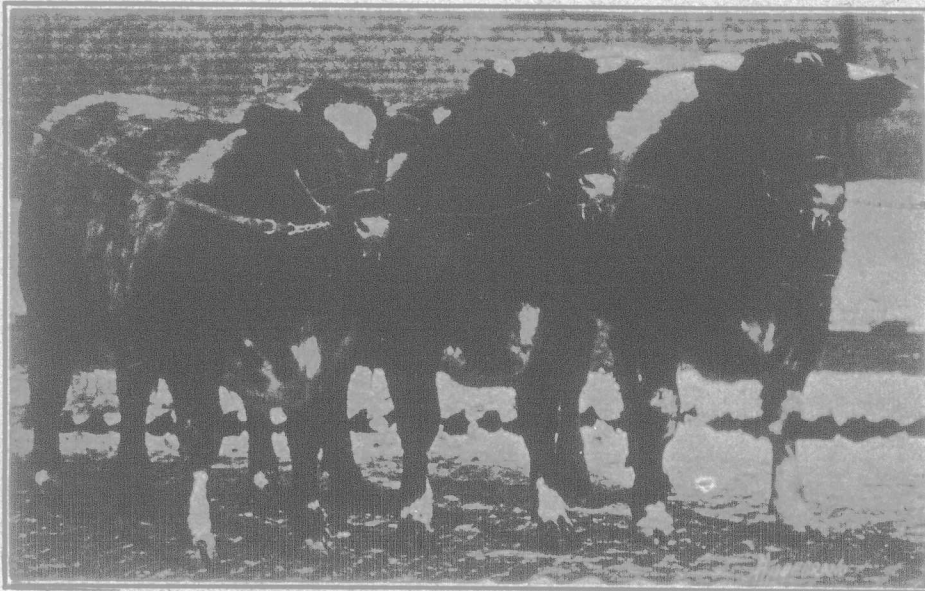
For cases of laminitis or founder in the horse, place him with the affected feet in a mud hole, or in running

water which comes above the hoof, or place cloths over his feet and soak with cold water. Then lead for fifteen or twenty minutes three or four times each day. Better do this on the advice of a veterinarian, if one can be secured.

In acute respiratory conditions, place the animal in a well-lighted and well-ventilated box stall and have it well bedded down, and then place fresh water before the animal. If he has chills, or if the weather is cool, blanket well and avoid drafts. Groom him well, and if his extremities are cold bandage them or rub them with coarse cloths or with wisps of hay or straw. Impossible to get too much fresh air if you avoid drafts. Keep bowels loose and kidneys active. In place of a mustard plaster, apply to the chest oil of mustard, two drams in one-half pint of olive oil. Give treatment prescribed by a qualified veterinarian.

It is well to mind the following when caring for sick animals:

1. Always get a good graduate veterinarian when you can possibly secure one.
2. Do not give drugs of which you do not understand the action, and when you are not sure of the condition affecting the animal.
3. Never walk the animal except on the advice of a veterinarian.
4. Make the patient as comfortable as possible in a clean, cool, well-ventilated, roomy stall, with plenty of light.
5. Have the stall clean and well bedded.
6. Prepare the best of feed, and have water that is fresh and clean.
7. In eye conditions, or in cases of lockjaw, place the animal in a darkened stall, as the light hurts the eyes.
8. Do not employ men of doubtful ability as they often do you more harm than good.
9. Get a clinical fever thermometer and learn to use it, and also learn to count the pulse of the domestic animals.



Grand Champion Steer Herd at Chicago.

fall more easily and if pastured by live stock the roots are tramped and cropped bare and the trees begin to die at the tops. It takes time to grow shelter belts of maple or spruce, about the homestead or orchards, but it is surprising what a few years will accomplish and after the planting there is little trouble, no investment affords more satisfying returns. Carrying storm insurance adds materially to the cost of farm management. In some quarters farmers may handle this problem among themselves by a mutual plan or by having the mutual township fire insurance companies incorporating as a side feature at moderate cost protection against storms.

The real value of a well grown forest tree is not just the dollars that it will sell for. As a maker and conservator of fertility, as a shade for stock and windbreak, its worth is probably ten fold. It adds an annual coat of leaf mold to the soil and prevents erosion and waste.

Fenced and properly nurtured it becomes a sure and speedy source of fuel which people appreciate as never before, under the terrorism of coal mine strikes and failing natural gas supplies. As trees disappear climate becomes less equable and soil wastage from torrential rains more severe. They check evaporation, and spreading branches, twigs and foliage break the force of heavy rain fall and filter it gradually upon the earth, making the distribution of moisture more beneficial. It is folly nowadays to establish an orchard without shelter for an entire season's crop may be swept off by a few hour's wind. In fruit growing sections like California where water and soil protection is more keenly appreciated than in Canada, experts put the conservation benefits of a good-sized tree at a capitalization of from \$500 to \$1,000.

Whatever may be accomplished in reforesting blown sand districts or the denuded timber limits of Northern Ontario, there is immediate and urgent need of setting in motion a policy of promoting tree planting and conserving what remains of Old Ontario wood lots. Measures left to municipal option are liable not to get us



In the Track of the Gale.

THE FARM.

The Protection of Trees.

EDITOR "THE FARMER'S ADVOCATE":

Continued sales of fine block of standing farm timber, and the devastating hurricane that swept across a large portion of Ontario one evening in November, are too closely related to pass without more serious consideration. In that storm many forest and fruit trees were uprooted in all directions, barns and other outbuildings were unroofed or blown down, windows shattered, implements injured and telephone and other wired lines damaged, involving enormous losses. That more lives were not sacrificed seems to have been little short of miraculous. It is a matter of common observation that as the protection of the natural forest disappears such on-rushes of wind become fiercer and more frequent. In looking over a considerable area of the devastated territory, it was apparent that the most destructive effects were usually where to windward the sweep of the wind was not broken by intervening wood lots for a mile or more. The photo reproduced herewith of a dismantled barn illustrates a typical casualty. The rural school property lying a little to the northeast sheltered by hedges and maples escaped injury. The older and frailer structure was of course, an easy prey to the unimpeded tempest.

Wood lots of ten or fifteen acres of beautiful bush mostly sugar maples and other hard woods are going down under axes and saws as ruthless as the high explosive the Huns let loose upon tree-clad France. If less spectacular and terrifying the consequences are surely detrimental to the appearance, safety and utility of a farming country here, the rich foundations of which nature required centuries to lay. The lure of immediate returns in cash, makes it more difficult to retain the bush lots that remain and their disappearance adds to the cost as well as the peril of farm management. As these wood lots become separated and thin, the trees

anywhere and there appears to be need at least for a thorough-going campaign of education. Whatever may be undertaken by the new Provincial Government, readers of these lines, realizing the value and pressing need for more trees can at once plan for generous plantings in the coming spring.
Middlesex Co., Ont. ALPHA.

The calamity howlers are already busy with the provincial political situation. One prophet recently predicted that within eight years the doctors and lawyers who have been crowded out of the legislature by rural representation would all own farms and be able to qualify as rural members. No one will find fault with this reform as a corrective for rural depopulation, provided they live on their farms and work them.

Agriculture in New York State Cont'd.

KILLING QUACK GRASS.

Quack grass had been a common pest in New York State years before any of us farmers around London had ever seen it. I remember my uncle trying to describe it to us when he was over here on a visit nearly forty years ago. And about that time the farmers there in discussing crop prospects might be heard to say that their corn was pretty "quacky." So much to show that the New York farmers have had long experience with this vigorous pest and know what they are talking about when they discuss it.

At Hall's Corners, about midway between Geneva and Canandaigua (though lately since the village has become a very important shipping centre and the site of that "Kraut" factory mentioned in former communication, the Corners have been rubbed off and it is known as Hall or Halls) there lives a man who was born and brought up near London, his parents being from that sound old country spot, Aberdeen. He worked for years as a ploughman and a general farm servant in this country and after he left for Halls, N. Y., where his home has been since 1868. He is known to his friends as "Alek" and is of that class that would not tell a lie for love or money. That is what those who know him believe at least. Though getting into another line of business he never lost his love for the soil, and having a good team and some time to spare he has been in the habit for years of renting a field for the growing of a cabbage crop.

This is his quack grass story. One year the field he rented (giving particulars as to owner and location) was just "full", his own words, "of quack grass." Through some hints dropped by another, followed up by after experiments of his own, he had come to believe that the most effective way to deal with that was not to bring the roots to the surface to be dried off but to keep them under, to cover them. Of course, it will be understood, that when "roots" are mentioned in common speech, rootstocks are what is meant. Applying the principles he had come to think were the correct ones he ploughed the field in question early in spring and deeply. The idea was to have no rootstocks left near the surface. He then kept close watch of the field and as soon as any green appeared he harrowed with a light harrow. The intention was to cover the tiny blades, not to cut them. Then he waited and watched. As soon as green appeared again, "and mind you", said he, "I didn't wait after that." He harrowed again and lightly, not to tear up but to cover. That one treatment was repeated again and again though towards the close of the spring he noticed that the grass did not show so quickly as at first, it seemed to be growing weaker. This treatment was pursued steadily in spite of jeering remarks of neighbors. The owner of the field in particular kept telling him "You'll never kill quack grass in that way." Wait a while and you'll find the roots as live as ever.

Just before the cabbage was planted about the end of June, the field was ripped up good and deep with a cultivator. "And", Alek declared most positively and seriously, "I never had to hoe a blade of quack grass all summer." Cultivation of cabbages, it should be remembered, is very frequent and thorough, a straddle-row riding cultivator being used.

In the fall one day when the owner was passing, Alek called to him and said, "Come over here, I have something to show you." He dug down into the ground and there towards the bottom of the plowing were handfuls of roots that could be pulled up dead. Not only dead but rotten. The job was complete.

A little experience of my own tends to make the above story credible to me at least. A corner of a field next to an open ditch had become thoroughly infested with quack. It was impossible for it to be any thicker. By degrees the land plowed had been receding from the ditch as the grass kept crowding in. At last it was determined to plow back to the old mark, which meant taking in a width of four or five feet of solid quack grass of about twenty-five feet in length. Sugar beets were sown alongside and on this strip as well, but the two rows on the infested width, while they came up, scarcely grew at all for weeks and weeks. The one treatment given was to hoe the grass off every time it showed itself. After a time it began to weaken, the sod started to rot, and the beets to grow. They never quite caught up to the others though they came pretty near to it, and the grass was practically killed.

One further remark about the treatment given that special field at Halls, N. Y., may be permitted, that is the thorough and prompt manner in which it was applied. It was always harrowed at the proper time and not two or three days afterward, and the treatment was relentlessly pursued to the end. Thoroughness always counts and nowhere more noticeably than in the handling of the weed problem. T. B.

CANADA'S YOUNG FARMERS AND FUTURE LEADERS.

Sweet Clover Growing

EDITOR "THE FARMER'S ADVOCATE":

I thought I would give some of my experiences in sweet clover growing—some of my troubles and trials, for sweet clover won't grow everywhere. Perhaps that will surprise some. It doesn't pay to sow sweet clover on heavy clay land, sandy loam, wet, boggy land, or in fact on any land that lies under the water, or is wet

for several months in the year. The fact of sweet clover growing alongside the road in such profusion is no guarantee that it will grow the same in the next field, for the reason that the land may be too poor, or not inoculated for any kind of clover growth.

Now, sweet clover has got to have a certain amount of lime in the soil. It would be the height of folly to sow it on unlimed, sandy soil and expect a crop. But there are thousands of acres all through Northeastern Ontario that only require liming and fencing that would grow sweet clover to perfection. Sweet clover will produce returns better than anything I know, if sown on the right land. Now for liming land, I have heard of men starting out with a team and wagon, a good tight wagon-box half full of lime, and a broom. One man drives and the other man sweeps the lime out behind. My own idea is to procure a manure spreader, tear old sacks from top to bottom and tack on to the apron, cut out blocks of wood and bore or burn holes in them to fit the teeth in the cylinder of the spreader. Put the holes on the teeth and drive them on. Fill your spreader half or quarter full, as you like, put in low gear and start ahead.

All this is getting away from sweet clover growing, but the above is the panacea for most of the land in Northeastern Ontario, especially when sown to good clean sweet clover seed. If you can't make a living off your farm, nobody else will. Don't sow sweet clover seed with the husk on, and don't sow it on sterile dry soil, in a dry spring. Remember, it is not one-quarter as hard to kill as alfalfa. The reason sweet clover grows in some wet corners of your fields is that the soil has become inoculated there and is also probably richer.

Prince Edward Co.

A. G. W.

Junior Farmer's Improvement Association

EDITOR "THE FARMER'S ADVOCATE":

A few days ago I noticed among the topics for discussion this question: "Are you a member of a farmers' club? If so, how has this membership helped you?" I presume the club referred to here was that which is known as the United Farmers' Club, but in the last few years there has come into existence another club known as the "Junior Farmers' Association," which is a wonderful help in training and preparing the young farmers to take their places in the future.

In Wentworth County at the present time we have five Junior Farmers' Associations, which are controlled and kept together by the County Executive, consisting of the President, Vice-President, and Secretary of each Club. At the executive meetings a series of debates between the clubs throughout the County are arranged for, and also the stock-judging competitions which are usually held twice yearly.

The question might be asked: "Of what use are these competitions?" Let us first consider the debates. For each debate is chosen a subject which is both up-to-date and of daily importance. The fact has become well known among the clubs that these must be debated thoroughly and well or the debate will be lost. It is, therefore, evident that after studying and threshing out a subject of real importance the debaters must receive a lasting benefit. Then, as to the stock-judging competitions, it not only keeps us fresh in what we have already learned, but gives everyone a chance to prove that he is a better judge than the other fellow, and also in this way we are privileged to see a great deal of the best stock and herds of the Province which otherwise we would not take the trouble to see.

This Association, besides boosting the educational part, also promotes the social life of the County. It not only allows the best young men of the County to become acquainted with each other, but there is held annually a Junior Farmer's picnic, which brings together all the young people of the County.

Then let us come back to our own home Club. As the financial responsibility and the general running of the Club is thrust upon us, we learn in our younger days how to manage a club, this experience often being of great value to us in later years. Then we have our literary training, such as debating in our own Club, mock parliaments, council meetings, etc., while social evenings and skating parties also come on our list. Our Club here at Rockton was organized after the Short Course was held here last winter, and I have noticed that very few of those who did not take the Short Course are taking an active part in the Association, demonstrating again the value of the agricultural short courses. It seems to take the Short Course to start off the organization, but I am sure that even those who have not had this privilege will be greatly benefited by joining their nearest Junior Farmers' Association, and so to any young men who do not already belong I would say "Sign up."

Wentworth Co., Ontario. RAYMOND J. MCKNIGHT.

A practical perspective is a good thing. Recently a well-informed commercial traveller, who understood fairly well the bearing of science on agriculture, remarked that nothing to him could be more interesting than to take a herd of cows and care for them right up to the highest scientific notch. Possibly he was right, but we had to wonder how many surprises, disappointments and practical obstructions he would meet with on his way toward that notch.

AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

Trouble with a Gas Engine

EDITOR "THE FARMER'S ADVOCATE":

I have a three-horse power engine which is run by batteries (four batteries). I have an elbow and one length of stove pipe on the muffler to turn the exhaust up as the engine runs on the barn floor. I have trouble with explosions in the hood, the fire sometimes coming out the top of the pipe, and sometimes it would give a couple of terrific bangs and then stop dead. I bought a new spark plug, ground the valves, cleaned the exhaust pipe and cleaned out the gas feed. I strain the gasoline into the tank. It didn't do too badly for a couple of days—I mean there was no fire—until to-night when cutting straw, it gave two loud reports, with fire out the top of the pipe, and then died. If my exhaust valve is still leaking wouldn't there be short sharp cracks in the hood oftener instead of the two big explosions? Don't you think the cause is misfiring?

If it is misfiring what causes the two reports so close together? Wouldn't it burn it all in one? When testing the plug there seems to be a good strong spark. I was told my batteries are weak and although they give a good strong spark for a while, after the engine is idle, my spark gets weak after the engine runs a little while. Is this true of batteries? Will it hurt in any way to add two more batteries to my number making six in all? I was told it would.

My engine smokes a lot at times; is this caused by weak spark or valve leakage?

I have never had it to blow up like this when grinding but always when on the box and when there is nothing in the box. Will the momentum of the heavy fly-wheel have any effect on the engine? Sometimes you would think the cutting box was driving the engine. Wishing you the Compliments of the Season.

Victoria Co.

L. S.

Ans.—The explosions in the muffler causing the fire to appear at the end of the exhaust pipe may be due to one of several things. First, it may be caused by the exhaust valve not closing properly, but since the valves have been ground this would not likely be the cause. It may be caused by misfiring in which case one or more unburnt charges of gasoline would escape into the muffler and stay there until the next hot charge reaches the muffler when this would be ignited and an explosion would, of course, follow. It is more likely, however, since the explosions follow in rapid succession that the engine is short-circuiting the ignition system at odd intervals which would cause it to fire into open valves and would also cause it to die down immediately. As to whether the cells are too weak I would suggest procuring a small ammeter and test the cells; each cell should test at least ten to fifteen amperes. The voltage generated by six of these dry cells connected in series would be higher than the coil in the engine is made to endure without burning it, and it is not advisable to connect up more than four cells to the coil. If you have a supply of old dry cells you might connect two batteries of four cells each, the cells connected in series and then the two batteries connected in parallel. This gives you no more voltage than a single battery of four cells, but would give you double the current your single battery would give you.

Your engine smoking at times may be due to several causes. If the smoke is gray or light blue in color it is likely to be caused by too much lubricating oil, and if black it is caused by an excess of fuel and this also may be the cause of your explosions in the muffler. Another cause may be a weak inlet valve spring which would act in this way. When your engine is running light, as you say it is on the cutting box, it may draw in partial charges through the inlet valve which is not held tight enough by its spring. This gas would, of course, go into the muffler and when the next hot charge comes along it would ignite causing the explosion. By examining your engine I feel that you will find the cause of your trouble in one of the above suggestions.

L. G. H.

THE DAIRY.

An Act was passed at the last session of the Manitoba Legislature which makes the operation of cream-buying stations in Manitoba illegal after May, 1921.

The 1918 butter production of Nova Scotia was 1,762,364 lbs., from 21 creameries. It is estimated that the 1919 production from 22 creameries will be 2,126,000 lbs.

43.1 per cent. of the milk in the United States is used as liquid milk; 41 per cent. for butter making; 5 per cent. for cheese making; 2.9 per cent. for condensed milk; 4.3 per cent. for feeding calves; and 3.7 per cent. for making ice cream.

Percy E. Reed, Dairy Commissioner for Saskatchewan, states that the shipment of butter out of Saskatchewan during November was quite active. Most of the shipments came East, several cars going direct to United States points. Similarly, L. A. Gibson, Dairy Commissioner for Manitoba, states that 150 cars of creamery butter have been shipped out of Manitoba during the year. Of this quantity 30 car loads went to the United States.

C. Marker, Dairy Commissioner, Calgary, states that the value of milch cows in Alberta has increased from \$37.53 in 1901 to \$93 in 1918, and that the number of milch cows has increased in the same period from 46,101 distributed at the rate of 4.9 per farm, to 328,702 distributed at a rate of 5.6 per farm. The value of milch cows in Alberta is more than 30½ million dollars.

The total annual value of dairy products in Alberta has risen from \$7,855,751 in 1910 to \$31,625,000 in 1919. Creamery butter production has increased from 3,010,755 lbs. butter in 1912 to 10,500,000 lbs. butter in 1919. Cheese production has increased from 40,000 lbs. from six factories in 1912, to 500,000 lbs. from ten factories in 1919, while in 1917 cheese production in Alberta was 1,274,905 lbs. from twenty factories.

According to a recent statement of the British Ministry of Food, the ruling retail prices per pound for butter and cheese in the countries named are as follows, we are informed by the Dairy Commissioner, Ottawa: Butter, Great Britain, 60 cents; France, \$1.20; Denmark, 72 cents; Germany, \$1.44; Italy, 80 cents; Sweden, 84 cents; Switzerland, 72 cents; United States, 80 cents. Cheese: Great Britain, 36 cents; France, 42 to 72 cents, according to variety; Italy, 40 cents; Sweden, 80 cents; Denmark, 48 cents; United States, 46 cents; Germany, unknown but very high.

The Chief of the Federal Milk Office, at Berne, Switzerland, has informed the Dairy Commissioner, Ottawa, that the country was suffering in November from a severe outbreak of foot and mouth disease. Some thousands of cattle had already been killed, but the disease could not be localized. Consequently, it will be impossible for Switzerland to resume her exports of cheese and condensed milk on a large scale. He also states that from information available to them, Denmark and Holland have plainly recovered and are producing nearly the pre-war surplus for export. Conditions in France and Italy are not so favorable through lack of cattle, and especially through lack of milkers and other farm help. In Germany and Austria the conditions are those of a hunger crisis. Switzerland's largest exports are of condensed milk, which amounted to 89,228,700 lbs. in 1913; hard cheese, 78,500,840 lbs. in 1913; and fresh milk, 39,859,160 lbs. in 1913. These exports have been enormously reduced until during the first six months of 1919 they were as follows: Condensed milk, 6,780,840 lbs.; hard cheese, 1,079,100 lbs.; and fresh milk, 8,628,840 lbs.

Methods of Determining Milk Prices

The problems of the milk producer in procuring an adequate price for his product are many and varied. Not the least of these is the problem of determining a basis upon which price agreements between producer and purchaser can be established. We have before mentioned in these columns the so-called "Warren" and "Pearson" formulae for ascertaining the cost of producing 100 pounds of milk. Warren has said that the average annual quantity of feedstuffs and labor required to produce 100 pounds of market milk, testing 3.8 per cent., is as follows: 33.79 pounds grain, 43.3 pounds hay, 10.8 pounds of other dry forage, 92.2 pounds silage, 8.3 pounds of other succulent feed, and 3.02 hours of labor. Pearson, of Illinois, after studying the feed and output of 873 cows on 36 farms with extreme accuracy, gave the following amounts as indicative of what is required to produce 100 pounds of milk, testing 3.5 per cent.: Grain, 44 pounds; mixed hay, 50 pounds; silage, 188 pounds; roughage, 39 pounds; labor, 2.42 hours. These two estimates are not the same, but for all practical purposes, taking the year from January to January, there is not much difference between them. So far as the spread of price over the various months of the year is concerned, the following comparison shows that somewhere about the last of March and the last of September the cost of producing milk is equal to the average cost of production during the whole year.

Month	Chicago Market for Ten Years	
	Warren's Scale	Chicago Market for Ten Years
January.....	119.0	119.0
February.....	114.7	114.3
March.....	106.1	106.5
April.....	93.9	94.2
May.....	79.1	73.2
June.....	70.6	70.6
July.....	81.0	83.7
August.....	90.8	94.2
September.....	96.9	96.7
October.....	110.4	109.2
November.....	119.0	118.3
December.....	120.2	120.3

Some such scale as the above, if adopted by both seller and purchaser might be made a part of a very satisfactory basis for adjusting milk prices for different seasons. The Chicago Milk Commission, in 1918, expressed the opinion that the price of the milk to the producer should rise and fall in direct proportion to the changes in the cost of feed and labor, and developed a formula which, if used properly, is considered by some authorities to be very excellent for determining the price of milk for any desired period. A description of this formula is given as follows: "One hundred is divided into four parts, each part representing a distinct and separately fluctuating element of cost as follows:

Calgary, states that it has increased from 1910 to 1918 and that the number of farms has increased from 10,500,000 lbs. butter per farm, to 328,702 lbs. The value of the output is 30 1/4 million dollars.

Products in Alberta increased from \$10 to \$31,625,000 in 1918. The value of the output has increased from 10,500,000 lbs. butter to 328,702,000 lbs. from ten cheese production in twenty factories.

ment of the British prices per pound for named are as follows, Commissioner, Ottawa: France, \$1.20; Denmark, 80 cents; Sweden, United States, 80 cents. France, 42 to 72 cents; Sweden, 80 cents; Germany, 46 cents.

Milk Office, at Berne, Dairy Commissioner, suffering in November and mouth disease. Already been killed, but not recovered. Consequently, it is to resume her exports on a large scale. He also available to them. Densely recovered and are surplus for export. Content so favorable through lack of milkers in Austria and the crisis. Switzerland's milk, which amounted to 78,500,840 lbs. in 1913. These reduced until during were as follows: Condensed cheese, 1,079,100 lbs.;

Setting Milk Prices

producer in procuring are many and varied. Problem of determining a basis between producer and dealer. We have before us the so-called "Warren" method for ascertaining the cost of production. Warren has said that of feedstuffs and labor of market milk, testing 1.79 pounds grain, 43.3 other dry forage, 92.2 other succulent feed, and 1.11 Illinois, after studying cows on 36 farms with following amounts as produce, 100 pounds of 44 pounds; mixed hay, roughage, 39 pounds; estimates are not the proper, taking the year is not much difference beyond of price over the concerned, the following here about the last of the cost of producing of production during

Chicago Market for Ten Years	Scale
119.0	9.0
114.3	4.7
106.5	6.1
94.2	3.9
73.2	9.1
70.6	0.6
83.7	1.0
94.2	0.8
96.7	6.9
109.2	0.4
118.3	9.0
120.3	0.2

ve, if adopted by both made a part of a very milk prices for different Commission, in 1918, price of the milk to the direct proportion to the labor, and developed a is considered by some for determining the period. A description of One hundred is divided presenting a distinct and cost as follows:

"19 represents home-grown grain, counted as corn, at farm prices, reported monthly by the United States Department of Agriculture.

"19 represents boughten grain, counted in terms of wheat middlings, bran, cottonseed meal, oil meal, or other primary millfeeds, reported in standard trade journals.

"35 represents forage, including silage, expressed in terms of mixed hay, reported by the United States Department of Agriculture.

"27 represents man labor in terms of hourly pay, including maintenance.

"When each of these is multiplied by its percentage of rise or fall in the markets, it expresses the influence which that element of expense has exerted upon the cost of production. When these products are added and averaged, we have a single figure which represents the net increase, or decrease, in the cost of production."

As a result of the recent investigation into the milk prices in the City of Toronto, steps have been taken to develop a method which can be used hereafter as the basis for determining milk prices by the Ontario Milk and Cream Producers' Association. Such a method has already been worked out by the Association, with the aid of Professor Leitch, of the Ontario Agricultural College, but so far as we know the scheme has not yet been accepted by the Board of Commerce, and until this is done the details will not be made public.

It is interesting, however, to note the following paragraphs, prepared by the Bureau of Markets, of the United States Department of Agriculture, with respect to the bases used for determining producers' prices in the various markets of the United States. The United States Department of Agriculture gets reports of milk prices from a great many markets each month, and is thus in a position to know what methods are adopted in order to arrive at these prices.

SOME BASES OF MILK PRICES.

"What are the prices of milk based on? Or what are the immediate bases of the changes in prices? The answer that milk producers and dealers almost invariably make to such questions is that 'prices are determined by the law of supply and demand'. Economists, or students of economic values and market conditions, generally offer the explanation that under competitive conditions the 'long-run average price' of milk like that of most other commodities, tends to equal the cost of production plus a reasonable profit; and that seasonal changes in prices are caused chiefly by changes in the demand for, and the supply of, fresh milk available for market distribution. Undoubtedly those are the basic factors affecting the prices of all commodities; but the mere citation of fundamental economic laws does not explain the methods by which milk prices are determined or the immediate basis of current price changes.

"In most of the more important milk-producing and market areas of the United States, buyers of milk stipulate in advance the prices they will pay producers for milk to be delivered during certain months of the year. Formerly it was customary for milk dealers in some markets to issue, during September, their schedules of 'winter prices' for the six months beginning with October and ending with March of the ensuing year. Their schedules of 'summer prices' applying to the remaining six months of the year were usually issued during the month of March. Since 1917, however, advance price announcements by dealers, or price agreements between producers' marketing associations and milk dealers, have not generally applied to more than monthly periods.

"As a general proposition such monthly price schedules are formulated on the basis of considerations of current costs of production and the available market supply of milk. But producers and dealers have not always been able to agree in advance with regard either to the probable cost of production or the volume of the available supply of milk in excess of a particular city's requirements for fresh milk. The result has been that various bases have been employed for facilitating price agreements. Although these price agreements are variously worded—and many of them have certain features that are peculiar to only one or two markets—when reduced to their simplest terms or most essential provisions, practically all of them fall into some one of the following seven classes, which are briefly described under the two following headlines:

PRICES DETERMINED IN ADVANCE OF DELIVERY.

"(1) Price agreements based on general considerations of probable cost of production and the available supply in relation to the estimated market requirements, with or without allowances for variations in butter-fat test or other criteria of the wholesomeness or quality of the product delivered. At present this is the prevailing basis of prices paid by leading fluid milk dealers in most of the markets of the United States.

"(2) Prices based on the previous month's prices of cheese in some primary cheese market, with an additional allowance for the extra costs of producing a high quality of milk plus the estimated value of whey for feeding purposes on the farm.

"(3) Prices based on the previous month's prices of butter in some important butter markets like Chicago, New York and San Francisco, either with or without separate allowances for the value of the non-fat content plus an extra allowance for special quality of milk, and sometimes an arbitrary allowance for variations in seasonal costs of production.

"(4) Prices based on both butter and cheese prices as shown by agreed upon quotations for a period of a month preceding the date of the announcement of prices to be paid for the ensuing month. This composite basis (a combination of the bases 2 and 3 just described) has been used for several months in the

New York market, and the prices obtained by the use of this basis is practically an average of the two prices obtained by the use of two formulas similar to those in use in the Minneapolis and Evansville markets. The allowance for value of whey, skim-milk, extra costs of quality, and variations in seasonal costs of production, vary with different localities.

PRICES BASED ON CURRENT PRICES OF MILK OR MILK PRODUCTS.

"(5) Same as arrangement 3, except that prices cannot be determined until several days after the end of the month in which delivery of milk was made.

"(6) Prices based on the net market returns to dealers. In the case of co-operative concerns such an arrangement often applies to all milk handled, whether sold in the form of fluid milk and cream or disposed of or held in the form of manufactured milk products. In case of private milk marketing concerns, however, such a price basis is sometimes applicable only to 'surplus milk' that has been converted into various manufactured milk products.

"(7) Prices contingent upon the prevailing prices of milk in some large centres of consumption or at various condenseries, cheese factories or milk stations supplying some large market. Such price agreements are very common among many small scale milk dealers or manufacturers of cheese or condensed milk.

"The first four bases established the price that producers are to receive in advance of delivery, while under the last three bases, the exact price to be paid producers is dependent upon the price of wholesale market price of either milk, cheese or butter.

BASES OF PRICES ON ESTIMATES OF PRODUCTION COSTS.

"In the majority of cases milk prices are based not on any current market quotations for either milk or manufactured milk products. Under the United States Food Administration certain 'cost production formulas' (such as the 'Pearson' and 'Warren' formulas) were used in some of the larger markets to facilitate agreements between producers and dealers. Milk dealers commonly opposed the employment of such formulas for determining prices to be paid producers from month to month. At present producers' estimates of their production costs frequently are modified by the estimates of cost accounting experts, and the prices finally agreed upon reflect a composite of such estimates adjusted in accordance with probable consumers' demands in relation to the available supply so as to allow a reasonable margin of profit to milk dealers.

DIFFERENTIALS OR PREMIUMS OVER BUTTER QUOTATIONS.

"Where prices of whole milk are based on a wholesale butter market quotation, the premiums that are commonly allowed for butter-fat generally range from 4 to 8 cents per pound of butter-fat over the quotation that has been selected. Such premiums are usually necessary on account of competition from creameries, ice-cream factories, and condenseries which often pay premiums over market quotations. In creameries these premiums are made possible by reason of the fact that in the manufacture of butter an 'over-run' is obtainable ranging from approximately 18 to 25 per cent. The allowance for the non-fat content of whole milk is commonly based on the farmers' estimate of the feeding value of a hundredweight of skim-milk on the farm, but in some markets it is based on the value of skim-milk for use in the production of such products as cottage cheese, condensed skim-milk and casein. The feeding value on the farm of a hundredweight of skimmed milk is commonly considered to be equal to a half bushel of corn or 30 pounds of other grains. With the comparatively high prices of all feedstuffs, the allowances per hundredweight of skim-milk have ranged from approximately .70 to \$1.15 during the year 1919. The exact amounts allowed for skim-milk in different markets vary with the seasons of the year regardless of whether they are based on the current farm prices for corn or grains, or on the market prices of manufactured skim-milk products.

STRAIGHT BUTTER-FAT BASIS OF PRICES.

"In some markets no separate allowance is made for the value of skim-milk, but the amount of the premium paid for the butter-fat is large enough to cover both the value of skim-milk and the extra costs of producing and delivering regularly the quality required in market milk. Such prices are often referred to as 'straight butter-fat basis' as the prices of different lots of milk are exactly proportionate to their respective butter-fat tests; i. e., 3 per cent. milk brings a price equal to three-fourths of the price paid for 4 per cent. milk. In most cases where whole milk is bought by dealers in a so-called 'straight butter-fat basis,' the price paid per pound of butter-fat is agreed upon in advance of the delivery of milk by producers. In practice prices are generally quoted 'per point butter-fat';—the term 'point' signifying 1-10 per cent. of 1 per cent. butter-fat. In such cases the agreement between milk producers and dealers with regard to the prices that are to be paid 'per point' butter-fat, may have been reached partly as a result of some considerations of both recent and prospective prices of butter or prices paid for cream by manufacturers of butter, but such milk prices are not contingent upon the current month's wholesale butter market quotations.

BUTTER AND CHEESE QUOTATIONS AS BASES.

"In some markets where milk dealers are confronted with the problem of disposing of large seasonal surpluses of milk, dealers frequently prefer to have the monthly milk prices based on either wholesale cheese or butter market quotations. While there are obvious advantages in such bases of milk prices, the chief one

being the facilitating of price agreements, there are also some fundamental objections to such bases of milk prices. Such price arrangements are not generally conducive to improvement of a city's milk supply. Unless sufficient premiums or differentials over butter and cheese prices are allowed, such bases of milk prices do not generally afford sufficient inducements for farmers to specialize in large scale production of high quality milk. Farmers ordinarily will not venture investments in large dairy herds, silos, modern sanitary dairy barns, milking machines, dairy houses, and all the necessary equipment for the production of the best grade of milk, unless they feel reasonably assured of returns that will net a fair labor income to themselves and members of their families engaged in the production of milk, plus reasonable returns on capital invested. In general, milk producers have felt that a marketing arrangement whereby the prices that they are to receive are contingent on some future market quotation for cheese or butter does not afford ample assurance that the price of milk will enable them to realize equitable returns. Where sufficient differentials have been allowed for the value of whey or skim-milk and for extra costs of marketing of high-quality cheese and butter, market quotations have proven satisfactory bases for establishing market milk prices.

Evidence Given in London Milk-Price Investigation.

BY PROFESSOR A. LEITCH, O.A.C.

