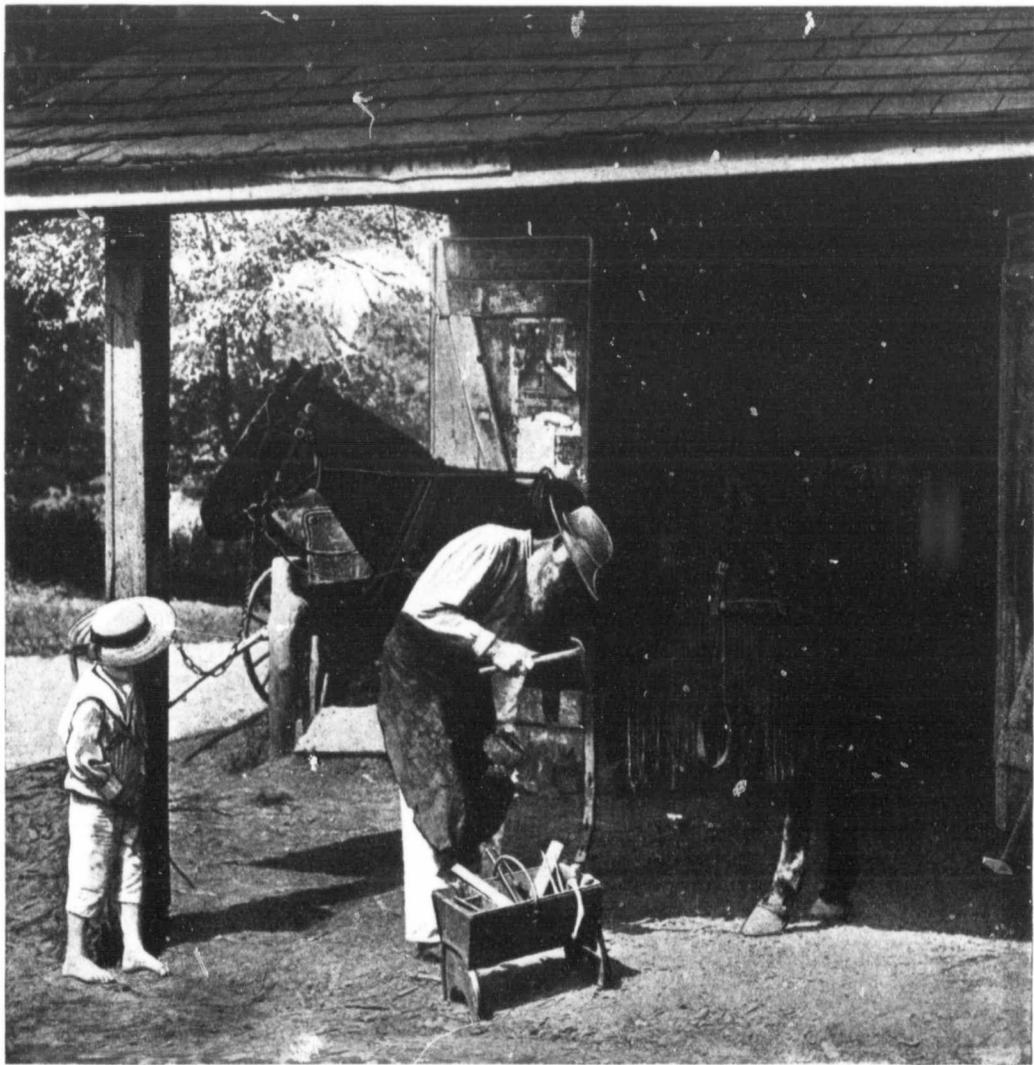


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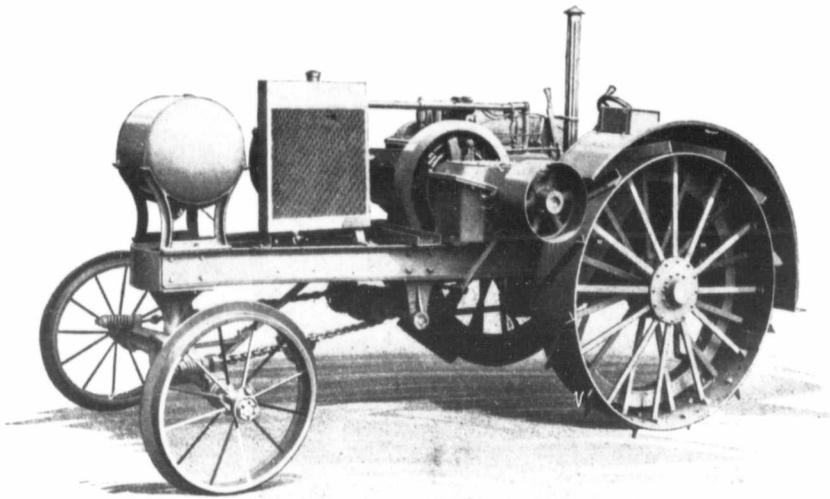
# The CANADIAN THRESHERMAN AND FARMER

WINNIPEG CANADA  
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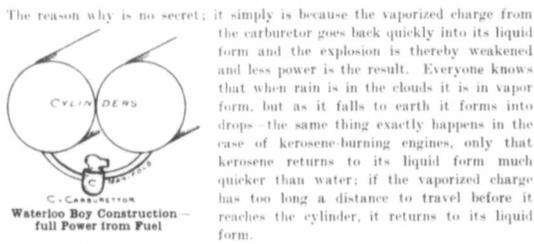


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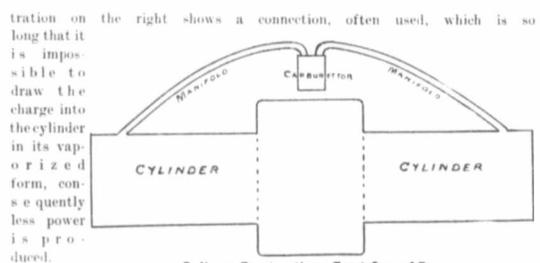


# Kerosene Gives More Power Than Gasoline

It is a proven scientific fact that kerosene gives off more heat units (power) than gasoline when it is properly used. The proper construction of an engine for developing power from kerosene is to connect the carburetor as close as possible to the cylinders, and heating the vaporized fuel with the exhaust.



Notice in the illustration on the left the short distance from carburetor to cylinder, this means perfect combustion and greatest power; while the illustration on the right shows a connection, often used, which is so long that it is impossible to draw the charge into the cylinder in its vaporized form, consequently less power is produced.



**THE WATERLOO BOY ONE-MAN KEROSENE TRACTOR** is built on the one correct principle for successful operation on kerosene fuel—twin cylinders cast en bloc connected to carburetor through a short manifold. The incoming charge is conveyed to the cylinder in a jacket cast around the exhaust which thoroughly heats and vaporizes the mixture of kerosene and air, it deposits the mixture still vaporized in the cylinder, thus producing all the power possible to get from the fuel.

## Don't Be Fooled Into Buying a Tractor That Will Not Burn Kerosene Successfully

The heart of a tractor is its engine and if the engine is not constructed scientifically from a power producing point of view, you are not getting your full money's worth out of it. Let us tell you

more reasons why you should choose a Waterloo Boy Tractor to get full tractor efficiency.

**Waterloo Boy Kerosene Tractor of Canada, Ltd.**

Dept. B

WINNIPEG

A GO and the good grain A very prairie farm a mulch is, know, only know what and what ance has or just how a should be r

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A  
MAGAZINE  
FOR

# The CANADIAN THRESHERMAN AND FARMER

THE  
FARM  
AND  
HOME

Vol. XXII

WINNIPEG, CANADA, MAY, 1917

No. 5

**A** GOOD mulch, well made and cared for, is one of the prime necessities of good grain farming.

A very large proportion of prairie farmers do not know what a mulch is, and of those who do know, only a small proportion know what its real purpose is and what effect its maintenance has on the future crop, and just how and why and when it should be made and renewed.

When we mention the word mulch, the first thing that comes to our mind is the garden or orchard mulch which consists of half-rotted straw, litter leaves, etc., and the purpose of which is to protect, during the winter months, the roots of trees, bush fruits, strawberries, rhubarb, etc.

While this is the dictionary definition of a mulch, it is not the one I have in mind. The mulch of this article is the mulch of the one or two or five hundred acre wheat field. Such a mulch is not for winter but for summer use, and is not made of straw and leaves, but of the top few inches of loosened up dirt of the field itself.

One of the first requisites of successful farming throughout the prairie provinces is the careful conservation of moisture. Since time began, moisture has fallen on the earth in the form of rain and has soaked down into the soil by a process known as "percolation."

As soon as the storm is over, the moisture begins to climb back out of the soil by an entirely different process which is known as capillarity, or capillary attraction, or capillary action, which process is defined in the dictionary as "the power possessed by porous bodies of drawing up a fluid," and is the same process by which kerosene oil, for instance, climbs up the lamp wick to the flame.

: : **The Mulch** : :

By ERNEST BLAIR

It is by this process then that moisture reaches the surface of the ground and then it is dispersed into the air by another natural process that we call "evaporation." This evaporation goes on night and day incessantly. It is aided by sun and wind and stops only when the frost of winter seals up the land.

The purpose of our grain field mulch then is to prevent this evaporation, and to conserve in the soil the moisture that falls so

inch in depth was effective in retaining a great deal of moisture that was lost completely in a non-cultivated soil; also that a mulch four inches deep saved 72 per cent of the moisture, an eight-inch mulch saved 88 per cent and a 10-inch mulch practically stopped evaporation entirely.

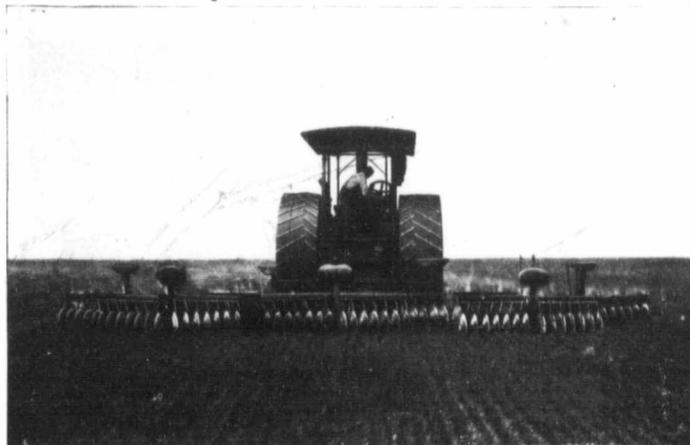
Obviously it is impossible and impracticable to spread a ten-inch layer of loose dirt over our summer-fallowed wheat land,

temperatures above the freezing point, it behooves us to keep our mulch or blanket spread during as many days and nights as possible.

Keeping this in mind we can readily agree that the best time to start our mulch is directly the binder has passed over the land, and if we have the needed power—if we have six extra horses and an inthrow and out-throw disk to work one behind the other, we have the ideal outfit for this kind of work—but how many of us have it?

Lacking the necessary power, it is impossible for us to disk directly behind the binder and once that opportunity is lost and our grain is stooked, it is practically impossible to disk at all until after threshing, unless we stack our grain—a practice that is growing in favor out here in a great many places.

The land, once cleared of grain, however, should be either double disked or fall-plowed as soon as possible. The cultivating of the ground in the fall will serve a double purpose; it will cover up millions of weed seeds that will germinate and be killed by the winter's frost, and it will conserve any moisture that may be in the soil besides putting the land in better shape to retain any moisture that may subsequently



A Big Job Being Thoroughly Done

that this moisture can be drawn on in time of need by the growing plant. As far as possible the prairie farmer in this dry country should "grow next year's grain on this year's rain." The mulch that we make and use, then, to conserve this moisture is the top three or four inches of soil that is stirred and loosened when the harrows pass over the ground. Those three or four inches of dirt dry out and the result is a blanket that prevents the upward movement of water.

It was found by experiment that a soil mulch only one-half

and anyway, further experiments proved that a mulch from 2½ to 4 inches deep was the most easily and economically produced, and saved the greatest amount of moisture in proportion to its cost, etc.

We have found, then, that a mulch is a three-inch layer or blanket of loose dry earth spread over our field of summer fallow and that its first purpose is to protect that field from the evaporating influences of wind and sun.

As evaporation is constant, is going on in practically all tem-

peratures above the freezing point, it behooves us to keep our mulch or blanket spread during as many days and nights as possible. Keeping this in mind we can readily agree that the best time to start our mulch is directly the binder has passed over the land, and if we have the needed power—if we have six extra horses and an inthrow and out-throw disk to work one behind the other, we have the ideal outfit for this kind of work—but how many of us have it? Lacking the necessary power, it is impossible for us to disk directly behind the binder and once that opportunity is lost and our grain is stooked, it is practically impossible to disk at all until after threshing, unless we stack our grain—a practice that is growing in favor out here in a great many places. The land, once cleared of grain, however, should be either double disked or fall-plowed as soon as possible. The cultivating of the ground in the fall will serve a double purpose; it will cover up millions of weed seeds that will germinate and be killed by the winter's frost, and it will conserve any moisture that may be in the soil besides putting the land in better shape to retain any moisture that may subsequently fall. On the opening of spring our first concern should be to re-establish our mulch as soon as possible, so as to prevent the inevitable evaporation, and to put the land in better shape for plowing. If lack of time or power has prevented us from disking in the fall then we should disk that portion of our land that we intend to summer fallow in the spring and disk it just as early as we possibly can. This cultivation will start weed seeds growing that they may be plowed under and destroyed; will conserve the pre-

ious moisture and will make the plowing go much faster and nicer and better than anyone who has tried the practice will not fail to follow it up in the future. Even

amount of moisture lost during the first week over 60 per cent was lost during the first three days. Obviously then we should get our harrows going and spread

Care should be taken at such a time not to get on the land with the harrows too soon after a rain; the proper time being when the dirt is sufficiently dried so that it will not gather and stick on the harrow teeth.

If, on the other hand, we do not lay our mulch blanket over and over again after it has been destroyed by rain we simply allow evaporation to go ahead and undo all we have been at such pains to accomplish. This evaporating of moisture is a similar thing. It comes like a thief in the night. We can see and feel the rain when it falls, but we can neither see nor feel nor hear the silent process of evaporation that is going on unremittently. If we could, if we could watch the moistures as it fades away from our land in the lightest of mist and could calculate the number of dollars it is carrying away from our fields every twenty-four hours, we would not go about our work as calmly as we do and leave our land unprotected.

Let me call your attention to

laws made and laid down by God Himself at the beginning of all things; laws that have been discovered and tabulated by years of study given by scores of men. They are laws that we cannot disregard without paying the penalty and we pay it just in proportion as we do disregard them.