In the spring of 1918 we completed an investigation of 437 dairy farms in the County of Oxford. In the summer of 1918 we completed a similar investigation of a year's business of 340 farms in the County of Dundas, also all dairy farms. The Oxford County survey, being our original survey of this class of work, and the work being absolutely new to us, we found that we made more or less errors or omissions in getting information. By the time we reached the Dundas County section, two months later, we discovered our errors and we got a much better figure. In the spring of 1919, we conducted an investigation in the County of Oxford of 351 of the same farms as we investigated before, and I have the figures of the original Dundas County survey and the figures of the second investigation in the County of Oxford, and the bearing of the present milk prices on the cost of production in these years.

In the County of Dundas for the year ending April 30, 1918, we found that on seventy-two farms which were engaged largely in shipping milk to Montreal, that the average cost of one hundred pounds for the year was \$2.44 at the farmer's nearest shipping station. This milk was largely shipped to Montreal, and, in no case, was the milk hauled more than four miles. In explaining what items made up this cost, I will say that we treated each of these seventy-two farms as a milk-producing unit. These farms did not confine their efforts entirely to producing milk; they sold other products besides milk, but seventy per cent. of their gross revenue for the year came from milk. Therefore, we would call them dairy farms. To find this \$2.44, we took the ordinary running expenses of the farm which included such items as labor hire, repairs to buildings, ice and milk hauling, silo filling, taxes, feed grinding, threshing, seeds, repairs to machinery, horse shoeing, etc. These are the current expenses of a farm. To that we added the depreciation on buildings and machinery on the farm for the year. The third item is \$500.00 for the farmer's own labor; that is, we allowed each farmer irrespective of the size of his farm, \$500.00 for his year's work—for himself and whatever work his wife and his children of public school age would do. In addition to that, he has his house and he has whatever part of his living the farm directly supplies him; that is, whatever milk he uses, whatever garden truck or fruit he might use on his table directly off the farm, but out of the \$500.00 he would have to meet his other living expenses, such as groceries, clothing and shoes, and the education of his family, charitable and church contributions. Then, as the fourth item of expense, we added seven per cent. interest on his capital for the year. These make up the four items.

There were deductions to make from this. For instance, none of these farmers devoted their entire energies to producing milk. They sold some crops, hogs and calves, and poultry, there were increases in the value of their live stock between the beginning of the year and the end of the year, and we treated that as revenue. We took the total gross receipts from all these other sources but milk away from the total expenses of his farm, and whatever was left was the cost of producing the number of thousand pounds of milk that that farm produced.

We found that the average labor hire on each of these farms was \$474 for the year, repairs to buildings \$50.00; taxes and building insurance \$96; feed grinding and threshing, \$69; veterinary and testing expenses, \$16; seeds, plants, etc., \$86; feed bought, \$502; repairs to machinery, \$47; incidental expense, \$8; then there was the depreciation on the buildings and machinery, \$251, and interest on his capital was \$1,005. The total capital was in the neighborhood of \$14,000 per farm. These items all told made up an average cost to each of these seventy-two farms of \$3,204. The average sales from each of these farms, other than milk, were as follows: Crops sold, including wheat, apples, beans, tobacco, hay, \$202.00; sale of hogs, \$345.00; sale of other live stock, horses, sheep and cattle, \$539.00; increased feed on hand at the end of the year, \$155.00; and these items all told made up, \$1,252.00. The total

expense of running each of these farms on the average was \$3,204; the total gross revenue was \$1,252. The difference was the cost of producing 80,116 pounds of milk produced on the average on one of these farms. Therefore, the average cost of producing this milk was \$2.44 per hundred delivered at the nearest shipping station. Depreciation on cattle automatically takes care of itself in the increase in sale of other live stock. A salary of \$500 for a man managing his own farm certainly is not too high, but it avoids any criticism of trying to pad the cost and make an exceptionally good case for anyone. The \$155 increased feed on hand is treated here as though it were a cash sale because it actually was there. Each of these farms had \$155 more feed on hand at the first of May, 1918, than they had on hand on May first, 1917. They did not have much more volume of feed, but the market price was raised to the extent of about \$155 per farm. The effect of that \$155 is to reduce the cost of production. You cannot leave these things out. Therefore, as there were 80,116 pounds of milk produced on each of these seventy-two farms, and as the cost of this milk was in the neighborhood of \$2,000 per farm, the average cost per hundred for the year was \$2.44.

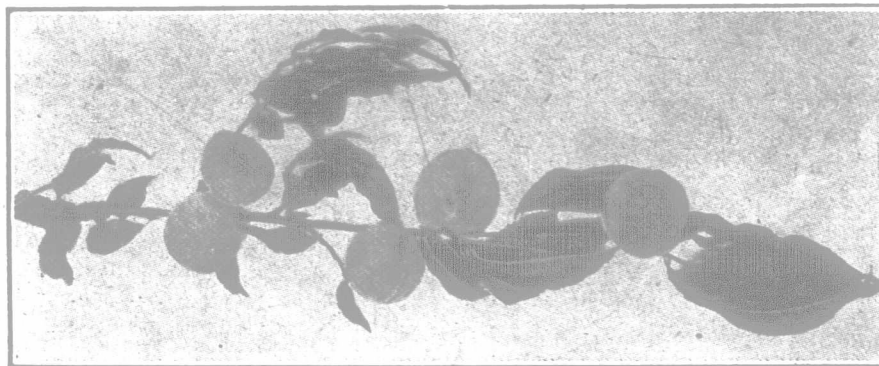
To make these figures correspond with present-day conditions, we have to do a little more calculating. The average amount of feed, the average cost of the feed necessary to produce that one hundred pounds of milk was \$1.35. That \$1.35 worth of feed has increased in cost from 1917 to the beginning of September, 1919, to \$1.97. It requires that same amount of feed to produce one hundred pounds of milk that it required in 1917 and that same feed has increased in cost from \$1.35 to \$1.97, which is approximately the present cost of feed. Therefore, in feed costs alone that \$2.44 per hundred is increased 62c., which makes it, on feed alone, \$3.06. Then there are other costs in producing milk. There is the labor and repairs, the feed grinding, threshing, taxes—everything has raised besides feed costs since that. From 1917 to 1918, leaving this year out of consideration altogether, we found that the average increase in other expenses besides feed, in the County of Oxford, was seventeen per cent. We have no figures from 1918 to 1919, although everybody knows that these expenses have increased. I am taking the increase between 1917 and 1918 in ordinary farm expenses, and by adding that seventeen per cent. increase to the \$1.07 per hundred pounds which the other expenses were, we have increased the \$1.07 item to \$1.24, which makes \$3.21 per hundred as being the cost of producing one hundred pounds of milk during this year 1919. That would be the year beginning May 1, 1919, and ending May 1, 1920. In Dundas County on farms engaged in identically the same business, it cost them \$2.44 in 1917, and \$3.21 in 1919, therefore, these prices are fairly comparable with the prices here.

Within the last couple of weeks we have finished the tabulations of investigation work on 351 farms in the County of Oxford for the year ending February 28, 1919, just last year. We found, by this same method, the average cost in producing one hundred pounds of milk was \$2.54 for that year. The feed cost in that \$2.54 was \$1.45, and that \$1.45 worth of feed has increased to \$1.97. The other costs are \$1.09 for last year in Oxford County, and then allow the seventeen per cent. increase they had the year before, which brings the figure up to \$1.26. Feed cost of \$1.97 and other costs of \$1.26 makes \$3.23. Leaving out any increase at all for ordinary farm expenses for this last year, and the cost of producing milk in Oxford County would be \$3.06.

You see that in two counties, separated by two hundred and fifty miles, and engaged in the milk business, we have practically the same cost for one commodity, \$3.21 in one case and \$3.23 in the other. I understand that during this past summer producers shipping milk into the City of London have been paid at the rate of about \$2.60 per hundred pounds—that would be pretty nearly the top figure. It is quite

evident to everybody that the average milk-producing farm produced more than half of its milk during the summer months, but we will presume that they produce half in the summer and half in the winter. If you accept my figures as being somewhat near the truth, the average cost of producing milk, including the summer just passed and the winter now on, is from \$3.20 to \$3.25 per hundred pounds, and as the farmer has been paid at the rate of \$2.60 for half of it, he should get in the neighborhood of \$3.85 or \$3.90 for the remainder, so that the price he receives will equal the cost of production.

These are the figures I am prepared to submit. I would say that, giving every reasonable advantage to the consumer, the farmer in order to get ordinary cost of production which includes just a living wage for himself (about \$585 a year because that cost has increased seventeen per cent.) and seven per cent. on his investment, he should get, in the winter months, in the neighborhood of \$3.80 per hundred pounds, along with the \$2.60 he already got for the summer, so that he will get in the neighborhood of \$3.20 average for the year around. This information is based entirely on the investigations which our Department have conducted. This, I would consider a fair and reasonable price. It must be explained that the production of milk is not a one month's business, or a two weeks' business. It is a twelve months' business. Anything you grow on a farm is a twelve months' business. Even growing a barrel of apples is a twelve months' business. You cannot find the average cost for the winter without taking into consideration also what it costs in the summer. The way you handle your machinery or cattle in the winter has an effect on the cost of producing milk in the summer.



Fruiting Habit of the Peach.

Photo from Ontario Bulletin 241.

Dairy Breeds in England.

During 1919 the membership of the British Friesian Cattle Society has reached the four-figure mark by an unprecedented accession of new supporters, and two more cows have exceeded the yield of 2,000 gallons, making the number of three, all British Friesians capable of that output.

During the year there have been sold 1,893 head of Friesians, and they have realized £329,900 11s. 6d., or a general average of £174 5s. 5d. apiece. It was only in 1915 that the average price was £39 5s. 2d.; in 1916 it was £55 9s. 10d.; in 1917, £103 7s. 5d.; in 1918, £141 1s. 8d.

The Guernsey has made great strides in popularity during the past year and new herds have been formed in many parts of the Kingdom, while the merits of the breed are being more appreciated by dairy farmers everywhere.

ALBION.

HORTICULTURE.

Pruning the Peach.

The pruning given the peach is more or less different from that given to any other kind of fruit commonly grown in Canada, in that a greater proportion of the new wood is removed each year than with other fruits. It is worthy of note, too, that in the matter of low heading the peach has always been the fruit marking the extreme in low heading. Some of our growers are, however, in contrast to the tendency of the last ten years, coming back to more or less medium heights. Fifteen to twenty inches, with a maximum of twenty-four inches, is probably a good, convenient height.

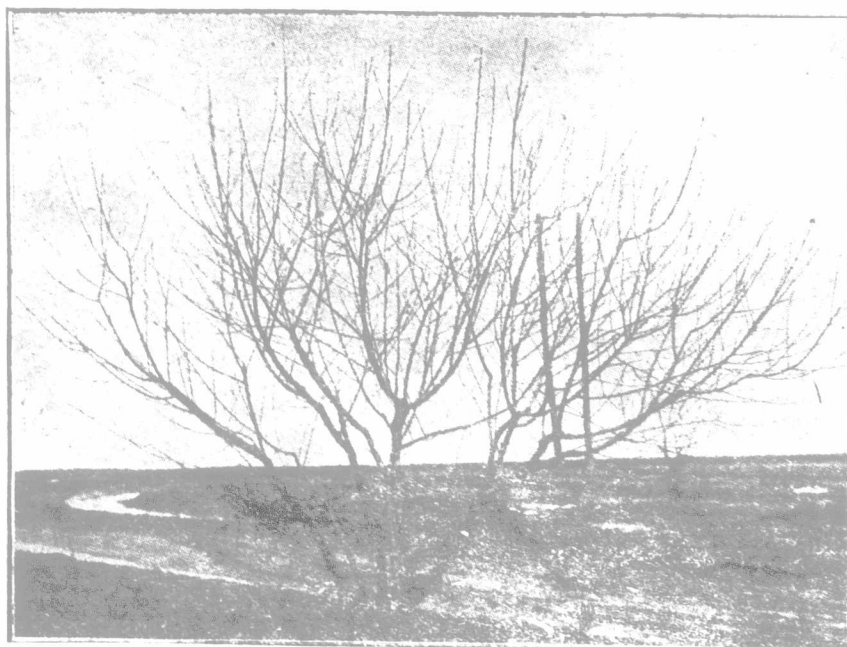
Late winter or early spring is the recognized time for peach pruning. This is in general the proper time to prune most of our fruits. Conditions, however, and the object of pruning alter cases, so that if the orchards are very extensive it may even be advisable to prune in mid-winter or throughout the whole winter, whenever the weather is suitable for men to work. On the other hand, if the climate is such as to endanger the buds it may be advisable to delay pruning as much as possible until spring weather has become more or less settled. Summer pruning is a more feasible proposition with the peach than with perhaps any other fruit, and wherever economic conditions will permit, and wherever labor is available in sufficient quantities, the orchard should be looked over during the summer with the idea of giving it whatever pruning it stands in need of. During the period between the first and second year in the life of the tree, the pruning should be rather severe, and the first year's growth cut back to the extent of

from one-half to two-thirds. As a general rule, the branches that are to form the main limbs of the tree can be cut back to within eight or nine inches of the trunk, making sure that the end-most bud that is left is one that points outward. All other branches can be removed entirely. If the main branches are not selected finally until this time, it is well to select those that are so spaced as to provide separate union with the trunk for each.

After the second year's growth pruning simply consists in thinning out

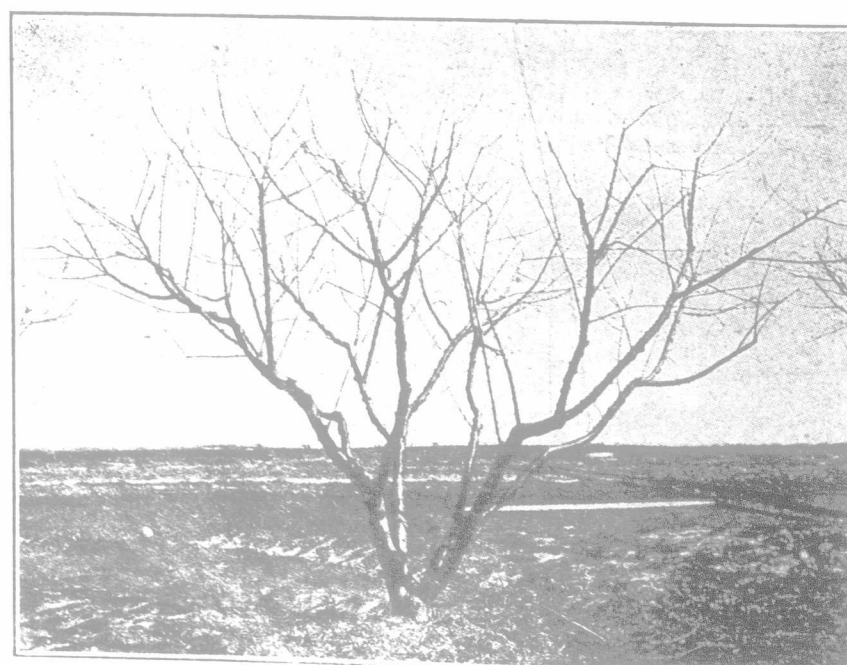
the tree, choosing any other main branches if necessary and cutting out all central leaders that appear. At each subsequent pruning after the first, heading-in will probably be necessary, although not to the same extent as after the first year's growth. If no heading-in is done, a weak, slender growth is likely to result and the tree will not be in the same condition to withstand the weight of a heavy crop. The bearing wood will be largely developed at the outer extremity of the branches so that a heavy crop might easily break the slender limb.

By the time peach trees are three or four years old they should be bearing good crops of fruit; after this they will make a smaller annual growth than during the earlier years, with the result that less heading-in will be required. Orchards that are bearing regularly need careful pruning and the system declared most practical by some authorities is to thin out the tree, then cut back the remainder to twigs which show fruit buds. Some follow a plan of thinning out and not cutting back at all, claiming that whenever a tree is cut back, especially at the top, new growth is forced out and



A Peach Tree Before Pruning.

Most of the pruning necessary has to do with the small branches, which are to be cut out and headed back. Photo from Ontario Bulletin 241.



A Peach Tree After Pruning.

Note the heavy thinning-out necessary with peaches and the heading-in. Photo from Ontario Bulletin 241.

Peach.

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heading-in

color is sacrificed to some extent. Anyone, however, who follows this practice must of necessity sacrifice ease of picking in order to get more color. Regular cutting back or heading-in keeps the fruit lower down.

Pruning a tree that is of bearing age means that one must understand something of the fruiting habits of the tree in order to cut intelligently. The fruit buds of the peach are normally borne in the axils of the leaves. They are always borne on one-year-old branches and short twigs, and, when they open, produce a single flower but no leaves. They may be borne singly or in pairs; in the latter case one will appear on either side of the leaf bud, the three buds being borne in the axils of as many leaves. The single fruit bud type is found on trees that are very lightly pruned or on weak growth, although it must be said that some of our best varieties bear a large percentage of their buds singly. The stronger shoots with triple buds are of course most desirable, where one is not dealing with a variety such as Yellow St. John, which shows a marked tendency to bear fruit buds singly. Where fruit buds appear singly there will be a scarcity of leaves along that portion of the branch where most of the fruit is borne. In such cases it is inadvisable to thin the fruit by heading-in the fruiting wood, for the reason that a larger percentage of the leaf surface is lost. This can only result in poor nourishment for the fruit. Where the tree has made poor growth and the fruit buds are borne singly, pruning can therefore be employed as a means of thinning the fruit only in so far as whole branches can be spared. With the triple bud formation, heading-in may be resorted to for thinning purposes without fear of unduly cutting down the leaf surface; in fact, the fruiting wood with its fruit buds in pairs, and their leaf bud between, may, if desirable, be cut back to even the last pair of fruit buds and still the centre bud will continue to grow the twig. Some of these strong twigs will grow in the tops of poorly-pruned trees, but if they are to be produced in the centre of the tree the top must be cut back severely.

It is almost impossible to maintain a fruiting depth of more than four to six feet. Little is gained by growing a peach tree fifteen feet in height when the bottom seven feet is barren. It is better to keep the trees down to a height of ten feet with fruiting wood within three feet of the ground. A well pruned tree will grow thirty inches or more of new top each year, but if the tree is to continue productive, a very large portion of this must be removed each year. It is safe to say that in a well pruned peach tree, from one-third to three-quarters of the one-year-old growth is removed at each pruning season.

Commercial Varieties of Apples.

BY W. T. MACOUN.

PART I. SUMMER VARIETIES.

It has been found that there are about ninety varieties of apples being recommended by growers in different parts of Canada and the United States, although, if all the varieties advertised by nurserymen were included there would be considerably more than this, and there are some doubtful ones which we have not included that might perhaps be. We have divided the varieties according to their season into 13 summer, 18 autumn, 21 early winter and 38 winter sorts. Some of the summer apples are autumn sorts in the coldest districts; the autumn varieties, early winter; and the early winter, winter; but they have been classified according to how they keep in Ontario, or where a certain variety is specially noted.

There are the fewest good varieties among the summer apples than of any other season. This is because varieties which will keep have been most sought after. The summer apples ripen at a time when the farmer is very busy harvesting his field crops and they were not profitable for him to grow, and, as it is only comparatively recently since apple growing became a specialized industry, there has not been time for many good commercial summer varieties to be found, originated and introduced. The varieties of summer apples which are being planted are Duchess of Oldenburg, Yellow Transparent, Red Astrachan, Crimson Beauty, Williams' Favorite, Red June, Starr, Lowland Raspberry, Benoni, Early Harvest, Charlamoff, Blushed Calville and Beautiful Arcade.

The Duchess of Oldenburg is the great outstanding summer apple. It is planted in nearly every apple district from North to South, and from East to West. It withstands great cold and great heat. It is a good bearer and a good shipper, and the fruit is attractive in appearance, and in some places as much money has been made out of this variety as any other of any season. Yet it is not good enough in quality for a dessert apple at a time of year when nearly everyone wants an apple to eat.

Yellow Transparent is earlier than the Duchess and it is an early and heavy bearer, but it is a difficult apple to handle, as it ripens unevenly and is easily bruised. It also is grown over a wide area, being one of the leading varieties in Georgia as it is in Ontario, and where it does not have to be shipped far has proved quite profitable. It, like the Duchess, is a poor variety to begin the season, as it is too acid and not good enough in quality for dessert.

The Red Astrachan has been grown in America for between eighty and ninety years, and at one time was much more popular than it is to-day. It is a handsome apple, but the fruit is usually very uneven in size, ripens very unevenly, and scabs badly. It apparently requires a warm season for best development. Georgia and New York State are the only states which report it as one of the leading apples.

The Williams or Williams' Favorite originated in Massachusetts about one hundred and seventy-five years ago. Its value as a commercial apple has been more appreciated in recent years because it is an attractive red apple, is good in quality, and comes into bearing early and is productive. It does not, however, ripen until late in August or early in September in Canada, and another variety is needed to open the season. It is thought highly of in the States of New Jersey and Delaware, and does well in the Annapolis Valley.

The Crimson Beauty must now be referred to. If the Crimson Beauty were better in quality and a better shipper, here would be a prize indeed. As it is, it is proving a profitable variety we believe to a few who have bearing orchards of it. This variety was originated by the late Francis Peabody Sharp at Woodstock, N.B., but outside a few orchards in New Brunswick and a few in Nova Scotia it is practically unknown, yet one grower has made it well known in the Annapolis Valley. Its chief merit is in its extreme earliness in coloring. At Ottawa, where we have many hundreds of varieties bearing, it is the first red apple to color. In 1918 it was colored at the end of July, and was quite ripe before the middle of August at Ottawa. It, like most of the other early varieties that are planted, is too poor in quality to start the season with, and something better is needed. It is acid and has practically no flavor. It is a poor shipper and must be handled carefully for best results. At Ottawa and at Macdonald College, Que., where it is being tested, it has not borne well so far, though trees have been planted about twelve years.

Red June is a popular summer variety in the South-eastern States. It is of solid red color and good in quality. Grown at Ottawa, it is uneven in size, most of the fruit running below medium to small. It ripens at Ottawa early in August, but the fruit remains in good condition until October. The flesh is firm, and this variety is a good shipper.

The Starr is a large, yellowish-green apple of good quality that is thought well of in the State of New Jersey. We have not seen this fruiting in Canada.

The only State or place where Benoni is mentioned as being a commercial variety is in Illinois. It is attractive looking and of good quality, but runs rather small for a commercial apple.

Early Harvest, at one time a popular yellow apple, is mentioned in Kansas, but, although this is one of the earliest sorts and one of the best in quality, owing to its unevenness of size and poor shipping quality, it is grown almost altogether for home use, and is not widely planted for this purpose, as it is very subject to scab also.

There remain four Russian varieties which are very hardy and very useful in the older parts of Canada and the United States. All of these have fruited in Southern Manitoba. They are Charlamoff, Lowland Raspberry, Blushed Calville and Beautiful Arcade. Charlamoff is one of the most reliable and profitable summer apples at Ottawa. It is somewhat like Duchess in outward appearance but longer in shape, and the quality is good for dessert purposes. It deserves more general planting. It is highly regarded in Minnesota. The Lowland Raspberry is a highly-colored mid to late August apple of good to very good quality. Owing to its tender flesh, it is a poor shipper, and the birds disfigure and destroy a large number of the fruits. It is a pale yellow apple with a blush, a poor shipper. Blushed Calville is earlier than Yellow Transparent, and much hardier, but because of its great hardness is valuable on the Prairies. Beautiful Arcade, also known as Repka Kisloga, and by several other names, is a very hardy yellow sweet apple valuable for the coldest parts.

It will thus be seen that the ideal summer apple is still to be found.

Of apples originated at the Experimental Farm, Ottawa, the following summer varieties are mentioned out of a large number which have been originated there, and it is hoped that some of these will become prominent commercial sorts some day. They are, in order of ripening in August, Rupert, Forerunner, Melvin, Battle, Galetta, Medford, Melba. The Melba is the best of these and very promising.

(To be continued.)

*Paper read at the annual convention of the Ontario Fruit Growers' Association.

POULTRY.**Christmas Poultry and Egg Prices.**

The weekly review of the poultry situation, issued by the Poultry Division of the Live-Stock Branch, Ottawa, on December 30, contains an interesting summary of the Christmas market and prices paid in various parts of Canada. We read as follows:

"Stocks of poultry in dealers hands were cleaned up fairly well before Christmas Day, but judging from what is left over there were ample receipts to satisfy the demand at the high prices. The highest retail prices reported were turkeys 95 cents, geese 65 cents, said to have been paid at Moncton, N.B. Fancy fresh-dressed turkeys were sold direct to retailers at 75 cents in British Columbia. Turkeys were more scarce than other varieties, and few are left for New Years. Geese were very plentiful, and left-over stocks are quite heavy. In consequence dealers have reduced their prices for this week's deliveries from 4 to 8 cents per pound. Geese are very unsatisfactory for storage purposes. Ducks were scarce and were well cleaned up. Chickens and fowl were in moderately good supply. Some were left over, but owing to stocks in storage being much

less than last year, dealers are still packing for storage purposes. In fact, they have advanced their prices for dressed chickens for this week's delivery. Country shippers in Ontario report poultry pretty well cleaned up on the farms, and receipts will probably be lighter. Some poultry is required for New Years, but the demand, as a rule, is only moderate as compared with Christmas!

THE EGG MARKET.

With regard to the egg market, the report says: "An increase in production has been much more noticeable during the past week, Eastern dealers reporting more on their floors than for some time. There has been no change in jobbing prices so far, but there is an easier undertone, and lower prices may be looked for in the near future. On the Toronto farmers' market last Saturday there was quite a noticeable increase in receipts, the retail price ranged from \$1.00 to \$1.20, with a rather restricted movement at these prices. Ontario country track shippers report increasing production. At some points it is said to have doubled since the low point was reached, while at others the increase has been small. Shippers report paying during the past week 70 to 75 cents per dozen to stores and farmers, and making sales at 80 to 85 cents, f.o.b.

"The British Columbia market is easier, in sympathy with adjacent States markets. Other western markets report no change. A car of Western storage eggs arrived in Toronto during the week from Winnipeg. Some States storing are also arriving at Toronto and Calgary. Storage stocks are reported low at all Canadian storage centres."

Canadian eggs are reported scarce in London, England, and Glasgow. On the latter market any that are available bring maximum prices. A letter from a London importer, dated December 12, is quoted as follows:

"You will be pleased to hear that Canadian eggs have created a most favorable impression on the London market, both fresh and storage. Some of the April storage have arrived in magnificent shape, and buyers here are likely to turn their attention very largely to the Canadian product. I may say that I had some eggs which were splendidly graded, and arrived in very fine shape indeed, and I was only sorry that by the time I had got this shipment, I could not secure any more. The buyers' comments on the shipment of eggs which you sent (for exhibit purposes) were most favorable indeed; one buyer who is a thorough expert in the egg business, and has a very fine class trade, told me that he has never seen eggs better graded, and to use his own words, 'the man who graded these knew what he was about.'"

THE APIARY.**Bees and Beekeepers.**

EDITOR 'THE FARMER'S ADVOCATE':

I do not know all about bees, but I have been handling them for a number of years and have inspected bees for the Government. I have my yard of bees in New Ontario, about thirty miles north of Cobalt. I started with a few and worked up—and down and up.

Beekeeping is like any other business connected with the farm. The more you know about horses the better you can feed and handle them, and you can get more out of them for the feed and care they get. The same with cattle; sheep, pigs, and anything else. I believe there is more to know about bees—they are a line by themselves.

I mentioned that I had inspected bees for the Government. I spent three summers at it. That means that during those three summers I saw a lot of beekeepers and people who had bees staying at their place, or were keeping bees. The bees were not producing any honey or bringing in any profit. I can't call those people beekeepers. Let me explain the difference more fully. One man is a beekeeper, the other has been staying at his place. One man produces honey, the other man some honey or none. Also, let me explain what I mean by saying one man produces honey and the other some. One man has a strong hive of bees in May—the beekeeper, of course; the other man has a strong colony or hive in September. What difference does it make?

As bee inspectors, we see about six or eight apiaries a day. In May a beekeeper is building up his hive of bees so as to have them strong for the honey flow, which commences, according to the location you live in, any time between the first of June and the first of July. To build up a colony, unite two weak ones or more. If your bees, the first time you look at them, do not cover over two or three combs, unite them. One strong hive will bring in more profit than two weak ones. I say the first time you look at them, because with you it might mean the first of April or May; with me it means the first of June.

A UNIQUE EXPERIMENT THAT PAID.

Do not meddle with your bees unnecessarily, and at the same time do not neglect them. I have often said that one hundred per cent. of the people who are keeping a few bees for their own use do not give them room enough. That is the difference between the beekeeper and the man who has bees staying at his place. I am going to give you an account of an experiment I tried myself. A year ago last July I gave one hive or colony of bees ten ten-framed Langstroth boxes to work in, or, in other words, room for about 400 pounds of honey. While I have been travelling I have seen men bore an auger hole in the top of their bee-hive and put a little box on top, made of glass, which would hold about twelve pounds. "When they fill that for me, I let them

have the rest for themselves," is always the excuse I get. I said that some men have bees staying at their place—they don't all stay. If that man's queens are any good at all, his bees swarm and do not stay at his place.

I know you laughed when I said I gave mine room for 400 pounds. A year ago last fall I extracted 300 pounds of honey from that colony. Yes, you say I gave them a lot of care; it took a lot more work. I will say it took more work to extract 300 pounds than it did to care for 12 pounds. I put the boxes all on at once and never touched them again until the honey crop was all in. What I wonder is this,—is it any harder for you to put on boxes in the spring than it is for me? My bees did not swarm.

Let me follow up this summer's work on top of last summer's. This year I was out inspecting bees in Ontario County. I left my bees up in New Ontario on the 20th of May. No one was there to look after them and I did not see them again until the third week in September. I gave nine colonies seventy boxes, that is, ten-framed Langstroth boxes. One box held about 50 pounds of honey. The hive that gave me 300 pounds of honey a year ago gave me 350 pounds this last season, and both falls they still had about 75 pounds left for winter. I left them two boxes to winter on. From the nine I extracted 1,725 pounds of honey, and left them all between 60 and 75 pounds each for winter. What I want to do is show you that you can get more honey from the few bees you have if you will only give them a chance to let them work contentedly for you. My case is the extreme of lots of room—but still not too much, in my opinion. The case of the man with the little box on top, not always made of glass, is far too common. Only the bee inspectors have a chance to back me up on that statement. Ask them if you have a chance.

One other point I mentioned was strong colonies. Often I am asked, "Isn't that a good strong one?" I say, "Yes, certainly." But as I said before, often it is the end of August or September before they reach that stage. There is a big difference between a strong colony the first of June and the first of September. What some people call a strong colony is a miserable, little, half-starved bunch of bees that cover part of two frames. I met one man that had bees staying at his place for twenty years and did not know how to take the honey away from them, or was afraid. Last spring I took the honey away from his bees that they had gathered the year before. Another man who had been keeping bees for thirty years did not know what the queen looked like. How are men like that capable of judging a strong colony from a weak one? Again, I met a beekeeper and at the first of June he had two ten-framed Langstroth boxes just bubbling full of bees. That man always gets a crop if it is in the flowers to get. He lives in Ontario County.

For fear you may think I live in Paradise, as far as bees are concerned, up in New Ontario, let me give you some more experience. Our chief failing is always looking at the gains and never at the losses. I bought 125 hives, or rather one-pound packages, one spring. They did not gather enough to winter on. The winter was extra severe two years ago, and the fall was bad and I could not give my bees proper care. The next spring I lost over fifty per cent. of those bees. Now, I want you to take this to heart and not pass over it lightly, or may be in the spring you will feel very much like I did—a little down in spirit.

FOUL BROOD.

It would not be right to close this without mentioning foul brood, a disease that is well known among beekeepers, or should be. The American foul brood is spread in the honey. It is caused by a germ and the disease kills the young bee before it is fully developed. A hive of bees gets it. It is neglected and some strong colony robs the one weak from diseases, takes home the honey with the foul brood germs in it and feeds this to its own hatching brood, and in its turn gets weak and falls a prey to some strong, healthy colony. The Government gives a small grant to help fight this disease. The grant is not sufficient, but has done some excellent work. We need more money from the Government and more help from the beekeeper. It is very unfair for the man that has a few bees for his own use to neglect them, allowing the diseased hive to be exposed so the man who is making a business of it suffers. His bees often rob out diseased bees in the neighborhood belonging to somebody who only has them for his own use. His bees robbed out someone else. But the man who only has a few and neglects them, does not take time to find out whether they are weak or strong. (If weak, close the entrance smaller.) They are all set out and left there and the man who makes a business of it suffers.

If you had a sick horse or cow, would you not be glad if a veterinarian came along and told you how to cure it and it did not cost you anything? That is exactly what the bee inspectors do. They come to your place and examine your bees for you, show you the disease—if you have it—and tell you how to cure it. But, strange to say, sometimes our visit is almost forced upon our host. When we tell him who we are he gives us a gentle hint that we are not welcome, and I have been told plainly that I was not wanted. In a case like that I often wish I could go and let him find out from bitter experience that he was turning an angel(?) from his door. But for the sake of his neighbor beekeeper, I have to do my duty.

The treatment for American foul brood is dealt with fully in Bulletin 213, and can be secured from the Ontario Department of Agriculture. In short, it is this! Take away all diseased honey and brood, give the bees a fresh start in a clean box, melt your diseased comb up

for wax. Do not get a vision of fires, and bees and boxes going up in smoke, when you hear that the bee inspector is in the neighborhood. He is your best friend. Do not let him miss you. Phone the neighbor beekeepers and tell them you want him to call. If you are missed, don't blame him, blame yourself. Sometimes you are hard to find.

Temiskaming.

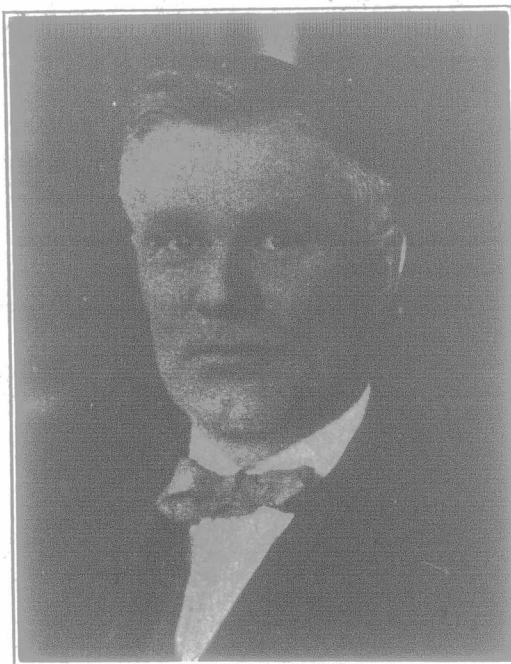
WM. AGAR.

FARM BULLETIN.

A Reasonable Criticism.

EDITOR "THE FARMER'S ADVOCATE":

Permit me, in a friendly way, to say what I think of the Christmas Number of "The Farmer's Advocate" for 1919. I have enjoyed reading all the messages and special articles, and I think the illustrations are particularly suitable; the mechanical work is excellent, and Norman Price's cover design is attractive as usual. I notice that there is space given to those who champion the different breeds of cattle, and right well are the merits of Shorthorns, Holsteins, Dobbies and Ayrshires set forth. When it comes to politics, however, I only find one kind displayed for the reader's attention and guidance. Now there are farmers who are champions of one breed of cattle, and other farmers who are just as strong champions of other breeds, and among the readers of "The Farmer's Advocate" there are many farmers who do not see eye to eye with Mr. Crerar on the National Policy. To be consistent, the editors should have included an article by a champion of the National Policy, though possibly he might not have disguised it as a Message of Peace. It is quite right that farmers should have a broader vision of the government of the country so that they may be able to vote intelligently when the time comes, but they cannot do this if they only have one side of a question presented to them. If "The Farmer's Advocate" is a paper for all the farmers of Canada, then it must recognize the fact that their readers look for impartiality in their attitude towards



Nelson Parliament, M.P.P.

Member of the Ontario Legislature, who is expected to become the next Speaker of the House.

governmental matters, as in agricultural affairs. I do not mean to say that the publication should not comment editorially on the rights or wrongs of political aspects, but I believe they would serve their readers better by getting the ablest exponents of both sides to set forth their claims for recognition, and adherence Farm papers are all giving much greater space to articles political, but I have failed to find one among them big enough to concede to the farmer the right to form his own opinion from articles contained in their columns giving both sides of the vital questions of the day. It is a question, in my mind, how much wisdom there is in this pandering to the new taste for politics on the part of farm publications. A straight agricultural magazine with politics barred, would, in my estimation, be held in higher esteem by all readers, and would do the cause of agriculture greater service.

Huron Co., Ont.

DERMOT MCEVOY.

[Note.—The rivalry between breeds of live stock we believe, makes for enthusiasm and the upbuilding of the live-stock industry, but political controversy, the wranglings of partisans and the division of citizens into different camps on provincial or great national questions, only retard progress and make clean, efficient administration difficult or impossible. For this reason "The Farmer's Advocate" has avoided everything savoring of partisanship, neither does it intend to pander to any new tastes in politics. Mr. McEvoy is partly right when he says that a straight agricultural magazine with politics barred would serve farmers best; yet, in our mind, an agricultural paper that neglects to discuss the economic problems of the day and the conditions which vitally affect agriculture, comes far

short of fulfilling its duty to the industry. "The Farmer's Advocate" bars party politics, and occasionally discusses these questions irrespective of party views, and to the end that agriculture and the nation as a whole may prosper. Our form of Government requires parties, but that does not make it necessary for farmers to stand fast by any party when their own industry or the state is endangered by so doing. There may be honest differences of opinion, but the state should be first and party second.—Editor.]

Western Fair at London Not to Expand.

As the present grounds where the Western Fair is held annually are altogether inadequate for the proper staging of a fair such as the Western has grown to be, the City Council submitted a by-law to the rate-payers authorizing the expenditure of \$300,000 for the purchase of property East of the present grounds in order that the Exhibition would have an opportunity of expanding. A comparatively small vote was cast, but the people spoke in no uncertain terms against this expenditure at the present time. The vote was 1,392 for and 3,884 against the by-law. Situated as London is, in the centre of a rich agricultural district, it is in a position to have one of the largest exhibitions in the Province, but the fair cannot expand any more in its present location. Now that the people have decided against further expansion in the present locality, the Western Fair executive would do well to formulate some plan whereby new grounds could be purchased outside the City limits and enough land secured to take care of the greatest possible growth. On a new site commodious and up-to-date buildings could be erected.

Another Attempt to Satisfy Ireland.

Premier Lloyd-George has placed before the Imperial Parliament a proposal which the Government hope will in the end terminate the struggle in Ireland for some different form of Government. The British Government would create two Parliaments in Ireland, one in the North and one in the South, but every opportunity would be given the country to establish unity whenever it desired. A Council would be selected by the two Parliaments. Lloyd-George said that some new method of governing Ireland was absolutely necessary, but no coercion would be applied to Ulster, and Great Britain would resist separation with all her force. It has also been announced that a boundary commission will decide the areas putting those town lands predominantly Catholic under the Southern Parliament, and the town lands predominantly Protestant under the Northern. In making his announcement to the House of Commons, Mr. Lloyd-George referred to the controversy as "an old family quarrel which had degenerated many times into a bloody feud." He said, "I can think of nothing, which would be in the least acceptable to British opinion which Ireland would accept. We must take the responsibility and propose what we think fair and just."

Live Stock Arena Assured for Toronto.

The Toronto municipal elections on January 1 removed any doubt in the minds of live-stock enthusiasts as to whether the citizens of Toronto would support the by-law authorizing the expenditure of \$1,000,000 for a live-stock arena on the grounds of the Canadian National Exhibition. The by-law in question carried by a vote of 17,371 to 7,015, which was a very satisfactory majority indeed. Now that the City Council has received the necessary authority from the ratepayers, it is anticipated that building operations will be started very promptly, especially if, as has been promised, the new arena will be ready for use by the time the Canadian National Exhibition opens in August of this year. If it is possible to have the building completed by this time, November or December of this year will see the first Royal Canadian Winter Fair, for which stockmen have been planning carefully for the last two or three years.

Five Millions of Rockefeller's Money Comes to Canada.

John D. Rockefeller, the Oil King of America, gave mankind a Christmas present of \$100,000,000. Half of this goes to the General Education Board to raise the salaries of college professors, and half to the Rockefeller Foundation to aid in its work of combating disease through improvement of medical education, public health administration and scientific research. Canada is assured of \$5,000,000 of this donation for the extension of our medical institutions.

The Department of Agriculture at Ottawa has under consideration further compulsory egg grading regulations aimed at the smaller shipper. We cannot regulate our products too rigidly, provided the regulations are workable. There is a strong possibility, however, that those in contemplation now are not workable, although the produce trade would like, for obvious reasons, to see them enforced.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending January 1.

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

	CATTLE						CALVES					
	Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
	Week Ending Jan. 1	Same Week 1919	Week Ending Dec. 25	Week Ending Jan. 1	Same Week 1919	Week Ending Dec. 25	Week Ending Jan. 1	Same Week 1919	Week Ending Dec. 25	Week Ending Jan. 1	Same Week 1919	Week Ending Dec. 25
Toronto (U. S. Y.)	1,272	2,593	968	\$13.50	\$14.00	\$12.75	336	229	274	\$21.00	\$17.75	\$21.00
Montreal (Pt. St. Chas.)	490	598	967	12.00	13.50	13.50	210	163	223	16.75	14.00	18.00
Montreal (East End)	792	950	1,452	12.00	13.50	13.50	119	135	375	16.75	14.00	18.00
Winnipeg	948	1,184	5,697	12.50	14.00	10.50	124	46	252	7.50	9.00	9.00
Calgary	1,039	554	4,450	10.85	14.00	10.50	120	592	9.00	9.00	8.25	8.25
Edmonton	449	319	1,786	9.25	13.00	10.00	161	9	119	9.00	9.00	8.50

Market Comments

Toronto (Union Stock Yards)
 The market during the week was marked by quiet and featureless trading. Only thirteen hundred and seventy-one cattle were on sale, and prices in most cases were quite firm and a shade higher than during the previous week. A few heavy steers were offered on the Monday market, and for one or two lots, \$15 per hundred was paid, while other sales were made at \$13.50 per hundred. A few loads of butcher steers and heifers sold from \$12 to \$12.25 per hundred early in the week, while on Wednesday a few head averaging ten hundred and fifty pounds sold at \$13.60 per hundred, and a load of handy-weight butcher steers averaging nine hundred and seventy-five pounds at \$12 per hundred. Cows and bulls were unchanged, extra choice quality in these grades being quoted from \$11 to \$11.50 per hundred, while good quality cows and bulls changed hands from \$9.75 to \$10.50 per hundred, and those of common grading from \$6 to \$8 per hundred. Cannery and cutter trade was very quiet at unchanged prices. No movement existed in the stocker and feeder department. With three hundred and thirty-six calves on sale, the market was steady, a few sales were made at \$21 per hundred, but most of the transactions ranged from \$18 to \$19.

Sheep and lamb receipts totalled nine hundred and eighty-seven head. The market was unchanged. A few extra good lambs sold at \$19 per hundred, but the general price ranged for sales was \$17.50 to \$18.50 per hundred. Choice light ewes are now selling up to \$10 per hundred, and heavy sheep from \$7.50 to \$8.50.

Hog receipts totalled thirty-three hundred and ninety-nine head. The market was firm but very irregular. On Monday selects sold at \$18 per hundred, on Tuesday the price ranged from \$18 to \$18.25 with one deck going to a local butcher at \$19 per hundred, while on Wednesday a large proportion of the offerings sold at \$18.25 per hundred, and only a few at a slightly higher price. The total receipts from January 1st to December 25th, inclusive, were: 363,587 cattle, 62,101 calves, 375,420 hogs and 282,997 sheep; compared with 297,119 cattle, 54,328 calves, 354,306 hogs and 162,934 sheep, received during the corresponding period of 1918.

Montreal.
 As during the previous week there was no particular life to the market for cattle. Seven loads of stock from the Winnipeg market were offered and these were made up of common steers which averaged about eight hundred and fifty pounds and sold at \$9.50, heifers, which sold from \$10 to \$11, thirty-five cows which moved at \$9.50, and steers averaging twelve hundred and fifty pounds which realized \$12 per hundred. Cannery sold generally at \$5.25, bulls at \$6, and the best of the common cows around \$8. The top prices for veal calves were \$16.50 and \$16.75 for those averaging eighty pounds to eighty-five pounds. Grass calves sold up to \$7.75. There was a comparatively heavy run of sheep and lambs, and exceptionally

CLASSIFICATION	No.	TORONTO (Union Stock Yards)			Top Price
		Avg. Price	Price Range Bulk Sales	Top Price	
STEERS					
heavy finished	54	\$12.00	\$11.50-\$13.00	\$13.75	
good	11	11.90	10.50-12.50	13.50	
1,000-1,200 common	22	10.50	7.00-11.00	11.00	
STEERS					
good	223	11.14	10.00-11.50	12.50	
700-1,000 common	106	8.75	6.50-9.50	10.00	
HEIFERS					
good	260	11.18	10.00-12.00	12.50	
fair	11	9.45	8.50-10.00	10.20	
common	33	7.28	6.50-8.75	8.75	
COWS					
good	26	9.64	9.00-10.75	11.00	
common	181	7.75	6.50-9.00	9.00	
BULLS					
good	20	9.65	9.00-10.25	10.75	
common	9	7.03	6.25-8.50	9.50	
CANNERS & CUTTERS	170	5.75	5.25-6.25	6.25	
OXEN					
CALVES					
veal	324	17.49	15.00-20.50	21.00	
grass	12	6.87	6.00-8.00	8.00	
STOCKERS					
good	38	8.95	8.25-9.50	9.50	
fair	23	7.25	6.75-8.00	8.50	
FEEDERS					
good	82	10.75	9.50-11.25	11.50	
fair	3	10.00	10.50	10.50	
HOGS					
selects	3,192	18.09	18.00-18.25	18.25	
heavies					
lights	136	16.05	16.00-16.25	16.25	
sows	65	14.20	12.00-16.00	16.00	
stags	6	11.00	11.00	11.00	
LAMBS					
good	643	18.35	17.50-19.00	19.00	
common	128	15.63	14.00-17.00	17.00	
SHEEP					
heavy	181	9.19	8.50-10.25	10.50	
light	35	6.11	5.00-7.00	7.50	

large percentage of good sheep. Sheep sold in nearly all cases at \$9, lambs at \$16.50 for good and from \$12 to \$13 for poor stock which averaged fifty pounds, while common lambs sold at \$15.50 per hundred. The number of hogs offered was not sufficient for the local show trade. A price of \$19, weighed off cars, was paid for mixed lots of lights and selects, while sows that were weighed out were cut \$4 per hundred. The prices were established by the local demand. Any material increases in receipts at present might cause a decline in prices. **Pt. St. Charles.**—Of the disposition from the Yards for the week ending December 25th, Canadian packing houses and local butchers purchased 223 calves, 131 bulls, 515 butcher cattle, 595 hogs and 1,583 lambs. Canadian shipments were made up of 14 milch cows. Shipments to United States points consisted of 58 butcher cattle. The total receipts from January 1st to December 25th, inclusive, were: 67,727 cattle, 71,483 calves, 84,558 hogs and 104,770 sheep; compared with 62,164 cattle, 62,959 calves, 76,989 hogs and 66,367 sheep, received during the corresponding period of 1918. **EAST END.**—Of the disposition from the Yards for the week ending December

25th, Canadian packing houses and local butchers purchased 375 calves, 1,376 butcher cattle, 744 hogs and 1,034 lambs. Shipments to United States points consisted of 423 lambs. The total receipts from January 1st to December 25th, inclusive, were: 75,037 cattle, 57,640 calves, 60,699 hogs and 74,754 sheep; compared with 65,092 cattle, 48,874 calves, 53,047 hogs and 63,034 sheep, received during the corresponding period of 1918. **Winnipeg**
 Only nine hundred and forty-eight cattle, one hundred and twenty-four calves, two hundred and forty-nine sheep and eight hundred and eighty hogs were offered during the week. Through-billed stock amounted to six hundred and seven cattle and two hundred and forty-six hogs. Eastern packing houses purchased only eighty-six cattle, and local packers only five hundred and forty-eight cattle, nine hundred and twenty hogs, and three hundred and thirty-three sheep. Shipments South were made up of five hundred and forty-six feeders, four hundred and twenty-four stockers, and seventy-eight butcher cattle. Shipments back to country points consisted of twenty-one feeders and two hundred and forty-

two stockers. In addition twenty-one feeders and thirty-one stockers were shipped to Eastern points. Owing to the small amount of cattle passing over the scales each day, it was difficult to establish a market, and trading during the week was light and unsettled. A few butcher cows of good grading were sold at prices 25 cents advanced, while stockers and feeders also sold at better values than during the previous week. All other classes of stock failed to show any activity. A few heavy steers weighing over twelve hundred pounds sold from \$9.50 to \$12.50. Practically no steers of medium and light weights were on hand. Butcher heifers of fair grading sold mostly from \$6.50 to \$9, and common from \$5.50 to \$6. A few good butcher cows were weighed up from \$7.50 to \$9, and fair kinds mostly from \$6 to \$7.50. Good bulls were moved from \$6 to \$6.75, and common from \$5 to \$5.50. Cannery and cutters left the scales at prices from \$5 to \$5.50 per hundred, and oxen from \$6 to \$7.50. Calves sold within a range of \$5 to \$7.50. Best stocker steers and heifers sold up to \$8, and those of fair grading up to \$6.50. Good feeders ranged from \$9 to \$10, and fair feeders from \$7.50 to \$8.25. Receipts of sheep consisted of one shipment which passed over the scales

for obvious reasons, 19

FOUNDED 1866

Industry. "The Farm... and occasionally... and the nation as a Government requires necessary for farmers their own industry... There may be the state should be

London Not to

the Western Fair inadequate for the Western has grown a by-law to the rate of \$300,000 for the present grounds in... The vote was 1,392 for in terms against this... The vote was 1,392 for situated as London is, rural district, it is in a best exhibitions in the band any more in its people have decided present locality, the well to formulate some be purchased outside secured to take care On a new site com could be erected.

Satisfy Ireland.

ced before the Imperial Government hope will le in Ireland for some The British Government Ireland, one in the North opportunity would be ty whenever it desired. y the two Parliaments. w method of governing ary, but no coercion d Great Britain would rce. It has also been mission will decide the edominantly Catholic the town lands pre- Northern. In making se of Commons, Mr. ontroversy as "an old ated many times into a hink of nothing, which o British opinion which take the responsibility d just."

Assured for

ctions on January 1 of live-stock enthusiasts onto would support the iture of \$1,000,000 for unds of the Canadian w in question carried by was a very satisfactory the City Council has y from the ratepayers, perations will be started has been promised, the y the time the Canadian August of this year. lding completed by this of this year will see the air, for which stockmen or the last two or three

Kefeller's Money Canada.

l King of America, gave of \$100,000,000. Half ucation Board to raise s, and half to the Rocke-ork of combating disease ical education, public ntific research. Canada is donation for the ex-ns.

ure at Ottawa has under y egg grading regulations r. We cannot regulate ided the regulations are possibility, however, that e not workable, although for obvious reasons, 19

at \$11 per hundred, a price higher than the general market quotations.

The hog market opened at \$16 per hundred for selects, fed and watered, and closed on New Year's Eve at \$17, with a strong undertone.

Of the disposition from the Yards for the week ending December 25th, Canadian packing houses purchased 15 calves, 1,856 butcher cattle, 3,718 hogs, and 181 sheep. Local butchers purchased 183 calves, 450 butcher cattle, 484 hogs, and 78 sheep. Canadian shipments were made up of 5 calves, 2 bulls, 153 butcher cattle, 465 stockers, 427 feeders, 635 hogs and 136 sheep. Shipments to United States points consisted of 508 butcher cattle, 664 stockers, and 1,088 feeders.

The total receipts from January 1st to December 25th, inclusive, were: 303,876 cattle, 24,671 calves, 260,264 hogs and 52,559 sheep; compared with 272,475 cattle, 12,163 calves, 311,862 hogs and 35,726 sheep, received during the corresponding period of 1918.

Buffalo.

Cattle.—Cattle receipts were light at Buffalo last week, as the result of which prices were advanced all the way from a quarter to a dollar. Best fat cattle sold generally from a half to a dollar higher, a medium and common kind, ruling from steady to a quarter higher. Supply did not meet the demand. Best shipping steers sold on a range of from \$15 to \$16.50, with best handy's up to \$14 to \$15, best heifers on the good weight order ranging up to \$11.75, with the better grades of handy butchering grades showing a range of from \$10 to \$11. Canners and cutters range from \$5 to \$6.50. Bulls of all classes sold higher, while stockers and feeders and milk cows and springers showed a very slow and weak market. Offerings for the week totaled 2,500 head, as against 3,250 for the previous week and as against 3,250 head for the corresponding week a year ago. Quotations:

Shipping Steers—Natives—Very choice heavy, \$16.50 to \$17; best heavy, over 1,300, \$15.50 to \$16; fair, over 1,300, \$13 to \$14; best, 1,200 to 1,300, \$15 to \$15.50; good, 1,200 to 1,300, \$14 to \$15; good, 1,200 to 1,300, \$13.50 to \$14.50; plain, \$11.50 to \$12.

Shipping Steers—Canadians—Best heavy, \$14.25 to \$14.75; fair to good, \$13 to \$13.50; medium weight, \$12.50 to \$13; common and plain, \$11 to \$11.50.

Butchering Steers—Yearlings, fair to prime, \$14 to \$15.50; choice heavy, \$13.50 to \$15.50; best handy, \$13.25 to \$14; fair to good, \$11 to \$12.50; light and common, \$9 to \$10.

Cows and Heifers.—Best heavy heifers, \$11 to \$11.50; good butcher heifers, \$10.50 to \$11; fair butchering heifers, \$9.25 to \$9.75; light, common, \$6 to \$7; very fancy fat cows, \$10.25 to \$10.75; best heavy fat cows, \$9.50 to \$10; medium to good, \$7.50 to \$9; cutters, \$6 to \$6.50; canners, good, \$5 to \$5.25.

Bulls.—Best heavy, \$10.25 to \$10.50; good, butchering, \$9.75 to \$10; sausage, \$7.25 to \$7.75; light bulls, \$6 to \$8.

Stockers and Feeders.—Best feeders, \$9.75 to \$10.25; common to fair, \$8 to \$9; best stockers, \$8 to \$8.50; fair to good, \$7.75 to \$8.25; common, \$6 to \$7.

Milkers and Springers.—Good to best small lots, \$100 to \$150; in carloads, \$90 to \$100; medium to fair, small lots, \$80 to \$85; in carloads, \$70 to \$75; common, \$50 to \$55.

Hogs.—Prices, as a result of very light receipts, were on the jump the first half of last week. Monday, when values were up 50c. to 75c. from the previous week's close, best grades sold at \$15, and lights and pigs moved at \$15.50. Tuesday good hogs were steady, with pigs selling a quarter higher and Wednesday some pretty weighty hogs brought up to \$15.75, while lighter grades, kinds weighing under 200 lbs. reached up to \$16. Friday the supply was fairly good and values went off 50c. to 75c. Packers grades sold largely at \$15.25, several decks of light hogs went to order buyers at \$15.35 and \$15.50, and lights and pigs landed around \$15.50 and \$15.60. Roughs \$12.75 to \$13, and stags \$11.50 down. Receipts for last week were 25,000 head, as compared with 39,903 head for the week before and as compared with 14,000 head for the same week a year ago.

Sheep and Lambs.—Last week opened with best native lambs selling up to \$20 and culls ranged from \$17 down.

Tuesday prices were a half dollar lower and Wednesday's trade was steady with Tuesday. Thursday the yards were closed and Friday values went off fifty cents from Wednesday, best natives selling at \$19, with culls \$16 down. Canadian lambs sold a half-dollar under the natives. Sheep were higher the forepart of the week but by Friday values on these were off a half-dollar. The fifth day of the week showed best wethers being quoted from \$12 to \$12.50, and ewes ranged from \$9.50 to \$10.50, with not many selling above \$10. Last week's receipts were 20,800 head, the week before there were 18,206 head and for the same week a year ago the run totaled 13,100 head.

Calves.—Trade was good all of last week and a good clearance was had from day to day. Monday the bulk of the tops sold at \$23, Tuesday the bulk again sold at \$23, and Wednesday and Friday the majority landed at \$22.50. Cull grades ranged from \$17 down. For last week receipts were 3,050 head, being against 3,105 head for the week before and 1,900 head for the same week a year ago.

Toronto Produce.

Receipts of live stock at the Union Stock Yards, West Toronto, on Monday, January 5, numbered 179 cars; 2,050 cattle, 262 calves, 4,692 hogs, 1,171 sheep, and lambs. Strong, active market. All classes of stock selling at much higher price levels. Top for loads \$14.50 for seventeen steers average weight 1,325 pounds each. Real top \$14.90 per hundred for six steers 1,390 pounds each. Cows higher. Tops \$11.25 to \$11.75. Bulls strong. Heavy export \$11 to \$12 per hundred. Choice calves \$19 to \$21. Best sheep \$10 to \$11. Lambs \$18 to \$19. Hogs fed and watered \$18.50 per hundred.

Breadstuffs.

Wheat.—Ontario (f.o.b. shipping points, according to freights)—No. 1 winter, per car lot, \$2 to \$2.01; No. 2 winter, per car lot, \$1.97 to \$2.03; No. 3 winter, per car lot, \$1.93 to \$1.99; No. 1 spring, per car lot, \$2.02 to \$2.08; No. 2 spring, per car lot, \$1.99 to \$2.05; No. 3 spring, per car lot, \$1.95 to \$2.01. Manitoba, No. 1 northern, \$2.80; No. 2 northern, \$2.77; No. 3 northern, \$2.73, in store, Fort William.

Manitoba Barley.—(In store, Ft. William), No. 3, C. W., \$1.68; No. 4 C. W., \$1.62.

Oats.—Ontario, (according to freights outside) No. 3, white, 92c. to 93c.

American Corn.—(Track, Toronto, prompt shipment), No. 3 yellow, \$1.82; No. 4 yellow, \$1.79.

Barley.—(According to freights outside), malting, \$1.55 to \$1.60.

Peas.—(According to freights outside), No. 2, \$2.75.

Buckwheat.—(According to freights outside), \$1.55 to \$1.60.

Rye.—(According to freights outside), No. 3, \$1.50 to \$1.55.

Flour.—Manitoba, Government standard, \$11, (Toronto); Ontario, (in jute bags, prompt shipment). Government standard, \$9.30 to \$9.40, Montreal and Toronto.

Millfeed.—Car lots delivered, Montreal freights, bags included.—Bran, per ton, \$45; shorts, per ton, \$52; good feed flour, bag, \$3.15 to \$3.50.

Hav.—(Track, Toronto), No. 1 per ton, \$27; mixed, per ton, \$21.

Straw.—(Track, Toronto), car lots per ton, \$14.50 to \$15.50.

Hides and Wool.

Prices delivered in Toronto:
City Hides.—City butcher hides, green, flats, 25c.; calf skins, green flats, 60c.; veal kip, 40c.; horse hides, city take-off, \$8 to \$10.

Country Markets.—Beef hides, flat, cured, 28c., part cured, 25c.—green or frozen hides, 23c.; deacon and bob calf, \$2.50 to \$3; horse hides, country take-off, No. 1, \$8 to \$10; No. 2, \$6 to \$8; No. 1 sheep skins, \$2.50 to \$3.50; yearling lambs, \$1.75 to \$2.25; horse hair, farmers' stock, 35c. to 40c.

Wool.—Unwashed fleece wool as to quality, fine, 40c. to 60c. Wool, washed, fine, 65c. to 75c.

Tallow.—City rendered, solids in barrels, 9c. to 10c.; country solids in barrels, No. 1, 7c. to 8c.; cakes, No. 1, 11c. to 12c.

Following are the prices that whole-

salers were paying for alsike and clover at country points:—

Alsike. No. 1 fancy, \$28 to \$29; No. 1, bushel, \$26 to \$27.50; No. 2 choice, bush., \$25 to \$26; No. 2, bushel, \$23 to \$24; No. 3, bushel, \$20 to \$22; rejected, bushel, \$13 to \$19. Red clover, No. 1, fancy, \$30 to \$31; No. 1, bushel, \$28 to \$29; No. 2, bushel, \$26 to \$27; No. 3, bushel, \$22 to \$24. Sweet clover, bushel, \$14 to \$15.75.

Country Produce.

Butter sold at unchanged prices during the past week, being quoted as follows, wholesale: Choice creamery pound prints at 69c. to 70c. per lb.; cut solids, 66c. to 67c. per lb.; and best dairy at 62c. to 65c. per lb.

Eggs.—New-laid eggs were slightly easier in price. Cold-storage keeping stationary, selling as follows, wholesale: New-laid, 90c. to \$1 per dozen; selects at 64c. per dozen, and No. 1's at 60c. per dozen.

Cheese.—The market kept firm at stationary prices, old cheese selling at 34c. to 35c. per lb., and new at 32c. per lb. (wholesale).

Honey.—Choice comb, \$5 to \$6 per dozen; strained, 25c. to 26c. per lb.

Poultry had a much easier tendency, especially turkeys; the people refusing to pay the high prices asked before Christmas. The following quotations are for live weight, delivered, Toronto: Spring chickens, 20c. to 22c. per lb.; ducklings, 22c. to 24c. per lb.; old ducks, 15c. per lb.; hens under 4 lbs., 15c. per lb. Hens 4 to 5 lbs., 22c. per lb. Hens over 5 lbs., 23c. to 24c. per lb.; roosters, 15c. per lb.; geese, 18c. lb.; turkeys, 35c. per lb.

Wholesale Fruits and Vegetables.

The bulk of the fruits kept stationary in price during the past week, but domestic vegetables had a much stronger tone. Potatoes, cabbage and carrots advanced in price.

Wholesale Quotations.

Apples.—Western boxed, \$3.15 to \$5 per box; Ontario boxed, \$1.60 to \$3.50 per box; Ontario and Nova Scotia barrels, \$5 to \$10 per bbl.; extra fancy Spys, \$12 per bbl.

Grapes.—Imported Emperors, \$7.50 to \$8 per keg; Spanish Malagas, \$11 to \$18 per keg.

Oranges.—Navels, \$5 to \$7 per case, Valencias, \$5 to \$6.50 per case; Floridas, \$5 to \$6 per case.

Peas.—Imported, \$5 to \$6 per box; domestic.

Tomatoes.—Hot-house No. 1's, 40c. to 45c. per lb.; No. 2's, 20c. to 30c. per lb.

Beets.—\$2 per bag.

Cabbage.—\$4 to \$4.50 per bbl.

Carrots.—\$1.50 to \$1.75 per bag.

Celery.—Theford, \$7.50 to \$8 per case; Cal., \$11.50 to \$12 per case.

Lettuce.—Cal. Iceberg, \$7.50 per case; Florida Head, \$3.25 to \$3.50 per hamper; Leaf, 30c. per dozen.

Onions.—\$6.50 to \$7.50 per sack of 100 lbs.; \$5 to \$5.25 for 75 lbs.; Spanish, \$7.50 to \$8 per case.

Parsley.—Imported, \$1 per dozen bunches.

Parsnips.—\$2 to \$2.25 per bag.

Potatoes.—\$2.85 to \$3 per bag.

Turnips.—90c. to \$1 per bag.

Chicago.

Hogs.—Top, \$14.95; heavy, \$14.65 to \$14.90; medium, \$14.70 to \$14.95; light, \$14.60 to \$14.90; light lights, \$14.40 to \$14.70; heavy packing sows, smooth \$14.15 to \$14.60; do rough, \$13.60 to \$14.15; pigs, \$13.50 to \$14.50.

Cattle.—As compared with a week ago, beef steers mostly 25c. lower. She stock generally steady. Bulls and calves 25c. to 50c. higher. Feeders steady to 25c. higher.

Sheep.—As compared with a week ago, sheep and medium lambs mostly steady. Good and best fat lambs, yearlings and feeding lambs 25c. to 50c. higher.

Victory Bonds.

Following were the values of Victory Bonds on the Toronto market, Saturday, January 3: Victory Bonds maturing 1922, 98½ to 99; Victory Bonds maturing 1923, 98½ to 99; Victory Bonds maturing 1927, 100 to 100½; Victory Bonds maturing 1933, 102 to 102½; Victory Bonds maturing 1937, 103½.

Some Useful Directions on How to Skin Furs.

No matter how good you are at trapping fur-bearers, if you're a careless and indifferent skinner, you are needlessly losing a lot of money.

You shouldn't let your real efforts cease after getting the animals in your traps; there's important work left for you to do in getting your furs to market in the best condition. The first step is to skin the fur-bearers right, and you should be thoroughly versed in correct methods.

Skinning has two main divisions—"casing" and taking the pelts off "open."

ANIMALS TO BE CASIED.

The following animals should be casied: muskrat, mink, skunk, opossum, coyote, wolf, fox of all kinds, civet, house cat, lynx, lynx cat, ringtail cat, fisher, marten, otter, wolverine and weasel.

In casing, begin at the root of the tail and cut the skin down the back of the hind legs. Rip the skin carefully from the hind legs. Slit the tail part of the way up and remove the tail bone. With a sharp knife cut the skin loose about the eyes and nose.

Then suspend the carcass by the hind legs and with an easy, downward motion work the pelt loose, turning the fur side in as you peel it off.

Cut the tails off opossum and muskrat, as they are worthless, but leave them on all the other animals. The head should never be cut off; always skin and stretch it carefully. The feet may be cut off rats, coon, opossum, skunk, civet, foxes of all kinds, mink, marten, fisher, ermine, but such animals as bears, mountain lions, wolves and wolverines should have the feet skinned out to the ends of the toes. Always remove the bones from the feet and also the tail bones in wolf and red fox. Often when the bone is left in the tail of red fox, the tissue around the bone disintegrates and decomposition sets in. If you use these precautions it will increase the value of your furs.

"OPEN" SKINNING.

Skins of raccoon, badger, bear, wildcat and beaver should be taken off open. Cut them down the centre of the belly from the mouth to the tail, and slit down the back of the hind legs, and the inside of the front legs. Work the skin off gradually and evenly.

After you have removed the skin from the carcass you should scrape the pelt clean of all excess meat and fat. In scraping, do not use a sharp knife, and be careful not to cut through the hide. If you scrape too closely it will injure the roots of the fur. Also remove all mud, burrs, dirt, etc., from the fur. When the pelts have been skinned and thoroughly cleaned they are ready for the stretchers. Stretching should follow as soon after skinning as possible.

Dry Your Furs Properly and Get Better Returns.

The drying of skins is just as important as any other part of the work of preparing them for the market. The trapper should always have his watchful eye working when his skins are on the stretchers.

Dry your furs in a cool, shady place where, however, there is sufficient warmth and dryness to aid the process. Do not try to use artificial heat to hasten the drying, and under no circumstances ever dry a skin in the sun or near a fire. Select a spot where the flies will not be able to get to the furs. If necessary, use mosquito netting to keep the flies away.

If your skins begin to wrinkle or get brittle, or seem to be drying too suddenly, it is well to moisten them occasionally with a damp cloth. Never wash the skins for the purpose of cleaning them, and do not make use of any patent preparations for curing them. Many fine furs are often ruined by the trapper putting special applications on them and subjecting them to new and unreliable treatment.

You get the best quality out of your furs by drying them according to the old tested processes, and better quality brings more money. Let your furs remain on the stretchers until they are sufficiently dry to hold their shape, and then they are ready to pack and ship.

Directions on Skin Furs.

When you are at trapping be a careless and in- you are needlessly. Let your real efforts be the animals in your important work left for your furs to market. The first step is to right, and you should in correct methods. Two main divisions—the pelts off "open."

TO BE CASED.
Animals should be cased: skunk, opossum, coyote, marten, fisher, ermine, and weasel. At the root of the tail down the back of the skin carefully from the tail part of the tail bone. With the skin loose about the

carcass by the hind easy, downward motion, turning the fur side

opossum and muskrat, but leave them on. The head should always skin and stretch feet may be cut off marten, fisher, ermine, as bears, mountain volverines should have to the ends of the move the bones from the tail bones in wolf when the bone is fox, the tissue around and decomposition use these precautions value of your furs.

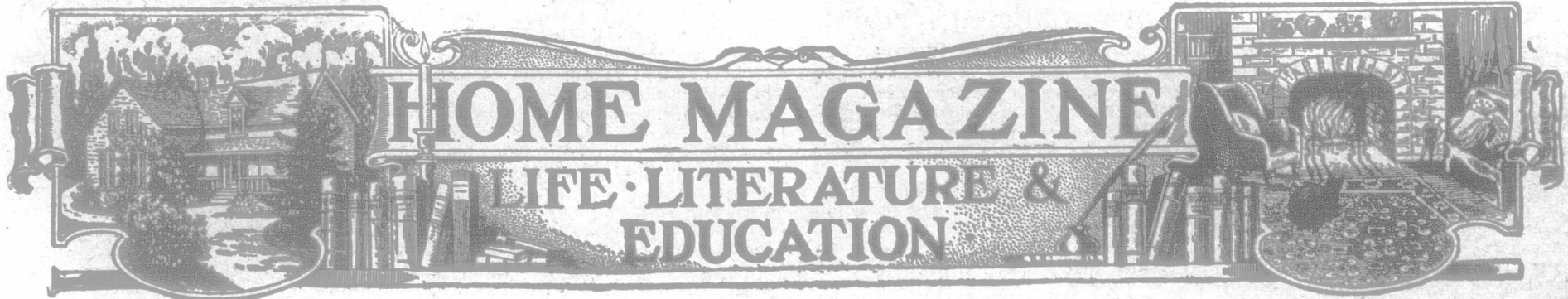
SKINNING.
Badger, bear, wildcat be taken off open. the centre of the belly the tail, and slit down legs, and the inside Work the skin off

removed the skin from should scrape the pelt meat and fat. In use a sharp knife, and cut through the hide. closely it will injure fur. Also remove all etc., from the fur. have been skinned and they are ready for stretching should follow as possible.

Furs Properly Better Returns.