And now let us take a trip along the public highway and see if we can point out by their practice how many farmers there are who understand these elements of their business and who care for their land according to these laws and principles and how many of them cultivate according to laws and principles of their own.

We will take a day along about the latter part of August, or even during the first part of September for our trip of observation. At this time of the year all summer-fallow plowing should have been finished long ago, and it should be entirely free of weeds. The first field we pass is an 80 acre patch that the owner has just finished plowing. As we drive along we can tell where the

owner started to plow and where he finished by the varying degrees of prolificacy of the growing weeds. Rain after rain has fallen on this land throughout the summer, has soaked down in and has been evaporated back out again and all the while this has been going on the owner has plowed steadily away with once in a while a day or two off for some other duty entirely oblivious to the fact that dollars have come and gone day after day, time after time.

The next we come to is a field of 640 acres that the owner is still plowing away at with a big power outfit. The unplowed portion is grown high with weeds of all descriptions and in the plowed part the furrows are thrown up in all kinds of shapes and have dried out almost completely. The next is a field that

was plow since bee time with worked matter I may come not toul cordling work on done. moisture day does all.

And so way. Or there is 1 harrowed ly after harrowed ing the probably more bef not harro he will n day of tl but will l and not i

If you the differ way and their reas you woul reasons f not to f prevent t moisture they wot bed." Tl disks an "works t with the conservin and soil level the clods and ties and good leve the recep

This pt well as fa it should not a fir The seed the top inches th turbed is the t of the fur ed firmly sub-soil.

In the



Tools that Will Tackle Any Tangle of Clay and Clod

ground that is apparently dry and hard will, after being disked, gather an unexpected amount of moisture, enough to make a very appreciable difference in the ease with which the plowing can be done.

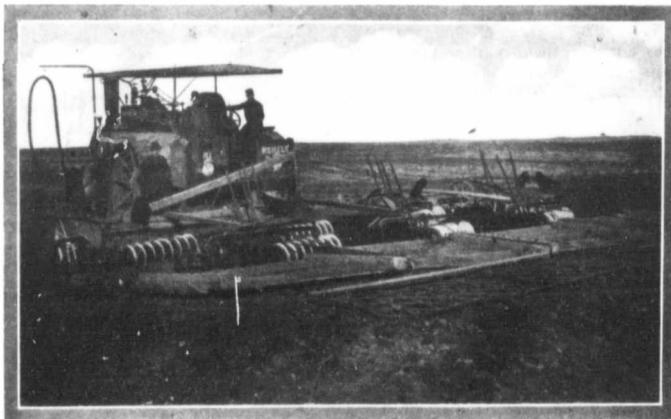
Once the plow has turned over the ground, the mulch should be immediately spread as ground left loose from the plow loses moisture more rapidly than at any other time. This preventing a loss of moisture is best done by attaching a small rotary or other harrow directly on the plow so that the ground is levelled and a light mulch prepared immediately the ground is turned over. Such a harrow adds but little to the draft of the plow and will save its cost many times during the course of a season. Of course this kind of a harrow is necessarily light and does not produce

a really efficient or lasting mulch, and it should be followed in a few days with the heavier harrows; nevertheless it levels the ground nicely, breaks up the clods, fills in holes and closes up cracks and air spaces enough to save tons of expensive moisture.

If, however, you do not have a small harrow then you should slip over each day's plowing every night before quitting and not leave it day after day and week after week. It will cost you at the rate of one round of plowing a day, but it will save an amount of moisture that cannot be readily calculated. Experiments proved that in the case of a soil well filled with water during a three week's period nearly one-half of the total loss of moisture occurred the first week, while only one-fifth occurred during the third week, and of the

our protective mulch as soon as possible.

And once the mulch is spread on our newly plowed ground our task is by no means finished. It must be continually restored and

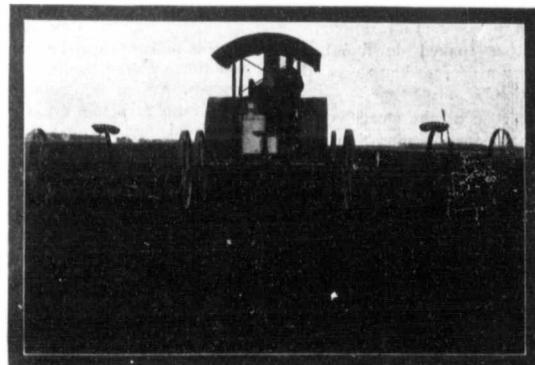


A Complete Battery for the Seed Bed

renewed. As soon as the harrow has passed over and loosened up its two or three inches of top soil that soil dries out and moisture from below being drawn up to the surface by capillary attraction, reaches this dry blanket of loosened earth and is arrested in its upward career but its arrest is not permanent.

The loosened particles of soil immediately begin to settle, to come closer and closer together, and if left without being stirred for any considerable length of time soon becomes pressed down upon and connected with the damp ground beneath and capillarity is re-established. Then, again every rainstorm, by melting and running together the loose particles of our mulch renders it useless as such and the harrows must be run over the ground again.

the fact that these laws of gravitation, of percolation, of capillarity and of evaporation are not my laws nor the laws of any man whatsoever. They are inexorable



Taking the Vitals from the Weed Crop

was plowed in June and has long since been gone over for the last time with the harrows. It is well worked and level now, and no matter how many more rains may come before freeze-up he will not touch this land again. According to his idea his year's work on the summer fallow is done. The fact that it is losing moisture every minute of every day does not enter his mind at all.

And so it goes all along the way. Out of a score of farmers there is perhaps but one who has harrowed before and immediately after plowing and who has harrowed at various times during the summer and who will probably harrow several times more before freeze-up. He will not harrow at any stated time, he will not set aside any certain day of the week for harrowing, but will harrow when it **needs** it and not at any other time.

If you should stop and talk to the different farmers along the way and innocently inquire into their reasons for harrowing at all you would find that their reasons for so doing was not to form a mulch to prevent the evaporation of moisture but to make what they would call a "seed bed." The average farmer disks and harrows and "works up" his land not with the idea in mind of conserving his moisture and soil fertility but to level the land, break up clods and fill in inequalities and thereby form a good level uniform bed for the reception of seed.

This purpose is all very well as far as it goes, but it should be a secondary, not a first consideration. The seed or root bed is not the top three or four inches that is kept disturbed by the harrows, but is the firmed lower position of the furrow that becomes packed firmly against the unplowed sub-soil.

In the spring before seeding,

the summer-fallow should be again gone over with the harrows to prevent evaporation and to warm up the soil, then at seeding time care should be taken to see that the drill cuts well down through this mulch and deposits the seed about one inch into the firm, packed moist soil below. With the seed once in the ground it is a desirable practice, if one has the time, to again go over the land with the harrows and leave a mulch that will protect the coming crop for considerable time.

To sum up, then, let us follow the course of what we would consider an ideal summer fallow.

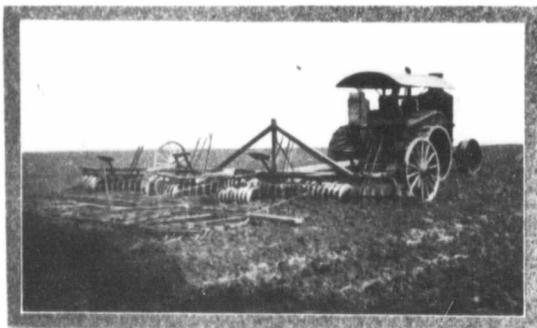
In the first place the land would be double disked in the fall immediately behind the binder and again in the spring as soon as possible after the land is dry enough to work.

It should be plowed as deep as possible, at least six inches anyway, and the plowing should be finished early in June.

It should be harrowed immediately after being plowed and it

If all this be done you will have conserved the maximum amount of moisture and soil fertility possible and you will have formed an ideal seed bed and if your

Scott, Sask., to determine the best kinds of grasses to grow, and the best methods to adopt in seeding down. Western Rye Grass has been found to give slightly



Well Under Way Towards a Good Mulch

seed is of good quality and has a high germinating test and has been properly treated with formalin and has been carefully placed in the ground, and if your land is free from cut worms and noxious weeds and your crop

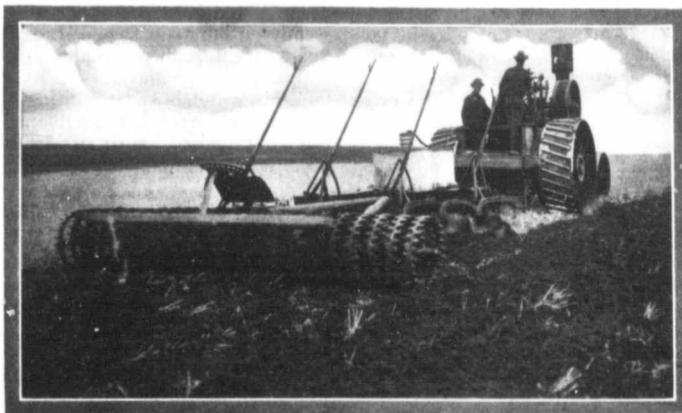
heavier yields of hay, than does timothy or brome grass, particularly in the second and third crops. It is equal in feeding value and makes a more dependable grass for hay purposes.

Brome grass has proven to be one of the best pasture grasses, providing, as it does, pasture for a long period each season. It should not be sown on heavy soil, except for permanent pasture, however, as owing to its persistent nature, it is almost as difficult to eradicate as couch grass.

Kentucky Blue Grass, Meadow Fescue and Red Top have also been grown at the station. The yields of hay from these grasses are not as heavy as from the timothy, rye or brome grass. Notes taken on the aftermath indicate that the Kentucky Blue grass would prove valuable as a pasture grass.

The experiments to determine the best preparatory treatment for seeding down, have given some interesting results. Sowing on summer-fallowed land has given an average yield during the past four years of 2 tons 110 pounds per acre. Sowing on land that had grown a crop of roots the previous season has given a yield of 1 ton, 1310 pounds, while sowing on fall ploughed wheat stubble has given an average yield of 1 ton, 380 pounds. The second year, the difference in yields from the various plots has not been so striking, nevertheless the plots sown on summer-fallow have given a slightly greater yield.

Seeding down with a nurse crop has, during the past four years, given an average yield of 1 ton 910 pounds from the first crop of hay harvested, whereas seeding down without a nurse crop has given



A Sensible Accompaniment to the Plow

should be harrowed again after each rain heavy enough to wet through the mulch; after not more than ten days of hot dry weather, or after the appearance of inch high weeds.

does not develop rust nor be caught by hail storms or an abnormally early frost you will reap a humdinger bumper crop and you will reap that kind of a crop not one but every year.

Seeding Down to Grass

The difficulty of securing sufficient help on the farms to work the fields under cultivation; the increasing scarcity of native grasses in many districts, due to the land being broken up, together with a realization by many farmers of the fact that seeding down to grass is one of the best methods of combating weeds, are creating quite a demand for information on methods of seeding down.

Experiments have been conducted on the Scott station, at



An Ideal "Escapement" for Priceless Moisture

Continued on page 14

# THE CANADIAN THRESHERMAN AND FARMER

CANADA'S LEADING AGRICULTURAL MAGAZINE

PUBLISHED MONTHLY BY

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E. W. HAMILTON  
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WINNIPEG, CANADA



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J. D. DUTHIE  
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J. L. MIDDLETON  
CIRCULATION MANAGER

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May

Politicians or Men?

1917

### OUR GUARANTEE

No advertisement is allowed in our Columns until we are satisfied that the advertiser is absolutely reliable and that any subscriber can safely do business with him. If any subscriber is defrauded E. H. Heath Co., Ltd., will make good the loss resulting therefrom, if the event takes place within 90 days of date advertisement appeared, and complaint is made to us in writing with proofs, not later than ten days after its occurring, and provided, also, the subscriber in writing to the advertiser, stated that his advertisement was seen in "The Canadian Thresherman and Farmer." Be careful when writing an advertiser to say that you saw the advertisement in "The Canadian Thresherman and Farmer."

THE reason why nothing bearing the taint of "party" has ever appeared in these pages when reference has been made to political subjects is because we believe there are few things more foolish in all our national folly than the party machine. Of all the bums peculiar to Western life there is no greater menace to the common weal than the common party hack. Not all the Huns are herded in Germany—our own political heeler has the Teuton beaten in self-complacent greed, in sordid methods, in polished rascality. Citizens of the finest country on earth, rejoicing in the possession of practically every element of material prosperity that men know of, we are no less to-day than at any former period rough-riden by a powerful minority of bums, parasites and poltroons.

Canadian public life. Of politicians we possess a bigger army than we have yet sent overseas to take their place with the other sons of the Empire, but of disinterested statesmen (whether in the government or in opposition) we are as lamentably short as we are of roses at mid-winter. One courageous statesman—in the government or out of it—who could always bank on his own integrity, would have saved a lot of the humiliation that hangs over us to-day. There would have been none of those unseemly outbursts in Quebec Province when a few plain soldiers sought to make an appeal to its manhood. There would be no army scandals and recruiting dead-beat three years after half-a-million was distinctly promised, with 160,000 of that promise still unfulfilled.

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Failing to receive paper, you should notify the office at once, when mistakes, if any, will be corrected immediately. All Subscriptions must be paid for in advance and no subscription will be accepted for a shorter period than six months.

Advertising copy in order to secure good position should be in our hands not later than the 15th of the month preceding date of issue.

Advertising rates furnished on application.

This is certainly not the moment for recriminations that get nowhere. Anything in the national progress that is not concentrated on the winning of the war should be strangled and flung aside till the last gun has been silenced and the fangs dug out of the jaws of the enemy. But while we are watching our grain crops and doing the chores, let our thoughts take a wide sweep around and see where we can accomplish something when the time is ripe, for there is certainly going to be an upheaval of some rotten stumps when the war is over and we can attend to his domestic affairs. One of the first things to be settled is, whether we are any longer to delegate the conduct of our national housekeeping and international concerns to politicians or to MEN.

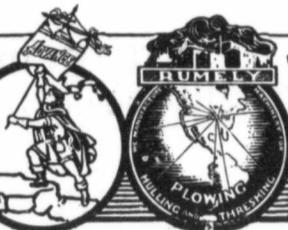
"Count on us to the last man and the last dollar if need be!" is a great phrase to roll off from the platform. Any bull-voiced politician could have done justice to that sentence, and the weariest Willie amongst them might have coined it; but it takes an unsullied manhood to put it into effect. Men will follow men. Wild horses will not drag slaves into willing obedience. MEN refuse to be led by corrupt colonels who have no other right to the uniform they wear than what they have earned by their "services to the party."