Quality is just as important of the work of pre-market. The trapper his watchful eye skins are on the stretch- in a cool, shady place ere is sufficient warmth the process. Do not al heat to hasten the no circumstances ever e sun or near a fire. e the flies will not be urs. If necessary, use o keep the flies away. gin to wrinkle or get e drying too suddenly, ten them occasionally th. Never wash the ose of cleaning them, use of any patent pre- them. Many fine ined by the trapper plications on them and o new and unreliable

quality out of your m according to the old and better quality brings your furs remain on il they are sufficiently shape, and then they and ship.



Ghosts.

BY FANNIE STEARNS DAVIS.

I am almost afraid of the wind out there. The dead leaves skip on the porches bare. The windows clatter and whine. I sit Here in the quiet house, low-lit, With the clock that ticks and the books that stand, Wise and silent, on every hand.

I am almost afraid; tho I know the night Lets no ghosts walk in the warm lamplight. Yet ghosts there are; and they blow, they blow,

Out in the wind and the scattering snow. When I open the windows and go to bed, Will the ghosts come in and stand at my head?

Last night I dreamed they came back again.

I heard them talking; I saw them plain. They hugged me and held me and loved me; spoke

Of happy doings and friendly folk. They seemed to have journeyed a week away,

But now they were ready and glad to stay.

But, oh, if they came on the wind to-night Could I bear their faces, their garments white

Blown in the dark round my lonely bed? Oh, could I forgive them for being dead? I am almost afraid of the wind. My shame!

That I would not be glad if my dear ones came!—*Harper's Magazine.*

The U. F. W. O. Convention.

(Concluded.)

Community Helps.

WHEN the writer of this read, some time ago, about the establishment of community laundries and kitchens in some parts of the United States, she thought, "It will be a long time before such things find a place in Canada." What was her surprise, then, at the recent U. F. W. O. Convention in Toronto, to hear the subject not only mentioned, but seriously discussed. Mrs. Glenn of Hensall introduced the topic in an able address. During the summer, in connection with W. C. T. U., Referendum and U. F. W. O. work, she had visited many homes and had found the necessity for some solution of the over-work problem quite general. Such relief, she thought, would come best in the form of community laundries and, possibly, kitchens.

To emphasize her point she drew a gruesome picture of wash-day, which many a woman will recognize: Take an area of 2½ miles square, made up of 16 farms of 100 acres each. In that area on every Monday morning will be found 16 "washings" ready to be done. In those 16 homes 16 women must get up early, put on old dresses, help with the cows, do chores, get the children off to school. Sixteen women then "grab" the handles of 16 cistern pumps, take out 16 washtubs and "go to it." When the clothes are all washed they must put them out, even in winter weather, or get the men to do it,—but it is not fair to ask men who already have load enough to bear, to help with such work as this. . . Nor is the work over then: next morning the tired women have to pin themselves down to the laborious task of ironing.

All this the speaker considered "a sinful waste of time and energy." "Are we laundry women?" she asked, "or food-producers?" In her own neighborhood the question is being answered in favor of the latter, and steps are being taken to instal a laundry which will make the 16 washtubs a thing of the past. Part of the stock has been subscribed and plans

are being made to procure modern machinery which will make short work of the 16 washings in that community at least. The plant will be either in Exeter, in which case hydro-power will be used, or on the banks of a running stream, in which case a gasoline engine will pump the water for motor power. River water is preferable to well water for laundry purposes, as hard limey water is likely to clog the pipes and give trouble.

Mrs. Glenn was of the opinion that there is nothing impracticable about the establishment of laundries such as this in any thickly settled, fairly prosperous farm community. As a rule farm men are not selfish; the great majority of them are willing to provide help if the need is presented clearly before them. Many are willing to hire a girl and give her board to help with the work; surely few would hesitate about putting away two-days labor a week from the home, which must be so much less a home if the mother has to keep forever slaving away over such heavy labor as laundering.

Some very strong women might object to the idea of sending the washings out, but they should remember their weaker sisters. We must have community spirit; with it "we'll sweep laundries from the homes as we swept party politics from the halls of legislation. We must get rid of them as we got rid of tallow candles and butter-making."

Continuing, Mrs. Glenn spoke of community kitchens, showing their possibility by referring to the work done in London during the "Flu" epidemic, when hundreds of families were fed from

central depots. Similar kitchens for emergencies, such as illness, or when a baby comes, would be a great boon to the rural districts. During the influenza epidemic many women died from getting up too soon to attend to the meals; and even where this catastrophe did not happen men were obliged to stay indoors, doing the best they could under the circumstances and neglecting outdoor work that should have been attended to.

In a good community-kitchen the cooking would be in charge of an expert, wholesale buying would mean a cheaper rate on groceries and help to defray the expense, while there would be less need for ice-houses at the homes. The speaker had visited the canning center at Parkhill, operated by the Women's Institute, and had been delighted with the efficiency of the place,—the exquisite cleanliness, the spotless vats that do 100 quarts at once. Mrs. (Dr.) Wilson of that place had told her that the ladies there will never go back to home canning. No doubt kitchens, run in somewhat the same way, will come in time; already in the City of Guelph the question of establishing one has been discussed and a resolution in regard to it drafted by the W. C. T. U.

The matter of conveying laundry, and perhaps cookery also, Mrs. Glenn did not think insuperable in these days when motor-trucks, etc., are so numerous. The work might be done by the rural mail-carrier, or, if the plants were near a consolidated school, the vans taking the children might be impressed into service. "If it can't be arranged any

other way," she said, "we will take turns, as we do with the beef-rings."

At the conclusion of the address, which called forth several comments and would have launched a most animated discussion had not the afternoon been so far spent, Mrs. Glenn was asked to embody her idea in a resolution.

On Wednesday night (Dec. 17) the women of the Convention attended the mass meeting of the U. F. O. in Massey Hall, where they were given a place of honor on the stage, and had an excellent opportunity to hear, at close range, the speeches of Premier Drury and the Cabinet Ministers, reported in Dec. 25th issue of this paper in an account of the U. F. O. Convention.

Thursday Sessions Dec. 18.

During the Thursday sessions the idea of citizenship came prominently to the fore. "We are aiming for a Canadian idea," said the President, Mrs. Brodie. "In this we can co-operate with our city sisters, for Canada and the Empire." Mrs. Brodie then referred to the foreign population, emphasizing the necessity for making true Canadians of the women.

Mrs. Cantell, President of the "Daughters of Canada," presented greetings from that organization, and urged that something be done to bring about greater co-operation between country and city women in order that women in general may "get somewhere and do something for Canada." The organization which she represented has for its aims to develop Canadianism, to promote racial concord, to advance the knowledge of sound democratic principles, and stimulate appreciation of Canadian literature and art.

During the day the Resolutions (as given in these columns in last week's issue) were read by Mrs. M. R. Baker, and adopted by the convention. The discussions on the various resolutions were most interesting and brought up several points not generally known. For example it was stated by one speaker in regard to Resolution 2, that if a Canadian woman marries a foreigner she becomes a foreigner, so far as the franchise is concerned. Mrs. Brodie was of the opinion that we have bad laws in regard to women because they have never been brought to the attention of the men. "It is up to you," she said, "to change this." . . . The Resolution concerning Entrance examinations proved an alive topic. The present aim of the public schools, said Mrs. Laws, is to have the children pass examinations; examinations are made an end instead of a means to an end. The aim should be primarily the development of the children, not the mere passing of tests. More attention, she thought, should be paid to teaching the pioneer history of Canada.

In regard to Resolution 7, concerning children's shelters, etc., the point was brought out that things should be put on a different basis generally as regards children, the feeble-minded, and helpless. . . Resolution 8 concerning relations between producer and consumer of food-stuffs, etc., provoked one of the most interesting, as well as one of the most practical, discussions of the Convention. Better transportation of foodstuffs, and as few middlemen as possible, were suggested as the most practicable solution of the problem of giving satisfactory prices to both producer and consumer. Mrs. Webster suggested that a Committee be appointed to go to the National Council Convention in Toronto in January to meet the city women and discuss the question further. A member of the National Council, Mrs. Becker of Toronto, chanced to be present, and endorsed this suggestion. Before attending the



Art in Photography.
Blowing a bubble over a flower. Photo by Boyd.

U. F. W. O. Convention, she had thought "every farm a gold mine;" now she had a different light on the subject. It would be a tremendous thing, she thought if a better relationship were established between farm and city in this connection. At present the average city person does not see anything beyond the terrific price of butter and eggs. The U. F. W. O. could perform a great service by bringing the matter up at the Local Council Convention in Toronto, so that some immediate means of making things better for all could be discussed. . . . A delegate whose name the reporter did not catch (many names have been left out for that reason) thought the matter should be worked out carefully so that middlemen, already established, should not be crowded to the wall. In regard to co-operative prices in the rural districts Miss Griesbach remarked that while a large company can sell more cheaply in some respects people buying co-operative goods cannot expect to do much better than under the old system in many lines. "Our people realize the difficulty," she said. "They have to sell at retail prices. They can however, sell at retail prices and divide the profits. City people can buy a \$10. associated stock certificate, which entitles them to equal shares in the profits of the business with any other shareholders."

On the afternoon of Dec. 18 Mrs. Brodie and Mrs. Laws spoke at the Union meeting of the U. F. O. and U. F. W. O., in Massey Hall, as reported elsewhere in Dec. 25th. issue.

In an Executive meeting of the U. F. W. O. in the Labor Temple the following officers were elected for this year:

President—Mrs. George A. Brodie, Newmarket; Vice-Pres.—Mrs. Jas. N. Foote, Collingwood; Secretary—Mrs. H. L. Laws, Cayuga; Assistant-Sec.—Miss Dawn Huff, Central Office, Toronto; Director at large—Miss E. Griesbach, Collingwood.

Board of Managers.—Mrs. Frank Webster, Oakwood; Mrs. John S. Amos, Woodstock; Mrs. W. N. Glenn, Hensall; Mrs. Alec. Wallace, Simcoe.—The Board of Directors to be appointed at a future meeting.

So ended the U. F. W. O. Convention for 1919, which, showing an impetus already gained, gives good encouragement to those interested to hope for still greater things next year.

The Children's Poem.

A Little Brown Puppy.

The world has a lot of a number of things
That always are pleasant to see,
Of pretty girls' eyes and blackberry pies
And roses and pay days and glee;
And waffles and movies and blue china
cups
And bargains and full dinner pails,
But pleasantest far are nice little pups
That wiggle and waggle their tails!

A nice little, brown little puppy, who
seems

Just brimming with wiggles and wags,
His damp little nose, as pink as a rose,
Two ears that are pert little rags;
And half of him shrinking in fear of a
spank,
And half of him wiggling a plea,
And all of him ready for any old prank—
There's nothing so pleasant as he!

And how can they say that a creature is
dumb

That's wise in its own sort of way?
Although we suppose there's little he
knows,

Yet O, how he knows how to play!
He knows how to find all the fun as he
goes

Trough his life in this sorrowing vale,
And especially we're glad that each little
pup knows

How to wiggle and waggle his tail!
—Morris Miller, in *Detroit Journal*.

The Pearl of the Orient.

BY GEORGE MATHER.

THOSE familiar lines "Where every
prospect pleases and only man is?"
are peculiarly trite in reference
to the Island of Ceylon, that costly gem
in the Imperial Crown of King George.
It is a land of delight and beauty but
exposed to the climatic vagaries of the
near East, inasmuch that I believe it
affects the mood of the people, for there
indeed, one realizes the changeable
nature of the typical Anglo-Indian, whose
moods are ever varying from "grave to
gay, from lively to severe."

Outdoor life and the hunt for big
game are the chief attractions for men
of means, but my chief concern while there
was to occupy my time in "the daily
round, the common task" in order to
provide the wherewithal to keep body
and soul together.

For many reasons I would not have
missed passing one year of the allotted
span away out in the Orient, for it

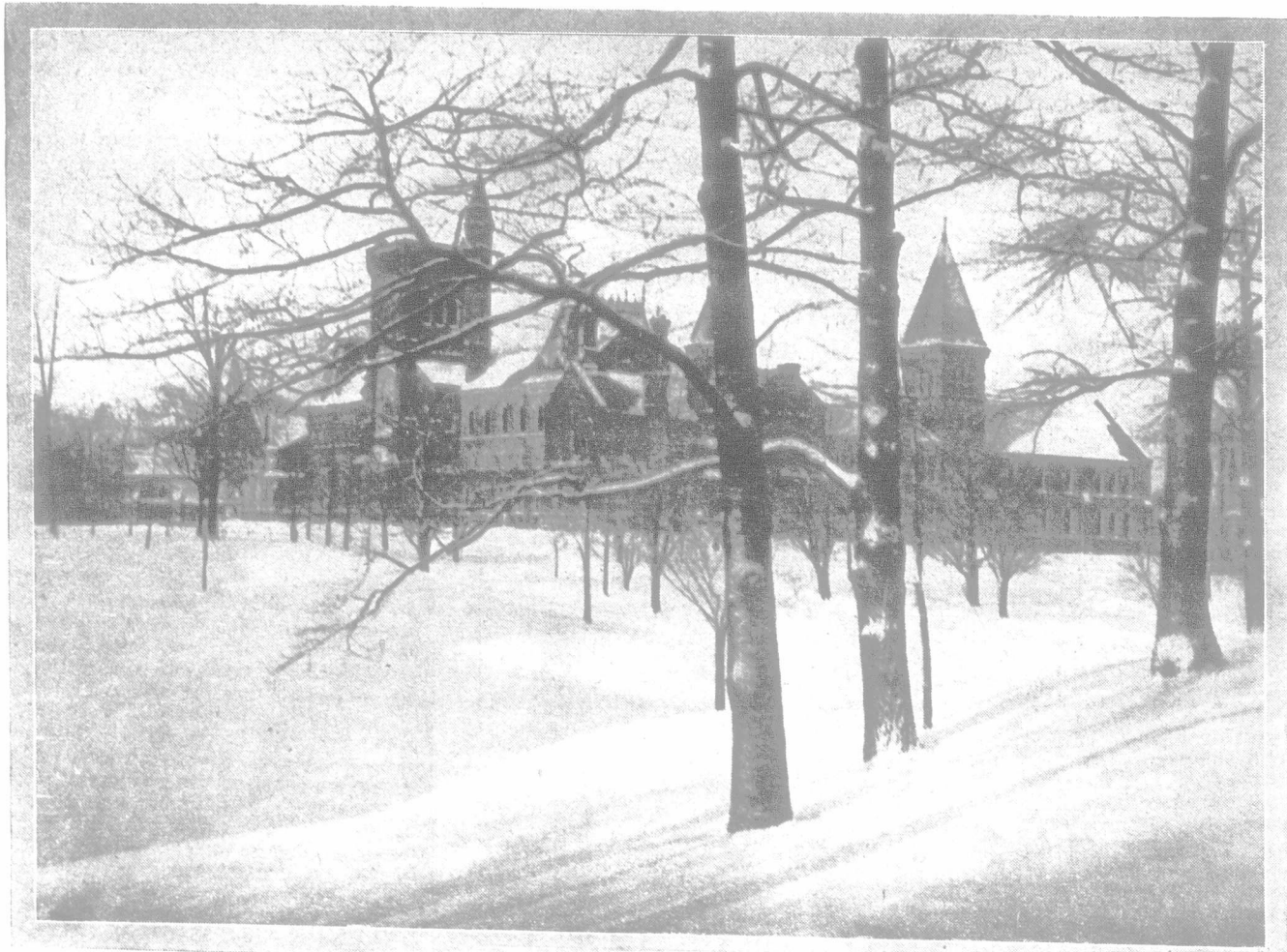
broadened my mind as only travel can
do, and living and eating and sleeping
under the glorious canopy of intensely
vivid color and light such as are pictured
in the masterpieces of such artists as
the late Holman Hunt in his wonderful
works "The Triumph of the Innocents"
and "Lux in Tenebris" was a wonderful
experience. For those whose privilege
for travel has been limited, I would
advocate very strongly the study of
artists whose successes have come through
personal visits to these wonderful places.

There is very little interval between
sunset and dark, but after a hard day's
work in an Office in the tropics, one enjoys
rest in one of the Colonial easy chairs.
It was while thus occupied with my own
thoughts, one evening, that I was startled
by the sound of an approaching vehicle
which resembled "A Rag and Bone
Dealer's wagon" in England, round which
were strung various colored articles like
children's toys. I was curious as this
caravan came across the courtyard or
compound to the verandah of the house
in which I lived, for the whole affair was
covered over with white cotton cloth
and the inside lit up quite brilliantly
with Chinese lanterns. It had a myster-
ious and ghostly air, so up I jumped,
to solve the mystery. There was a
surprise in store for me.

It was Christmas Eve, and my servant,
I discovered, had fixed up all this in my
honor. He was a convert to Christianity
and had made a Creche as nearly re-
sembling the manger at Bethlehem
and a little babe nestling in the straw,
as he could contrive, and had surrounded
it with these beautiful lights, to remind
me, if need be, of our faith in the reli-
gious belief we both shared of the In-
carnation of the Son of God.

Scenery of such grandeur and serenity
as that in Ceylon impresses one with
a note of thoughtful obedience to the
controlling powers of nature or rather
of nature's God, but sometimes the
primitive mode of travel is very rough
and the progress slow. A ride through
the country roads in a bullock-wagon,
between avenues of tropical foliage, is as
sensational as a rickshaw ride. The
driver sits on the shaft clad only in loin
cloth and turban, and whoops and yells
continually at the poor beast, and urges
him on with a switch, which serves also
to scare off the flies. The jolting over
stones keeps the passengers in a constant
state of nervous excitement, for there
are no springs in the wagon and
eventually the destination finds one more
dead than alive. However, in order to
realize that life out there is really worth

living let us hire a "rickshaw" or "jin-
rickshaw" to be correct, and take a run
round the City of Colombo, overlooking
the Indian Ocean. The Coolie, one of
many natives who earn their living by
playing horse and drawing these con-
veyances, sets off with his load at a
fairly good gait. As we pass through
the merchantile section with its bazaars
and native stores doing business right
along, Sunday morning though it be, and
oft times as we pass the public bath houses
and the heaps of offal that the parish
dog has refused to consume, we are
inclined to doubt whether the "spicy
breezes that blow soft o'er Ceylon's
Isle" are quite as pleasing to one's
nostrils as the good old hymn-writer
would have us imagine. But having run
the gauntlet we note that the natives,
after their ablutions, are meandering
along to their respective shanties, like
so many wet hens, shivering in the cool
morning air. The men, already out
doors ready for business, squat cross-
legged in the lazy Oriental style, sur-
rounded by their goods which they are
bartering, notably the betel nut, which
the poorer folk delight in chewing and
which causes their saliva to become a
blood red color. The traders keep a
stock of wonderful treasures of the East,
which they spread out before strangers
from over the seas, who require a lot of
courage to withstand the temptation
of "blowing in" on the hundred and one
gorgeously colored mats and carpets,
and the trinkets of coral and pearl brought
up from the depths of the ocean, by the
natives, who are experts at diving. As
we pass along we are brought to our
senses by the sound of a beating of a
drum, as only a native can do it—and
lo and behold, here, away in the Indian
Ocean, is a group of the Salvation Army
Soldiers, all natives except the Captain
and his aide, telling their mission to the
benighted heathen! What a strange mixture
for here comes a family in their bullock-
wagon going out of the city to a distant
temple of Buddha, and behind, comes
speeding along an up-to-date limousine
carrying a party of sightseers! Even
at this early hour the usual Sabbath
restfulness is made hideous by the yells
of auto horns and the yells of the drivers
of native vehicles, and it is a relief to get
out of the noisy and dusty streets into
the quiet suburb of Mutwal, for we are on
our way to matins or morning service
in the Cathedral of the Church of England
in Ceylon. How cool and restful it is
there to hear the familiar hymns as sung
in the mother church in the old Country,
how sweet indeed to the erstwhile exile!
A most beautiful sermon on "Love" was
preached one morning by a very saintly
man, whose face deeply impressed itself
on my memory—Bishop Coplestone of
Colombo Cathedral. He made one im-
agine that St. John, the beloved, had
come back again, for he spoke so much
of little children. His theme was "My
beloved has gone down to His garden
to gather lilies." This service was in
striking contrast to one I had the privilege
of attending, while staying in the old
capital of Kandy, in the Temple of
"Buddha's Tooth," to which I followed
the crowd of Buddhist worshippers
when they entered the Temple to offer
their first fruits of the rice harvest,
the early "paddygrass" as it is called.
I had become accustomed during my
stay in Kandy to seeing the Buddhist
priests from a large Monastery there
on their daily visits to accept alms
from the faithful fatalists. Their gorge-
ous long yellow robes, their shaven heads
and the inevitable fan which they always
carried, partly to keep their faces covered
so that they might not gaze on the faces
of the women, (or vice-versa,) had become
familiar, so that I was prepared for a
modest and humble act of devotional
offering I was disappointed. Instead, the
natives (Sinhalese or Tamil) were
singing in a loud voice a chant, which
seemed at times like Gregorian music,
such as the monks of the Christian Church
so beautifully sang at their frequent
services; but at times there was a haunt-
ing dirgelike rhythm, and the general
effect was forced, uneducated and dis-
tracting. For a moment I closed my
eyes in that Mecca of "the great God
Bud," and thought how few of my
friends had ever experienced the feelings
that crept over me whilst listening to
the chanting of that motley crowd—
still here was a lesson: they came in
great numbers to give thanks for the
early appearance of the green blades of



New Year's at Toronto University.

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pass trustin g that they would gather the harvest if they persevered in their work. These heathen were certainly not ungrateful, and unconsciously I felt for a little farewell gift which time and again proved helpful as a reminder of my heritage in the church. "Do you remember Fuldah Fisher's Boarding House, one of Kipling's Barrack's Room Bal-lads, and the story of how a faithful and hardy Norseman faced death rather than infidelity to his fair sweetheart in the homeland? She had given him a farewell keepsake, and it was found attached to a ribbon which he had worn since they parted. Kipling called it:

"The little silver crucifix
 That keeps a man from harm."
 On my return to the routine of office work I felt thankful that the "Star of the East" with its glorious Christmas message was to me (a wanderer) more dazzling in its beauty than all the price-less treasures of this land of a thousand delights.

Hope's Quiet Hour.

A Sure Support.

They shall hang upon him all the glory of his father's house, the offspring and the issue, all vessels of small quantity, from the vessels of cups, even to all the vessels of flagons.—Isa. XXII: 24.

This mysterious prophecy describes one whom God calles "My servant Eliakin"—a name which means "God will raise up." It is declared that the Government will be committed to him, and the key of the house of David shall be upon his shoulder; so he shall open, and none shall shut; and he shall shut, and none shall open. He shall be fastened as a nail in a sure place, and on him shall hang all the glory of his father's house, all the cups and flagons.

We read the words of Isaiah, and are instantly reminded of the words of the Lord Jesus Christ, in His message to the church in Philadelphia. There He describes Himself as "He that hath the key of David, He that openeth, and no man shutteth; and shutteth, and no man openeth."

God has raised up one Man—and only One—Who is a sure support for all who hang upon Him. It is of Him that we sing:

"Other refuge have I none:
 Hangs my helpless soul on Thee."

The parable of Isaiah is homely, but expressive. A nail is securely fastened into the wall of the common living-room, on which all the cups and flagons may safely hang. "A nail in a sure place!"—Think of all the millions of souls who have rested all their hopes in Christ, for this life as well as for the life Beyond! If He cannot bear their weight, certainly no other man can.

This morning I looked down at the peaceful face of a friend of mine, who has suffered long and patiently—looking unto Jesus. On the wall beside the coffin hung a card with the words: "Come unto Me, and I will give you rest." She has obeyed that call and has found the promised rest. What a mockery such a promise would be from any other lips!

We can only learn Christ's power to support the soul by leaning upon Him. Theories will not support any soul. We may recite the ancient creeds very confidently, without having any real trust in the Living Lord.

Those who have proved His power may declare that it is safe to put all they hold most dear in His hands; but they can't give faith to another soul. We don't hang on the faith of father, mother or friend; but all the "vessels of small quantity, from the vessels of cups, even to all the vessels of flagons" hang upon Him Who is as "a nail fastened in a sure place." A mother may bring her little children to their Divine Friend, and they are taken up into His arms and blessed. But, if they are to have vital faith, it must be a secret between themselves and the Master. Even a mother cannot stand between. God has secret dealings with each soul, and joy comes from yield-ing the human will to the Will of the Father.

The Master still calls men by name, and wins them one by one to follow Him.

A belief which is tested and untried, put ready-made into a man's hands by parent or teacher, is not really his own until he has hung his weight upon it. Children may accept Christianity without question, but when they grow up they must face and conquer doubt, if they are deter-mined to cling to Him Who can give light in the darkness.

Many boys and girls grow up in Christian homes, saying their prayers regularly, without really knowing God at all. But seeds sown in virgin soil may be expected to spring up and bear fruit in good time. Those who have been brought into the presence of Him Who is altogether lovely are not likely to forget the beauty of holiness. They may stray far away—giving much sorrow to those who love them—but they know that goodness is beautiful and vice is hideous, and some day they will come home to the Father's heart.

God deals directly with each soul, and he has as many ways of reaching them as there are souls to be reached. There are men and women everywhere, in cities and on the lonely prairies, in villages and on farms, who are sure that He speaks to them, not vaguely and indistinctly, but so plainly that they cannot doubt His orders. A few days ago a poor old woman said to me: "He often talks to me when I am alone. He speaks to my heart." The most learned sceptic could not destroy the faith which brightens her hard life. She might not be able to answer his arguments, but she knows Christ. He is her dearest Friend, and her soul hangs in confident trust upon Him.

Christianity can only be really under- stood by personal experience. If you, like a guileless Israelite of old, fancy that no good can come out of Nazareth; the only certain way of finding out is to "come and see." When our Lord walked visibly among men He refused to give a "sign" to unbelievers. He is the same to-day; but to His own disciples (those who will to do His Will) He still shows that He is here by many infallible proofs. In His own time and way He will manifest Himself to those who seek Him humbly, honestly and persistently. He has en-dured many years of searching scrutiny, and still stands "in a sure place," so we need not fear to yield our lives to His keeping. I have heard of people who gave up praying, because God allowed the men for whom they prayed very earnestly to be killed in the war. They thought they had been leaning their weight on Him, and He had disappointed them. But were they really leaning on Him? Their constant prayer was: "Give me what I want!" If they had been really trusting in God they would have been sure that His Will was best. No soldier, who is worthy of the name, will lose faith in his general because he is chosen for a hard and painful duty.

A man, struck by a shell, was dying. He asked to speak to his superior officer, and these were his words: "I'm so sorry, sir; I didn't mean to get wounded." Then he was carried on a stretcher to a dressing-station and his dying message was: "Tell the major I didn't mean to do it." He forgot to pity himself in the death agony. All he thought about was the Cause, and he was distressed because his "passing" would leave a gap in the ranks.

If we could only forget to pity ourselves for pain, trouble and disappointment! If we could get the soldier's point of view that our affairs are unimportant—even if we are called to suffer or die—if only the Cause of our King can be established upon the earth, then we should not lament in childish fashion because our toys are broken or our plans upset. Our plans are of little importance compared with the Plan of our Leader. He hears our prayers, and answers them wisely and tenderly; though it may not be always exactly in the way we expect. Those who pray in faith know that their prayers are answered. If they are not sure of that fact it proves that they were not praying with faith in God's wisdom, but only with faith in their own wisdom. If we are really trusting God—like the father of my friend who passed away yesterday—we shall accept unquestion-ably His answer to our prayer, whatever that answer may be, and take up each day's duty with ready courage. Because we know that God's Will is for our happiness and our real good, we prefer that His Will should be done rather than our own. And so we can say, in loyal confidence,

"I argue not
 Against Heaven's hand of will, nor bate a
 jot
 Of heart or hope; but still bear up and
 steer
 Right onward."
 *
 DORA FARNCOMB.

For the Sick and Needy.

Christmas gifts for the sick and needy have been pouring in every day during the last week. N. Y. M. and "Another Friend" sent a dollar each. Two dollars each came from twelve readers—A Vars Friend, A Girl's Class, "Margaret," Mrs. D. L. F., "In His Name," Mr. and Mrs. McK., "Willing Helpers," Mrs. H. R., Miss L. M. G., Puslinch Friend, Mrs. J. C. B., and Mrs. M. G.

Mrs. K. sent four dollars, and five readers sent five dollars each: Cromarty "Friend," "Betty" (for sick girl), Mrs. W. I. J., Mrs. E. ("In His Name"), and Mrs. E. B.

One "friend"—Mr. A. T.—sent ten dollars. A box of good things (for a poor widow) arrived from a reader in N. B.—Mrs. H.—, a bale of warm quilts from Electric, Ont., and 13 well-filled Christmas stockings from Mrs. J. L. W. Somebody (probably an "Advocate" reader) must have paid for the jam and oranges which came from the T. Eaton Co. on Christmas eve. Many friends sent papers for the shut-in.

I am writing this two days after Christmas, and—(don't tell the large-hearted readers of "Hope's Quiet Hour!") I am thankful that Sunday is coming, so that the postman won't bring me any gifts to pass on. Please don't think me ungrateful, for it is only that I feel rather exhausted. Your stream of kindness has grown into a great river, and I have been almost swept off my feet this Christmas-tide. You have brought good cheer into many homes, and I thank you most heartily for allowing me the privilege of acting as your steward.

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 a stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.

The Dining Table.

In the Health of the Nation.

As you know the ordinary menu in a course dinner runs somewhat as follows: 1. Soup; 2. Fish; 3. Meat with vegetables; 4. Dessert. During our lectures at the Western Medical School it was noted that the placing of the viands in this order follows no arbitrary rule laid down by fashion, but is an arrangement really called for in the interests of health and sanctioned by medical science. Medical science does not, however, place its "amen" so readily to the over-doses of protein and other badly balanced mixtures sometimes perpetrated during the serving of the meal even in this order.

Now let us take the courses one at a time:

1. Soup. I think I told you, some time ago, of a friend who, basing the feeding of her family upon the plan adopted at the Battle Creek Sanitarium, serves a little thin, or clear soup at the beginning of two meals a day. Dr. Crane, our lecturer for the summer course, approved of soup as the introduction to every dinner at least. The reason, thereof, is that the warm liquid sets the gastric (digestive) juices flowing, and so prepares the stomach to digest heavier foods. It also exercises a somewhat stimulating influence, the flavor and odor whetting the appetite. As actual food, however, thin or clear soups are of very little value. They are not tissue-builders; they produce neither heat nor energy. It is a great mistake to depend upon them as nourishment—a mistake that is all too commonly made in regard to the sick.

The same may be said of beef tea, as ordinarily made. Indeed it may not be straining a point to say that many a patient in need of nourishing food has died because of the value placed, by an ignorant nurse, upon poorly made beef tea. Even when well made, it must not be depended upon as sufficient food

for an invalid, but must be used only as an adjunct to other foods. Properly made beef tea, however, contains some nutri- ment, and is besides a pleasant and stimulating drink; hence it may be op- portune to give, at this juncture, a method of making it to extract all the juices of the meat. The following recipe has been given by Dr. Robert Hutchinson, in his book "Food and Dietetics."—Get some good lean beef and trim off with a knife any gristle or fat adhering to it, then scrape the meat down thoroughly with the back of a knife so as to tear it into shreds. In this way all the fibres of the meat are removed from the connective tissue which holds them together; and it is these fibres which contain the most nourishing part of the meat. Having placed the fragments in a jar, add to them some water and mix thoroughly. As a rule 1 pint of cold water to 1 pound of beef is the proportion recommended. If the mixture is now set aside in a cool or cold place for some time, most of the soluble protein of the meat will be dis- solved out along with the extractives and salts. A little salt is sometimes added to the water under the belief that its solvent powers are thereby increased; it is doubtful, however, whether that is really the case. By the end of half an hour or so, one has got what is practically a more or less dilute raw-beef juice. The jar should now be tightly covered and placed in a saucepan of water, and the latter gradually heated. The temper- ature for the first hour should be kept below the coagulating point (167 F), and from time to time the mixture should be stirred with a fork, and the lumps of meat squeezed against the sides of the jar. At the end of the hour the tea must be cooked—i. e., its raw appearance and taste taken away by heating it to above the point at which the red coloring matter is coagulated. The simplest plan is to bring it to the boil, and then to remove it from the fire immediately. The tea should then be poured off from the residue of the beef, not strained, the lumps of beef being held back by a fork. When this has been done, the residue should be placed in a coarse strainer, squeezed very hard with the back of a spoon, and the juice which comes out added to the tea. The latter may then be set aside to cool, when the fat on top should be removed with a spoon. The tea, of course, must be warmed before serving. . . This makes a "good" beef-tea, and yet it must be remembered that it contains only about 1 1/2 to 1 3/4 per cent. of protein—and people must have protein to live. "If one swallows a pint of this beef tea in a day," says Dr. Hutchinson, "he has only consumed about one-ninth of the total amount of protein required by a sick person. Of course it may be given with some advantage to patients who are confined to an en- tirely fluid diet, provided the remaining eight-ninths of the protein required are made up in some other form, such as milk or white of egg."

To sum up, then: Thin meat soup is valuable at the beginning of a meal, especially luncheon and dinner. It is a stimulant and very good to take when one is exhausted. It may be given frequently, as a pleasant change, to a sick person—except in the case of kidney trouble, in which case meat and meat extratives must be largely eliminated, as they are irritating to the kidneys.

Of course, as every efficient housewife knows, meat soups may be given greater food value by adding other ingredients to them. They may, indeed, be made "rich" enough to serve very well as the introductory dish for supper. A cupful of rich milk, pearl barley, handful of oatmeal (or some left-over porridge), and vegetables—especially those rich in pro- tein, e. g. beans, peas and lentils—will give sufficient variety. At the Battle Creek Sanitarium a handful of bran is usually added, as served in any form it is a preventive of constipation. . . Milk soup is especially nutritious, and very palatable on a cold winter evening, as everyone knows who has tried a dish of it served with bits of toast or puffy hot biscuits. Variety may be given to it, too, for it may masquerade as "potato soup," "celery soup," "onion soup," "carrot soup" and so forth, according to the vegetable used with it. In each case it is advisable to boil the vegetable in as little water as possible, then press through a ricer into the hot milk. A

spoonful of whipped cream and a sprinkling of paprika over the top will make the dish more attractive in appearance as well as more tempting to the taste.

In closing you may have heard that valuable medicinal properties are often poured down the sink from boiled vegetables. This is true. Don't waste the water from potatoes, beans or any other vegetable. Save it to add to soup. Indeed, in a thrifty household there is almost nothing that needs to be wasted.

—JUNIA.
(To be continued.)

Worth Thinking Over.

"All material activity should be based on sound scientific knowledge."
—Sir Oliver Lodge.

"De truth ain't allus easy to git at," said Uncle Eben. "A man kin sometimes say sumpin' in half a minute dat he can't explain in five years.—Washington Star.

Letter of Thanks

Mrs. McARA, Regina, sends the following letter of thanks for contributions towards Relief Fund at that place:

Gentlemen.—Many thanks for the very splendid contribution towards our Relief Fund. It is certainly kind of your readers to be so much interested in our needy people in this Province. We have now got the situation well in hand I think. I have received a great many splendid bales all prepaid and about \$75 in cash as the result of an article that appeared in your paper. Will you kindly convey the thanks of this Committee to the Women's Institute of Arkona, as I do not have their Secretary's address, and accept the same for yourselves as being the medium through which all this interest and sympathy has been created and passed on to us.

I am yours truly,
MRS. P. McARA.

2013 Victoria Ave., Regina.

The Cookery Column.

Kentucky Chicken.—Kill the chicken the day before it is cooked. Split open on the back, rub well with butter, pepper and salt. Put in a pan with a slice of bacon or pork and a pint of water. Cover and simmer for an hour, basting frequently. Serve on a hot platter, with white or egg sauce.

Chicken Pancakes.—One pint finely chopped cold chicken seasoned with 1/2 teasp. salt, 1/2 saltspoon pepper, and 2 tablespoons tomato catsup. Heat to boiling point 1 cup each of water and cold gravy, add 1 tablespoon each of butter and flour mixed together; let boil a moment, then add the chicken and set aside where it will keep very hot. For the batter beat 2 eggs until light, mix with 1 1/2 cups sweet milk, 2 cups flour, a pinch salt, and 1 teaspoon baking powder. Fry large pancakes of this to a light brown, spread some of prepared chicken upon each pancake, fold once and keep hot until all are ready for serving.

Savory Baked Potatoes.—Peel as many medium-sized potatoes as needed and place in a baking dish, just to cover bottom. Sprinkle over them 1/2 teasp. dried sage, salt and pepper to taste. Cut an onion in thin slices and spread over. Add a large tablespoon butter in small bits, and pour over all 1/2 cup milk or broth. Bake in a moderate oven about 40 minutes.

Cream of Potato Soup.—Boil 4 good-sized peeled potatoes in 1 quart water for 15 minutes. Drain the water off and add 1 pint fresh, boiling water. Add 1 bay leaf, stalk of celery, 1/2 a small onion, sprig of parsley, and boil until potatoes are done. Now press the potatoes through a ricer. Rub 1 tablespoon butter and 1 tablespoon flour together and stir into 1 quart boiling milk until it thickens. Pour this over the potatoes, add 1 teaspoon salt, stir until smooth and serve at once.—Nice for supper.

Paradise Pudding.—Three pared apples, chopped fine, 1/2 cup currants, 1/2 cup sugar, 2 cups bread crumbs, 3 eggs, grated rind and juice of 1/2 lemon. Mix, put in a floured bag and boil 1 1/2 hours. Serve with sauce.

Harvard Pudding.—Sift together 2 1/2 cups flour, 1/2 cup granulated sugar,

2 teaspoons baking powder, and 1/4 teasp. salt. Work into this with the tips of the fingers 1/2 cup butter. Beat 1 egg light, add 1 cup milk and turn on dry ingredients. Mix, pour into a buttered mould and steam 2 hours. Do not let water stop boiling for an instant. Serve very hot with sauce, or butter and sugar beaten together.

The Windrow

Official statistics made public recently in Berlin place the number of Germans killed in battle at 1,500,000.

At a meeting held in Winnipeg on Dec. 30 the Manitoba Teachers' Federation decided to become a chartered organization. One of the recommendations of the meeting was that the minimum salary for qualified teachers be \$1,200; another was that women teachers receive the same salary as men for equal work.

A collection of letters from Robert Louis Stevenson was bought recently in Edinburgh by an American, who paid \$11,000 for them.

Little by little the international spirit grows. The first really international newspaper has just been established at The Hague, Holland. Its name is "The World," and it is to contain articles from writers of every nationality besides translated extracts from the papers of all countries. In response to an appeal to the Anglo-American Society Sir George Watson recently gave £20,000 for the foundation and endowment of a chair in American history, literature and institutions, in order to promote such studies in all the British universities. The chair will be held for a period of one or two years alternately by an American and a British scholar.

Japan is anxious for a resumption of the Anglo-Japanese alliance, which expires this year.

The New South Wales, Australia, Nationalist party has approved the Government's proposal to subsidize children exceeding two in any family.

A great tide of emigration of Jews from all over the world is sweeping into Palestine, influenced by the conviction that Great Britain will shortly accept a mandate for the Holy Land.

A flying-machine that will fly without wings, by action of the propeller alone, has been perfected by Prof. Francis B. Crocker and Dr. Peter Cooper Hewitt, two well-known men of science in New York. Their flier will start anywhere and land anywhere. The hydrodrome (water-runner) developed after 10 years' experiment on Bras d'Or lakes, C. B., by Dr. Graham Bell and Mr. F. W. Baldwin of the Bell laboratories, will run 70 miles an hour on water.

William M. Wood, of Lawrence, Mass., President of the American Woolen Co., has decided to erect co-operative department stores in all the towns in which the company has mills, 50 in all, in order that the mill employees may buy the necessities of life at cost. His decision is due to the fact that whenever wages in the mills were raised certain merchants at once raised their prices.

Current Events

Sir William Osler, one of Canada's famous physicians, died in England, of pneumonia, on Dec. 29th.

The farmers of Quebec's Western Counties are being organized on lines similar to those of the U. F. O. The Province of Quebec Farmers' Union was incorporated last week, with capital of \$99,000, and headquarters at Montreal.

Sir Robert Borden who has left Canada for a long trip because of ill health, has joined Admiral Jellicoe and may accompany him to South Africa.

Hon. S. C. Mewburn, Minister of Militia and Defence, has resigned, and will probably be succeeded by Hon. Mr.

Calder. Hon. A. L. Sifton becomes Secretary of State, and Hon. Martin Burrell, Minister of Customs.

Premier Lloyd George's proposal of two Parliaments for Ireland, one in the north and the other in the south, with opportunity to unite if desired, is rejected by the Sinn Feiners, who want an independent Republic. Only in Ulster is his solution given a fighting chance.

Hundreds of "Reds" were arrested in a big nation-wide raid covering 33 cities of the United States, on Jan. 2nd. The movement was in charge of Attorney-General Palmer.

On Dec. 31 a preliminary armistice was signed between Esthonia and Soviet Russia. Everywhere the Bolsheviki have been gaining, even Gen. Denikine having been driven back by them in South-eastern Russia. The anti-reds now confess themselves beaten unless helped by the Allies.

An attack upon the Vice-Regal Lodge in Dublin resulted in the death of one loyalist officer and one of the Sinn Feiners.

Viscount Grey, British Ambassador to the U. S., sailed for England on Dec. 30. He may return.

At time of going to press it is thought that the illness of Von Lersner may postpone the ratification of the Treaty of Versailles which, it was arranged, was to take place quietly at the Quai d'Orsay, on Jan. 6th.

Sir William Hearst, ex-Premier of Ontario, has been appointed to the International Joint Commission, in place of Mr. P. B. Mignault, who resigned. It is believed that Mr. Hearst will continue to reside in Toronto and that he will open a law office there.

On the night of Jan 4th an attack was made by Sinn Feiners on the Carrigto police barracks near Cork, the building was blown up and the occupants captured.

On the Sunday after Christmas the U. S. army transport "Buford" sailed from New York with a load of alien anarchists and radical agitators under sentence of deportation. Among them were Emma Goldman and Ethel Bernstein.

Serial Story

"His Family."

BY ERNEST POOLE.

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CHAPTER XVI.

But that winter there was more in the house than Deborah's big family. Though at times Roger felt it surging in with its crude, immense vitality, there were other times when it was not so, and the lives of his other two daughters attracted attention, for both were back again in town.

Laura and her husband had returned from abroad in October, and in a small but expensive apartment in a huge new building facing on Park Avenue they had gaily started the career of their own little family, or "ménage," as Laura called it. This word had stuck in Roger's mind, for he had a suspicion that a "ménage" was no place for babies. Grimly when he went there first to be shown the new home by its mistress, he looked about him for a room which might be made a nursery. But no such room was in evidence. "We decided to have no guest room," he heard Laura say to Deborah. And glancing at his daughter then, sleek and smiling and demure, in her tea-gown fresh from Paris, Roger darkly told himself that a child would be an unwelcome guest. The whole place was as compact and sparkling as a jewel box. The bed chamber was luxurious, with a gorgeous bath adjoining and a dressing-room for Harold.

"And look at this love of a closet!" said Laura to Deborah eagerly. "Isn't it simply enormous?" As Deborah looked, her father did, too, and his eye was met by an array of shimmering apparel which made him draw back almost with a start.

They found Harold in the pantry. Their Jap, it appeared, was a marvellous cook and did the catering as well, so that Laura rarely troubled herself to order so much as a single meal. But her husband had for many years been famous for his cocktails, and although the Jap did everything else Hal had kept this in his own hands.

"I thought this much of the house-keeping ought to remain in the family," he said.

Roger did not like this joke. But later, when he had imbibed the delicious concoction Harold had made, and had eaten the dinner created by that Japanese artist of theirs, his irritation subsided.

"They barely know we're here," he thought. "They're both in love up to their ears."

Despite their genial attempts to be hospitable and friendly, time and again he saw their glances meet in an intimate gleaming manner which made him rather uncomfortable. But where was the harm, he asked himself. They were married all right, weren't they? Still somehow—somehow—no, by George, he didn't like it, he didn't approve! The whole affair was decidedly mixing. Roger went away vaguely uneasy, and he felt that Deborah was even more disturbed than himself.

"Those two," she remarked to her father, "are so fearfully wrapt up in each other it makes me afraid. Oh, it's all right, I suppose, and I wouldn't for worlds try to interfere. But I can't help feeling somehow that no two people with such an abundance of youth and money and happiness have the right to be so amazingly—selfish!"

"They ought to have children," Roger said.

"But look at Edith," his daughter rejoined. "She hasn't a single interest that I can find outside her home. It seems to have swallowed her, body and soul." A frowning look of perplexity swept over Deborah's mobile face, and with a whimsical sigh she exclaimed, "Oh, this queer business of families!"

In December there came a little crash. Late one evening Laura came bursting in upon them in a perfect tantrum, every nerve in her lithe body tense, her full lips visibly quivering, her voice unsteady, and her big black eyes aflame with rage. She was jealous of her husband and "that nasty little cat!" Roger learned no more about it, for Deborah motioned him out of the room. He heard their two voices talk on and on, until Laura's slowly quieted down. Soon afterwards she left the house, and Deborah came in to him.

"She's gone home, eh?" asked Roger.

"Yes, she has, poor silly child—she said at first she had come here to stay."

"By George," he said. "As bad as that?"

"Of course it isn't as bad as that!" Deborah cried impatiently. "She just built and built on silly suspicions and let herself get all worked up! I don't see what they're coming to!" For a few moments nothing was said. "It's so unnatural!" she exclaimed. "Men and women weren't made to live like that!" Roger scowled into his paper.

"Better leave 'em alone," he admonished her. "You can't help—they're not your kind. Don't you mix into this affair."

But Deborah did. She remembered that her sister had once shown quite a talent for amateur theatricals; and to give Laura something to do, Deborah persuaded her to take a dramatic club in her school. And Laura, rather to Roger's surprise, became an enthusiast down there. She worked like a slave at rehearsals, and upon the costumes she spent money with a lavish hand. Moreover, instead of being annoyed, as Edith was, at Deborah's prominence in the press, Laura gloried in it, as though this "radical" sister of hers were a distinct social asset among her giddy friends uptown. For even Laura's friends, her father learned with astonishment, had acquired quite an appetite for men and women with ideas—the more "radical," the better. But the way Laura used this word at times made Roger's blood run cold. She was vivid in her approval of her sister's whole idea, as a scheme of wholesale motherhood which would give "a perfectly glorious jolt" to the old-fashioned home with its overworked mothers who let their children absorb their days.

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ing them up," she disdainfully declared, "were something every woman must do, whether she happens to like it or not, at the cost of any real growth of her own!" And smilingly she hinted at impending radical changes in the whole relation of marriage, of which she was hearing in detail at a series of lectures to young wives, delivered on Thursday mornings in a hotel ball-room.

What the devil was getting into the town? Roger frowned his deep dislike. Here was Laura with her chicken's mind blithely taking her sister's thoughts and turning them topsy-turvy, to make for herself a view of life which fitted like a white kid glove her small and elegant "ménage." And although her father had only inklings of it all, he had quite enough to make him irate at this uncanny interplay of influences in his family. Why couldn't the girls leave each other alone?

Early in the winter, Edith, too, had entered in. It had taken Edith just one glance into the bride's apartment to grasp Laura's whole scheme of existence. "Selfish, indulgent and abnormal," was the way she described it. She and Bruce were dining with Roger that night. "I wash my hands of the whole affair," continued Edith curtly. "So long as she doesn't want my help, as she has plainly made me feel, I certainly shan't stand in her way."

"You're absolutely right," said her father. "Stick to it," said Bruce approvingly. But Edith did not stick to it. In her case too, as the weeks wore on, those subtle family ties took hold and made her feel the least she could do was "to keep up appearances." So she and Bruce dined with the bride and groom, and in turn had them to dinner. And these dinners, as Bruce confided to Roger, were occasions no man could forget.

"They come only about once a month," he said in a tone of pathos, "but it seems as though barely a week had gone by when Edith says to me again, 'We're dining with Laura and Hal to-night.' Well, and we dine. Young Sloane is not a bad sort of a chap—works hard downtown and worships his wife. The way he lives—well, it isn't mine—and mine isn't his—and we both let it go at that. But the women can't, they haven't it in 'em. Each sits with her way of life in her lap. You can't see it over the tablecloth, but, my God, how you feel it! The worst of it is," he ended, "that after one of these terrible meals each woman is more set than before in her own way of living. Not that I don't like Edith's way," her husband added hastily.

Edith also disapproved of the fast increasing publicity which Deborah was getting. "I may be very old-fashioned," she remarked to her father, "but I can't get used to this idea that a woman's place is in headlines. And I think it's rather hard on you—the use she's making of your house."

One Friday night when she came to play chess, she found her father in the midst of a boisterous special meeting of his club of Italian boys. It had been postponed from the evening before. And though Roger, overcome with dismay at having forgotten Edith's night, apologized profusely, the time-honored weekly game took place no more from that day on.

"Edith's pretty sore," said Bruce, who dropped in soon afterwards. "She says Deborah has made your house into an annex to her school."

Roger smoked in silence. His whole family was about his ears.

"My boy," he muttered earnestly "you and I must stick together."

"We sure-must," agreed his son-in-law. "And what's more, if we're to keep the peace, we've got to try to put some punch into Deborah's so-called love affair. She ought to get married and settle down."

"Yes," said Roger, dubiously. "Only let's keep it to ourselves."

"No chance of that," was the cheerful reply. "You can't keep Edith out of it. It would only make trouble in my family." Roger gave him a pitying look and said,

"Then, for the Lord's sake, let her in!"

"So they took Edith into their councils, and she gave them an indulgent smile.

"Suppose you leave this to me," she commanded. "Don't you think I've been using my eyes? There's no earthly use in stepping in now, for Deborah

has lost her head. She sees herself a great new woman with a career. But wait till the present flare-up subsides, till the newspapers all drop her and she is thoroughly tired out. Until then, remember, we keep our hands off."

"Do you think you can?" asked Roger with a little glimmer of hope.

"I?" she retorted. "Most certainly! I mean to leave her alone absolutely—until she comes to me herself. When she does, we'll know it's time to begin."

"I'm afraid Edith is hurt about something," said Deborah to her father, about a month after this little talk.

"She hasn't been near us for over three weeks."

"Let her be!" said Roger, in alarm. "I mean," he hastily added, "why can't you let Edith come when she likes? There's nothing the matter. It's simply her children—they take up her time."

"No," said Deborah camly, "it's I. She as good as told me so last month. She thinks I've become a perfect fanatic—without a spare moment or thought for my family."

"Oh, my family!" Roger groaned. "I tell you, Deborah, you're wrong! Edith's children are probably sick in bed!"

"Then I'll go and see," she answered.

"Something has happened to Deborah," Edith informed him blithely, over the telephone the next night.

"Has, eh," grunted Roger. "Yes, she was here to see me to-day. And something has happened—she's changing fast. I felt it in all kinds of ways. She was just as dear as she could be—and lonely, as though she were feeling her age. I really think we can do something now."

"All right, let's do something," Roger growled.

And Edith began to do something. Her hostility to her sister had completely disappeared. In its place was a friendly affection, an evident desire to please. She even drew Laura into the secret, and there was a gathering of the clan. There were consultations in Roger's den. "Deborah is to get married."

The feeling of it crept through the house. Nothing was said to her, of course, but Deborah was made to feel that her two sisters had drawn close. And their influence upon her choice was more deep and subtle than she knew. For although Roger's family had split so wide apart, between his three daughters there were still mysterious bonds reaching far back into nursery days. And Deborah in deciding whether to marry Allan Baird was affected more than she was aware by the married lives of her sisters. All she had seen in Laura ménage, all that she had ever observed in Edith's growing family, kept rising from time to time in her thoughts, as she vaguely tried to picture herself a wife and the mother of children.

So the family, with those subtle bonds from the past, began to press steadily closer and closer around this one unmarried daughter, and help her to make up her mind.

CHAPTER XVII.

But she did not appear to care to be helped. Nor did Allan—he rarely came to the house, and he went to Edith's not at all. He was even absent from her Christmas tree for the children, a jolly little festivity which neither he nor Deborah had missed in years.

"What has got into him?" Roger asked. And shortly after Christmas he called the fellow up on the phone. "Drop in for dinner to-night," he urged. And he added distinctly, "I'm alone."

"Are you? I'll be glad to."

"Thank you, Baird, I want your advice" And as he hung up the receiver he said, "Now then!" to himself, in a tone of firm decision. But later, as the day wore on, he cursed himself for what he had done. "Don't it beat the devil," he thought, "how I'm always putting my foot in it?"

And when Baird came into the room that night he loomed, to Roger's anxious eye, if anything taller than before. But his manner was so easy, his gruff voice so natural, and he seemed to take this little party of two so quietly as a matter of course, that Roger was soon reassured, and at table he and Allan got on even better than before. Baird talked of his life as a student, in Vienna, Bonn and Edinburgh, and of his first struggles in New York. His talk was full of human bits, some tragic, more

amusing. And Roger's liking for the man increased with every story told.

"I asked you here," he bluntly began, when they had gone to the study to smoke, "to talk to you about Deborah." Baird gave him a friendly look.

"All right. Let's talk about her."

"It strikes me you were right last year," said Roger, speaking slowly. "She's already showing the strain of her work. She don't look to me as strong as she was."

"She looks to me stronger," Allan replied. "You know, people fool doctors now and then—and she seems to have taken a fresh start. I feel she may go on for years." Roger was silent a moment, chagrined and disappointed.

"Have you had a good chance to watch her?" he asked.

"Yes, and I'm watching her still," said Baird. "I see her down there at the school. She tells me you've been there yourself."

"Yes," said Roger, determinedly, "and I mean to keep on going. I'm trying not to lose hold of her," he added with harsh emphasis. Baird turned and frankly smiled at him.

"Then you have probably seen," he replied, "that to keep any hold at all on her, you must make up your mind as I have done that, strength or no strength, this job of hers is going to be a life career. When a woman who has held a job without a break for eleven years can feel such a flame of enthusiasm, you can be pretty sure, I think, it is the deepest part of her. At least I feel that way," he said. "And I believe the only way to keep near her—for the present, anyhow—is to help her in her work."

When Baird had gone, Roger found himself angry.

"I'm not in the habit, young man," he thought, "of throwing my daughter at gentlemen's heads. If you feel as calm and contented as that you can go to the devil! Far be it from me to lift a hand! In fact, as I come to think of it, you would probably make her a mighty poor husband!" He worked himself into quite a rage. But an hour later, when he had subsided, "Hold on," he thought. "Am I right about this? Is the man as contented as he talks? No, sir, not for a minute he isn't. But what can he do? If he tried making love to Deborah he'd simply be killing his chances. Not the slightest doubt in the world. She can't think of anything but her career. Yes, sir, when all's said and done, to marry a modern woman is no child's play, it means thought and care. And A. Baird has made up his mind to it. He has made up his mind to marry her by playing a long waiting game. He's just slowly and quietly nosing his way into her school, because it's her life. And a mighty shrewd way of going about it. You don't need any help from me, my friend; all you need is to be let alone."

In talks at home with Deborah, and in what he himself observed at school. Roger began to get inklings of "A. Baird's long waiting game." He found that several months before Allan had offered to start a free clinic for mothers and children in connection with the school, and that he alone had put it through, with only the most reluctant aid and gratitude from Deborah—as though she dreaded something. Baird took countless hours from his busy uptown practice; he hurt himself more than once, in fact, by neglecting rich patients to do this work. Where a sick or pregnant mother was too poor to carry out his advice, he followed her into her tenement home, sent one of his nurses to visit her, and even gave money when it was needed to ease the strain of her poverty until she should be well and strong. Soon scores of the mothers of Deborah's children were singing the praises of Doctor Baird.

Then he began coming to the house.

"I was right," thought Roger complacently.

He laid in a stock of fine cigars and some good port and claret, too; and on evenings when Baird came to dine, Roger by a genial glow and occasional jocular ironies would endeavor to drag the talk away from clinics, adenoids, children's teeth, epidemics and the new education. But no joke was so good that Deborah could not promptly match it with some amusing little thing which one of her children had said or done. For she had a mother's instinct for bragging fondly of her brood. It was deep, it was uncanny, this queer community motherhood.

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A Wheat Kernel Cut in two

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"This poor devil," Roger thought, with a pitying glance at Baird, "might just as well be marrying a widow with three thousands brats."

But Baird did not seem in the least dismayed. On the contrary, his assurance appeared to be deepening every week, and with it Deborah's air of alarm. For his clinic, as it swiftly grew, he secured financial backing from his rich women patients uptown, many of them childless and only too ready to respond to the appeals he made to them. And one Saturday evening at the house, while dining with Roger and Deborah, he told of an offer he had had from a wealthy banker's widow to build a maternity hospital. He talked hungrily of all it could do in co-operation with the school. He said nothing of the obvious fact that it would require his whole time, but Roger thought of that at once, and by the expression on Deborah's face he saw she was thinking, too.

He felt they wanted to be alone, so presently he left them. From his study he could hear their voices growing steadily more intense. Was it all about work? He could not tell. "They've got working and living so mixed up, a man can't possibly tell 'em apart."

Then his daughter was called to the telephone, and Allan came in to bid Roger good-night. And his eyes showed an impatience he did not seem to care to hide.

"Well?" inquired Roger. "Did you get Deborah's consent?"

"To what?" asked Allan sharply.

"To your acceptance," Roger answered, "of the widow's mite." Baird grinned.

"She couldn't help herself," he said.

"But she didn't seem to like it, eh—"

"No," said Baird, "she didn't." Roger had a dark suspicion.

"By the way," he asked in a casual tone, "what's this philanthropic widow like?"

"She's sixty-nine," Baird answered.

"Oh," said Roger. He smoked for a time, and sagely added, "My daughter's a queer woman, Baird—she's modern, very modern. But she's still a woman, you understand—and so she's jealous—of her job." But A. Baird was in no joking mood.

"She's narrow," he said sternly. "That's what's the matter with Deborah. She's so centered on her job she can't see anyone else's. She thinks I'm doing all this work solely in order to help her school—when if she'd use some imagination and try to put herself in my shoes, she'd see the chance it's giving me!"

"How do you mean?" asked Roger, looking a bit bewildered.

"Why," said Baird with an impatient fling of his hand, "there are men in my line all over the country who'd leave home, wives and children for the chance I've blundered onto here! A hospital fully equipped for research, a free hand, an opportunity which comes to one man in a million! But can she see it? Not at all! It's only an annex to her school!"

"Yes," said Roger gravely, "she's in a pretty unnatural state. I think she ought to get married, Baird—" To his friendly and disarming twinkle Baird replied with a rueful smile.

"You do, eh," he growled. "Then tell her to plan her wedding to come before her funeral." As he rose to go, Roger took his hand.

"I'll tell her," he said. "It's sound advice. Good-night, my boy, I wish you luck."

A few moments later he heard in the hall their brief good-nights to each other, and presently Deborah came in. She was not looking quite herself.

"Why are you eyeing me like that?" his daughter asked abruptly.

"Aren't you letting him do a good deal for you?"

Deborah flushed a little.

"Yes, I am. I can't make him stop."

Her father hesitated.

"You could," he said, "if you wanted to. If you were sure," he added slowly, "that you didn't love him—and told him so." He felt a little panic, for he thought he had gone too far. But his daughter only turned away and restlessly moved about the room. At last she came to her father's chair.

"Hadh't you better leave this to me?"

"I had, my dear, I most certainly had. I was all wrong to mention it," he answered very humbly.

From this night on, Baird changed his tack. Although soon busy with the plans for the hospital, to be built at

once, he said little about it to Deborah. Instead, he insisted on taking her off on little evening sprees uptown.

"Do you know what's the matter with both of us?" he said to her one evening. "We've been getting too durned devoted to our jobs and our ideals. You're becoming a regular school marm and I'm getting to be a regular slave to every wretched little babe who takes it into his head to be born. We haven't one redeeming vice."

And again he took up dancing. The first effort which he made, down at Deborah's school one evening, was a failure quite as dismal as his attempts of the previous year. But he did not appear in the least discouraged. He came to the house one Friday night.

"I knew I could learn to dance," he said "in spite of all your taunts and jibes. That little fiasco last Saturday night—"

"Was perfectly awful," Deborah said. "Did not discourage me in the least," he continued severely. "I decided the only trouble with me was that I'm tall and I've got to bend—to learn to bend."

"Tremendously!"

"So I went to a lady professor, and she saw the point at once. Since then I've had five lessons, and I can fox-trot in my sleep. To-morrow is Saturday. Where shall we go?"

"To the theater."

"Good. We'll start with that. But the minute the play is over we'll gallop off to the Plaza Grill—just as the music is in full swing—"

"And we'll dance," she groaned, "for hours. And when I get home, I'll creep into bed so tired and sore in every limb—"

"That you'll sleep late Sunday morning. And a mighty good thing for you, too—if you ask my advice—"

"I don't ask your advice!"

"You're getting it, though," he said doggedly. "If you're still to be a friend of mine we'll dance at the Plaza to-morrow night."

"All right," she conceded grudgingly, "I'll roister. Come and get me. But I'd much prefer when the play is done to come home and have milk and crackers here."

"Deborah," he said cheerfully, "for a radical school reformer you're the most conservative woman I know."

To be Continued

The Trapper.

BY ROBERT G. HODGSON (BOOKLET RIGHTS RESERVED.)

FO: AND COYOTE.

These are the two most difficult animals to trap that the trapper, be he novice or professional, will have to contend with. With a keen sense of sight and hearing and instinctive cunning developed to a degree where it is considered almost supernatural, especially in the case of the latter animal and his close relative the wolf, the trapper will be required to exercise great skill and judgment if he is to meet with any success in taking them.

One of the main considerations is killing the human odor that will be found on traps and other trapping utensils used by the trapper. The traps can be dipped in blood, or placed in an oven until good and warm and then rubbed over with tallow; or buried in barnyard manure for a week or so to kill the human odor. They should then be placed until you want them for trapping somewhere where they will not be touched by human hands. Gloves must also be used in setting the traps, and these gloves should have the palms well coated with blood or tallow and be used for no other purpose. Of course this applies to taking of the animals on land. So many of these preliminaries are not required in using water sets for the simple reason that water destroys all human odor.

A knowledge of the habits and general peculiarities of the animal you are to trap is essential, and this is especially so of the fox and coyote. As one of the best means of finding their habits out is in hunting them, novices will do well to secure their pelts in this manner in conjunction with trapping them. You will not only learn many of their habits, but you will secure more pelts than you will at first by means of traps. You will need at least one hound (several are better of course) and a good gun, a 22 high-power is an excellent rifle for this as it has great power and such a flat

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rapper. SON (BOOKLET RIGHTS RVED.)

COYOTE.

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trajectory, long, sure shots can be made. A 25-20 is also an excellent rifle especially when high power cartridges are used in them.

The foods of these animals are much alike and for natural baits there is nothing superior to poultry, rabbits, partridge, etc.

One of the best sets for fox is known as the water set, and is made along the banks of streams and in springs, where fox frequent. Place about a foot away from the bank, out in the stream or spring a good sized flat stone and have the top of it nicely projecting out of the water. Half way between this stone and the bank set your trap, placing a sod on the pan so that when the trap is set the sod will show out of the water and nothing else, now put a piece of bait on the flat rock, and when Mr. Fox comes along he sees the bait, steps on the pan of the trap to get it without getting his feet wet and is caught.

A set equally as good for fox and coyote is in cow and sheep paths, or other animal's paths if you can find them. In case you cannot find the latter path the former will do as well for these animals are sure to travel them. The best places to make the set are at sharp bends in the path, or where they have to go around close to a rock or tree projecting into the path. Make an excavation at this place, just the size and shape of the trap and have it just deep enough so that when the trap is set it will be on a level with the surface of the path. Put some dry leaves or grass in the bottom of the hole, set your trap and then cover it over; first, with dry grass or leaves and then with dirt. Prior to covering it put a bunch of wool under the pan, as this will serve a two-fold purpose; prevent dirt from getting in and hindering its action, and also preventing the trap from being sprung by rabbits. In covering the trap never use your hands of course; use rather an evergreen bush, as this not only makes a good job, but it also leaves no human odor. When the set is completed take away anything that is not necessary to the set, that you have been handling.

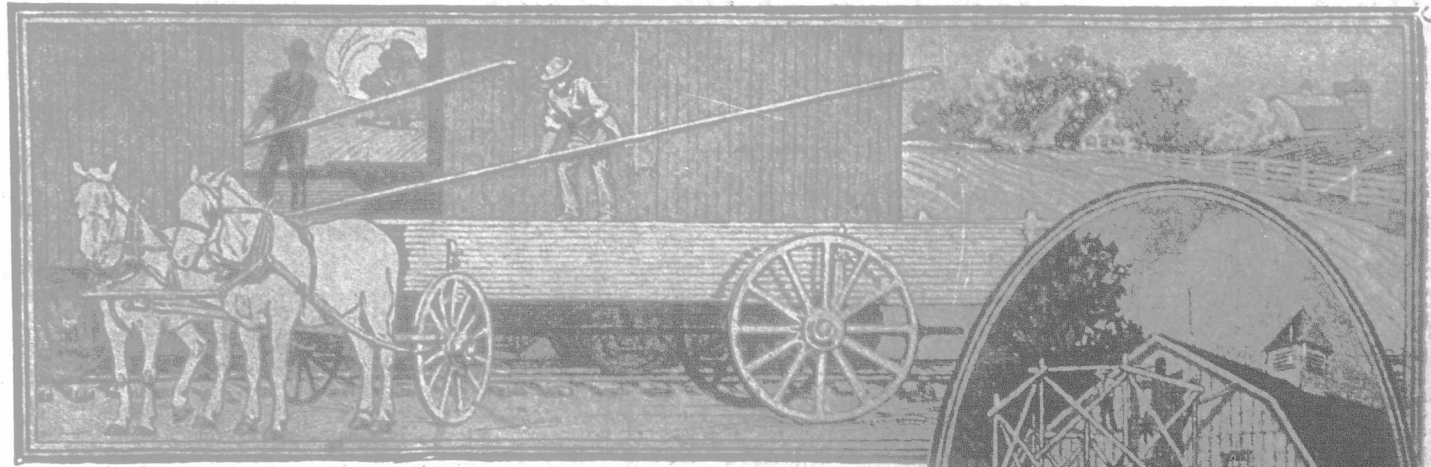
Foxes make their burrows on side hills, sometimes sandy; coyotes often locate their dens in similar places, but more often among rocks, etc. If you can find the dens of either of these animals you have one of the best possible sets. An excavation should be made at the mouth of the den just a little inside the mouth and the trap set here. Then outside the mouth, but close to it, two or three more traps should be set in a similar manner.

What is known as "gang sets" are used a good deal in trapping foxes, coyotes and wolves. Being as they are several traps set at one place, they offer a bigger possibility of an animal being caught, if several visit the set together more than one may be caught; and finally, if only one animal visits the set it is sure to be caught in more than one trap and consequently have smaller chance of escape. One of the best gang sets is to set two or three traps where two trails come together, making excavations and covering the traps carefully, as already described. Small pieces of meat can be scattered over the set.

Another very good set for these animals can be made on the gang principle, where a dead animal such as cattle have died and been taken to the woods. The traps can be set directly the carcass is taken out, or after the wolves have been eating it. Set four or five traps around the carcass, each trap being about a foot back from it.

Still another good set for wolves and coyotes is to set your trap and on top of it burn some dead grass, leaves, etc., in which has been placed some meat scraps. These animals are crazy to dig in a camp fire and in digging after these meat scraps they will plant their paw in the trap. The trap should be covered with the burned ashes only.

Patrick had toured nearly the whole of Ireland with two performing pigs. Then, finding managers no longer willing to book his show, he took to "resting". He had enjoyed his enforced idleness for about ten months when one day he received a telegram from a music-hall, asking him to open there on the following Monday. But luck came too late. He went to the local post-office, and, calling up the manager on the telephone, thus expressed his regret and inability: "Sir, Oi'm sorry Oi can't come; O've aiten the artistes long ago!"—Exchange.



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Examining Soil for Farmers.

The Division of Chemistry is in receipt of a constantly increasing number of samples of cultivated soils for examination and report; in the majority of instances the request is made for a complete chemical analysis, the expectation being, that the results of such an analysis will indicate specifically, accurately and absolutely the desirable fertilizer treatment of the particular soil. Several hundreds of such soil samples have been received annually for several years past, from farmers.

Altogether apart from the fact that it would be quite impossible to undertake an analytical task of such magnitude—for soil analysis involves an immense amount of careful work, and is exceedingly tedious process—it must be pointed out that, as a rule, the analysis of an isolated sample of a soil that has been variously cropped and manured for a number of years is of little practical value. It cannot be expected to yield results which can be used as an accurate and infallible guide towards supplying rationally, and with an expectation of profit the soil's manurial requirements. Agricultural

chemists are unanimous in the opinion that the results of such an analysis are in no degree commensurate with the work involved in obtaining them. Trials on the field itself can alone furnish the desired information; the soil must be appealed to directly for final and conclusive evidence as to the forms and qualities of plant food that will give a profitable response.

It is possible, however, to help a farmer with practical suggestions and advice as to treatment, the application of fertilizers, manuring and cropping from an examination and partial analysis of a cultivated soil, provided the sample is thoroughly representative, has been properly collected and the information respecting cropping, manuring, drainage, etc., etc., is furnished. The Division is, in this matter, as in the past, willing and desirous of assisting the farmer, though it must be pointed out that it is not always possible to take the work in hand immediately on receipt of the sample. The history of the soil is essential to a satisfactory interpretation of the results of the examination, and it is for this reason that, accompanying the printed instructions issued by the Division or the correct collection of the soil sample, are a number of questions relating to the

soil, subsoil, drainage, climatic conditions of the district, etc. It is particularly necessary that these should be carefully and thoroughly answered. A copy of this "form" will be sent on application.