When all is over, there is to be a trial in which the chief parties to the cross-examination will be some of the greatest single-minded heroes who ever entered the lists for human freedom. They will be men who have been tried in the hottest furnace to which sublimated spirits in human flesh have ever been subjected. And they will have some very awkward questions to ask the frock-coated politicians. They will want to know for example why their dependents of the home circle could be the victims of a wheat pit that, with a visible supply of a hundred million bushels in the country, boasted the price to the point it has reached at the date of writing.

This is only one of the hundred questions of domestic import on which they will demand satisfaction. They will have votes, every one of them, and with an appreciation of the vote that they never had before. They will tell the political place-hunter that if the battle field of Europe is not also to become the graveyard of the secret diplomatic service, of political party with all its rottenness of patronage, graft, and general rascality, then they will start all over again, and give as good an account of themselves in civil strife as they did in tackling the Huns at Ypres, at Langemark, and Vimy Ridge.

Principal L. P. Jacks, in the "Hibbert Journal," has contributed one of the most powerful articles on the problem of the regeneration of Europe, and in speaking of the men who are responsible for the great cataclysm, he develops what another journal describes as "a vision of punishment so solemn, deliberate, just, and so approved that it would shine as one of the most sacred deeds in history." Says Professor Jacks: "Until these men have been removed and all that they stand for finally discredited by the manner of their removal, the path to a regenerated Europe is blocked. Their removal would bring into the moral life of all nations that breath of exhilaration, that sense of freedom, that feeling of unity, which are precisely what is needed to start civilization on a new career, and without which it may be confidently said, the new start cannot be made."

As we contemplate those passages, our thoughts irresistibly read them into something of the personnel of our own



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## No Better Outfits Made Say Canadian Owners

Canada put its O. K. on Advance-Rumely outfits for but one reason—they met exact needs and did the work expected of them. And today you'll find Advance-Rumely machines in every section of the Dominion where grain is grown.

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This is a pretty strong claim, but that's what Ideal Separators by the hundreds are delivering right here in Canada. The result is that Advance-Rumely is building a greater number of Ideals every year to supply the increasing demand.

Thorough cleaning and threshing without waste, whether the grain is headed or bundled, long straw or short, good weather or bad—that's the money making ability that is built into every Rumely Ideal.

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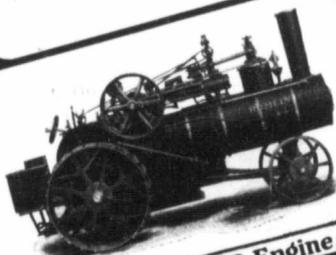
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*Get a copy of our 1917 threshing machine catalog—address our nearest branch.*

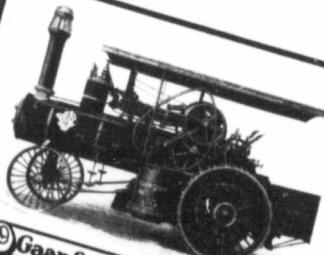
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LaPorte, Indiana

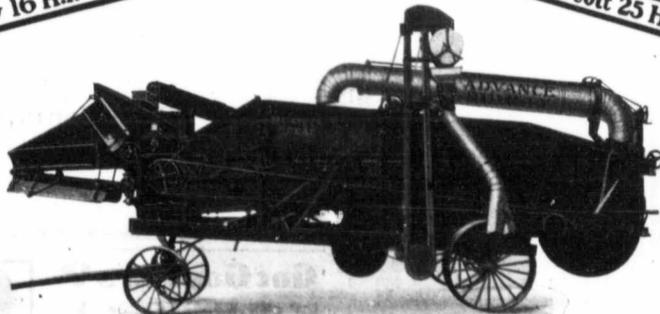
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**Rumely 16 H.P. Engine**



**Gaar-Scott 25 H.P. Engine**



**Rumely Ideal Separator**



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Your Local Secretary has all the necessary information. See him or write the Central.

**The Saskatchewan Grain Growers' Association**  
Farmers' Building REGINA

## Save your Buildings from Further Expense



# PEDLAR'S OSHAWA STONE SIDING

**YOU** can't stop the coming of sun and rain, but you can end the destruction they bring to your house. PEDLAR'S "OSHAWA STONE" SIDING keeps in your pocket the money you waste year by year in rotting, warping walls, and the lessening value of your home. More durable than wood or plaster, safer than brick or stone. Pass down to others the beauty and comfort of a new home by Pedlaring now with "Oshawa Stone" Four Lock Siding. Write for free Booklet C.T.

**THE PEDLAR PEOPLE LIMITED**  
(Established 1861)  
80 Lombard St.  
WINNIPEG

Executive Offices and Factories, Oshawa, Ont.  
Branches: Regina, Moosejaw, Calgary, Edmonton, Vancouver.



TWELVE MONTHS OF THE BEST FARM PAPER PUBLISHED FOR ONE DOLLAR. : :

### A Splendid Outfit in Capable Hands

Westbourne,  
January 3rd, 1917.

Dear Sir—I am answering your letter addressed to Frank L. Davey who has gone to the front. I happen to own the engine in question—a Sawyer-Massey rated as a 22-45 H.P. which I bought in 1912. After using this engine for four and a half years, I have formed the opinion that it is the best engine on the market to-day and I have found this firm one of the best to have any business relations with.

There is quite a difference in the condition of certain portions of the land in this district. In some cases it takes a little less and in others rather more than two gals. of fuel to the acre. All round I should say it means from 2 to 2½ gals. of good gas engine oil, about 2 lbs. of hard oil, 3 or 4 lbs. cheap axle grease or one gallon of gear oil per day.

I always have a man on the plows as I think the plows to do good work ought to have attention all the time as the engineer has all he can reasonably look after in watching the tractor. I have never harrowed, disced or drilled with my engine as I do not consider it satisfactory. My experience forces the belief that none of these implements work well in the wheel marks, and if the work cannot be really well done, why better not do it at all.

I have used this engine in threshing every fall. I drive a 36" Toronto Combination Advance and have lots of power but would advise the use of a long belt in preference to a short one as the result is undoubtedly steadier power. I have usually about 25,000 bushels of grain and it takes from 12 to 13 days to do the work.

I have moved several buildings with my tractor and find it quite a success in this way. Having got a start there is no difficulty in keeping going.

The main thing in my experience is the engineer. He must really understand his engine or he is bound to have trouble with any outfit put into his hands. Frank L. Davey understood this Sawyer-Massey engine from the largest part to the smallest. I only used it in threshing this year on account of his absence on war service and I did not have the satisfaction even in the comparatively simple job of threshing that I had when he was running it.

I trust the foregoing is that you are after. It is the best I can do as I am a trifle overworked, having two sons at the front, and the hired help we get now is of a very inferior order.

Frank Davey.

## SASKATOON HARDWARE CO. LIMITED

**J.L. SHUTCHINSON, PRESIDENT & GEN. MGR.**

### BUY BARB WIRE NOW

**80-Rod Spools heavily galvanized Can you beat our price per spool \$3.75?**

Write us to-day for complete price list on all kinds of fencing. We can save you money.

### FARMERS! ARE YOU BUILDING?

Good ready prepared house paint, fully guaranteed. Our price per gallon **\$2.25**. Full stock barn paint and shingle stain.

Write us for **PRICE LIST** on nails and other building material. Our prices are right.

### B. T. Hay Carrier Outfit for 60-Foot Barn

Complete with rope and slings, etc. Our price **\$63.00**

B. T. barn equipment is the best. We carry a full stock. Write for Free Catalogs and prices.

Which price list do you want? It is free. Write to Dept. S. P.

**SASKATOON HARDWARE CO. LIMITED, Saskatoon, Sask.**

## Manitoba Farm Loans Association

Incorporated by the "Manitoba Farm Loans Act" being Cap. 31:7 George V. Statutes of Manitoba, 1917.

---

### MANITOBA'S CO-OPERATIVE LAND BANK

**Every Shareholder a Borrower**

#### Loans

To Farmers on First Mortgage Security for a period of **THIRTY YEARS**. Interest rate **6% PER ANNUM ON UNPAID PRINCIPAL**.

Repayment by equal annual amounts composed of Principal and Interest.

Amount of annual payment for each **\$1,000.00** loaned—**\$72.65**.

Full payment accepted at end of fifth year or at any time thereafter without notice or bonus.

Application Forms to be obtained from Secretary, Treasurers of Municipalities, or, in unorganized territory, from "The Commissioner," Winnipeg.

#### Deposits

Accepted by issue of **DEPOSIT CERTIFICATE GUARANTEED AS TO PRINCIPAL AND INTEREST BY THE PROVINCE OF MANITOBA**.

Certificates issued in denominations of **\$25.00, \$50.00, \$75.00, and in Hundreds up to \$1,000.**

Interest at **4%** payable half yearly. Certificates will be cashed at any time with interest computed to date.

Offices: Scott Block, 374 Main St. Winnipeg

Address all communications to  
**The Commissioner**  
Manitoba Farm Loans Association Winnipeg

### Got Gophers?

## Kill-Em-Quick

For further information see the Kill-Em-Quick Gopher Poison Advertisement on Page 43

BOOK ON  
**DOG DISEASES**  
And How to Feed

Mailed free to any address by the Author

**H. CLAY GLOVER CO., Inc.**  
118 West 31st Street, New York

# The Oil-Gas Tractor to Thresh With



DO YOU WANT A GAS TRACTOR TO THRESH WITH?

If so, you should have a good, strong, steady-running and substantial engine.

They do plow with these little light auto-tractors, because, when the load gets too heavy, they slip the clutch.

That cannot be done when threshing. The load is continuous.

Any slacking up or letting down of the motion spoils the work of the thresher.

The motion of the thresher must be kept constant and steady, that the separation and cleaning may be right, and that the stacker, mill or weigher do not clog.

The little light gas tractor will not furnish the right kind of power. It is not steady enough.

It takes the Nichols-Shepard Oil-Gas Tractor to furnish the right kind of power to thresh with. Just as steady as a steam engine.

It burns kerosene at all loads. Being a two-cylinder engine, it runs with less revolutions per minute, driving a heavy fly-wheel that stores up sufficient surplus as a reserve power which carries the thresher over momentary over-loads, through uneven feeding, giving a steady and powerful motion which insures good work on the part of the thresher.

It furnishes just the right kind of power to thresh with, and because it is designed for just that purpose.

It is not to be classed in any way with the little fast-running tractor motors that are so common.

It is built in two sizes—25-50 H.P. and 35-70 H.P.

It is as well adapted to plowing, and can be seen in all parts of the country hauling from four to ten mould-board plows.

*Write for Catalogue*

## NICHOLS & SHEPARD CO.

In Continuous Business Since 1848

**Builders EXCLUSIVELY of THRESHING MACHINERY**

Red River Special Threshers, Feeders, Wind Stackers, Steam and Oil-Gas Traction Engines

**BATTLE CREEK, MICH.**

BRANCH HOUSES (with Full Stock of Repairs) at

REGINA, Saskatchewan

H. P. NORTON COMPANY, CALGARY, Alberta

WINNIPEG, Manitoba

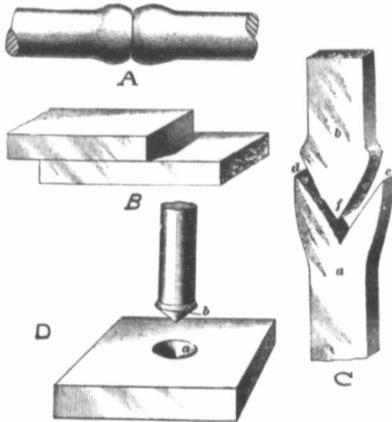
# The Art of Blacksmithing as Applied to the Trade

In the butt weld shown in Cut A, the two pieces are generally upset a little at first, and then welded together as shown. They are hammered on the end to bring them together, and as this tends to upset the pieces still more, they are drawn out to the required size after the weld has been made. In preparing the ends, the surfaces to be welded are made convex, as in the scarf weld, in order to allow the slag to work out.

shown at b. The conical surfaces must be so formed that the parts will come together at the point first, so that any slag will be squeezed out as the piece is driven, or jumped, into its seat. This form of weld is frequently used for quite large work, the bar being driven to place under the steam hammer.

### Building Up

It is frequently inconvenient or impracticable to make a forging



### Lap Welding

In the lap weld, the two pieces are laid together face to face as shown in Cut B, and welded. As the faces are not rounded, the hammering is started at the centre, gradually working toward the edges in order to work out all the slag. If the edges are welded up and any slag remains between the faces, it will keep the metal from uniting in the centre.

### Cleft Welding

When a weld is required to stand considerable strain, as is caused by prying and bending, the pieces are generally joined by the cleft weld, shown in Cut One of the pieces. A (Cut C) is upset to gain width and thickness, and is then split open on the end as shown at a and the two cheeks c and d spread apart; the other piece is then scarfed on both edges, as shown at b. In welding, the pieces are first hammered on the end to get the weld to stick and then hammered on the edges to close the weld. The pieces should be so formed that the weld will start at the point f and the slag be forced out as the sides c and d are closed down.

### Jump Welding

The jump weld is really a special form of cleft-weld. If it is desired to weld a bar to a flat plate, a conical depression is made in the plate, as shown in Cut D. The bar to be welded is pointed, as

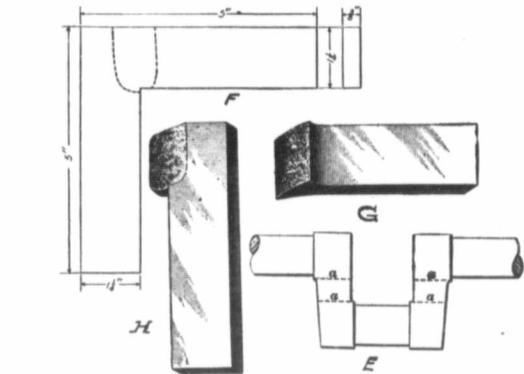
out of a single piece because of the shape it is to have. In such a case the forging is built up; that is, it is made of a number of pieces that are forged to their approximate shapes and then welded together. Cut E shows a built-up forging in which the welds are designated by the letters a-a.

### Work Involving Scarf Welds

#### Making a Corner Plate

In order to illustrate some of the applications of the scarf weld, a few simple cases, in addition to the one already given, involving the various principles of welding in general and of scarf welding in particular, will be described.

If a corner plate, like the one shown in Cut F is to be made, two pieces of 3/8 in. x 1 1/4 in. iron, each about 15 inches long, are heated at one end, keeping one of them near the edge of the fire so as to heat it more slowly than the other. When one is hot enough, it is taken from the fire, and the end upset and then scarfed as shown in Cut G. This is done by striking it, and at the same time drawing the hammer toward the hand, in order to draw the metal that way. The other piece is then taken from the fire, upset at the end, and one edge scarfed as shown in Cut H. When both pieces are ready, they are put into the fire and raised to a bright-red heat, turning them occasionally to get the heat even. They are then



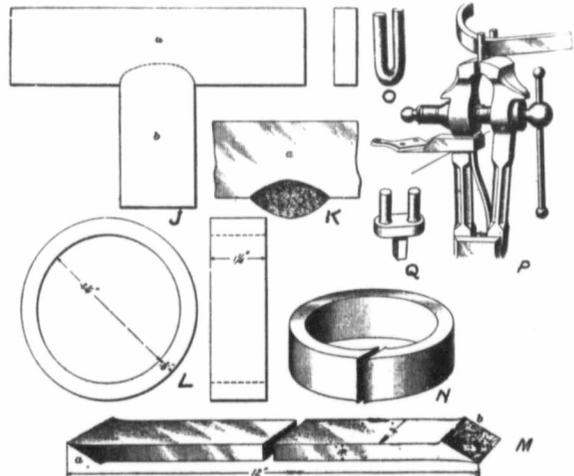
dipped into the flux or the flux is sprinkled over their surfaces and they are then returned to the fire and raised to a good white heat on the scarfs. The pieces are turned occasionally to prevent the slag and flux from dropping off. As soon as both pieces begin to approach a welding heat, the blast is turned on stronger in order to raise the final heat rapidly; and if it is thought necessary, a little more flux is thrown on the pieces while in the fire. When hot enough, the pieces are brought to the anvil and put together. In doing this, the pieces are held against the edges of the anvil, care being taken not to touch the cold anvil with the heated portion. When the scarfs are in line, the pieces are brought down flush on the anvil, having the pieces in the right hand below the one in the left hand, so that the left-hand piece will be able to hold the other down while the right hand does the hammering. A few rapid blows will make the pieces stick; they are then turned over to bring the other face under the hammer.

The form of the scarf should always be such that the centres of the surfaces to be welded come in contact first; this will cause the slag to squeeze out as the pieces are hammered together. As soon as the pieces cool to a cherry red, they are reheated and the weld finished. When black hot, both sides of the piece are struck against the horn to make sure that the weld is well made. A good weld will not open on being bent and then straightened. If the weld is good, the corner is tried with a try-square and finished perfectly sharp and square, on the edge of the anvil, as shown in Cut F. The ends are then cut off, making each arm 5 inches on the long edge. When cold, it will be seen that the weld is perfectly tight, the slag having all been squeezed out in hammering.

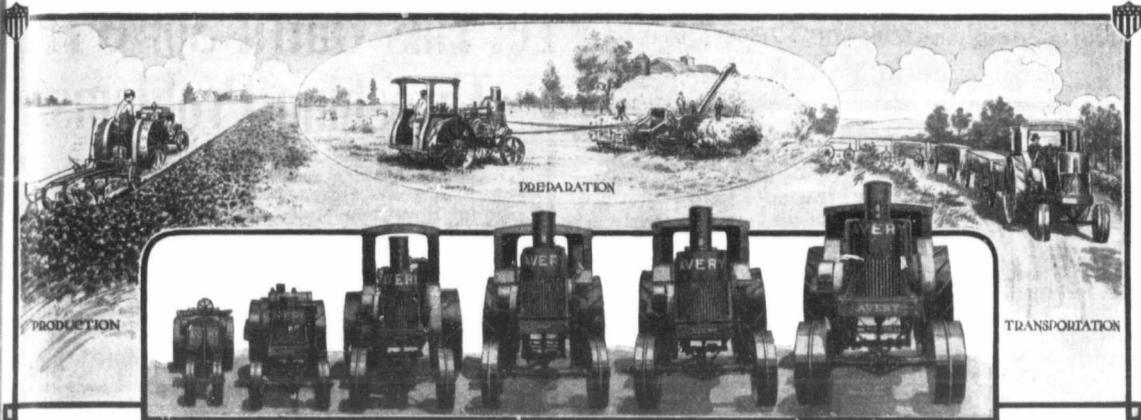
### Making a T Plate

A T plate like the one shown in Cut J can be made in nearly the same way as the corner weld. The cross-piece a is upset in the centre and the edge is scarfed as

Continued on page 23



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## The Second Line of Defence

The fighting forces and equipment of a nation are its first line of defence—productive forces its second.

A well-known agricultural paper rightly says "Every farmer should apply himself to strengthening the first line of his country's defence by producing more food." It is an old military adage that an army travels on its stomach. Plainly, as President Wilson has said, "Upon the farmers of this country in large measure rests the fate of the world and the fate of the nation."

Recognition of the importance of the tractor as the one absolutely necessary means of increasing the size of the crops is universal. Governor Cox, of Ohio, says, "The tractor is the machine which will revolutionize farm methods and make up for the shortage of farm hands." Only by using tractors, working night and day if necessary, can proper preparation of all the land be made and an increased acreage be put under cultivation and thus larger crops be produced with the present reduced amount of animal and man power.

### Let an Avery Tractor Help You Raise Larger Crops and an Avery Thresher Save Them After You Raise Them

Here is the Avery Line of Tractors. Six sizes—5-10, 8-16, 12-25, 18-36, 25-50 and 40-80 h.p. A size to fit every size farm.

The five larger sizes are all built alike. Opposed slow speed heavy duty special tractor motors—patented sliding frame, two speed, double drive, all spur gear transmission—renewable inner cylinder walls—crankshafts so strong no owner ever broke one—no fan, no fuel pump, no water pump, no outside lubricator, no second clutch, no bevel gears, no intermediate gear.

Avery Threshers are built in eight sizes—19 x 30, 22 x 36, 26 x 40, 28 x 46, 32 x 54, 36 x 60, 42 x 64 and 42 x 70 inch—size for every size run.

All eight sizes are regularly equipped with Jumbo Tool Steel Cylinder Teeth guaranteed for life against breakage. All are equipped with the wonderful I. X. L. grain saving separating device. Backed by the best proven grain saving records and the strongest definite grain saving guarantee of any.

### An Interesting Book For You--FREE

A book unusually well illustrated, with many cut out interior as well as exterior views of Avery Tractors and Threshers. Also illustrates Avery Plows, Steam Engines and Motor Cultivators. Boiled down, interesting descriptions of all parts. Write for free copy of complete 1917 Avery Catalog and get ALL the facts about the Bull Dog Line of tractor farming, thrashing and road building machinery. The Avery Tractor will help to raise more grain and the Avery Thresher will help save the grain after it is raised.

# AMERY

**AMERY COMPANY**  
685 Iowa St., Peoria, Ill.

**Canadian Avery Co. Ltd.**

Western Canadian Distributors  
**WINNIPEG - REGINA**

**KEROSENE**

**KEROSENE**

**Kerosene Produces the Lowest Priced Farm Power**

FROM every corner of Canada comes the call—"Give us low-priced power. Give us farm power that will reduce our farming cost to a minimum and at the same time increase the production."

This is nothing more nor less than the call of progress. Horse and feed prices have mounted the ladder so high that the cost of animal power staggers the man who figures on horses for his total farm power expense. While no one of judgment contends that the horse will ever be entirely replaced by mechanical power, it can be said even now that on progressive farms the horse is only used to supplement the tractor, that is, tractors and engines are doing the hardest and heaviest work as well as the belt work, and the horse will be found useful for light field work, choring, etc.

There is a great host of tractors on the market, so many in fact that to the casual observer it would seem difficult to make a selection. They can be classified in many ways. For instance, by the kind of motor—one-cylinder, two-cylinder, four-cylinder, vertical, or horizontal; by the number of drive wheels; by the kind of drive wheels and other similar ways. But all of these classifications are only incidental to the big issue, namely, the cost of power. That is largely determined by the kind of fuel used. There are then but two classes in which to separate tractors—a cheap fuel class—those that operate successfully on kerosene, distillate, and other low grade fuels; and into the other class—those that only operate successfully on gasoline and other high-priced fuels. As the farmer wants cheap power, this classification is the only one to follow, and it greatly simplifies the problem of selecting a tractor.

**Kerosene Produces Cheaper Power than Gasoline**

As we all know, there is a direct relation between heat and power, but while we are interested in the cost of power, it is hardly necessary here to go into a discussion of the chemical composition of these fuels. It is sufficient to say that kerosene contains more heat units per gallon than gasoline, and that as kerosene is the heavier fuel and as it requires more heat in distillation, it requires a more perfect tractor or engine to use it successfully. For anyone to say or claim that a gasoline engine will operate successfully on kerosene by making a few minor changes shows that he is either

not posted on the subject or is fully making misleading statements.

It is to be regretted that it is necessary to refer to as old a report as the Winnipeg contest in order to find an official record of comparative tests of kerosene and gasoline, because there has been much learned about burning the heavier fuel since that time. The kerosene tractor was rather new when those tests were made. It had not received the attention that gasoline tractors had, consequently there has been much greater development in the field of using kerosene during the past four or five years than there has been in the gasoline field. In the absence of a more recent official test than the Winnipeg contest, we are forced to use it. The writer firmly believes that there has been an improvement in kerosene tractors equivalent to thirty or forty per cent, if not more, since the Winnipeg contest.

It should be remembered that the tractors used in the Winnipeg contest were rather crude machines as compared with the tractors of the present day. They were a great deal heavier per horse power, and consequently less efficient at the drawbar. A 10-20 horse-power tractor at that time weighed in the neighborhood of 14,000 pounds, while the present kerosene tractor of the same size will weigh only about 5,500 pounds. Steel and other high grade materials have been used in every way possible. More perfect design and improvement in construction have helped increase the efficiency of the present day tractor.

The average quantity of fuel consumed at the Winnipeg contest for the three years 1911-12-13 was .0976 gallons per horse-power hour for gasoline and for kerosene .1189 gallons per horse-power hour. In other words, a gallon of gasoline produces 10.24 H.P.H., and a gallon of kerosene 8.4 H.P.H. It would take 19½ gallons of gasoline to produce 200 H.P.H., and of kerosene 23¾ gallons.

As we are concerned about the cost of power, the next consideration should be the relative costs of these fuels at the present market price f.o.b. Winnipeg, which is 34 cents per gallon for gasoline and 16½ cents for kerosene. If the prices of these fuels vary in your locality, it will be easy for you to figure out the relative costs yourself.

**Let This Outfit Solve Your Threshing Problems**

A Fairbanks-Morse combination outfit will thresh your grain when you're ready. It threshes clean—saves all the grain and is easily operated.

**The Sturdily Constructed Separator**

has steel body, massive shafts and liberal bearings. The stout braces, the choice hardwoods and the excellent workmanship unite to make this—the better separator. Observe the extra width of body—46 inches. The wide decks, wide shoe, wide sieves, make for clean and thorough work.

**Power! All You Want—and More!**

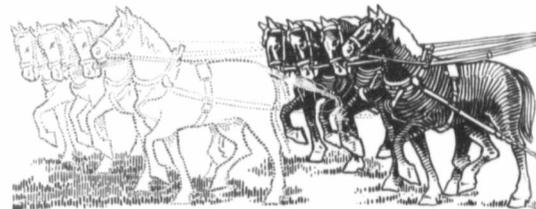
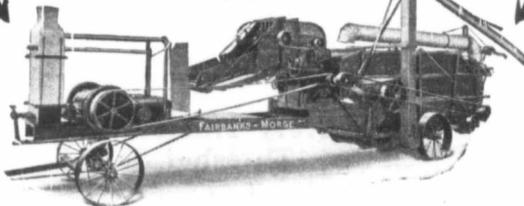
A 20 H.P. Twin Cylinder Engine drives the 24 in. x 46 in. machine with Self Feeder, Wind Stacker and Automatic Register. For hand feed the outfit is powered by the famous 15 H.P. "Z." Both are horizontal engines—both burn cheap kerosene—with smooth throttling governor—magneto ignition and friction clutch pulley. If you have a tractor of 10-20 H.P. or larger you'll want this 24 in. x 46 in. Thresher, mounted separately.

**GET OUR CATALOG**

Our 1917 Catalog will tell you all about the Fairbanks-Morse Outfits  
WRITE AT ONCE FOR YOUR COPY

**The Canadian Fairbanks-Morse Co. Limited**  
SASKATOON WINNIPEG CALGARY

**Costs Less to Operate—Runs on Cheap Kerosene**



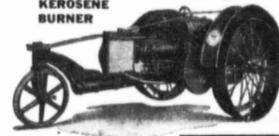
**Costs the price of four horses—Does the work of twelve!**

A strong, medium-weight tractor—all steel construction where necessary—automatically steered—economically run—that's Model B

**MODEL B**  
12-24 H.P.  
ON  
**\$1275** TERMS  
DISCOUNT FOR CASH

**Happy Farmer Tractor**

SHOWING MODEL "B" KEROSENE BURNER



Built to burn kerosene. A sturdy, eager worker—eliminating extra help—doing jobs in a third of horse time, and at half the expense. Ask us for Facts and Figures.

**J. D. Adsead Co. Ltd.**  
Canadian Representatives  
226 Curry Bldg.  
WINNIPEG - MANITOBA

9½ gallon  
34¢ equa  
3¾ gallon  
17½¢. eq

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DISCOUNT FOR CASH

FOR CASH

Bobby—Now,  
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9 1/2 gallons of gasoline at 34¢ equals ..... \$6.63  
 3 1/4 gallons of kerosene at 17 1/2¢ equals ..... 3.92

saving by using kerosene of ..... \$2.71  
 This means a saving of \$2.71 a day on fuel alone, by using cheap kerosene. In one hundred days, the use of a kerosene tractor would save \$271.00. This is a sum worth saving, and it shows that kerosene produces the lowest priced power. In other words, kerosene power is filling the demand for cheap power. Then, too, it is to be remembered that there has been a marked improvement in kerosene tractors since the Winnipeg contest, which will make the present saving of the kerosene tractor even greater than the figures quoted above. This fact is important to the farmer who is figuring the cost of power. **The Farmer Pays the Fuel Bills**  
 There may be a tendency for the manufacturer to boost one kind of tractor in preference to another. If he has been unsuccessful in building a kerosene tractor, the tendency will be for him to praise the gasoline tractor, and, of course, the opposite will also be true, but facts like the one cited above are evidences that show the advisability of selecting a kerosene tractor. It is to the farmer's interests, as it is he who pays the fuel bills, to select a tractor that produces power on the lowest priced fuel.

There are many other advantages in using kerosene that are sometimes overlooked. It can be stored in quantities with less loss, less danger of fire, and with less danger of violating insurance regulations. It is safer than gasoline. Kerosene can be used for many purposes on the farm, such as for lighting, for fuel, for making spraying preparations and many other similar purposes.