The chemical and physical examinations made for farmers permit us to report on the soil's general character and quality, on its tilth and how the latter may be improved. The desirability or necessity for organic manures, drainage and liming is ascertained and discussed. Suitable crops and rotations are indicated and finally, if desired, suggestions are made as to fertilizers which would in all probability increase the soil's productiveness.

In considering this matter of the value of soil analysis, it is well to bear in mind that the productiveness or fertility of a soil is by no means entirely determined by the percentages of plant food constituents present, nor even by the proportions of these which may be actually available for immediate crop use. The soil, for thrifty and profitable growth, must not only contain a sufficiency of the chemical elements in readily assimilable forms to supply the food requirements of the crop, but it must be of such a mechanical condition or texture as to offer a "fine" seed-bed for germination, and



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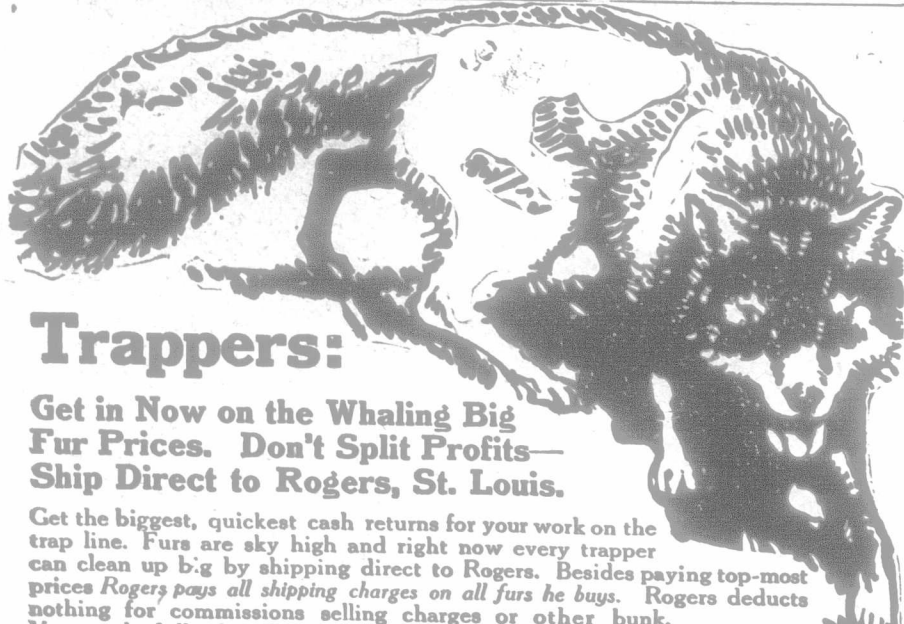


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permit of a ready extension of the root system as growth advances. While allowing free water to pass through and drain away it must have an absorptive capacity to hold over sufficient moisture for the supply of the crop during the periods of drought. This is very important. It must not be too close and compact to exclude air and, at the same time, it must be firm enough and fine enough to give the plant support and retain moisture. Such land is said to be in "good heart," or, otherwise stated, mellow, friable and of favorable tilth. This condition is consequent upon its proportion of sand to clay, and particularly upon its percentage of humus or semi-decayed vegetable matter, derived from manure or crop residues. Humus, in addition to supplying nitrogen by its decay, acts as a sponge and increases the water-holding capacity of the soil. Efficient drainage and presence of lime are further important factors. In a word, a soil in good tilth is, mellow, warm, moist and well aerated.

The first aim of the farmer should be to improve tilth, and the chief means towards that end are thorough soil preparation, including sub-drainage if necessary, periodical applications of farm manures (to supply organic matter and plant food, thus improving the soil, physically and chemically) a proper rotation of crops, which will include one or other of the legumes to add nitrogen economically to the soil and, frequently, the application of lime or ground limestone, to correct sourness and aid in the formation of soluble nitrates upon which the crop feeds. A soil in good tilth is almost invariably a productive one, provided seasonal conditions are favorable.—Frank T. Shutt, Division of Chemistry, Experimental Farms, Ottawa.

Forage Plants of Doubtful Value.

(Experimental Farms Note.)

1. SUDAN GRASS.

Considerable interest has lately been taken in Sudan Grass as a forage plant in Canada. Some who have tried it claim that they have had good results and, consequently, they have expressed favorable opinions on its merits and possible value. Certain seed firms have also begun to advertise it as a valuable grass, no doubt in a bona fide belief that it has a place in Canadian agriculture.

It has come to my notice, however, that the value of the grass has been grossly misrepresented by at least one seed dealer operating in the Province of Quebec. A farmer from Quebec wrote a short time ago asking for information on Sudan Grass. He enclosed a clipping taken from a seedsman's catalogue in which the marvelous qualities of Sudan Grass were described in glowing terms. The description was accompanied by a cut showing the grass growing to a height of some ten to twelve feet at least.

The publication of such a picture is in itself a culpable misrepresentation, but in the particular case referred to it is more than that. It is a clear case of fraudulent advertisement. The cut supposed to show what Sudan Grass can do was published some years ago in an American seed Catalogue but then the grass was not called Sudan Grass, but Teosinthe, which is a Mexican plant closely related to Indian Corn. And to be sure, the same cut has also been used to illustrate the merits of so-called "Man's Wonder," which is a Southern Millet that is perfectly useless in Canada.

Under the circumstances a few words may be said about the real value of Sudan Grass, as borne out by un-biased observations.

Sudan Grass is, as the name indicates, a grass from tropical Africa. As such, it requires considerable heat to develop properly. The United States Department of Agriculture, Bureau of Plant Industry, Washington, D. C., published a few years ago a bulletin on Sudan Grass, telling about the results of experiments obtained by Experimental stations in the United States. These results clearly indicate that Sudan Grass has no particular value except in the most southern parts of the United States. In the northern States its value is not any greater than that of any of the ordinary

millets. It is quite obvious then, that Sudan Grass cannot claim to be of any outstanding value to Canada, and certainly not to any district where the summer heat is less than in the warmest parts of New York State.

When, this summer I visited Washington, D. C., I asked several of the United States Forage Plant Experts for their opinion on the subject, and they all considered it most unlikely that Sudan Grass, at least the varieties now available, would have any outstanding value for Canadian agriculture.

A few experiments conducted in Canada have confirmed this opinion and, under the circumstances, the Sudan Grass must, at present at least, be looked upon as a forage plant of very doubtful value.

Dom. Agrostologist. M. O. MALTE.

Winter Application of Barnyard Manure.

(Experimental Farms Note.)

The winter handling and care of barnyard manure has been a much discussed problem for the reason that there has been considerable difficulty in finding a practical solution. It is all very well to recommend methods that will curtail the loss of valuable plant food constituents, because that is a most important factor requiring every consideration, but, unless the plan can be carried out in a practical way by the farmer with the remnants of labor left to him, just so long will such suggestions be unheeded.

The pros and cons of different methods of conservation have been all threshed out, including storing in box-stalls and manure pits or sheds; piling in large heaps in yard and field; hauling to the field and distributing in small piles and spreading on the field direct from the stable. Each has one or more advantages but when considered from a present day practical standpoint some will not "pass muster." (1) The box-stall and manure pit method is a most desirable practice since there is a minimum loss of valuable plant food constituents. (2) Piling in yard and field hardly meets this requirement since the piles leach away the best of their valuable plant food through a winter's wasting. (3) The distribution of manure in small heaps has an advantage over methods one and two since hauling can be done during winter when the cost of this operation is much less than at a busy season of the year and facilitates the work being done on time. The chief disadvantage is that there is an uneven distribution of fertility in the soil hence non-uniform crop since, invariably, the soil where the heap had been is richer in the more soluble elements of plant food. (4) The last but by no means the least satisfactory of the methods under discussion is that of spreading direct from the stable to the land. The outstanding advantages which this method has over all others are (a) That the labor required in handling is reduced to a minimum. (b) That the sooner manure is spread on the land after being made the greater is its value. There are, however, limitations of conditions which will permit of this practice. Preferably the land should be fairly level and, if hilly, should not be frozen when application is made. Low-lying land, too, subject to flooding is an undesirable location for winter spreading.

Direct spreading has been adopted on many progressive farms and is worthy of consideration on many others. It is suggested, therefore, that the manure sleigh be pulled under the litter-car and the "direct-to-the-land system" given a trial this winter. By spring an experiment will have become a custom and one only appreciated to the full when the struggle to maintain production begins, especially by those farmers who must take up the belt another notch to go ahead upon their second or third wind while the rest of humanity is squabbling whether it shall work eight hours or not at all.

W. L. GRAHAM.

Assistant Dominion Field Husbandman.

Marten and Fisher Trapping.

BY R. G. HODGSON (BOOKLET RIGHTS RESERVED).

The marten and fisher are two of the most valuable animals of the weasel family. Both resemble the mink in color and general habits, but the marten is considerably larger than the mink, and the fisher larger than the marten.

While the mink can thrive as a result of, and live near, civilization, marten and fisher cannot, for they are animals of the cold, snowy north, and as rapidly as civilization advances into their domain they move further back into the wilds.

A species of the marten, in Europe, is known as the sable. This fur is one of the most valuable in the world and one of the most beautiful. In former times it was monopolized by royalty but to-day royalty can no longer claim it as their own; at the same time no ordinary people can afford to buy sable, only the wealthy class. It is said that around Hudson Bay, in certain parts, there is to be found a species of marten so like the sable of Europe that it is almost impossible to identify one from the other. Whether or not this is right we do not know for certain. Even at that, however, the fur of the marten is very valuable and will doubtless always be so, especially the northern furs, for they are very dark in color and rich in texture.

The marten, in size is about the size of a house cat, with short legs and small feet, pointed short ears that are white inside. The tail is fairly long, thick and bushy. The color varies from a yellowish brown, to a rich dark brown, the darker furs being by far the most valuable.

They range as I said over that part of the country that is heavily wooded and in mountainous regions.

Martens are expert tree climbers, and secure part of their food by chasing squirrels from one tree to another, and catching them. Their homes are usually in hollow trees or logs, but sometimes in burrows.

The marten's running season is in March, when they are most easily trapped, there being from three to seven young in a litter.

For bait, use squirrel, rabbits and partridge; some birds so often recommended I have found to be almost worthless.

Marten are not hard to trap, neither are they hard to hold. The No. 1 trap is commonly used to take them but it is advisable to use something a trifle larger, say the No. 1 Giant, 9 1/2 Victor, 9 1/2 Jump.

The fisher is considerably larger than the marten and while like it in general characteristics, it is much harder to trap and to hold.

The fisher is sometimes known as the "black cat" owing to its close resemblance in color to black, and the cat in form. In reality, however, no fisher is black even though their color often runs to a very dark, almost black. There are only a few animals that can be classed as absolutely black and this includes the bear and the skunk.

Fisher, like marten, are inhabitants of the cold, snowy, silent places, and will not remain long in the vicinity of human habitations. They are found chiefly in northern sections of Canada, Alaska and Newfoundland.

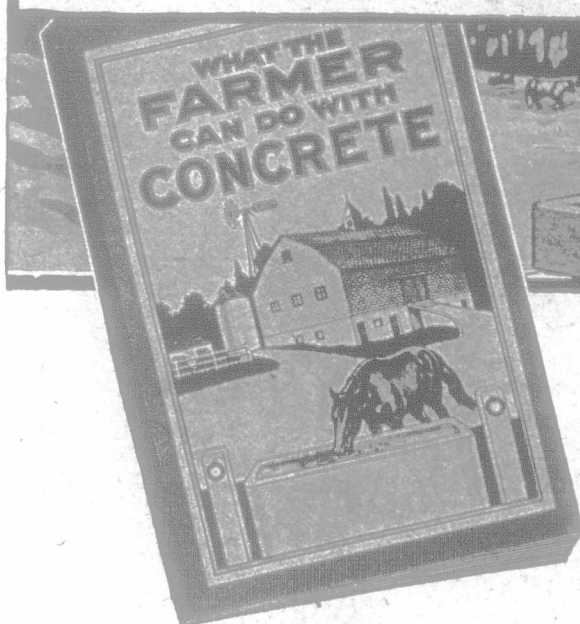
They are good climbers, often chasing marten through the trees and capturing them. They are equally good on land and have even been known to catch fish by lying on a log spanning a stream and scooping them out on shore with their paws as the fish lie in shallow water.

The northern trapper often considers the fisher as much of a nuisance as the proverbial wolverine, otherwise known as the glutton, skunk bear, Indian devil and many other names thoughtful trappers call them when they find their traps robbed of their catch, or the catch destroyed, or the traps sprung and the bait stolen. Of course not all fishers are such predatory animals, but odd ones will begin on a trapper's line and wreak havoc in the manner related.

The trap to be used for them should be a good one for they are very powerful and never stop fighting the trap so long as they are alive. The trap sizes given for marten are equally good for fisher; nothing larger than the No. 2 or one of the foregoing makes is required. I would recommend that the balance pole be used in conjunction with all fisher and marten sets, not only to prevent the

CONCRETE ON THE FARM

For Healthy Animals and Healthy Profits—



obtain and use this free book

WHICH is your choice—sloppy, leaky troughs, or clean, durable, sanitary troughs of concrete? Which is more likely to keep your horses and cattle in health: the trough that acquires a stagnant pool around it, or the clean, permanent concrete trough that can never decay?

Disease in your animals is encouraged by impure water and dirty buildings. Health in your stock is insured by having all their surroundings as sanitary as concrete alone

can make them. Let us help you to improve your farm and add to your profits, by sending you a free copy of "What the Farmer Can Do With Concrete."

It tells in plain, simple terms how to make, not only drinking troughs, but also walks, foundations, feeding floors, silos, milk houses, tanks, and many other farm utilities in which cleanliness and durability are required.

Canada Cement Company, Limited
416 Herald Building, Montreal
Sales offices at
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CANADA CEMENT
CONCRETE
FOR PERMANENCE

animal from escaping, but to prevent other animals from tearing the hide.

The balance pole is simply a long pole of good weight fastened by means of a rope to a tree. The trap is fastened to one end and is held down to the ground by means of a wooden peg. The opposite end should be the heavier. When the animal is caught it loosens the end of the pole and the other end being the heavier the animal is thrown up into the air and held there where it cannot escape nor become prey to other animals.

One of the best sets for either of these animals, before the snow has become too deep, is the following set:

Find a hollow log near where you know these animals travel. In the log put the intestines of a hen, or partridge, and set a trap at each end. The feathers of the hen or partridge should be used to set the trap in, some being placed under the trap to keep it from freezing and others being used to cover it up.

The pen method is used almost to the exclusion of others for these two animals. It is made by securing blocks, 18 inches long of hardwood and splitting into slabs about two inches thick. Against the trunk of a tree build your pen about two feet long, one and one-half high and the same wide. The end against the tree will need no other end, as the tree serves for this purpose; the end facing the south should be left open. Roof the pen over with bark, etc.; put your bait, which may be a rabbit or partridge in the back of pen and set your trap just inside the entrance.

The teacher had written 92.7 on the blackboard, and to show the effect of multiplying by ten rubbed out the decimal point. She then turned to the class and said!

"Now, Mary, where is the decimal point?"
"On the duster, miss," replied Mary, without hesitation.

Flax Seed For Free Distribution.

This season, for the first time, samples of flax seed are being distributed free to farmers, from the Cereal Division of the Experimental Farm at Ottawa. The samples contain about two pounds of seed, enough to sow about one-thirtieth of an acre. The quantity of fibre flax seed available this season is very small and enough requests have already been received to dispose of it all; but applications for samples of flax for the production of seed can be accepted for some little time yet though the number will necessarily be limited. These samples will be reserved chiefly for farmers in districts where the cultivation of flax for seed has been found profitable. The varieties available are ordinary commercial Premost, one of the most popular sorts in Western Canada, and a new selected type called Novelty which seems superior to Premost in productiveness but is not quite so attractive in appearance. These free samples furnish an opportunity for the farmer to start the growing of a kind of flax superior to the ordinary stock usually sown. If carefully propagated, the second crop will yield enough seed to sow quite a large field. Good, pure flax seed is usually very hard to obtain, and the best plan is for each farmer to produce his own.

The variety of flax for fibre purposes which is being distributed is a new, selected strain named Longstem which has already made a name for itself as a singularly fine variety. Samples are not being sent this season to any new districts where the success of flax as a fibre plant is doubtful or where the industry of fibre production is not already established. It is expected that a much larger stock of Longstem will be available for distribution another year.—Experimental Farms Note.

1869 — 600 Branches — 1919

The Royal Bank of Canada



Farmers' Sons and Daughters have great opportunities to-day.

They never had better chances to make and to save money. Now is the time to lay the foundation of future prosperity by cultivating the habit of thrift.

There is a Savings Department at every branch of this bank. The staff will be glad to show you how to make the first deposit.

CAPITAL AND RESERVES \$33,000,000
TOTAL RESOURCES - \$470,000,000

When writing advertisers please mention Advocate.

Application of Manure.

(Farms Note.)

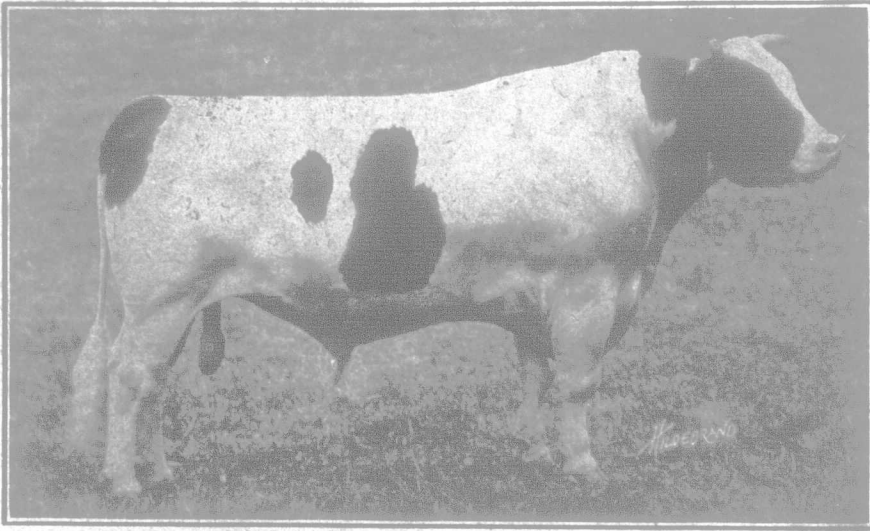
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V. L. GRAHAM.
Held Husbandman.

ANNANDALE HOLSTEINS



**80
HEAD**

This Great Herd will be Dispersed at
Annandale Farm, Tillsonburg, Ont.

**80
HEAD**

Thursday, January 22nd

Included will be that greatest of all Canadian sires, Prince Colanthus Abbeckerk, with 20 of his daughters and 5 of his sons.

There will be 14 daughters of Funderne Valdessa Ormsby Fayne, whose dam is a 23-lb. 4-year-old daughter of the first 41-lb. cow—3 daughters of Sir Midnight Comet Ormsby, a son of a 34-lb. 4-year-old.

Three sisters of Magadora of Avondale, the 100-lb. cow who recently sold for \$1,000. Oakhurst Butter Girl, with 18½-lb. at 2-year-old, and her 5 daughters—and many winners at the big fairs.

If you want to get started in the best Holstein blood lines, plan to attend this sale—and buy.

Write us for particulars about railway connections.
Tillsonburg is on all lines.

W. C. PROUSE :: Tillsonburg, Ont.

COL. PERRY, Syracuse, N.Y., Auctioneer

POULTRY AND EGGS



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

BRED-TO-LAY BARRED ROCKS—COCKERELS three dollars and pullets two-fifty. A. Donaghy, Colborne, Ont.

BARRED ROCK SPECIALIST, TWENTY years—"Beauty and Utility." Choice cockerels \$3.50. Earl Bedal, Brighton, Ont.

CHOICE R.C. BUFF ORPINGTON COCKERELS, from imported stock, four each. Also two M.B. Toms, nine each. Louis Clark, Kippen, Ont.

FOR SALE—MAMMOTH BRONZE TURKEYS, bred from W. Bell's stock. Duncan Black, Glanworth, R. No. 2.

HUSKY BARRED PLYMOUTH ROCK COCKERELS, bred from yearly trap-nested stock. Mating list records and prices free. W. J. Johnston, Drawer 246, Meaford, Ont.

I HAVE STOCK IN PARTRIDGE WYANDOTTES, Barred Rocks, Single-comb Brown Leghorns, Rose-comb White Leghorns and White Orpingtons. Cheap. Robert Houser, Canboro, Ont.

INDIAN RUNNER, MUSCOVEY, WILD Mallard ducks, White Guineas, Barred Rock, Rhode Island Red cockerels. Mrs. John Annesser, Tilbury, Ont.

MAMMOTH BRONZE TURKEYS—PRIZE-WINNERS, Western Fair. Angus Beatty, R. 1, Wilton Grove, Ont.

PEDIGREED COCKERELS, BARRED ROCKS, \$5.00, from 260 and 254-egg hens. Ten pullets laid 2,034 eggs in eleven months. F. Coldham, Box 12, Kingston, Ont.

Clark's Buff Orpingtons

Exhibition and layers combined. Best general-purpose fowl. 10 yearling cocks \$5 to \$10, 50 hens \$3 to \$5, 50 cockerels \$4 to \$10, 50 pullets \$3 to \$5. Order a breeding pen properly mated. O.A.C. Barred Rocks from College best layers. 25 cockerels \$3 to \$5, 25 hens \$2.50, 50 pullets \$2.50 to \$3.

J. W. CLARK, Cedar Row Farm
Catsville Ontario

FOR SALE Barred Rock Cockerels

The O.A.C. bred-to-lay strain. Finely barred, single comb, rich yellow legs; sisters laid at 5 months. Prices—One \$4, two \$7, three \$10.

A. H. CROZIER
Meadowdale Ontario

Crate-Fattened Poultry

We are open for shipments of crate-fattened poultry. Highest market prices paid, according to quality.

HENRY GATEHOUSE & SON

Fish, Oysters, Game, Poultry, Eggs and Vegetables.

344-350 West Dorchester Street, Montreal

WANTED Crate Fed Chickens

Dressed

Also

Large Hens Alive or Dressed

Write for price list.

WALLER'S 702 Spadina Ave.
TORONTO

POULTRY WANTED

We have an unlimited demand for good poultry. Special prices for crate fattened chickens. It will pay you to sell to

C. A. MANN & CO. 78 King St.
London, Ontario.

The Grind is in the Grit.

EDITOR "THE FARMER'S ADVOCATE":

Did you ever stop to think what it is that sharpens your axe when you apply it to the grindstone? That it isn't the stone you may prove to your own satisfaction by rubbing the axe on a boulder or "nigger-head." Now a grindstone is a peculiar geological rock-formation laid down by Nature in that wise Old Dame's marvellous convolutions tossed about during the earth's make-up.

There are some hard things in Nature, as for example, the diamond, but the next hardest thing, perhaps, is sand. And, the Maker of the Universe has seen fit to press together sand-particles with such enormous pressure as to form stone, and we call it sandstone. There are various textures and grades of hardness in sandstone. During the process of grinding an axe, for instance, some of these particles of grit are abraded, and by having a fair supply of water on the grindstone these particles of grit are held there, and that it is that does the sharpening.

Every farmer needs a good grindstone to sharpen knives and tools. It saves him money; saves him time; saves his temper—what is more annoying than a dull tool?

Now there are different kinds of grindstones. Some are very coarse. A stone of this type would do to smooth rough iron-work. Others are fine. A stone of such texture will whet your razor. Then there is hard and soft sandstone, and grindstones are made of every kind so that you can be fitted out with a suitable stone no matter what your grinding requirements are.

When I was a youngster I just used to dread knife-sharpening and axe-grinding time, because it always fell to the lot of the youngsters to turn the pesky, old grindstone, and that was no sport with a heavy man lying on the knife or axe The grindstones didn't run so easy as they do now.

When you have chosen your stone the next thing is to have it properly mounted. If you have a windmill or engine for power, get a power stone. If you haven't then harness up shank's horses and you can turn your own grindstone and I'll wager you'll not bring to bear on it such a weight as you did when the laddies turned for you.

The stone we have is about 24 inches in diameter and 3 inches thick, mounted in a neat, rigid frame, with a tread and adjustable seat. The stone weighs 55 or 60 lbs. maybe, and is mounted on a ball-bearing shaft so that it is easy to run. It has a neat trough to hold the water, and an apron to save the clothes from getting spattered. A plug in the bottom of the trough provides for emptying it. It has a crank too, that runs on ball-bearings to be used on occasion. A good grindstone with ordinary wear and tear ought to last a life-time. It will if you do this: 1. Keep it clean. 2. Keep it under cover. 3. Drain off water when not in use; water softens stone. 4. Keep plenty of water on the stone. This is necessary to hold the grit in place. They do the grinding. 5. Run the grindstone only just fast enough to keep the water following the stone. 6. Keep all bolts tight. 7.

Keep graphite on the ball-bearings. 8. Give it a coat of paint when needed.

F. M. CHRISTIANSON.

Lincoln Co., Ont.

Gossip.

In our mention of the winners in Leicesters at the Chicago International we gave Mr. Lee credit for having the first and second prize yearling Leicester wethers. Mr. Snell writes that he had the first and second yearling wethers, and also the champion Leicester. Among his other winnings were a first and second wether lamb; first for three wether lambs; first and second ram one year and under two; first and third for ram under one year; first and second for ewe one year and under two; and first and third for ewe lamb under one year.

A. A. Colwill, of Newcastle, in changing his advertisement writes: "there is a demand for Tamworth breeding stock and for Shorthorns. The bulls I am offering are out of excellent dual-purpose cows and sired by Primrose Duke, whose dam was an excellent milker. Some of the females which I am offering are good buying." Mr. Colwill is also a breeder of Clydesdales, and has a pair of registered three-year-old colts for sale at the present time.

Coming Events.

Jan. 8-9, 1920.—Eastern Ontario Dairy-men's Convention, Brockville.

January 13-16, 1920.—Corn Show, Chatham, Ont.

Jan. 14-15, 1920.—Western Ontario Dairy-men's Convention, London.

January 13-16.—Ottawa Winter Fair, Ottawa.

Jan. 14-15.—Ontario Vegetable Growers' Association, annual meeting and convention, Ottawa.

Feb. 2.—Ontario Plowmen's Association meeting, Toronto.

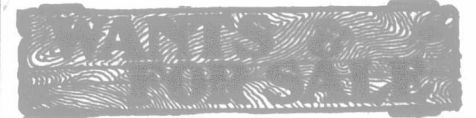
Feb. 2-6.—Breeders' meeting, Toronto.

Feb. 3 and 4.—Quebec Breeders' meeting, Quebec.

Feb. 3 and 4.—Fairs and Exhibitions' Convention, Toronto.

Feb. 5 and 6.—Ontario Horticultural Convention, Toronto.

The choice consignment of Duroc Jersey hogs, advertised in another column of this issue, by the Ontario Duroc Jersey Association at the Ontario Corn Show, Chatham, January 15th, should deserve favorable attention from all farmers interested in Duroc hogs. Durocs have made great advancement in the past few years, and are winning their way by their feed-lot performances. A glance at the catalogue shows 27 bred sows, five service boars and six pairs of fall pigs of both sexes being offered. The sows have been bred to the best boars of the breed in Ontario, and are guaranteed safe in pig. The service boars are a choice lot and should be readily snapped up, while the fall pigs are an array of very promising youngsters. Mail bids are to be received by a representative of the Duroc Bulletin at the Sanita Hotel, Chatham, or the auctioneer. Write J. W. Noble, Sec. of the Association, at Essex, for a catalogue.



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock. TERMS—Four cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 60 cents.

ESTABLISHED MILK MANUFACTURING Company desire suitable community for condensed and powdered milk plant. Must be good milk district with good railway facilities. Would prefer site with good building and plenty water. Full particulars must be given as to present supply of dairy industries. The Malcolm Condensing Co., Ltd., St. George, Ont.

MAN WANTS WORK ON FARM WHERE milk is chief production. Good, clean dry milker. Can feed and care for milk cows. Good wages and comfortable home. F. Wilson, 49 Arundel Ave., Toronto.

WANT TO HEAR FROM PARTY HAVING farm for sale. Give particulars and lowest price. John J. Black, Advocate St., Chippewa Falls, Wis.

WANTED—SHEEP COLLIE PUP. APPLY E. Rutherford, Lucknow, R.R. No. 2, Ont.

WANTED—FIRST-CLASS STABLE MAN TO care for a Jersey herd. Must be active and willing, kind to cows at all times; assist with milking machine. Wages \$650, with board and washing. Also bright boy, 16 or 17 years old, as assistant in barn and dairy. Wages \$500. Kindly state age and experience in first letter. R. & A. H. Baird, R.R. 1, New Hamburg, Ont.

SEEDS

We are in the market for Alsike, Red Timothy and Sweet Clover, also all grain of good sample. Send samples, and we will quote our best price f.o.b. your station.

GEO. KEITH & SONS
Seed Merchants Since 1866
124 King St. East Toronto

SEED OATS—A limited supply of Im- proved Banner Seed Oats for sale. Write for particulars.

B. J. WAECHTER, Gold Medal Farm
R.R. No. 3 Walkerton, Ontario

City View Ayrshires—We are offering Charly of City View. A very large cow of splendid quality; 4 years old, just fresh; color pure white. Young bulls from one week to 14 months, and other cows.
James Begg & Son, St. Thomas, Ont.

AUCTION SALE OF

Scotch and Scotch Topped Shorthorns and Reg'd Leicester Sheep and good Farm Implements
3 miles east of Burlington Junction

On Monday, 12th of January, 1920

6 Granddaughters of Right Sort. 2 cows, one a First prize animal bred to a son of Cedric Imp. 107953. Write for list.

William Williamson, Freeman, Ont.

Sale Dates.

Jan. 8, 1920.—North & South Bruce Shorthorn Breeders' Sale, Paisley, Ont. N. C. McKay, Walkerton, Ont. Sec'y.

Jan. 15, 1920.—Ontario Duroc Jersey Breeders' Sale, Chatham, Ont. Jno. Noble, Essex, Sec'y.

Jan. 22, 1920.—W. C. Prouse, Tillsonburg, Ont.—Holsteins.

Feb. 4, 1920.—Miller & Dryden.—Shorthorns.

Feb. 18, 1920.—I. N. Howe, R. 2, Mossley, Ont.—Holsteins.

March 3, 1920.—Guelph Fat Stock Club, Guelph, Ont. J. M. Duff, Sec'y.

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**THE
MOLSONS
BANK**

Incorporated in 1855
Capital and Reserve \$9,000,000
Over 120 Branches

**Saving Builds Character
START TO SAVE**

The easiest method of saving is by depositing a certain portion of your earnings regularly in THE MOLSONS BANK.

Small accounts receive the same attention as larger ones—efficient courteous service to all.

**Get Bricks Now
for Spring Building**

You will save money by hauling in winter, and will be sure of your bricks. Shortage of bricks, coupled with big demand, may mean disappointment if you delay.

**Interprovincial
Pressed Brick**

comes in red, buff and fire-flashed colors.
Send for free colored Folder.

**Interprovincial Brick Company of
Canada, Limited**
30 Toronto St. Toronto

Honest Grading



"The Old Reliable" EST. 1877

Prompt Remittances. We Pay Express Charges and charge no Commission on Fur Shipments.

**RAW FURS
AND HIDES
Wanted—All Kinds**

Write for Market Report, Price List and Shipping Tags.

**McMILLAN FUR &
WOOL COMPANY**
277-9 Rupert St. WINNIPEG

Get More Eggs—Save Feed

Egg prices are high and going sky-high—higher than ever before. Those who know how and what to feed to get the most eggs all winter and spring will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed—loss and disappointment. Prof. T. E. Quisenberry, Director-in-Chief of the great American Egg-laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." He will mail this bulletin to readers of "The Farmer's Advocate," London, who will write him without delay. Send no money. Over a thousand hens under Quisenberry's direction laid from 200 to 304 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him to-day for his free bulletin, addressing care of American Poultry School, Dept. 701, Kansas City, Mo.

Two Sides to the Pork Industry.

J. S. McLean, of the Harris Abattoir Company, put a new factor before the Canadian public in his address at the directors' luncheon of the Winter Fair, Guelph. He showed how essentially the two halves of the live-stock industry were connected, that of raising the meat animal on the farm, and that of the marketing and preparation of the meat for the consumer. These two factors were intimately dependent one on the other, and, speaking as a farmer who had recently returned to Canada after studying the condition in Great Britain and Europe for six months, he urged the farmers to maintain and even to extend as largely as possible the production of live stock, keeping their eyes on the long future. Packers through their specialized business had particular opportunities of learning the trend of the markets, and it was to spread this knowledge which was one of the objects for which the Industrial and Development Council of Canadian Meat Packers was recently formed.

Mr. McLean remarked on the complaints made of late years with regard to the manner in which the packing houses had performed their duty of handling the new product on its way to the consumer, a suggestion of such complaints having occurred in the papers no later than that morning. With regard to the matter most complained of, the price charged for handling the product, he said: "The packing house takes live animals, converts them to meat, and sells meat to the public. I think I may state that, during the past five or six years, the packing-house industry in Canada has taken less than one-quarter of a cent a pound on the product it has sold. The average consumption of meat per capita in Canada is 160 pounds per year; the packing house takes, therefore, from each consumer the sum of forty cents per annum. It seems to me that if we seek an explanation of the high cost of living, it is rather useless to attack the packing houses."

Turning to the relations of his industry with producers, the speaker declared the duty of the packing house to be two-fold; the affording of a market for animals at all times, and the payment for those animals of the highest price possible in the state of the world's market. In each of these avenues, he thought, the packing house has done its duty, and he referred particularly to the conditions prevailing in the hog markets in recent years.

"Through the past five years," he said, "the Canadian packer has paid to the Canadian farmer for his hogs at least two cents more per pound, on the average, than was paid to the farmer of the United States. How does that work out? There are marketed in Canada each year about 2,500,000 hogs of an average weight of 200 pounds. For these, then, the farmers got a premium over the return received by the United States farmers for the same volume of product, of \$10,000,000. This has been reflected in the position in the export trade of Canadian bacon. In Great Britain Canadian bacon leads all other countries in volume, reputation and price, simply because the Canadian farmer raises the type of hog that the British consumer desires."

Mr. McLean declared that he spoke as a farmer and not alone as a packer in prophesying that, for the future, the greatest avenue of profit for any farmer would be the avenue of live-stock production. There was surely every reason for "staying in" live stock, despite the almost certain fact of probable immediate losses on individual sales.

Mr. McLean then stated that he had recently spent six months in Europe studying the conditions there, and he assured farmers from his own observations, that there was a market for every ounce of meat that they could produce for some years. "The world conditions are artificial," he said. "Feeding grain prices are fixed because wheat prices are fixed, but the selling price of hogs is not fixed. The world will first regain normality of production in cereals; the return to normal live-stock production, particularly in Europe, will be a matter of many years. Grain will be, in a few years, normal, while live stock will be for many years abnormal; therefore, for many years to come it will pay the farmers of the world to market their grains through live stock."