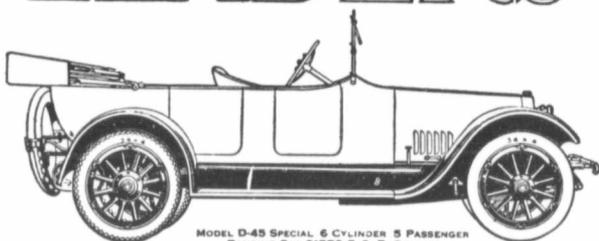
There are a great many differences in the construction of kerosene and gasoline tractors. If one were asked to sum up these differ-



Bobby—Now, Nellie, you git right out here—you ain't old enough to listen to other hunting for his collar-button.

**MCLAUGHLIN**

# LEADERS



MODEL D-45 SPECIAL 6 CYLINDER 5 PASSENGER  
 TOURING CAR \$1520 F. O. B. OSHAWA

ALL PRICES F. O. B. OSHAWA FIFTH TIRE CAN BE FURNISHED AT EXTRA COST

	D-SIX-44 45 h. p. Six Cylinder Valve-in-head Roadster \$1390	The 1917 Series McLaughlin motor cars consist of a complete line of fours and sixes, in touring and roadster types at prices from \$910 f. o. b. Oshawa upward.
	D-SIX-63 The New McLaughlin "Light Six" Valve-in-head 5 passenger Touring Car \$1220	Every McLaughlin model is a recognized leader in its class. To such a degree has McLaughlin leadership been established that for three successive seasons demand was greater than supply.
	D-SIX-62 The McLaughlin "Light Six" Roadster \$1210	To insure all the pleasures of motoring this year, order the model best suited to your needs now.
	D-FOUR-35 The New McLaughlin "Four" the Challenge in 1917 motor car values \$925	Send for new catalogue.
	D-FOUR-34 The New McLaughlin "Four" Roadster \$910.	<b>THE MCLAUGHLIN MOTOR CAR CO., LIMITED</b> OSHAWA, ONTARIO Branches in Leading Cities Dealers Everywhere

Canada's Standard Car

## Ford and Chevrolet Owners

We can quickly supply you through our local agent, in your district, with any of the following supplies:—

- |  |  |
|--|--|
| <b>TIRE HOLDERS</b> ..... \$3.00 to \$7.00<br><b>ROBE RAILS</b> , black enamelled .75<br><b>TIRE COVERS</b> ..... \$2.00 to \$3.00<br><b>WARNER SPECIAL LENS</b> | <b>TOOL BOXES</b> , 22 x 9 x 7 ..... \$3.25<br><b>30 x 3 1/2" NON-SKID CHAINS</b> . \$2.65<br><b>GOPHER SPECIAL INNER TUBES</b><br><b>H &amp; D FORD SHOCK ABSORBERS</b> |
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A Full and Complete Line of AUTOMOBILE ACCESSORIES carried in stock in Calgary and Edmonton.

**THE MOTOR CAR SUPPLY CO. LIMITED**  
 DRAWER 2195 DEPT. A CALGARY, ALBERTA

## OXY-ACETYLENE WELDING APPARATUS and SUPPLIES

We can supply a thoroughly practical outfit from \$100.00 up. There should be at least one plant in every district to repair breakages quickly and SAVE TIME and MONEY. Up-to-date farmers with Traction Engines are putting in welding outfits and doing their own and their neighbours repairs. We give free instructions to purchasers. **SEND YOUR BROKEN CASTINGS** Scored Cylinders or any kind of Repairs. We Re-bore Cylinders, True Up Crank Shafts, Re-tip Boiler Flues and are in a position to handle any repair job promptly.

*Nothing too large or too Small*

**GIEGER WELDING WORKS, SASKATOON**



### MICA HELPS THE HAUL

- Dry hubs strain
1. The horses
  2. The harness
  3. The wagon

### MICA AXLE GREASE

helps all three factors in the haul. It smooths the axle surface. MICA is the important part of axle grease.

THE IMPERIAL OIL COMPANY Limited  
 BRANCHES THROUGHOUT CANADA

ences in one sentence, that sentence would be this—a kerosene tractor is more perfect, more highly developed, and more expensive in construction than a gasoline tractor. It is necessary, because of the nature of the fuel, to be more exact and more scientific in the construction of the different parts when kerosene is to be used than it is when gasoline is the fuel. For instance, let us take the piston. When we consider the fact that kerosene requires a higher heat of distillation and contains more heat, it is necessary for a kerosene tractor to operate at a higher temperature. This necessitates a specially designed piston. The higher temperature required in a kerosene tractor would probably prove detrimental in a gasoline tractor. The kerosene tractor pistons are especially heat treated for two reasons—to prevent them changing shape in the cylinder and to insure a closer fit which gives better compression, consequently more power.

The higher temperature required by a kerosene tractor and the nature of the fuel necessitates a special kind of oiling system as well as an oil that will withstand the high temperature. The so-called splash system of oiling has not proved to be successful in a kerosene tractor. To change the oiling system of a tractor would mean a very material change, and shows that a kerosene tractor must be designed and built from the ground up in order to be a success.

There is a difference also in the governing mechanism between kerosene and gasoline tractors. In a kerosene tractor there is a wider range for proper governing than there is in a gasoline tractor, due to the fact that the fuel is heavier.

The ignition that is used in the ordinary gasoline tractor is not suitable for kerosene, because the usual ignition system does not give a strong enough or hot enough spark to get the best results with kerosene. The spark must be hot and strong to insure proper ignition when the denser, heavier fuels are used.

The location of the mixer in a kerosene tractor is very important. Kerosene is heavier than gasoline, and it is very essential that the mixer be so located that gravity will assist in carrying the fuel into the cylinder. For this reason, successful kerosene engines and tractors have the mixer located higher than the cylinder. Preheating a charge of fuel and air before it enters the mixer or while it is in the mixer is practised in some cases but great care is necessary not to carry this to an extreme, because it would mean a reduction of power. Attempts have been made to burn kerosene by simply atomizing the fuel. Other

attempts have been made by simply volatilizing the fuel. Neither of these alone have been successful. Only where these two principles have been combined in the right proportions has the highest degree of success been obtained.

The use of water in connection with kerosene is very simple. By the use of water it is possible to get higher compression, and consequently more power. The use of water does not in any way complicate the simplicity of operation because tractors are so designed that after the water is once turned on it automatically takes care of itself, that is, the amount of water fed into the cylinder is in direct proportion to the load. There is no question but that a little water increases the efficiency of a kerosene tractor. We have all noticed how much better gasoline motors run at night than on a hot day, this being caused by the moisture in the air. Water also keeps the cylinder free from carbon deposits.

No one who knows anything about the vast amount of experimenting necessary as well as the carefulness of design of the kerosene tractor can ever honestly make a statement that it is easy to change from a gasoline to a kerosene tractor by simply altering a few minor details.

It is little short of ridiculous for one to say that 95 per cent of the farmers operate their tractors and engines with black smoke issuing from the exhaust. The great number of automobiles in use in the country has enabled the farmer to become familiar with the operation of internal combustion engines. Careful observation of farmers' cars shows that if anything the farmers are more careful about the use of gas than other operators. In Western Canada, the farmers have had more experience with tractors than perhaps in any other part of the whole continent.

When it comes down to the final analysis of the power problem, the one great thing that the farmer is interested in and which should determine his purchase is the **cost of power delivered at the drawbar or at the belt.** Tractors made by well-established companies are perhaps near enough perfected in design to give fairly good success upon the fuel for which they are made. Then the farmer has only to consider the kind of fuel that his tractor is to burn. No one can ask for any more proof that kerosene is the cheapest fuel than the figures quoted in the first part of this article. Let us also remember that the present-day tractor is far ahead in construction, as well as in fuel economy, of those used in the days of the Winnipeg contest.



**"Power-Economy-Saving"**

As the old saying goes:—  
**"The proof of the pudding is in the eating,"**

or, in other words, applied to our modern life, it doesn't make much difference how many good things one may hear said of an article, for the convincing proof of its value each must try for himself. That is the very reason for our selling the

## Gould Balance Valve

under a positive guarantee to give entire satisfaction or it costs you nothing.

We know that a thresherman can never fully realize what a Gould Balance Valve is worth to him until he tries one, and with our plan it

### Doesn't Cost a Cent to try.

For further information write us, giving the horse power and make of engine.

Address:  
**Gould Balance Valve Company**  
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**"We Guarantee Value Received"**

## Protected Shingles Mean Economy

The shingles on your house act as its lid they are there to shut out weather. Left unprotected, they can't serve their purpose long, because the very weather they are supposed to withstand soon cracks, warps, and finally penetrates them just as though the "lid" had been lifted. Make your shingles weather-tight by the use of

### Stephens' SHINGLE STAINS

These come in seventeen soft, velvety, artistic, durable colors. Made with creosote, strong in staining power, and affording thorough protection. Ask your hardware dealer.



G. F. Stephens & Co. Limited  
 Paint and Varnish Makers  
 WINNIPEG CANADA

**Twelve Months of This Magazine for \$1.00**

May 17

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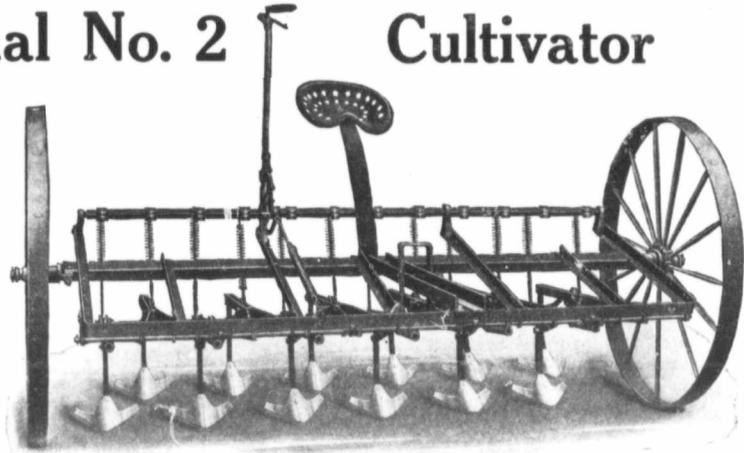
REPRE "What t hat shell- we were ot Geordie heard you;

# International No. 2 Cultivator

**HIS** most useful and profitable implement—the **International No. 2** cultivator—will do good work on your farm. It serves the double purpose of cultivating your soil and thoroughly ridding the ground of weeds. For forming a mulch of dirt to conserve the moisture, for keeping down obnoxious weeds, for summer fallowing, you could not own a more economical implement.

The main frame of the **International No. 2** is of angle steel, more than strong enough to keep the teeth at their work in all conditions of ground. The teeth follow the unevenness of ground, being independent of each other. They cannot twist out of position, and strong springs protect them. One easy-working lever and rock shaft controls the cultivator. Note the steel wheels and axles—only the International has them.

Either spring or stiff teeth are furnished. At little added cost you can have both sets, giving you a splendid outfit for all-round use. The stiff teeth cut the whole



surface of the ground. They are excellent in getting rid of thistles and woody-stalk weeds. The spring teeth points are reversible, giving double wear. The cultivator can be equipped with grain and grass seeding boxes.

See the agent who sells the **International No. 2**. Write the nearest branch house for catalogue.

## International Harvester Company of Canada, Limited

### BRANCH HOUSES:

West—Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Estevan, Sask.; Lethbridge, Alta.; North Battleford, Sask.; Regina, Sask.; Saskatoon, Sask.; Winnipeg, Man.; Yorkton, Sask.  
 East—Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.

### Hon. W. R. Motherwell and Farm Labor

"Recruiting, which is so necessary, has depleted our farm labor supply down to the bone," says Hon. W. R. Motherwell. "But sufficient farm help for spring will I believe be secured by tapping new sources of supply and by using our reserves. The usual programme of my department to get farm labor has been helped out this year in a substantial manner by the timely assistance of the federal authorities who are bearing half the cost of the special

campaign to get men from the United States, but we have not had enough men yet."

We estimated the number of men required for Saskatchewan from outside of Canada at 4,000, but we have not had half this number and we must now call upon our 'reserves'."

"Our urban centres can yet spare, temporarily, a good many bank clerks, business men, barbers, retired farmers, clergymen and others for a month or more for such essential work as seeding, and as labor (apart from our transportation problem) is the limiting factor to greater production at this time, all can help to remove it by joining the sowers of the soil, if not the tillers thereof. If each of our seven cities would contribute 100 men, our seventy-three towns an average of 10 men and our three hundred and twelve villages 5 men each, the problem would be solved."

"Many well meaning advocates of greater production have been invoking farmers to sow every possible acre. With present prevailing prices and such urgent Imperial need, this invocation is surely unnecessary. We do, however, with confidence urge all of our fellow citizens in cities, towns and villages, who can possibly lend a helping hand, to do so during seeding."



**REPRESENTING "THE UNION"**  
 "What the devil are you doing down that shell-hole? Didn't you hear me say we were out against four to one?"  
 Geordie (a trade unionist)—"Ay, aa heard you; but aa've killed ma fower."

**A Hint of the VALUES in the C.S. JUDSON CO. LIMITED Gasoline Engine AND Farm Supply Catalog.**

**\$32.50** Gets This Perfect

**Gasoline Engine**  
 It Will Develop 1 1/2 H.P. And Is Complete Ready To Run

This engine is a brother to our "handy boy." It is an engine the farmer needs for pumping the water, and one that the women folks can use equally as well on the washing machine. It is the most perfect in its class. It is perfect in every detail, simple, reliable and economical and so very easy to start, that any boy or woman can operate it, and it only costs about two cents per hour to run it. It is sold on 30 days' free trial, satisfaction guaranteed. Complete with pumping jack and belt, \$38.50.

**OVER 500 OTHER SURPRISING VALUES!**  
 You should have the C. S. Judson Co. catalog before you order an Engine, Grain Grinder, Cream Separator, Threshers' Supplies, Pump, Wire Fencing, Hay Tools, Hardware, Washing Machine, Churn, or other farm labor saving devices. It is a reliable guide to highest quality, lowest prices and the greatest value for every dollar. It is beautifully illustrated in three colors, contains complete and accurate descriptions of labor saving machinery. You will find it easy to select the article you want and easy to compare our quality and prices.

**SEND A POSTAL NOW!**  
 Why not send a postal card to-day and see for yourself the many different lines we list and the low prices. Read how and what they are made of; read our straightforward guarantee of absolute satisfaction, and then decide where you will buy your gasoline engine, cream separator, or other farm supplies for 1917. Better send for this free book now; a postal card will do.

**C.S. JUDSON Co. Limited WINNIPEG**

## How My Auto Has Paid Me

By R. G. KIRKBY

**T**HE use of a small motor car on our farm has entirely removed the feeling of isolation that sometimes causes the farmer and his family to look altogether too favorably upon city life. It has been practical in a business way and saved us money on many occasions and it probably cost less than \$100 more than we would have paid for a good driving horse, a buggy and a harness.