**The Royal Bank of Canada
Makes Gain of Over Hundred
Millions in Its Total Assets**

At the End of Golden Jubilee Year Bank Reports Assets of \$533,000,000, An Increase During the Year of Over \$100,000,000—Deposits Show Growth of Over Eighty-five Millions, and Now Amount to \$419,121,399—Net Profits For Year Are \$3,423,264, a Gain of Approximately \$600,000—Advantages of Complete Organization Reflected in Year's Business—Capital and Reserve Both Now Stand at \$17,000,000.

The Royal Bank of Canada is out with an Annual Statement that will, in many respects, be regarded as the most notable it has ever forwarded to its shareholders.

At a time when all Canadian banks are reporting important readjustments because of special financing undertaken on behalf of the Government during the war period, the Royal Bank has not only forged steadily ahead, but is even able to report a gain in assets for the twelve months of well over One Hundred Million Dollars.

With this achievement the Royal is able to announce to its shareholders that at the close of its Golden Jubilee year its assets are away beyond the \$500,000,000 mark.

Under the conditions that have prevailed during the past year this achievement is nothing short of remarkable and must be attributed to the business producing organization which The Royal Bank has built up with its system of over 600 branches. To shareholders there will come a still more gratifying realization of what may be expected during the next few years.

chiefly in the following items: Balances due by banks and banking correspondents elsewhere than in Canada, \$18,101,373, as against \$10,391,516; Dominion and Provincial Government Securities \$45,323,598, as against \$36,599,976; Canadian Municipal Securities and British, Foreign and Colonial Public Securities other than Canadian, \$33,400,542, as against \$29,620,885; Call Loans in Canada, \$16,435,614, compared with \$10,067,481; Call Loans elsewhere than in Canada, \$33,812,751, compared with \$24,374,191.

Growth of Assets.

An examination of the general statement of assets and liabilities shows that total assets now stand at \$533,647,084, being up from \$427,512,982 at the end of the last fiscal year. Of this amount liquid assets total \$273,908,862, against \$224,982,088, while loans and discounts have gained to \$233,834,879, as compared with \$183,748,392 a year ago.

The benefit the Royal Bank's branch system has been in building up a close relationship with the public is reflected by the very large gains in deposits. Total deposits now stand at \$419,121,399, as compared with \$332,591,717. Of this amount deposits bearing interest amount to \$259,465,169, up from \$197,348,439, and deposits not bearing interest \$159,656,229, as compared with \$135,243,278.

A closer study of liquid assets indicates a gain of approximately \$50,000,000,

Big Gain in Earnings.

The Profit and Loss Account this year makes a most interesting exhibit. Following the issue of new capital made, the capital of the Bank now stands at \$17,000,000, and the Reserve Fund at \$17,000,000. With the larger resources at its disposal there has been a considerable gain in net profits and for the twelve months' period these amounted to \$3,423,264, equal to 10.87% on the average capital and reserve for the year. This shows a gain of approximately \$600,000, as compared with the previous year, when total profits were reported at \$2,809,846.

With the total profits added to the balance of Profit and Loss brought forward, the amount available for distribution this year is \$3,959,021. Of this amount \$1,866,196 was paid in regular dividends, \$340,000 as a bonus of 2% to shareholders to mark the Fiftieth Anniversary of the Bank, \$100,000 transferred to Officers' Pension Fund, \$400,000 written off Bank Premises Account, and \$156,406 War Tax on Bank Note Circulation, leaving to be carried forward to Profit and Loss \$1,096,418, as compared with \$535,757 at the end of the previous year.

An interesting indication of the tremendous growth the Royal has had during the past few years is afforded by a comparison of some of the principal accounts for 1919 with those of 1918 and 1910—

	1919	1918	1910
Total Assets.....	\$533,647,084	\$427,512,982	\$92,510,346
Total Liquid Assets.....	273,908,862	224,982,088	37,226,670
Current Loans and Discounts.....	143,259,518	119,184,715	52,471,208
Total Deposits.....	419,121,399	332,591,717	72,079,607
Deposits bearing interest.....	259,465,169	197,348,439	51,709,181
Deposits not bearing interest.....	159,656,229	135,243,278	19,737,130
Capital.....	17,000,000	14,000,000	6,200,000
Reserve Fund.....	17,000,000	15,000,000	7,000,000
Profits for the year.....	3,423,264	2,809,846	951,336
Balance carried forward.....	1,096,418	535,757	243,230

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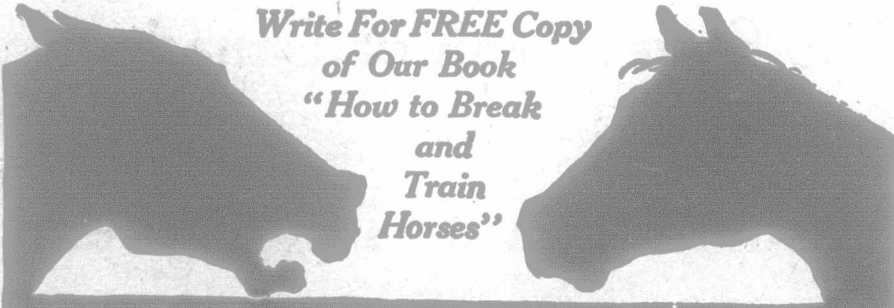
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**\$125 PROFIT ON
ONE HORSE**

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Charles H. Mackley, of Unadilla, New York, bought a vicious, kicking and biting mare for \$50. The horse was a mean one and no mistake. Impossible to drive, and the mere sight of any one transformed the horse into a regular "bucking broncho."

It looked to Mr. Mackley as though this terror wouldn't even earn her feed. About this time Mr. Mackley was introduced to a student of Professor Beery, the famous American horseman. And at this friend's suggestion, Mr. Mackley wrote to Professor Beery for the Beery Course in Horse Breaking a little spare-time attention and then applied his knowledge to correcting his vicious mare. In 10 days, thru the application of Beery Methods, this \$50 "unbreakable broncho" was transformed into a patient, obedient and faithful plugger, which its owner later sold for \$175.

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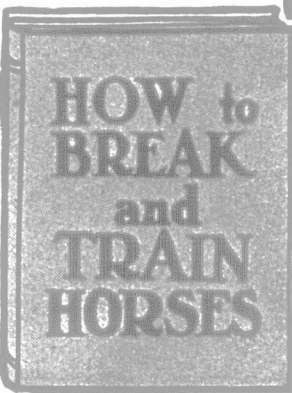
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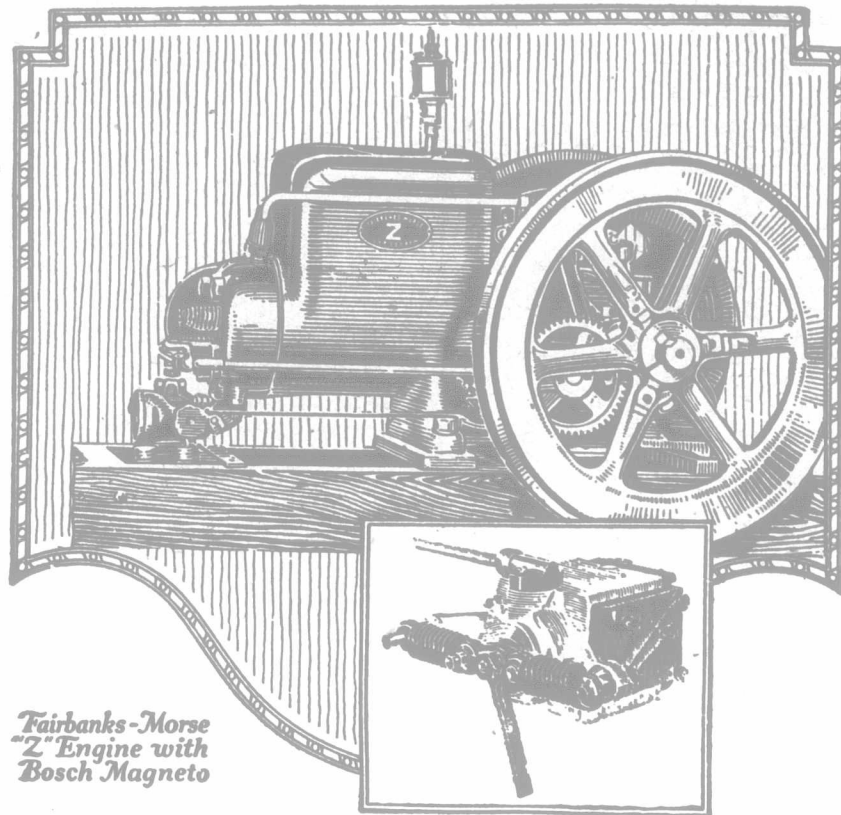
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Gossip.

Westside Ayrshires.

Probably in no small herd of dairy cattle could so many high class animals be found as in the Westside herd owned by David A. Ashworth of Denfield, Ont., in Middlesex Co. Mention of some of the individuals of the herd might be of interest to some of our readers, at the head of the herd is St. Nicholas of Orkney—57087—whose dam, Brighton Brae Blossom 4th gave as a three-year-old 11,140 lbs. milk and 394 lbs. butter-fat, while his sire's dam is the renowned cow Milkmaid of Orkney, who holds an immature record of 38,755 lbs. milk and 1,477 lbs. butter-fat. If nothing happens to this cow she is a likely champion for life production. Some of the females of the herd are Lady May 2nd—42185—two-year-old record 8,076 lbs. milk and 303 lbs. fat—mature record 12,107 lbs. milk and 435 lbs. butter-fat, this is a typey cow of good size weighing over 1,200 lbs. Two of her daughters also grace the stables, one a two-year-old sired by Donald Dinnie, a son of Whitnev's Lassie, whose record is 16,081 lbs. milk and 659 lbs. fat, the other a yearling is from Fairvue Milkman whose dam Milkmaid 7th has record of 16,696 lbs. milk and 729 lbs. fat. Her calf this year was a bull and went to head the herd of Samuel G. Fischer of Bruce Mines, Ont. A recent acquisition to the herd is Butter Alice—37203—she is also a large cow and holding a private record of over 11,000 lbs. milk and should prove



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a valuable breeding female, her ten-months-old son is for sale at present and he like his dam is large, of fashionable color and type and should make a good herd header for someone.

There are several younger cows of which we might write but they are running in R.O.P. test, are doing well and we will tell of them later. Among recent sales were a four-year-old cow and her heifer calf to P. A. Manning of Toronto, a yearling bull to J. G. Stockford, Moncton, N. B., and another yearling bull to Malcolm D. McGillivray, Glen Sandfield, Ont. There is also maintained at Westside Farm a fine herd of Yorkshire swine and flock of Southdown sheep and if our readers are in need of breeding stock of any of the above breeds they would do well to write Mr. Ashworth who will be pleased to answer their enquiries.

**Questions and Answers.
Miscellaneous.**

Bruise.

What is the cause of a large hard swelling between the front legs of a horse? What treatment would you advise? R. M.

Ans.—Without an examination of the swelling it is rather difficult to definitely diagnose the trouble. It is quite possible though that it is due to a bruise, possibly from jamming against the manger. Bathe frequently with water as hot as can be stood, and apply a liniment of 4 drams each of iodine and iodide of potassium and 4 ounces each of alcohol and glycerine.

Questions and Answers. Miscellaneous.

Material For Wall.

How many yards of gravel and barrels of cement will be required to build a wall for a barn 40 by 60 feet; the wall to be 12 inches thick and 8 feet high? Should it be reinforced? J. M.

Ans.—It will require about 60 cubic yards of gravel and 50 barrels of cement, if mixed in the proportion of one to eight. Reinforcing material might be used at the corners. The walls should be set on a footing about 20 inches wide, and possibly 1 1/2 feet or 2 feet deep, depending on the nature of the soil. This will increase the amount of cement and gravel required by about 10 loads.

Line Fencing.

I own a quarter section of land in an unorganized township, Kenora District and have cattle and my half of the line fenced. My neighbor on the other quarter has no cattle but some crop and no fence. Will I be responsible for damages if my cattle destroys his crops or will I have to build all the line fence. Ontario. J. M.

Ans.—We think not—as to both questions; but your proper and prudent course would be to call upon your neighbor to build his half of the fence, and, if necessary, to take proceedings therefor under The Line Fences Act.

Agistment of Cattle.

A puts cattle to pasture in B's field for a term of 5 months at \$1.25 per head per month with an understanding that there be plenty of water and grass. B promising an additional field when pasture was eaten off in first field. So many cattle were taken in by B to pasture that after two weeks the pasture was practically eaten off. A asked B for additional field promised, but he took no steps to give it, and A took his cattle out without notifying B that he would do so but notified B that he had put to his credit in bank the money for time the cattle were in, (1 1/2 months). Could B collect money for full 5 months pasture? Ontario. D. E.

Ans.—We think not.

Ownership of Tree—Fallen Plaster.

1. A sold his farm to B, reserving one large tree, which had been cut down last winter and top cut up. B sold all timber to C, so C now claims this tree. Who owns tree? and how should it be settled?

2. A sold his house to B and the night of the wind storm some plaster fell off on one side of the room. Can B claim damages when he takes possession? D. H.

Ans.—1. A is owner, but he should have removed the tree or warned C before the latter took possession. As the matter stands A may have to look to B for compensation and possibly sue him for same in the Division Court. 2. We do not think he is in a position to do so.

Agricultural Society Directors.

At an annual meeting of an agricultural society which was held on the 20th of January, 1919, a Board of Directors were appointed. Three of the directors who were elected were not present at the meeting and were not members of the society. The following June a director's meeting was held and two teams formed by the directors, including those three non-members for a contest to see which side would get the greater number of members. Those three directors had not yet become members of the society and were later solicited by some of the other directors and made members by paying the necessary fee of \$1 each and it being handed to the secretary-treasurer. They acted as directors and transacted business at several meetings of the fair board.

- 1. Were these three men qualified directors?
2. Were their transactions at the board legal?
3. Should they be counted in the contest as new members? J. B.
Ans.—1. No.
2. No.
3. Yes.

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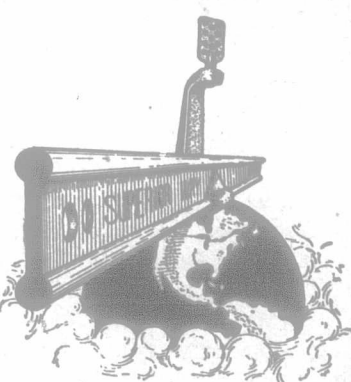
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MANOR FARM SHORTHORNS Five bulls from six to fourteen months. A Rosemary, Beauties and a Martha. I seldom, if ever, owned such a good lot. J. T. GIBSON, Denfield, Ont.

Springbank Pure Scotch Shorthorns—Herd headed by the Wimple-bred great-grandson of Right Sort (Imp.). We have Miss Ramsdens, Wimples, Marchioness, Buchan Lassies and Mysies. All females for sale with calves at foot or almost due to farrow. WM. STEVENSON & SON, Science Hill, Ont.

Imported Scotch Shorthorns For Sale—three imported bulls, one yearling one two-year-old, and our three-year-old herd sire, also a choice two-year-old Orange Blossom of our own breeding and three well bred bull calves about year-old. Would consider exchanging an imported bull for Scotch females. R. M. MITCHELL, R.R. No. 1, FREEMAN, ONT.

SCOTCH BRED SHORTHORN FEMALES I have a number of nicely-bred Scotch heifers (reds and roans), in nice condition, and a number are safely bred. These are priced to sell. I also have a couple of ten-month bulls, thick, sappy youngsters—just the herd sire sort. Inquiry invited. George Ferguson, Elora, Ontario.

Dual-Purpose Shorthorns—Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Write for sales' list. Inspection of herd solicited. WELLDWOOD FARM, Farmer's Advocate, London, Ont.

20 Bulls—SPRUCE LAWN—100 Females—Clydesdales, Shorthorns, Yorkshires, Herd headed by Imported Golden Challenger 122384. A Rubyhill bred by Earl of Northbrook, by Ascot's Challenger, bred by L. De. Rothchild. Special bargains in farmers' bulls. Cows and heifers in calf yearling and heifer calves. Yorkshires either sex. T. W. McCamus, Cavan, C.P.R., Millbrook G.T.R. and P. O. Ontario.

MAPLE HALL SHORTHORNS We have on hand at present, four young bulls ready for service (two reds, two roans) that are just the herd sire sort; they are all got by that great sire Flower King No. 90447, and from our Good Crimson Flower and Butterfly dams. Stations: Claremont, C.P.R., Greenburn C.N.R., Pickering G.T.R. D. BIRRELL & SON, CLAREMONT, ONT.

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SUNNY ACRES ABERDEEN-ANGUS The present string of young bulls for sale includes some classy herd bull prospects, winners themselves and sired by champions. If interested in Angus write your wants. Visitors welcome. G. G. CHANNON - Oakwood, Ontario P. O. and 'phone Railway connections; Lindsay, C.P.R. and G.T.R.

Aberdeen - Angus Meadowdale Farm Forest Ontario. Alonzo Mathews H. Fraleigh Manager Proprietor

Aberdeen-Angus Cattle Suffolk Down Sheep or Clydesdale Horses Write JAMES BOWMAN, ELM PARK, GUELPH, ONT

Sunny Side Herefords—Choice bulls and heifer calves, young cows with calves at foot. Reg. Shropshire rams ewe and ewe lambs. Inspection invited. All are priced to sell. Arthur F. O'Neil & Sons, R.R.No.2 Phone 27-12 Granton, Denfield, Ont.

Kennelworth Farm Angus Bulls—The strongest offering we ever had, all are sired by Victor of Glencairn and a number are ready for service. Prices reasonable. Peter A. Thompson, Hillsburg, Ontario. Aberdeen-Angus Cattle—Sired by Middlebrook Abbot 2nd (won 1st prize when shown at Toronto and Ottawa). Apply to A. Dinsmore, Manager, "Grape Grange" Farm, Clarkeburg, Ontario. 1 1/2 miles from Thornbury, G. T. R.



They All Need Pratts

To keep their energy at top-notch all the year round your horses, cows and hogs all need


Pratts Animal Regulator

Prevents disease and cures most common ailments. Puts new life and vigor into run-down animals. Keeps your horses in fine fettle. Makes your cows stay on the job all year, giving more milk and putting on firm, healthy flesh. Hogs develop quickly into big profit-payers.

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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

Maple Shade SHORTHORNS

A dozen young bulls imported and my own breeding at moderate prices.

W. A. DRYDEN

Brooklin - - - Ontario

The Get of Burnbrae Sultan =80325=
Shorthorn Bulls For Sale

1. Successor =127444=, white, born March 29, 1918; dam Rosy Bud =99834=, by Waverley =72804=.

2. Ravenscraig =12745=, roan, twin, born Nov. 19, 1918; dam Meadow Beauty 3rd (imp.), by Ben. Lomond (80468).

3. Meadow Crown, white, twin with Ravenscraig.

4. Royal Sultan, born 15 Feb., 1919, own brother to Successor.

Females in calf and with calves at foot.

A. GORDON AULD
Arkel C.P.R. R. No. 2, Guelph, Ont.

DUAL-PURPOSE Short horns

Present offering 6 young bulls, Red and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices Moderate. Satisfaction guaranteed.

Chas. Graham, Port Perry, Ont.

Mardella Dual-purpose Shorthorns
8 choice young bulls; 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or 'phone.

THOMAS GRAHAM, Port Perry, R. R. 3, Ont.

Shorthorns and Oxfords For Sale
Two young bulls, one a choice roan grandson of Right Sort; also ewes and lambs, either sex.

GEO. D. FLETCHER, R.R. No. 1, Erin, Ont.

Shorthorns And Yorkshires—Four red bulls, fit for service, and younger. All sired by Scotch Primrose (imp.). Young sows of different ages. Prices reasonable.

A. E. KENNEDY, Agincourt, Ont.

PATENT SOLICITORS
Featherstonhaugh & Co. The old established firm. Patent everywhere. Head Office; Royal Bank Buildings, Toronto. Ottawa Office; 5 Elgin St. Offices throughout Canada. Booklet free.

Questions and Answers. Veterinary.

Alteratives and Tonics.

1. Does ½ lb. white copperas, ½ lb. saltpetre and 1 lb. sulphur mixed and given in tablespoonful doses every second night for two or three nights and then every night until finished, make a good blood cleanser for a horse, and would he be able to work in all weathers while taking it?

2. If this be not a good recipe, will you give one for a blood cleanser and conditioner?

A. M. S.

Ans.—1. We must acknowledge that we do not know what "white copperas" is. Sulphate of iron is known as copperas or green vitrol, but it is green in color. The daily administration of saltpetre for a considerable time has an injurious effect upon the kidneys by over-stimulation. Sulphur acts well as a "blood cleaner" or alterative. It can be given in tablespoonful doses 2 or 3 times daily. It is excreted by the skin and makes it very sensitive, hence the patient should not be exposed in damp weather or in very cold weather unless well clothed while taking it. When a horse really requires an alterative, probably no drug gives quite as good results as Fowler's solution of arsenic in 1 to 1½ oz. doses twice daily for a week, or at most 10 days. As a general tonic, equal parts of powdered sulphate of iron, gentian, ginger and nux vomica given in tablespoonful doses 2 or 3 times daily gives good results. This can be given for any length of time, and in all weathers without danger of causing harm.

2. The idea that horses generally are in need of drugs to purify the blood, act upon the kidneys, etc., is altogether too common, and the administration of such often do harm. You have recently had this experience in giving your horse too much saltpetre when suffering from lymphangitis. A healthy horse requires no medicines, and a sick one should be given only those whose actions tend to correct the fault. In many cases the owner does not know what should be given and a guess is often harmful. When he is not sure it is profitable for him to consult his veterinarian. V.

Miscellaneous.

Superannuation.

An Ontario teacher, having taught the four full years of 1894, 1895, 1896 and 1897 began teaching again November 1st, 1900, and has taught continuously since that date, in Ontario.

1. When would be the earliest date on which such teacher could have a superannuation allowance if unfit to teach through loss of health?

2. When the earliest date if still in good health?

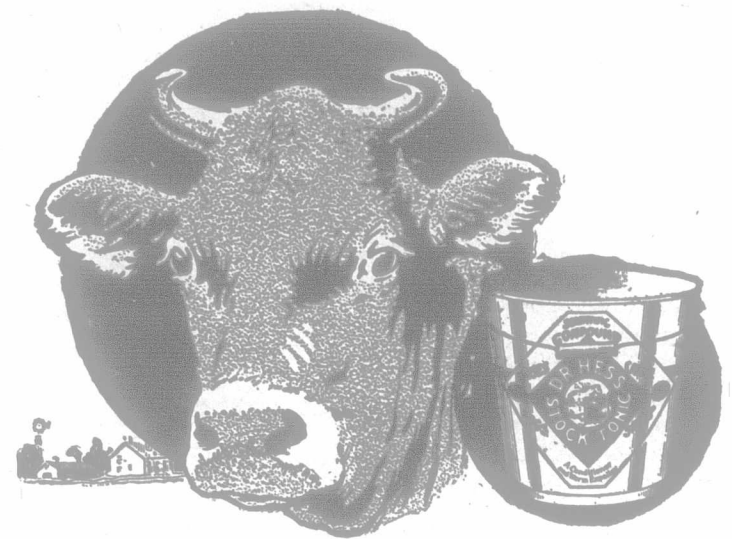
3. What is the difference between retiring after 30 years service and retiring after 40 years service A. J. S.

Ans.—The foregoing statement of facts is not sufficient to enable us to answer the questions. We would refer you to The Public Schools Act (Revised Statutes of Ontario, 1914, Chapter 266, Sections 106 to 110, also Section 73 (s)).

Boundary Fences.

Some three years ago myself and a neighbor bought 50 acres each of a deceased neighbor's farm. My half of line chance to be the part of his line between said lot and adjoining east lot, while my neighbor who bought south half of this 100 acres was bounded by east neighbor's fence entire. Now I want to know if east adjoining neighbor has not a right to compensate me for half of my line fence and co-purchaser a right to pay east neighbor for half of his? Otherwise co-purchaser will have the enviable distinction of having a boundary fence without cost to himself. T. M.

Ans.—There being a fence between your fifty acres and C's you are only required to keep up and repair a just proportion of it. We do not see that it is a case for compensation as suggested.



Make Your Milkers Pay

Good Health—Good Appetite—and Good Digestion are the essentials of a good milker.

Dr. Hess Stock Tonic promotes health—makes cows hungry. Remember, it takes a healthy, hungry cow to convert a big mess into pails of milk day after day.

Dr. Hess Stock Tonic produces appetite, aids digestion, conditions a cow to stand the stuffing, cramming process necessary for heavy milking. Dr. Hess Stock Tonic contains the salts of Iron that supply rich red blood so necessary to cows in milk. It contains Laxatives and Diuretics that assist the kidneys and bowels to throw off and carry off the poisonous waste materials that so often clog up the system during heavy feeding.

Dr. Hess Stock Tonic

Ever notice a cow slack up on her milk—not quite so keen for her mess—apparently not sick? Her system is clogged. This never occurs where Dr. Hess Stock Tonic is fed. Start right—by conditioning your cows for calving with a course of Dr. Hess Stock Tonic before freshing.

There is not a day during lactation that Dr. Hess Stock Tonic cannot be fed to cows at a profit. This is especially true where heavy feeding is the practice. Dr. Hess Stock Tonic is good alike for cattle, horses, hogs and sheep. It makes the ailing animals healthy, the whole herd thrifty. It expels worms.

IMPORTANT: Always buy Dr. Hess Stock Tonic according to the size of your herd—five pounds for each cow to start with. Get it from the responsible dealer in your town. Feed as directed and note the results in the milk pail.

25-lb. Pail, \$3.00; 100-lb. Drum, \$10.00

Smaller packages in proportion.

DR. HESS & CLARK, Ashland, O.

Dr. Hess Dip and Disinfectant

Keeps the Dairy and Stables Healthful and Clean Smelling

A NEW IMPORTATION OF FORTY SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT Freeman, Ontario
Burlington Jct., G.T.R., only half mile from farm.

ELMGROVE SHORTHORNS, YORKSHIRES

Owing to pressure of other business I will not hold my annual sale of Shorthorns this fall but am offering privately a limited number of young cows, several with calves at foot, and also a few choice-bred heifers near calving. The most select offering I ever had on the farm and all showing in good condition.

In Yorkshires I have several bred sows; a few boars of serviceable age and some young litters.

JAS. R. FALLIS, Elmgrove Farm, BRAMPTON, ONT.

80 Spruce Glen Shorthorns—80—Eighty head to select from—twelve young bulls 8 to 14 months old, sired by Royal Red Blood =77521= and Nonpareil Ramsden =10108= and out of Bruce Fames, Florences, Minas and Emilys. A few choice heifers for sale. Come and see them, or write.

JAMES McPHERSON & SONS, "Spruce Glen Farm," Dundalk, Ont.

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 Escana Favorites, a son of the famous Right Sort (imp.).

W. G. GERRIE C.P.R. Station on farm. Bell 'Phone. **BELLWOOD, ONTARIO**

GLENGOW SHORTHORNS AND COTSWOLDS

Six-year-old Cotswold rams. These are big lusty fellows and in good condition. I also have four Shorthorn bulls of serviceable age. Write for prices and particulars.

Stations: Brooklin, G.T.R.; Oshawa, C.N.R.; Myrtle, C.P.R. **WM. SMITH, M.P., Columbus, Ont**

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 few females. Write for particulars.

Telephone and telegraph by Ayr. **KYLE BROS., R. 1, Drumbo, Ont.**

SHORTHORNS (PURE SCOTCH)

Richly-bred bulls of A1 quality, by Escana Ringleader =95963=. Cows with calves at foot by Escana Ringleader. Write your wants.

F. W. EWING R.R. 1, Elora, Ontario

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Boys and Men of Canada!

Do you want to be expert wrestlers? Do you want to be strong, healthy and able to defend yourself? Of course you do, and here is your opportunity. Learn expert wrestling and physical culture in your own home by mail from the lessons of

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These two great World Champions will teach you. Learn all the wonders of scientific wrestling—the holds, blocks, falls and tricks. Learn self-defense and Jujitsu. Develop yourself into a wonderful athlete. Have perfect health, a wonderful body you are proud of and that will win the admiration of all men and women. Be able to defend yourself and to handle large, stronger men with ease. Instruction quickly learned by mail in your own home. Investigate right now.

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and learn about this great school and what wonders it can do for you. Don't put it off. Write Now—state your age.

Farmer Burns School 601 Range Bldg., Omaha, Neb.

Questions and Answers. Veterinary.

Spinal Trouble.

Horse of 1,450 lbs. stood in stable and was fed hay and chopped oats. In February he lost control of hind legs, would stagger like a drunken man. We treated him and he got some better. We turned him on grass and he got so that he could work some, but did not get nearly right. This fall as soon as put on dry food he got worse again. He eats and drinks well and keeps in good condition. W. P. D.

Ans.—This is a disease of the spine, called by some veterinarians writers "Loco motor ataxy." A cure is very doubtful. It has become chronic and in some cases, is progressive. All that you can do is give him a purgative of 8 drams aloes and 2 drams ginger. Keep him quiet in a comfortable box stall. Feed on laxative food, and if any tendency to constipation be shown at any time give 1½ pints raw linseed oil. Give him 2 drams of nux vomica 3 times daily. Some recommend blistering each side of the spine from the withers to the croup, but we have never thought we got benefit from this. V.

Impotent Stallion.

From the time the stud season closes until it commences the next spring, my stallion stands tied in his stall without exercise and is fed on hay and oats and a little bran, and is then put on the road. I find that it is hard to get the mares in foal. Is it good practice to use belladonna when the entrance into the womb is closed? Explain the yeast treatment. W. A. R.

Ans.—Want of exercise between season tends to sterility. A stallion should have regular exercise or light work between seasons, in order that he may do justice to himself as a producer. At the same time, even under the conditions you mention he should impregnate a reasonable percentage of mares. The use of belladonna, as stated, tends to relax the parts, but it requires time and, in most cases, the operator can dilate the passage by a rotary motion of his fingers. The yeast treatment consists in placing an ordinary yeast cake in a quart vessel and adding sufficient warm water to dissolve it, and allowing it to stand 18 to 24 hours in a moderately warm place. Then filling the vessel with warm water and allowing it to stand 18 to 24 hours. Then injecting the liquid into the vagina of the mare in season, and breeding in 4 or 5 hours after the injection. V.

Serous Abscess.

I wrote you some time ago, i. e., horse that had an attack of lymphangitis. In treating I gave excessive doses of saltpetre, which caused excessive secretion of urine. A lump formed in part of sheath, but disappeared, and other lumps formed in breast, which I treated according to your instructions, but it has grown much larger and feels as though it is full of water. His urine is not scanty but is rather thick. Is a horse that does not draw his penis to urinate predisposed to urinary trouble? A. M. S.

Ans.—We remember prescribing for this horse. We presumed that the swelling on breast was a sequel to the attack of lymphangitis and prescribed accordingly, but the symptoms you now give are evidence that it is a serous abscess, caused by a bruise, probably inflicted when lying in an unnatural position when the hind leg was sore. It must be freely lanced at the lowest part to allow escape of the fluid and then flushed out 3 times daily until healed with a 4 or 5-per-cent. solution of carbolic acid or one of the coal-tar antiseptics. The condition you mention does not tend to kidney trouble. This horse's kidneys have become somewhat inactive from overstimulation by excessive doses of saltpetre. It is probable they will gradually regain their normal condition. This can be blistered by giving 2 oz. tincture of hyoscyamus in a pint of cold water as a drench twice daily. V.

LAST WEEK WE MADE A SPECIAL OFFER FOR TRIAL LOTS OF

SYDNEY BASIC SLAG FERTILIZER

In case you may have overlooked it, we are repeating the offer again this week. Here it is: If we have no agent in your locality, we will send you a ton for trial at the regular price of \$23 per ton, cash with order, and we will prepay the freight to your nearest station. This will leave us out of pocket, as the freight on less carlot shipments comes so high, but we want to convince you of the value of these goods. The majority of our large shipments to-day go to men who first started with a trial ton, so you will see there is "method in our madness." Don't let this opportunity pass, arrange at once for a trial of SYDNEY BASIC SLAG FERTILIZER.

Possibly you could handle a carload, or could get your neighbors to club in with you. We would be pleased to explain our proposition. Write for our descriptive booklet—it will be mailed free.

The Cross Fertilizer Co., Limited

Sydney, Nova Scotia

Address to our General Sales Agent:

A. L. SMITH, 220 Alfred Street, Kingston, Ont.

Hospital for Insane, Hamilton

Holsteins Yes, all bulls of serviceable age are sold, but several of six months and younger, from one of the best sons of King Segis Alcartra Spofford, and our best dams will be sold at reasonable prices.

APPPY TO SUPERINTENDENT

Hamilton House Holstein Herd Sires

Our highest record bull for sale at present is a 4 months calf, from Lulu Darkness 30.33 lbs. and sired by a son of Lulu Keyes 36.56 lbs. His two nearest dams therefore average 33.44 lbs. and both have over 100 lbs. of milk per day. We have several older bulls by the same sire and from two and three-year-old heifers with records up to 27.24 lbs. All are priced to sell.

D. B. TRACY, Hamilton House, COBOURG, ONT.

HOLSTEIN HERD AVERAGES 18,812 LBS. MILK

A herd of 13 pure-bred Holsteins last year averaged 18,812 lbs. milk and 636.67 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in **HOLSTEIN CATTLE** send for booklets—they contain much valuable information.

HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA
W. A. CLEMONS, Secretary, ST. GEORGE, ONT.

Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje), and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. Their youngsters should not remain long. Write to-day.

RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal

"PREMIER" HOLSTEIN BULLS—Ready For Service.

I have several young bulls from dams with 7-day records up to 32.66 lbs. of butter, 765.9 lbs. of milk, with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire which is a brother to May Echo Sylvia. Step lively if you want these calves.

H. H. BAILEY, Oak Park Farm, PARIS, ONT.

WALNUT GROVE HOLSTEINS

I am offering a choice lot of bull calves sired by May Echo Champion who is a full brother of world's champion May Echo Sylvia, also a few cows just fresh.

(Take Radial Car from Toronto to Thornhill) **C. R. James, Richmond Hill, R. R. No. 1, Ont**

Am all sold out of bulls of serviceable age.

Have Three Bull Calves from two to five months

old the dam of one is a 20,225-lb. cow, and they are out of a 32.92-lb. sire. Also would sell four heifers by the same sire, due to freshen in February. Write for prices.

Archie Muir, Scarboro, P. O. ELDERSLIE FARM

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. of butter in 7 days. These are well marked and straight individuals. Inspection invited.

J. W. RICHARDSON, Caledonia, Ont.

Glenuba Dairy Farms

Offers For Sale: Three choice young cows with R.O.M. and R.O.P. records, due to freshen in Jan. and Feb., and in calf to our herd sire whose dam made 34 lbs. butter in 7 days as a 4-year-old. Just the kind to start a good foundation. For price, etc, write—

GRIESBACH BROS., L. D. 'Phone Collingwood, Ont.

Cedar Dale Farm

The Home of Lakeview Johanna Lestrang, the \$15,000 sire—He is the son of the 38.06-lb. cow, Lakeview Lestrang, and is our chief sire in service. We are offering a few females bred to him and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker. A. J. TAMBLYN, Cedar Dale Holsteins (C. N. R. station one mile) Orono, Ontario.