Not long ago it seemed advantageous to dispose of about 60 bushels of wheat at a time when a team could not be used for hauling the wheat to market. By filling the rear seat or tonneau with sacks and placing two bags in front with the driver it was possible to haul between fifteen and sixteen bushels of wheat to a load. It took four loads to carry the amount that the team could have hauled at one load, but considering the length of time for each haul and the fact that horses could not be used, we considered that the auto proved very practical for the work.

### Busy People Must Count the Time

Recently it was possible to have the state apiarist visit our farm to look over the prospects for placing about seventy-five stands of bees on the place on shares. In one hour we had driven two miles to the state college after him, discussed the situation, completed our arrangements and taken him back to the experiment station. With a horse and buggy the trip would have taken three or four times as long and possibly, considering the amount of work this man was carrying, he would have found it impossible to have visited our farm and we would have missed a great deal of practical information.

### Upkeep Not Heavy

During the first year we have owned this car we have had no expense for repairs and the cost of oil and gasoline has not equalled the expense of feeding and caring for a driving horse during the same period. The business of the farm has prevented touring this year, or possibly our upkeep expense would have been much higher. We have only used the car for business and occasional short pleasure trips to visit friends on Sunday.

### A New Car Every Year

We hear a great deal about the first cost of an automobile being a small part of the financial worry, but it seems that a fair run of luck as far as accidents are concerned and a great deal of care in oiling will prevent much of the auto expense at least during the first year. At the end of the first year it is

possible to trade in a car such as we own for about \$100 less than the purchase price and it is considered good business by some farmer auto owners to turn in their car every year. At the end of five years for example you would use up a car entirely, but by trading it in each year at a cost of \$100 per year you always have a new car with small upkeep expense and at the end of the five years you have a machine fairly up to date and worth within \$100 of the original investment.

I do not believe it is possible to do this with all makes of cars, but theoretically it should be a good proposition for the owner, and I have known owners who are apparently finding such an arrangement very satisfactory.

### Cost and Convenience

We find that we can go at least 150 miles on ten gallons of gasoline and during the large part of the summer we have purchased gasoline at ten cents per gallon, which is at the rate of fifteen miles for ten cents or one and a half miles per cent. We are in close proximity to two towns, a small town of 2,000 about two miles away and a town of 40,000 just six miles away. Since we have owned the car we have not seen the inside of a street car or interurban, and the cost of running our car to the city and back is less than the interurban fare for a ride of the same distance.

At the same time we miss a lot of bad air in the poorly ventilated cars and save much valuable time whether compared to the electric car or driving by horse. In purchasing the car we spend little money for extras and we find that a self-starter is not necessary after becoming familiar with the kinks of the crank. On cool mornings a few extra turns of the crank are necessary but the arm that pitches hay can spin the engine without fear and then something has to start.

### We Use Car Mostly for Business

On the whole we would not trade our car for ten times its weight in prancing horses and enameled buggies. At the same time it has not been used as a vehicle for pleasure. This year we have had a lot of rainy weather and we have been too busy for touring when the days were fine. As a business proposition we consider the car the best investment in farm machinery that we have ever made.

Angry diner—"Waiter, you are not fit to serve a pig!"

Waiter—"I am doing my best, sir."

## A COMBINATION

That Is

## HARD TO BEAT

### The STEWART Grain Separator And The STEWART Sheaf Loader

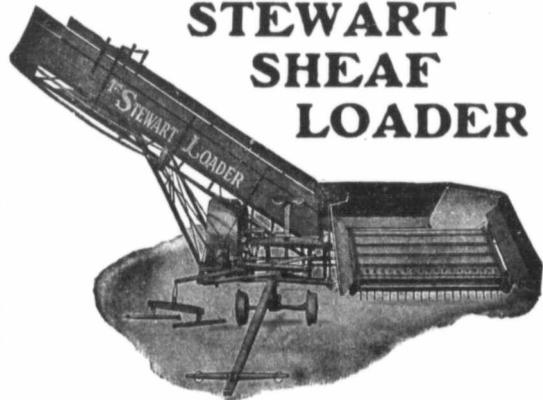
We do not sell "Stewart" Grain Separators, but we do build them for several of the leading Western Canadian Jobbers. From Feeder to Windstacker, the "Stewart" is built to thresh all the grain under all conditions, and at the same time put it in the Wagon rather than in the straw stack.

Before you purchase your 1917 Grain Thresher, investigate the "Stewart" carefully. NOTE the large cylinder, which takes the grain out of the head. NOTE the separating device back of the cylinder. NOTE the size and construction of the shoe and straw deck. NOTE the sieves, "No-Choke" chaffer and weed screen. NOTE the size of the crank and bearings. In short, go over it piece by piece and part by part, for we know when you do you will place your order for a

## STEWART SEPARATOR

Your Outfit is Not Complete  
Without a

## STEWART SHEAF LOADER



Designed as it is, to save men, horses and grain, it is in strict keeping with the spirit of 1917, which demands the largest possible crop with the smallest possible amount of help. \$2.00 wheat is too precious to waste. It takes but a few bushels to pay for a Stewart Sheaf Loader. Born of necessity, cradled in the wheat fields of the Canadian West, it has reached a stage in its development where it supplies the missing link between the binder and the thrasher. For those who have any doubt as to what the Stewart Sheaf Loader will do, we have an abundance of evidence from satisfied users that we will be pleased to send you on request. Address the

## Stewart Sheaf Loader Co. Ltd.

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**Blacksmithing**

*Continued from page 12*

shown in Cut K and the piece B is upset and scarfed on one end, as in the corner plate. When both pieces have been prepared, they are heated, fluxed and welded, as described in the construction of the corner plate.

**Making a Band Ring**

In making a band ring, like the one shown in Cut L, a piece of 3/8 in. x 1 1/4 in. iron, 12 inches long, is upset at both ends. The ends are scarfed on opposite sides, as shown at a and b in Cut M, and the iron is bent into the form of the desired ring. To do this, the iron is heated and then laid across the horn of the anvil and projecting beyond it. The projecting end is hammered and bent around, as shown in Cut N, until the scarfed faces are in position for welding, but about 1/4 inch apart. The ends are next heated and fluxed, and then raised to a welding heat. To weld the ring, it is brought to the anvil and slipped over the horn, with the scarfed ends on the upper side of the horn. A few rapid blows with the hammer will make the weld, after which the ring is trued up so as to make it round and to make the iron of the required width and thickness throughout. This is done over the horn of the anvil.

A very good way of bending the iron for a band ring or a similar piece, is to use a piece of 1/2 inch or 3/4 inch round iron bent into U shape as shown in Cut O. This piece is clamped in the vise with the open end up, and the iron to be bent is laid between the projecting ends and bent by pressing the end sidewise, as shown in Cut P, or a fork that has a square shank to fit the hardie hole of the anvil, as shown in Cut Q, may be used. The iron may be bent either hot or cold. If the iron is thin, it is preferable to bend it cold, as hot bending is liable to kink it. If the iron is bent hot over the horn of the anvil, the jarring from the hammer blows is also apt to make the projecting end sag and lose its shape.

Two men in an auto slowed up beside a man working on the street.

"Can you tell us the way to Bolton, Pat?" asked one.

"Begorra, and how did yez know my name was Pat?" he asked in reply.

"We guessed it."

"Then guess the way to Bolton," came the quick reply.

First Actor—When I was in Africa I was nearly killed by the bursting of a shell."

Second Actor — "Oh! Who threw the egg?"—M. A. P.

# DELCO-LIGHT

## ELECTRICITY FOR EVERY FARM

### The Greatest Boon Since the Self-Binder

Life in the country has taken a wonderful step in advance with the coming of Delco-Light. Nothing since the self-binder has meant so much to the farmer and small-town dweller. Here, at last, is complete and economical electric light and power for every home that is now without it. No home in the world will now be more worth living in than that of the progressive farmer. Nothing that the big city offers is now beyond your reach. With Delco-Light country life becomes the preferred. It brings every comfort and convenience to the farm—saves money, time, labor for all the family.

#### Electric Light and Power



Here is Delco Light—electric light—clean, brilliant, safe. Delco-Light goes everywhere—all over the house, in the barns and sheds, outdoors. Clear light, best for work and eyes. Clean light, without the labor of cleaning lamps and lanterns. Safe light, with no danger of fire.

Delco-Light is a pleasure, a convenience, almost a necessity. But Delco Light power is even more. It earns its way. With the Delco-Light Power Stand you can do much of your chores by machine. Saves hours of time in milking, separating, churning feed cutting, washing, pumping water.

Delco-Light is the most compact, efficient and simple electric lighting plant yet developed. The main unit consists of a switchboard, combined electric motor and generator, and a gasoline engine. The other units are set of

storage batteries. Each part is the simplest of its kind that will work efficiently. Little adjusting is called for. The engine is self-starting by pressing down a switch. Stops automatically when batteries are fully charged.

**COMPLETE USE OF ELECTRICITY**

The Delco-Light Power Stand will increase the usefulness of your electricity 100%. It is a compact, sturdy, efficient portable motor, saving of current. Take it anywhere. It runs from the nearest light socket. It will operate all kinds of light machinery, saving you hours of time and labor.



**FREE FULL INFORMATION**—We have prepared several intensely interesting books telling all about Delco-Light—how little it costs, how much it does, how easy it is to install and operate. Send your name and address for these books free.

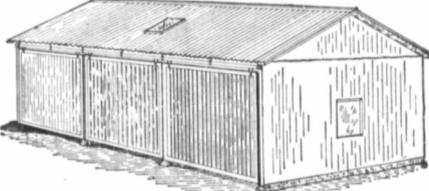
**Domestic Engineering Co., DAYTON, OHIO**

The same company that has made world-famous Delco-starting, lighting and ignition plants for automobiles.

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Protect your Machinery and Implements from fire and weather in one of our **READY MADE BUILDINGS**



Manufactured in various styles and sizes suitable for farm conveniences.  
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SASKATOON WINNIPEG CALGARY

### STEAM PLOWERS-ATTENTION!



**HIGHEST GRADE STEAM COAL  
PRODUCED IN CANADA**

Canadian Coal for Canadian Farmers  
Equal to the best American Steam Coal. Semi-Anthracite. Smokeless, Sparkless, Low Ash, 14491 B.T.U's. Ask your dealer or write us for descriptive circular.

**Birnie Lumber & Coal Co., Ltd.**  
General Sales Agents  
CALGARY CANADA

# The Farmer's Real Income

Extensive investigations into the profits of farming have indicated that the amount of money which the average farmer receives for his year's work is little more than that which he would be paid if he hired himself out as a farm hand to one of his neighbors. In other words, though the farmer is in business for himself, the average farmer gets little or no money reward for the intelligence and skill with which he has managed his affairs or the risk and responsibility he has assumed. But he must get something in return or no one would trouble to farm for himself. A recent study conducted by experts in the United States Department of Agriculture shows that in many cases this reward may best be found in the products with which his farm furnishes him directly. When a farm is nearly, if not quite, self-sustaining, when it supplies the family that lives upon it with most of the necessities of life, a large money income is not necessary to prosperity. A greater sum derived from a farm which yields nothing for home consumption may leave the occupants much worse off.

The farms selected for study, though possibly a little more prosperous than the average, were fairly representative of their sections which included three corn and cotton areas, two states in the corn and wheat belt, two regions where general farming was carried on, and three different dairy districts. The average value of the chief necessities of life—food, fuel, oil, and shelter—used each year by the farm family the investigators found to be \$595.08. Of these necessities, estimated in money, the portion contributed directly by the farm was \$421.17,

leaving \$173.91 to be purchased with the cash obtained from the sale of products. In considering these figures it must be remembered that if the farmer had been compelled to pay city prices for his home-grown necessities, this \$421.17 would have represented much less comfort.

### Home-Grown Food

Of the food consumed, 63 per cent was furnished by the farm. Of the value of the food consumed, groceries constituted practically one-quarter, animal products more than one-half, vegetables 11.6 per cent, and fruit only 6.3. Practically all of the groceries were bought; on the other hand the quantity of fruits and vegetables used was in direct proportion to the quantity raised on the farm and where this quantity was great the grocery bill was correspondingly low. This was also found to be true of animal products, including of course, not only butcher's meat, but poultry, eggs, milk, cheese, etc. Where these were abundant on the farm fewer groceries were purchased. Since the grocery bill was found to be ordinarily two-thirds of the entire amount expended in cash for food, one very obvious and effective way of economizing appears to be to raise more vegetables, more fruit, more milk, and eggs. In many cases, experts say, this can be done with no appreciable increase in trouble or expense.

Next to food, shelter is probably the most important necessity of life. In considering the farmer's income, however, a common error in the past has been to ignore the question of house rent. The value of the house has usually been included in the value of the land and the whole considered as capital



A MATTER OF SOIL

"Hullo, Mates! Been far?"  
"Been far, indeed! Half over France and Belgium, and we've got the other half in these darned bags."

# NATIONAL MOTOR OIL FOR NATIONAL USE

## Why NATIONAL CARBON-LESS Motor Oil Is Better—Why It Costs More—How It Is Made

Steam that escapes through a tea kettle spout, if caught and condensed, would be pure water. Distilled water is manufactured on this same idea, only on a larger scale.



Along the sides and at the bottom of the tea kettle scale is formed and accumulates—the residue that is left over after the passing of the water into steam.

The same principle that manufacturers of distilled water use is carried out in the manufacture of National Carbonless Motor Oil. Imagine a tea kettle that will hold 25,000 gallons, then you have some idea of an oil still used for this purpose. Into one of these huge oil stills goes the highest selected Crude Oil from which National Carbonless Motor Oil is always refined, where the oil is heated until it forms a vapor. This vapor is then condensed into a liquid distillate (the same as the vapor from a tea kettle spout is condensed), further refined and then filtered. The result is a clear, clean, carbon-free Motor Oil—National Carbonless Motor Oil.

Residue oils left over in the still never enter into the manufacture of National Carbonless Motor Oil. Where such residue is used an oil is made of very inferior lubricating properties and can be and is sold at one-half the

price of an oil made as is National Carbonless Motor Oil.

A Motor Oil loaded with residue will break under heat and fail to perform its function. The residue and deposit which becomes incandescent, causes pre-ignition under heavy duty and finally, after continued use, coke-like carbon forms. Just as scale is formed in the tea kettle.

Suppose you catch and condense escaping vapor from the tea kettle spout? You have pure water. Place this distilled water in a brand new tea kettle and reboil it; you will find little if any scale in tea kettle No. 2. The same experiment applies to National Carbonless Motor Oil.