Silver Stream Holsteins

—Special offering—Four choice bulls fit for service, sired by King Lyons Colantha, the records of his six nearest dams average 30.10 lbs. butter in 7 days, and from R. O. P. tested dams. Individually as good as their breeding. Write at once for particulars and price, or better, come and see them.

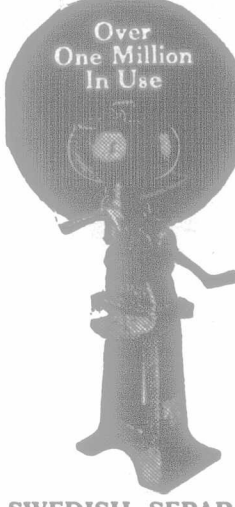
JACOB MOGK & SON, R. R. 1, Tavistock, Ont.

Summer Hill Holsteins

—We have the best bunch of Holstein bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a 34-lb. dam. One is a full brother to the Grand Champion bull at Toronto this year. Prices reasonable.

D. C. FLATT & SON, R. R. No. 2, Hamilton, Ont.

When you buy a Viking Separator you get other things besides just iron and metal. For instance—



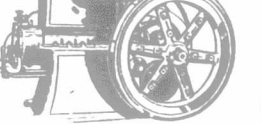
1. Viking 600-lb separator turns easier than other machines of smaller capacity.
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YEARS IN ADVANCE OF ALL OTHERS. No Carburetor. No Batteries. No Spark Plugs. No Magneto. No Wires. Fully Guaranteed. The perfect oil engine. Runs on coal oil, fuel oil, or crude oil. USES NO GASOLINE—NOT EVEN TO START. The saving in amount of coal oil used over old style of engines will pay for this engine in a few months. Starts easily on coal oil in coldest weather. Its principle is purely compression. No electrical devices to loosen or get out of order. You should investigate. THE HOAG OIL ENGINE is in a class by itself and is the farmer's real friend. Do not accept anything else. Write us to-day for booklet and information. Mention size you are interested in.

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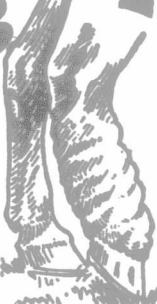
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will prevent these troubles and when developed, with Fleming's Veterinary Healing Oil will quickly cure them. For box, \$1.

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The famous Kirstin is made of finest steel—guaranteed 3 years against breakage, flaw or no flaw. It weighs less—costs less. Yet has greater power, speed, strength. Lasts longer. Due to scientific leverage principle a few pounds on handle exerts tons on stump. No horses or extra help needed. No digging, chopping or other expense. Several speeds. High speed loosens stump. Low speed yanks it out quick. Patented quick take-up for slack cable. Easily moved around field. Single, double, triple power. Wonderful success.

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Laid 30 Years ago—perfectly sound today



Get real economy—get absolute protection for your buildings for a generation and more. Use

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They are a PROVEN roofing—not an experiment. Very easily laid, joints are snug and close fitting—they simply cannot leak. They save labor in laying and improve your buildings. Reduce insurance rates. No danger from fire by lightning or sparks.

Write for interesting Booklet. Price lists and detailed information about "Metallic" building materials, Siding, Corrugated Iron, "Metallic" Ceilings, etc.

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or stuttering overcome positively. Our natural methods permanently restore natural speech. Graduate pupils everywhere. Free advice and literature.

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Two Good Jersey Bulls for Sale

Ready for service; one (imp.) son Combination Premier; dam, daughter of Golden Fern's Noble.

IRA NICHOLS, - Burgessville, 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.

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BLATCHFORD'S CALF MEAL supplies in easily assimilated form all the necessary food elements the calf requires for rapid and healthy growth.

It is the only calf meal that is properly cooked and prepared for easy digestion.

If your local dealer cannot supply you write for interesting literature.

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The Largest Jersey Herd in the British Empire

At Toronto Exhibition, 1919, we won twenty-five of twenty-seven first prizes. We now have for sale first-prize young bulls from R. O. P. dams, as well as females of all ages.

B. H. BULL & SONS - Brampton, Ontario

Laurentian Producing Jerseys—The oldest bull we have at present is a year old youngster sired by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported cows in the herd. We also have others younger of similar breeding, as well as a few bred heifers for sale.

Frederick G. Todd, Owner, 801 New Birks Bldg. Montreal, P. Q.
Farm at Morin Heights, F. J. Watson, Mgr.

Edgeley Bright Prince—a son of Sunbeam of Edgeley, R. O. P. champion, sired by a son of Viola's Bright Prince is for sale. He is 3 years old, sure and active. Won third prize in aged class at Toronto and London, 1919. Write for price.

JAMES BAGG & SONS (Woodbridge C.P.R., Concord G.T.R.) EDGELEY, ONT.

The **CANADA'S MOST BEAUTIFUL JERSEY HERD**

Woodview Farm JERSEYS

Herd headed by imported **Champion Rower**, 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.

JNO. PRINGLE, Prop.

DON HERD OF PRODUCING JERSEYS

We have three young bulls of serviceable age—good individuals and priced right. Could also spare a few choice bred heifers. Visitors welcome.

D. DUNCAN & SON, TODMORDEN, ONT.

Stockwood Imported and Canadian-bred Ayrshires—Write me for your next herd sire. I have own herd sire, Killoch Gold Flake (imp.) 51225, and from imported dams that are still in the herd. Call and see the kind we breed. A's pricing a few young cows sale in calf to herd sire.

D. M. WATT, St. Louis de Gonzague, P. Q.

SPRINGBANK R.O.P. AYRSHIRES

Our Ayrshires win in the show ring and they fill the pail. We hold more present R.O.P. Champion records than any other herd in Canada. Young bulls and females by present herd sire, Northton King Theodore (imp.)

A. S. TURNER & SON, - (Railway Station Hamilton) - RYCKMAN'S CORNERS, ONT.

Westside Ayrshires and Yorkshires—I can spare a few females, some fresh. All have good records, or are running in R.O.P., and are ready to sell. Write me your wants, or come and see.

DAVID A. ASHWORTH, Denfield, Ont.

Questions and Answers. Miscellaneous.

Hares Killed.

My neighbor's dog went into my driveway and killed three of my pure-bred Belgian hares. Can I claim damages?

M. S.

Ans.—Yes.

Why Butter.

How many pounds of whey does it take to make a pound of butter? E. B.

Ans.—The whey from 1,000 lbs. of milk will usually make from 2 to 2 3/4 lbs. of butter.

Married Woman's Property.

When buying town property from a woman, does her husband have to sign the deed?

Ontario.

Ans.—Generally speaking, no.

Dog Tax.

I rented my house and lot in town to B, at so much per month, I to pay the taxes on my own property. B was assessed and held the script. He had a dog. Must I pay this dog tax? The man moved on the place in February and left in October.

Ontario. C. L.

Ans.—No.

Work on Farm.

What work is the hired help on a farm hired by the month or year supposed to do on Sundays and legal holidays? Is he supposed to help with the necessary work, such as milking, feeding and cleaning stables, or is he free of all work for the twenty-four hours straight? J. C. F.

Ans.—Men hired by the month or year for farm work are supposed to do the necessary chores on Sundays and legal holidays.

Ferrets.

1. What is the principal food of a ferret?
2. What fur-bearing animals will a ferret hunt the best?
3. Is it any good to bring out skunk and muskrat, or to track mink?
4. Does a farmer or farmer's son have to have a license to ship raw furs trapped on their own farm? L. F.

Ans.—1. Bread, milk and meat.
2. Rats and rabbits.
3. Not as a rule.
4. Not that we are aware of.

Ownership of Tree.

A tree fell over my fence into my field off the road.

1. Who is now the owner of the tree?
2. Does it have to lay in my field for a length of time before I can take possession of it? Ontario. S. H.

Ans.—1. You are if you planted it (see the Tree Planting Act, Revised Statutes of Ontario, 1914, Chap. 213), otherwise, it belongs to the corporation of the township municipality.

2. Yes, if not owned by you. You should notify, in writing, the Reeve or Clerk of the municipality to remove the tree. If they or either of them should refuse to do so, or the removal of it be neglected, for 48 hours after such notice, you might then, we think, retain the tree to remunerate you for its removal.

Capacity of Silo.

1. How many feet of plank will it take to build a silo 27 feet high and 10 feet across?
2. What is the best variety of corn for silage purposes?
3. How many acres of corn will be required to fill a silo of the above size? E. B.

Ans.—1. It will require approximately 2,200 feet of lumber; that is, figuring 2-inch plank.

2. It depends almost entirely on the section. Wisconsin, Golden Glow, Leaming and White Cap are standard varieties which have proven successful. Some like one variety and some another.

3. A silo of this size will hold approximately 47 tons. Therefore, if you had an 8-ton-to-the-acre crop, it would take 6 acres to fill it, and a third less if you had a 12-ton-to-the-acre crop.

Questions and Answers.
Miscellaneous.

Killed.
A dog went into my driveway and killed one of my pure-bred chickens. I claim damages? M. S.

Butter.
How much butter does it take to make 1,000 lbs. of butter? E. B.
How much butter does it take from 2 to 2 1/2 lbs. of milk? C. L.

Man's Property.
If a man's property is on a farm and he has to sign a lease, does he have to sign a lease for the property? C. L.

On Farm.
I hired help on a farm for a year or year supposed to be for legal holidays? Is he to do the necessary work, feeding and cleaning and all work for the straight? J. C. F.

Principal food of a
What is the principal food of a pig? L. F.

Tip of Tree.
How do I get a fence into my field? S. H.

YORKSHIRES
We are now booking orders for Fall pigs, both sexes, 6 weeks to 3 months old. Several large litters to choose from. WELDWOOD FARM, London, Ontario

TAMWORTHS
Young Boars and sows bred for fall farrow. Express charges prepaid. Registered stock. Write JOHN W. TODD, CORINTH ONTARIO

Berkshires
Some very fine pigs just weaned and some spring sows that are sure money-makers. Can breed to a Tamworth if you write at once. ALVIN ANDERSON, Hawkstone, Ont.

FEEDS

Linsed Oil Cake Meal, Cotton Seed Meal, Gluten Feed (23% protein), Hominy Feed, Bran, Shorts, Feeding Cane Molasses (in barrels), Sugar Beet Meal, Feed Corn, Oats, Barley, Dairy Feed, Hog Feed, Poultry Feeds and supplies.
Car lots or less. Prices on application.

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Maple Shade Farm

Imported Shropshire ewes served by best imported rams, very desirable for foundation flocks.

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KENT OR ROMNEY MARSH SHEEP

The hardiest and best grazing mutton and wool sheep of Great Britain. Successfully acclimated wherever grazing sheep are required. Descriptive pamphlet list of breeders, and all information from

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Shropshire Sheep—40 shearing ewes, 30 two and three-shear ewes, mostly from imported stock. A few choice shearing rams; also ewes and ram lambs. C. H. SCOTT, Hampton, Ont.

Shropshire Yearling Ewes bred to Bibby's 84 (mp), ram and two Clydesdale stallions. W. H. PUGH, Myrtle Station, Ont.

Oxford Down Sheep for Sale—25 choice shearing ewes safe in lamb to our selected flock headers; 10 two-shear ewes and 15 ewe lambs; all registered. Prices reasonable. JOHN M. ROSS, Embro, Ont.

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The Home of the Berkshires
Offers for sale boars fit for service, sows bred and ready to breed, younger ones coming on. The Crompton and Wandsworth strains, the best strains of the breed.
W. W. Brownridge, Georgetown, No. 3, Ont. Milton C. P. R. Georgetown G.T.R. Milton 'Phone.

BERKSHIRES
Boars ready for service and boar pigs, rich in the blood of Lord Premier's Successor 161500, Grand Champion 1914, Champion sire of 1915, 1916, 1917. His descendants have won Grand Champion honors at the largest and strongest shows of 1919. The Champion Berkshire barrows of 1918 International were double grandsons of Lord Premier's successor. We have shipped many Berkshires to Canada with satisfaction to customers. Prices on request.
HOOD FARM, INC., Lowell, Mass.

YORKSHIRES
We are now booking orders for Fall pigs, both sexes, 6 weeks to 3 months old. Several large litters to choose from. WELDWOOD FARM, London, Ontario

TAMWORTHS
Young Boars and sows bred for fall farrow. Express charges prepaid. Registered stock. Write JOHN W. TODD, CORINTH ONTARIO

Big Type Chester Whites—We cleaned up at London and Toronto Exhibitions, 1919. Now offering pigs from our 805-lb. sows, and sows bred to our 1,005-lb. boar. JOHN ANNESSER, Tilbury, Ont.

Meadow Brook Yorkshires—We have a choice offering of sows bred and boars fit for service. Also a number of large litters ready to wean. All show the best of breeding and excellent type. G. W. MINERS, R.R. No. 3, Exeter, Ont.

Lakeview Yorkshires
If you want brood sows of any age, stock boars of any age, or young pigs, write me. All bred from prize-winners for generations back. JOHN DUCK, Port Credit, Ont.

Berkshires
Some very fine pigs just weaned and some spring sows that are sure money-makers. Can breed to a Tamworth if you write at once. ALVIN ANDERSON, Hawkstone, Ont.

Questions and Answers.

Miscellaneous.

Piping Water to the Buildings.

Can I bring water through an inch pipe from a spring 40 rods distant, with a fall of 4 or 5 feet to the place of delivery? T. A.

Ans.—The water should flow by gravity but we doubt if you will get a very full stream without more head. It would necessitate having a fairly large supply tank, and the water running continually would possibly keep the herd supplied.

Getting Cows in Calf.

1. Is there a tendency for cows to fail to show oestrus when calves are allowed to suck?
2. Would having a bull run with them in the pasture overcome this trouble? W. A. H.

Ans.—1. They do not usually come in season as soon as when hand milked.
2. It might be beneficial, at any rate the cows would be bred when they first came in heat.

Engineer's Award.

A has a farm and brings on an engineer about a ditch. Each farmer interested is assessed a certain amount. A year later A sells to B, nothing being said about his share of the ditch. After B has been on the farm the contract for the ditch is let, and the second payment must be made to pay for the cost of digging. Who should pay the first payment, A or B? H. F.

Ans.—As the engineer was brought on and the assessment made before A disposed of the farm, he is the one who should make the first payment, but for the work done after B has purchased the farm he is obliged to pay his share.

Root House.

How can a wall be built for a frame roothouse. Would a concrete wall do as well? I. J. S.

Ans.—It depends whether the roothouse is to be above ground, or partially in the ground. In either case, the concrete would be more permanent and can be made frost-proof. For a frame house it will be necessary to make a framework of posts or fairly heavy timber; double sheet and paper it on the outside, and also put one layer of boards on the inside. With the cement wall, scantling could be used on the inside to which boards are nailed to give it an air space. We have seen several cement roothouses made on top of the ground, and then practically covered with earth. This means considerable work, but it gives a permanent structure in which the roots keep very well.

Miscellaneous.

1. What kind of feed should be given to hens in the fall, during the molting season?
2. What is the cheapest way to have a good pasture?
3. Why is it that European can live on two or three acres of land and make money, while we have hundreds of acres and can hardly exist? W. H. W.

Ans.—1. It is natural for hens to molt in the fall, but this may be hastened or delayed, according to the condition of the birds and the way they are fed. They should be on full ration which contains a considerable quantity of meat food to force the growth of feathers.

2. On many farms pasturing is an expensive way of keeping stock, as more feed could be grown off the same acreage if it were in some other crop. However, pasturing saves a good deal of labor and is good for the health of the cattle. It is poor policy to allow the pasture to be cropped too closely. Some soils give better yields of some grasses and clovers than they do of others. Each farmer should find out what will grow best on his land.

3. Intensive cultivation is one reason why the European can live on a smaller piece of land. It is a case of the small farm well tilled, but it must be remembered that labor conditions here and in Europe are entirely different. Then, too, our wants are very often much more extravagant than the wants of the European.



Sell Those Horses Now!
SELL them and save their feed—save chores—save the time spent in giving them the exercise they need to harden them up for Spring work.
Get a Cletrac instead. Get it now—be sure of delivery—work it on odd jobs and get used to it. You and your Cletrac, once you're well acquainted, will both be keener for weeks of steady, fast work. Put in waste chore-time learning to get 100% out of your tractor and add that to the profit you'll make from the feed you save.
The Cletrac will keep on saving you money all year. It isn't a tractor that shirks the unhandy jobs and makes you keep a lot of horses, too.
In all the corners and sticky places, as well as on big work in the open, it's there with plenty of pull. Its long wide tracks and its economical weight get over the grades with power to spare. Burns coal oil, (kerosene), or distillate.
There's a book, "Selecting Your Tractor," that you ought to have. Send for it to-day, or ask the Cletrac dealer.
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A vast new land of promise and freedom now open for settlement to returned soldiers and sailors FREE; to others, 18 years and over. 50 cents per acre. Thousands of farmers have responded to the call of this fertile country, and are being made comfortable and rich. Here, right at the door of Old Ontario, a home awaits you. For full particulars as to terms, regulations, and settlers' rates, write
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A choice consignment of some of the most desirable blood lines. Each animal has been inspected and considered worthy.
Bred Sows Service Boars Pairs of Fall Pigs of Both Sexes
Will be offered for sale by PUBLIC AUCTION during Ontario Corn Show at Jameson Sale Barns, CHATHAM, ONT., on
Thursday, January 15th, 1920, at 1.30 p.m.
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Write for catalogue and further particulars to
Ontario Duroc Jersey Breeders' Association, Essex, Ont.

Pure-bred Yorkshires
A number of choice young Sows and Boars three months old. At reasonable prices.
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BERKSHIRES—My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. Highcleres and Sallys, the best strain of the breed, both sexes, any age.
ADAM THOMPSON, R. R. No. 1, Stratford, Ont. Shakespeare Station G. T. R.

Berkshire Pigs—Large, quick-maturing, thrifty stock; reared under natural conditions, two imported boars; dozens to choose from. We bred the grand champion boar, 1917, and first prize boar under two years, Toronto, 1919, weight, 633 lbs. at 17 months. Come and see them, or send for breeding list.
J. B. PEARSON, Manager. CREDIT GRANGE FARM, Meadowvale, Ont.

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H. M. VANDERLIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO. Langford Station on Brantford and Hamilton Radial.

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And the fact that the dividends to policyholders in The Imperial Life have shown a gradual increase every year since the Company's inception makes this investment more attractive now than ever before.

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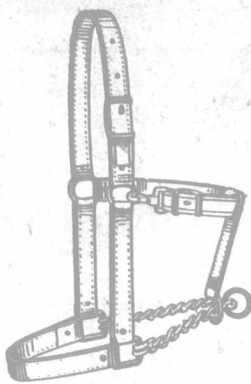
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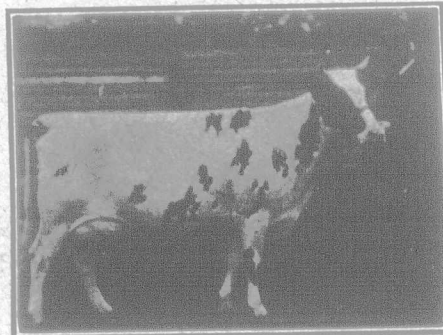
Our School Department.

Breeds of Dairy Cattle.

The necessity for milk production in large quantities has brought about the development of special breeds of cattle that are primarily useful for this purpose, and thus it is that we speak of dairy breeds as those that are especially notable for the quantities of milk they will yield. These breeds of dairy cattle differ, however, in their appearance as well as the quantity of milk or butter-fat they will produce in a year. And because each of the breeds are useful and differ from each other in the conditions under which they thrive best, it is necessary that we should know something about each of the commonest ones. The common breeds of dairy cattle in Canada are the Ayrshire, Holstein-Friesian or Holstein and the Jersey. There are some Guernseys to be found also as well as some Brown Swiss, but the two latter breeds are not nearly so numerous as the first three.

THE AYRSHIRE.

The Ayrshire originated in Scotland and has been known as a distinct breed for over 100 years. It has been found in North America for nearly the same length of time. The Province of Quebec in Canada and New York, Pennsylvania and the New England States in the United States are probably the centres of these



A Bonnie Ayrshire.

Scottish cattle on this continent. They are very hardy and nervous in disposition, and are able for these reasons to support themselves better than other breeds on scant pastures. If not more beautiful than the Jersey, they are more picturesque because of their long curving horns, their strong, square bodies, and the pleasing markings of red and white that characterize most individuals. They are medium in size, the cows weighing about 1,000 pounds, and the bulls about 1,400 pounds. The former as a rule carry beautiful udders, long and well attached, and with teats well placed. Formerly the teats of the Ayrshire were inclined to be short, but careful breeding has tended to eliminate this fault. The Ayrshire is not remarkable for its extremely heavy milk production as is the Holstein, but the milk is much richer in butter-fat as a rule. They are not so well known as the other breeds, but this is largely because they have not been advertised so widely.

THE HOLSTEIN.

These black and white cattle have been bred for centuries in Holland and in the Low Countries in Europe, and are the most popular cattle all over North America. This is probably because of their large size and the fact that they give very large quantities of milk when well bred. They find favor with the commercial milk producer largely because of this fact. Mature cows should weigh about 1,200 pounds and bulls about 1,700 or 1,800 pounds. They are not as good rustlers as the Ayrshires and are inclined to be lazy in disposition, but they can manufacture surprisingly large quantities of feed, especially roughages such as hay and silage, into milk, and do it economically. They are always black and white with the exception of an odd cow that may be either all black or all white, although black below the knees is considered objectionable. In other respects

they are not so uniform as the other two principal breeds, particularly in what is known as conformity to breed type. The udders especially are uneven in shape and are often pendulous, and this together with the greater size of this breed makes them less pleasing to the eye. To give some idea of the milk production of Holsteins it may be said that 3,220 cows averaged 14,622.7 pounds of milk yielding 3,424 per cent. butter-fat and yielding 500.7 pounds butter-fat, while 4,500 Jersey cows averaged 9,218 pounds of milk and 487 pounds of fat and 389 Ayrshire cows averaged 10,287 pounds of milk and 413 pounds of fat.

THE JERSEY.

The Jersey is probably the most beautiful of all the dairy breeds. Fawn color predominates, but squirrel gray, mouse color, and very dark brown are common colors. The breed probably originated in Northwestern France. Now, however, the native home of the Jersey is the Island of Jersey, the largest of the Channel Islands, on which no other kind of cattle have been allowed to land since 1779, except for immediate slaughter. Thus it is easy to see that the breed is very pure. Jerseys, in addition to their great natural beauty, are very uniform in type, and usually give very rich milk. They are, however, small in size, and for this peculiarity have been somewhat criticized. In fact, it is probably on account of this characteristic that they are not more popular with the average farmer. Jerseys respond quickly to plenty of feed and good treatment, largely because of the fact that they are possessed of a nervous disposition and are more or less excitable. Mature cows average about 900 pounds, and bulls about 1,500 pounds. The Jersey is smaller than any of the other dairy breeds, and as compared with the Guernsey, which it resembles most, it is finer boned and smaller. The birth weight of calves is from 45 to 75 pounds as compared with 70 to 110 pounds for Holsteins, and from 55 to 80 pounds for Ayrshires.



A 35-lb. Holstein Cow.

THE GUERNSEY.

The origin of this breed is probably the same as the Jersey, but it had its early development on the Channel Islands of Guernsey and Alderney. White and some shade of fawn are the characteristic colors of Guernseys, the under parts of the body, legs and the switch of the tail being white as a rule. The cows average about 1,050 pounds in weight and the bulls about 1,600 pounds, most individuals having a nervous disposition, but are not very excitable. Guernseys are somewhat larger and coarser than Jerseys and have a more rangy body. The birth weight of calves runs from 60 to 85 pounds.

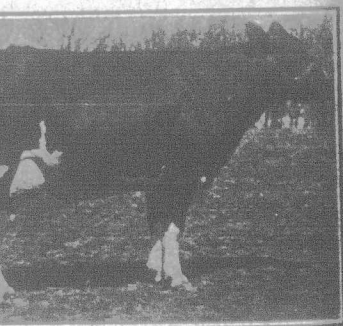
THE BROWN SWISS.

The Brown Swiss originated in the Canton of Schwyz, in eastern central Switzerland. They are of large frame, because the Swiss people required an animal that would yield milk and could also be used as a draft animal. In color they vary from a light gray to a dark brown, having a docile disposition but being very active for their size. They are excellent grazers, especially on rough land. They are considered more of a general-purpose breed; that is, they are useful both for milk and meat. The cows weigh about 1,250 pounds and the bulls about 1,800 pounds. New-born calves will weigh from 65 to 90 pounds.

partment.

so uniform as the other two breeds, particularly in what is known as the 'breed type.' The horns are uneven in shape and pendulous, and this together with the greater size of this breed makes it pleasing to the eye. To give an idea of the milk production of this breed it may be said that 3,220 cows averaged 6,227 pounds of milk testing 4.5 per cent. butter-fat and yielding 1,000 pounds butter-fat, while 4,500 cows averaged 9,218 pounds of milk testing 4.87 pounds of fat and 389 pounds of butter-fat. New-born calves averaged 10,287 pounds of fat.

THE JERSEY.
The Jersey is probably the most popular of all the dairy breeds. Fawn predominates, but squirrel gray, blue, and very dark brown are also seen. The breed probably originated in Northwestern France. Now Jersey is the native home of the Jersey cow, the largest of the dairy breeds, on which no other kind of cow has been allowed to land since 1816, except for immediate slaughter. It is easy to see that the breed is very uniform, in addition to their great beauty, are very uniform in type, and give very rich milk. They are, however, small in size, and for this reason have been somewhat criticized. The fact, it is probably on account of their characteristic that they are not popular with the average farmer. They respond quickly to plenty of feed and treatment, largely because of the fact that they are possessed of a disposition and are more or less docile. Mature cows average about 1,500 pounds, and bulls about 1,500 pounds. The Jersey is smaller than any of the other breeds, and as compared with the Jersey, which it resembles most, it is smaller. The birth weight of calves is from 45 to 75 pounds, and from 70 to 110 pounds for the bulls, and from 55 to 80 pounds for the cows.



A 35-lb. Holstein Cow.

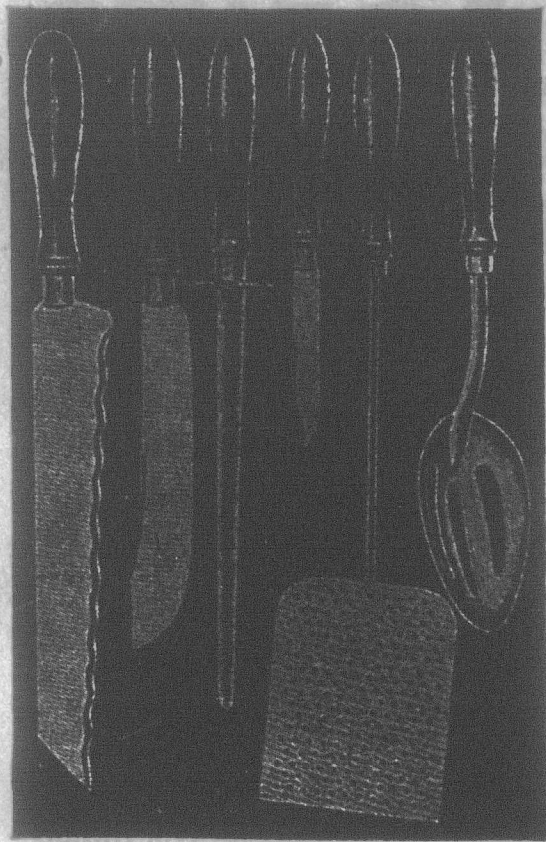
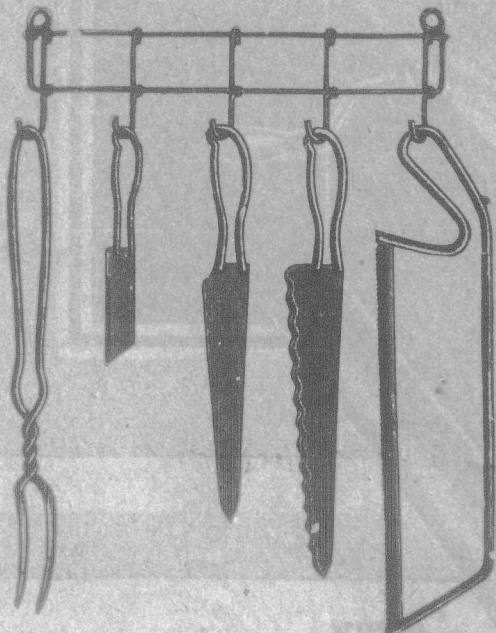
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FOR ONE NEW SUBSCRIPTION

Pancake turner, basting spoon, large butcher knife, with steel for sharpening, paring knife and waved-edged bread knife, all of best steel and fitted with rubberoid-finished handles of hardwood.

Coupon THE WILLIAM WELD CO., LIMITED
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Name of Sender.....

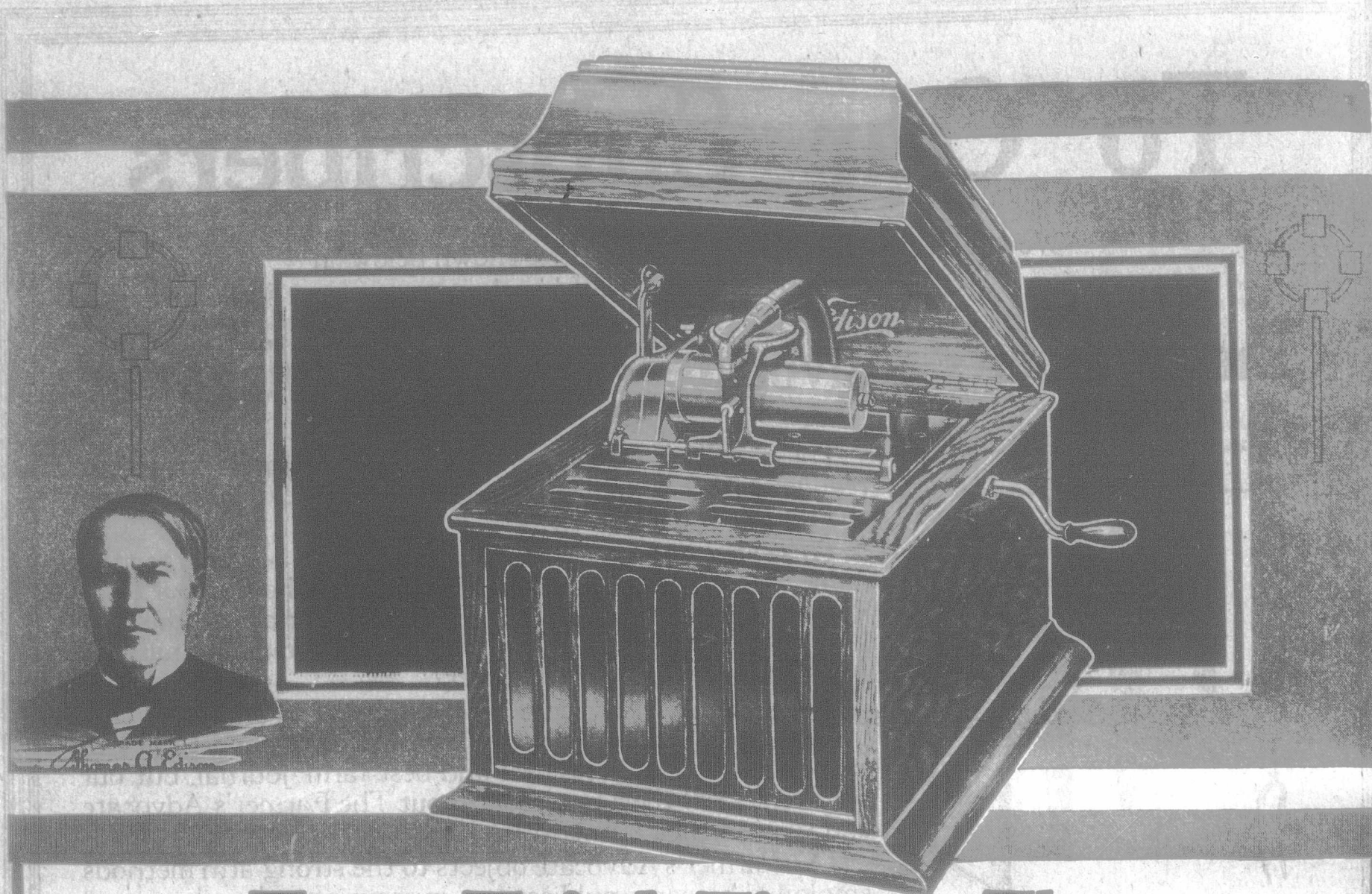
Gentlemen,—In accordance with your advertisement, please send me.....

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Balance in Small Monthly Payments
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This wonderful New Edison Diamond Amberola—Mr. Edison's great new phonograph with the new Diamond Stylus Reproducer, and 12 brand new Blue Amberol Indestructible Four-Minute Records sent to you on *absolutely free trial*. These records are included with the outfit.

If you wish to keep Mr. Edison's superb new instrument after the free trial, send us only \$1. Pay the balance for the complete outfit in small monthly payments. (See terms in coupon below.)

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Send no money—just fill out the coupon below and send it to us, at once. We shall send you the complete outfit immediately. Entertain your family and friends with the latest song hits of the big cities, side-splitting minstrel shows, Grand Opera and Comic Vaudeville.

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F. K. BABSON, Edison Phonograph Dists., Dept. 191, 181 Simcoe St., Toronto
 338 Portage Avenue, Winnipeg, Can. U. S. Office: Edison Block, Chicago, Illinois
 No obligation to buy in sending this coupon; this is just an application for a Free Trial

F. K. BABSON, Edison Phonograph Dists., Dept. 191, 181 Simcoe St., Toronto; 338 Portage Ave., Winnipeg, Man.)

Dear Mr. Babson:—As per your offer, I should like to hear Mr. Edison's wonderful new style phonograph in my home on free trial. If I decide to keep the outfit, I will have the privilege of the rock-bottom price of \$72.90 direct from you on special terms. I merely agree to take the outfit promptly from the depot, pay the small express charges, and if I do not find it thoroughly satisfactory, I reserve the right to return the outfit at once at your expense. Otherwise, I will send the first payment of \$1.00 within forty-eight hours after the free trial or as soon as possible, in no case exceeding one week, and will make monthly payments thereafter of \$3.00 for 11 months and \$5.90 for the 12th month. Total \$72.90. The outfit is to remain your property until the last payment has been made. (This offer is not open to anyone under 21 years of age. If you are under 21 ask your father, mother or guardian to fill in and sign this coupon for you.)

My name.....Address or R. F. D. No.....
 City.....State.....Ship by.....Express.....
 Shipping Point.....Ship by.....Occupation.....
 Age.....Married or single.....If steadily employed at a salary please state.....
 How long a resident in your neighborhood and your vicinity.....If there is any possibility of changing
 your address during the next year, what will be your next address?.....