National Carbonless Motor Oil, distilled into a vapor, is further refined and then filtered—leaves no carbon, and lubricates most efficiently.

A juicy sirloin steak costs more than chuck steak. Wool is more serviceable than cotton. Gold jewelry gives satisfaction long after some Christmas brands have turned green. Quality in anything costs more than the low grade article—in National Carbonless Motor Oil you get quality in manufacture, service and efficiency in use—full value.

You should use National Carbonless Motor Oil for economical and perfect lubrication.

### Other NATIONAL Products

**White Rose Motor Gasoline.** Always uniform. Every drop is continuous power. Pure, dry, carbon-free.

**En-ar-co Tractor Oil.** Especially made for modern tractors. Proper body to lubricate most efficiently—saves cash in machinery depreciation.

**National Light Oil.** Bright, clear light for lamps. No smoke, odor, charred wick or chimney. Uniform heat for incubators and brooders. Best for oil heaters and all purposes for which the best burning oil is required.

**National Motor Grease.** For Differential, Compression Cups, Transmission; gives perfect lubrication and is manufactured especially to be used for any and all purposes, all around the motor car.

**Black Beauty Axle Grease.** Insures a smooth, friction-free, wear-resisting axle. No compounds to clog and gum. Goes farther than ordinary grease. Buy it by the pail.

**Order Today—Decide Now to Buy National Products. We will see that you are supplied, no matter where you live.**

**Canadian Oil Companies, Limited**  
Dept. K,  
2-12 Strachan Ave.,  
Toronto, Ont.

This Handy Oil Can FREE. A slim, long-spouted can—will oil hard-to-reach parts.

Sent FREE To AUTO and TRACTOR Owners

Canadian Oil Companies, Limited  
Dept. K, 2-12 Strachan Ave., Toronto, Ont.

I am..... automobile or..... tractor (Give name above) and enclose two 2-cent stamps. Send me Handy Long-Spouted Oil Can FREE. Please give correct shipping point and quote prices on items I have marked. I will be in the market about..... (Give date)

I use.....gals. gasoline per year. I use.....auto grease per year.  
I use.....gals. motor oil per year. I use.....gals. kerosene per year.  
I use.....lb. axle grease per year. I use.....gals. tractor oil per year.

My Name is.....  
Address.....  
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NOTE: This can will be sent to owners of Tractors or Automobiles only and when you fill out coupon complete. Not for boys or girls.

## ONE DOLLAR SPENT ON A YEAR'S ISSUE

Of the CANADIAN THRESHERMAN AND FARMER is equal to One Thousand Dollars' worth of Hard Experience.

invested to be paid be regarded a all. This sumes that have shelt sumption 1 with whor pay out f quarter of rent alone astonishing. Accordin igation, if 1 to pay ren him \$125 a presents te of the ave; interest, de this is reg charge for usually fou

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invested on which interest must be paid before the farmer can be regarded as receiving any pay at all. This method, however, assumes that the farm family is to have shelter for nothing, an assumption which the city worker, with whom it is not unusual to pay out from one-third to one-quarter of his entire wages for rent alone, would regard as most astonishing.

According to the recent investigation, if the average farmer had to pay rent, his home would cost him \$125 a year. This figure represents ten per cent of the value of the average house. Including interest, depreciation, and repairs, this is regarded as a fair rental charge for the class of houses usually found on the farm.

**Board and Lodging**

With the information at their command, the investigators were also in a position to compute the average cost of board and lodging on the farm; in this they included an item very easily forgotten—the value of the house work performed by members of the family. This was reckoned on the basis of the wages that would have had to be paid for hired assistance. Including this with the more obvious charges for food, fuel, light, and rent, it was found that board and lodging for each individual averaged \$14.62 a month. But of this sum, it is interesting to note, the farmer paid out in cash only 22 per cent. Exclusive of lodging the board of the average hired man cost \$10 a month, but here again the farmer had only to pay \$3. The remaining \$7 was furnished by the farm as a result presumably of the hired man's own efforts.

The averages obtained as the result of this investigation are not, of course, to be taken as mathematically exact for the entire country. In the opinion of agricultural experts, however, they point with convincing emphasis to the possibilities of comfort and prosperity that may be realized by a fuller utilization of all the farm's resources. Cash crops are not the sole, and on the average they are not even the chief source of real income. It is really what the farm furnishes directly to the farmer that enables him to support his family. To increase the quantity and quality of this direct supply is one great object of farm management studies.

**Beyond Him**

The young girl was visiting her girl friend for the first time after her marriage.

"And does your husband give you all the money you want?" she asked.

"Why, no, dear. There isn't that much money."

# Massey-Harris Service

## Talk No. 2.—A Helping Hand.

**S**ATISFIED Customers are the foundation of any permanent business. We have been in the business of manufacturing and selling Farm Implements for seventy years and are in it to stay. We have supplied three generations of farmers with their requirements in this line, and our steadily increasing business is sufficient proof that our Customers are receiving full value, both in the implements themselves and in the service rendered.

The past is a good index of the future—Massey-Harris Service will always be a prominent factor in the business.

Satisfactory service cannot be rendered by a middleman. He does not have the necessary knowledge and experience, and may this year handle the products of one factory and next year be handling a different line, so that no continuous service of any kind is to be had.

We are represented in several thousand towns and villages throughout Canada by Local Agents backed up by our factories and branches located at convenient points. In dealing

with one of our Agents, you are dealing with *Massey-Harris Company, Limited*, and should there be any change in your Local Agent, this does not in any way affect the situation, for Massey-Harris service is always available—right in your neighborhood there is a Massey-Harris Representative ready to extend a helping hand.

Is it not worth while to know that when you buy a Massey-Harris Implement it will be carefully erected, a reliable man will see that it is properly started, and that further service will be available at any time on short notice?

*In an early number of this publication we shall have more to say regarding Massey-Harris Service which is of such vital interest to every farmer.*

## MASSEY-HARRIS CO., LIMITED

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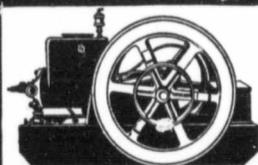
AGENCIES EVERYWHERE

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## A Tractor Thresher

Moving About the Field with its Own Power—Fewer Horses and Men Required

By MAX McD

A machine which the inventor believes will revolutionize threshing methods by relegating the present system to the scrap heap, is being constructed now at Calgary, Alberta. The machine is a thresher on a new principle. Instead of staying in one place and having the grain brought to it, it travels over the field, handling all the grain in its path.

The inventor is J. Clove. His machine is not an experiment, for this is the sixth one he has built. The fifth one was a success, only it was small, having but twenty horse-power. The one now being built has two engines, each of which will generate 60 horse-power. It is expected by Mr. Clove that the machine will be ready for work this fall, when it will be taken to Suffield, Alberta, where a threshing contract has been secured. It is expected that 5,000 or 6,000 acres of wheat will be threshed by it this year.

So far as threshing devices are concerned, the apparatus is much the same as that used ordinarily, only the inventor claims there are improvements in this one. The grain comes out cleaner, as the thresher is a combination of thresher and fanning mill. The power is provided by two 60-horse automobile engines, making each process independent of the other. Both engines are in the front of the machine, underneath the platform upon which the driver and mechanic sit. The steering is done by a powerful wheel, similar to the ones used by automobiles.

The machine is a lengthy affair, being 36 feet over all. It is as high as the regulation threshing machine, and more unwieldy looking. But as to its navigability, utter confidence is reposed in the high power driving engine. It is geared down to about three miles an hour, so the machine should be able to climb almost any kind of a grade.

One of the chief savings of the machine will be in reducing the number of men needed for a threshing outfit. With the present day outfits from 18 to 24 men are used, and it is necessary to work from 20 to 30 horses. Six men can operate the Clove machine. This should go a long way toward solving the labor problem of the west.

Another saving is in the grain itself. From 10 to 15 per cent more grain will be obtained by this method, Mr. Clove believes. This saving is effected in one way

by the handling, for with this machine the grain sheaves are not loaded onto a waggon and then again removed to the thresher. They are fed direct into the thresher with one handling. Therefore, the loss in handling is almost eliminated. Then in the process of threshing there is not a big waste in grain around the machine, for it is so carefully handled by the machine that none escapes. In addition to this the grain is clean when it comes out.

The wheat straw is thrown out behind the machine on to the ground as it moves along. According to Mr. Clove, the best teachings in the matter of wheat straw disposal now are that the straw should be carried to the field and burned there. In this way the ashes become a fertilizer, and pests such as worms, etc., are killed by the fire. The straw should be burned or it could be easily raked up by a horse raker if it was desired by the farmer. The cost of threshing by his machine, Mr. Clove estimates at two cents per bushel. The method now in vogue costs about six cents per bushel under the most favorable conditions. His machine will be able to handle easily 2,000 bushels of wheat per day.

### Regulating the Thresher

In operation, the threshing machine, the same as any other machine, will do the best work when properly managed.

Scarcely two fields of grain have grown, ripened and been cut and handled the same. One may be in a condition to shell from the straw easily, while in another the kernels may cling to the chaff or heads so as to make it almost impossible to dislodge them. One stack of grain may be brittle and cut up, another may pass through without breaking up much. One may be stiff and stubborn, another soft and pliable. One lot may have many blades or leaves on the stalks, another only the plain stalk and head. One kind may have a light fluffy chaff and dense heavy kernels, another with the chaff heavy and filled with sap, and the kernel as light as the chaff. Some fields are filled with weeds and foreign matter, which the machine is expected to distinguish and separate from the grain.

Then again some conditions require more power than others to drive the machine. Some days are bright and sunny, others damp and foggy. Some warm or hot, others cold. There may be a

## Rely on Goodyear Thresher Belting

**S**CORES of Goodyear Thresher Belt sales are being made on the strength of one man telling another about it.

You know how provoking a breakdown is in the midst of threshing. You know the loss—time, grain, if bad weather sets in.

Goodyear Belt Makers are told to make belts that keep the grain a-pouring.

Goodyear Thresher Belts are made with fabric, many times stronger than the lead actually requires. To prevent the plies separating we rivet them together with a strong rubber compound. Then we stitch them. Finally we seal the seam with rubber.

You don't want the splice to open, neither do we. We make them strong.

We have a weather-resisting, wear-resisting cover on Goodyear Belts.

We have made them longer lived. We like to make them so good that you tell your neighbor about them.

The nearest Goodyear Branch will give you interesting facts about Goodyear Reliable Thresher Belting.

### ASK ABOUT HOSE

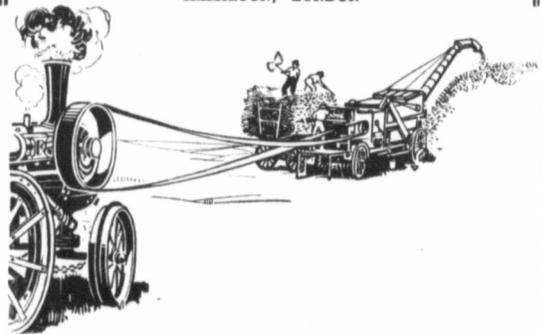
The men who use Goodyear Thresher Belting have found Goodyear Hose satisfying. The strong, woven cover and flat wire lining in Goodyear Yellow Jacket Tank Hose give it long life and keep it from collapsing.

### IT WILL STAND HARD USAGE

"Goodyear" Quality Injector Hose and "Goodyear" Quality Discharge Hose are reliable, efficient and eminently satisfactory.

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**GOOD YEAR**  
MADE IN CANADA

Be

The Little Trac Plow



973

Inter WINNIPEG

hard wind l each condit chine in a d perienceo meet all th and save ev the grain p other thing: But the ma machine anc come the no the operatio The cyli special atte good condit out of balar from the 1 straight edg again by ins ing weights boxes shoulk as it consun power to ov tion.

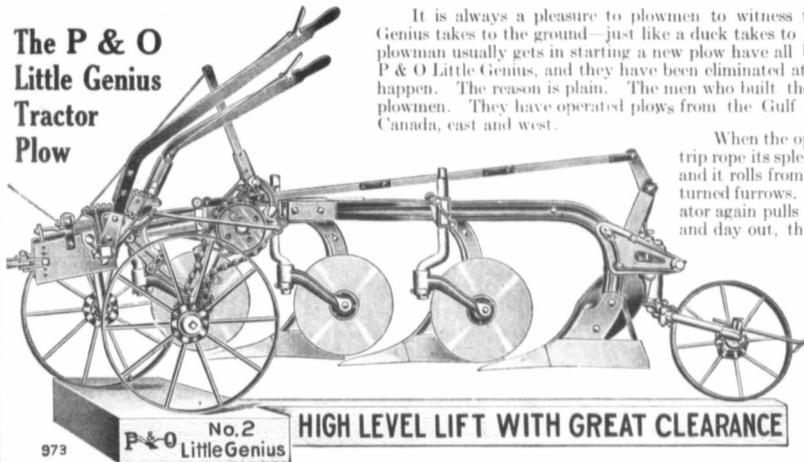
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"Son, I hoj a practical gi "Oh, she's She drives h can take a m any expert in



# Built in the Factory to Make Good in the Field

## The P & O Little Genius Tractor Plow



It is always a pleasure to plowmen to witness the manner in which the P & O Little Genius takes to the ground—just like a duck takes to water—naturally. The troubles which a plowman usually gets in starting a new plow have all been anticipated by the builders of the P & O Little Genius, and they have been eliminated at the factory—left out—they simply don't happen. The reason is plain. The men who built the P & O Little Genius are also practical plowmen. They have operated plows from the Gulf of Mexico to the great wheat fields of Canada, east and west.

When the operator of a P & O Little Genius pulls the trip rope its splendid bottoms stick their noses into the soil and it rolls from their polished moldboards into perfectly turned furrows. And it continues to roll until the operator again pulls the trip rope. Hour in, hour out, day in and day out, the P & O Little Genius goes right on making good—and making friends.

And more plowmen every day are specifying the P & O Little Genius for use with their light tractors. Remember, your tractor cost several times the price of a plow, but it depends a great deal on the plow as to whether your tractor will make good. Play it safe—the P & O Little Genius has won thousands of victories and has never been defeated.

**HIGH LEVEL LIFT WITH GREAT CLEARANCE**

Made by **PARLIN & ORENDORFF CO.**, Canton, Ill., U.S.A.

**International Harvester Company of Canada, Limited** SALES AGENTS FOR CANADA

WINNIPEG BRANDON REGINA SASKATOON YORKTON NORTH BATTLEFORD ESTEVAN CALGARY EDMONTON LETHBRIDGE

hard wind blowing or none at all, each condition affecting the machine in a different way. The experienced operator is expected to meet all these varied conditions and save every kernel, and clean the grain perfectly, and do many other things well nigh impossible. But the man who understands the machine and its working best, will come the nearest to perfection in the operation of the same.

The cylinder should receive special attention and be kept in good condition. If it is too much out of balance it should be taken from the machine and set on straight edges and put in balance again by inserting counter-balancing weights on the light side. The boxes should not be run too tight, as it consumes a large amount of power to overcome the extra friction.

The teeth should not be permitted to become so worn and rounded as to retard the straw from entering the cylinder freely. Part new teeth divided equally around and along the cylinder, will assist in the suction of the straw and thresh clean also.

"Son, I hope you are engaged to a practical girl."

"Oh, she's very practical, dad. She drives her own car, and she can take a motor apart as well as any expert in the business."

### To Prevent Spilling Oil from Tipped-Over Can

Oilcans are easily turned over when working about machinery, and a considerable amount of oil is wasted before discovered. A very simple little device to overcome this trouble can be made by anyone in a few minutes. Solder a disk of sheet metal on the upper surface of the base on the spout. The disk should be a little larger in diameter than the bottom of the can. This will prevent the oil from running out of the can when upset.



"Ah've jes' bin readin' in de papers 'bout our not havin' enuff fighting ships."  
 "Dat so? Wa-al, it's too bad—an' ah've bin made to un'erstan' dat we've got two ob de bes' oceans in de worl' to sail 'em on, too."

## Cast Iron Breakages Welded By the Oxy-Acetylene Process

WE ARE THE PIONEERS OF THIS PROCESS IN THE WEST

Our repairs are permanent and our welds absolutely guaranteed. Prices reasonable. All machinery parts welded. We operate a machine shop in connection with the welding department. Worn or scored engine cylinders rebored and fitted with oversize pistons and rings.

INQUIRIES CHEERFULLY ANSWERED

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## Steam or Gas Tractors

Equipped with



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FITTED TO EVERY BUILD OF ENGINE

Patent Ball Ranger Speed Changer Supplied on all Genuine Pickering Governors.

Will increase speed 50% or more.

**THE PICKERING GOVERNOR CO.**  
 PORTLAND CONN, U.S.A.



## Tractor Problem Solved

Failures Largely Traceable to Inexperience of Operators and Lack of Proper Training

**T**HE problem of a farm tractor or that will do the heavier part of the farm work has been solved. Last year's demonstrations proved that fact beyond the shadow of a doubt.

The problem of the farmer being able to use the tractor is not yet solved. The fact lies at the base of the many and conflicting reports that are constantly being heard. The tractor successes can be traced to men that have been at considerable pains to learn how to use a tractor, or that have an instinctive knack for machinery, and have so planned their farm work that a tractor could be used advantageously. The tractor failures are traceable to men who have been all too willing to believe all that a glib-tongued salesman had to say, and have conceived the idea that the tractor could supply them with the necessary skill to operate it, and would furnish brains to plan their work along traction farming lines.

### Kind of Questions Asked

Many inquiries from all over the west come to the writer that serve to indicate the amount of real study the writers of them have given to the subject of buying a tractor. A few ask for very definite information concerning tractors for a definite sized farm, and take pains to state the kind of crops raised, and the acreage in each. A large number state the size of the farm but say not one word as to their crops, assuming that part to be unimportant. By far the larger number simply ask for an opinion as to the best make on the market, and never say a word as to what they plan to do with it, or where it is to be operated.

It is a pleasure to give all the information possible to the men who have thought out their needs, and reasonably definite answers can be given the second class of letters, if one states an assumed acreage in various crops suited to that particular locality. The last class of letters are practically hopeless, and are answered as diplomatically as possible, in the hope of getting more definite inquiries.

These inquiries show, in the first place, that many men are seriously considering owning tractors and using them more or less for farm work. In the second place, these letters show that the writers have not given serious thought to the subject of what to do with the machine after they have bought it. Usually the single item of plowing is the only use discussed.

### Select Tractor Adapted to Work

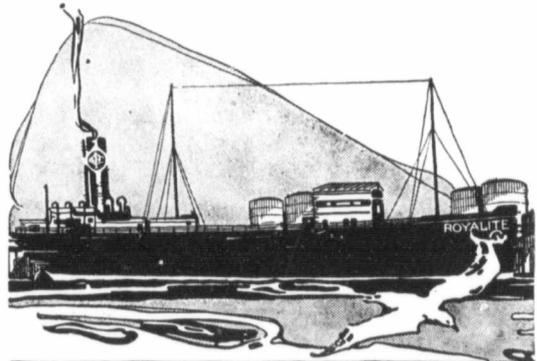
Some will say that with so many sizes and kinds of tractors as are

now on the market, how can it be said that the tractor has arrived? It does seem confusing at first, and does not tend to clear up much as long as the prospective buyer listens to the salesman alone, and reads all the alluring literature that the various manufacturers are particular to supply him with. It will be well for those who are so situated to take stock of their own problems a while, and get all the available information from government reports, agricultural colleges and agricultural agents. None of these has tractors for sale. Then, in the light of this advice, and from the experience of the successful users of tractors, tractor buyers will be in a position to intelligently choose from the vast collection, the only machine that will do the work they have to do. Just as there are some horses that are best suited to slow, heavy work and some to light fast travel, some that will survive in Alaska and not in Texas, so also are there large and small tractors, light and heavy, standard and freak, and, as there is no universal type of horse, there can scarcely be a universal tractor. It is entirely probable that some common style of tractor will be agreed upon among the manufacturers, so that all tractors will have some features in common, just as all horses are four-legged, have a head and tail, and sometime or other, wear out.

### Can Tractor Supplant Horse?

Very often the question is raised as to whether the traction engine can completely take the place of the horse. The answer to this, in my opinion, depends on several variable factors. First of all will be the adaptability of the man behind the engine. The operator must be able to see the present horse problem, the work the horse now does, in terms of traction power. He must be able to adapt his present tools, built for horses, so they can work successfully with tractors. It is foolish to scrap some of the present farm machinery until a good many experiments are carried out, that tend to show the manufacturers of such machinery in what ways they must rebuild or redesign them for the most effective use with large power engines.

Next in order, in answer to the horse-tractor question, will be the replanning of the farm operations, looking to the elimination of the horse and the endless questions of horse feed, stables, personal care, veterinary attendance and exclusive horse tools. This is the point



**A FLEET** of ten ships—tankers, oil barges and package-carrying boats operating on both oceans and on the lakes, is but one of the units of an organization which renders service to almost every Canadian farmer.

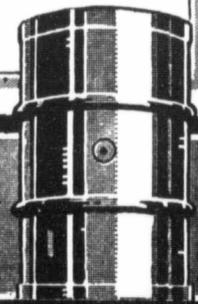
Experience—years of it—has taught us the right oil for every farm machine. A distributing system which a great organization alone can build up, makes the right oil available to you at the lowest basis of price.

All our oils are supplied in steel barrels and steel half-barrels—convenient, economical. No waste. You use every drop you pay for.

### AN OIL FOR EVERY FARM MACHINE

	<p>For Gasoline Engines, Tractor, Auto or Stationary <b>POLARINE OIL</b> STANDARD GAS ENGINE OIL</p> <p>For Kerosene Engines, Tractor or Stationary <b>POLARINE OIL HEAVY</b> IMPERIAL KEROSENE TRACTOR OIL <small>(Recommended by International Harvester Co.)</small></p>
	<p>For Open Bearings of Farm Machinery <b>PRAIRIE HARVESTER OIL</b> —very heavy body, resists cold, won't thin out with moisture <b>ELDORADO CASTOR OIL</b> —a thick oil for worn and loose bearings</p>
	<p>For Steam Cylinder Lubrication, whether Tractor or Stationary Type <b>CAPITOL CYLINDER OIL</b> —the standard product for steam cylinder lubrication</p>
	<p>For Grease Cup Lubrication of Bearings <b>THRESHER HARD OIL</b> —a clean, solid feed oil of high melting point</p>

The Imperial Oil Company Limited  
BRANCHES THROUGHOUT CANADA



Twelve Months of this Magazine for \$1.00

on which farmers ha not reason the cheaper the tractor slower, we sive horse? back a very the time w laughed at wheat with sickle, the were the pr It took Cy teen years t



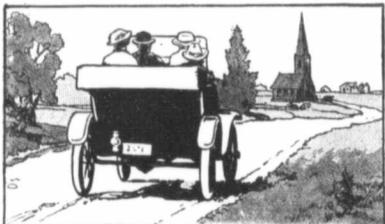
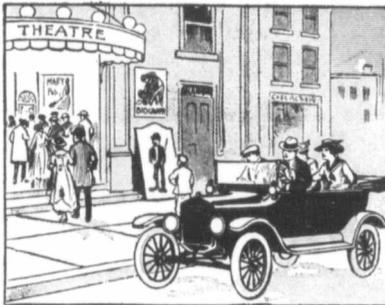
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A Ford car will give your boys and girls so much additional pleasure and enjoyment that they will be more satisfied to remain on the farm. They may then enjoy all the pleasures of city life and still live at home.

For a trip to a distant house party, a quick run to the nearest town or city theatre, or a quiet ride to church—the Ford does it all.

Buy a Ford and note the new interest you take in life. You will find your Ford always ready for a spin on either business or pleasure.

If you have a "problem" in keeping your boys and girls at home, try to solve it the Ford way, you'll find life more worth living. Work on the farm will be easier, because you have more pleasure to go with it.



# Ford

Runabout - - - \$475

Touring Car - - - \$495

F.O.B. FORD, ONTARIO

### Ford Motor Company of Canada, Limited

FORD - - - ONTARIO

41

on which the older class of our farmers halt and stumble. Is it not reasonable to suppose that the cheaper and faster power of the tractor must supplant the slower, weaker and more expensive horse? One need but to look back a very few years to remember the time when our grandfathers laughed at the idea of reaping wheat with horses. The hand sickle, the scythe and the cradle were the proper tools for the job. It took Cyrus McCormick fourteen years to sell his first hundred

reapers. Are there any men today who would consent to harvest our thousand-acre fields of wheat with hand sickles? Most everyone would say that such a person was a fine candidate for the insane asylum.

**Feed Cost of Horses Enormous**  
With the horse element out of the farm planning, different crops might be grown and different uses made of them. The 80,000,000 tons of hay that are now annually fed to horses—if still grown—could be fed to 25,000,000 steers,

and our morning beefsteak cheapened. If the new farm planning did not need to take account of horse feed, nor the raising of cattle, all the acres that are necessary to grow this enormous tonnage of hay could be used to raise other crops that can be directly used for human food. For, after all, the great game of farming is not to keep a lot of pampered horses in idleness two-thirds of the time, and wait on them hand and foot as long as they live—rather it is the intelligent solving

of how to produce the necessary food for the human race, in the proper quantity, at the cheapest price, and in the easiest manner.

#### Planning Farm for Tractor

This farm planning must take account of size and shape of fields. A new lay-out of fences will undoubtedly be necessary in many cases, although some of the new small tractors require no more time or room in which to turn than a four-horse team.

A further phase of the changed methods that will be followed as

horses are eliminated, will have to do with our poor roads and antiquated road wagons. Good roads, and permanent roads, must be had. The tractor will demand and get them, because the entire marketing proposition must be reorganized along efficient lines.

The question often comes up, how large a tractor must be had for a given acreage? To this inquiry, no one is in a position to say with any authority. How many horses should be used or kept on the same acreage? How many horses are to be kept after the tractor is bought? What specific work is the tractor to do? How many days will it take the tractor to do this work? These and other questions pertaining to contemplated changes in kind of crops, methods of tillage, working for hire, and so forth, must be taken into account when deciding on the tractor size.

**Make of Tractor to Buy**

Which is the best?—This is the first, middle and last question asked by those who have not given the tractor question much consideration. An answer to this would be about as valuable as to answer whether all houses should be built bungalow style, or of reinforced concrete, or in California as the best place to live.

Each and every tractor, so far built, has its merits, both in kind and quality. As long as we do not all choose to live in brownstone fronts, or wear the same brand of hats, it is reasonable to suppose that each one of the one hundred and fifty makes of tractors will have satisfied customers, and in a certain degree meet the different requirements of their clients.

Time and field experience will eliminate the freak, the junk heap, and the overly expensive tractors. Naturalists tell us that in very re-

mote times the ancestor of the horse was no larger than a good-sized dog, that he had three toes, and various other appendages that are not considered good form in horsedom to-day. The gradual changes that have evolved "Old Dobbin" from his remote pigmy ancestor, took untold centuries.

To-day the would-be tractor user is asking which style, size and make of tractor is the universal, all round machine to buy, and because no one with authority tells him, he is prone to "wait awhile" and let the golden opportunity pass him by.

Nature evolved the horse very largely. Man has contributed considerably to this evolution in recent years. There are now several distinct types of horses, each of which experience has taught us has a distinct field of usefulness. We can therefore expect the sur-

vival of several types and sizes in tractors.

There is no reason, however, why the conservative farmer should refuse to admit the increasing practicability of tractors for all classes of farm work. It is a challenge to the progressive farmer to help in the solution of the problems which still seem to furnish an argument in favor of the old horse way of doing things. This puts off the day when the most efficient power allied with the most scientific agriculture, can do its full share toward the development of the best and highest rural life.

"I took a long walk yesterday," said Boreman, as he took a seat by Busyman's desk.

"Take another, old man," suggested Busyman; "it'll do us both good."



**THE TWENTY-TWENTY**  
TRADE-MARK COAT

OLIVE KHAKI

**"BUILT FOR WAR"**

Under date of December 3rd, 1916, an Infantry Officer in France writes to a friend: "We find we cannot get Slickers here and have to write back to Canada for them, and if anyone needed a Slicker, believe me, we do over here. I want a "TOWER" make if I can get one, as they are by far the best."

**BEFORE THE WAR**

This was a Farm Coat, its special features, so necessary in farm work; the full skirt making easy walking; the overlapping front—thorough protection when driving. Its exceptional waterproof qualities which are guaranteed.

SOLD BY DEALERS EVERYWHERE

Manufactured by

**TOWER CANADIAN LIMITED**  
TORONTO

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There are many good reasons why  
the use of

## Dunlop Thresher Belts

"PRAIRIE" and "RELIANCE"

is quite general throughout every threshing community.

Threshermen realize that Rubber Belts surpass any other kind for the work they have to do, and

That Dunlop Thresher Rubber Belts embody all the good qualities of an Ideal Rubber Belt.

Dunlop Thresher Belts are made

*By Expert Workmen  
In a Uniform Way  
From the Best Materials*

Wherein lies the secret of

**Service, Quality and Satisfaction**

Ask our nearest Branch for a sample of either Belt or both.

Dunlop Canvas Thresher Belts and Dunlop Agricultural Hose are thoroughly upholding the reputation of the "Two Hands" Line of Rubber-made Goods.

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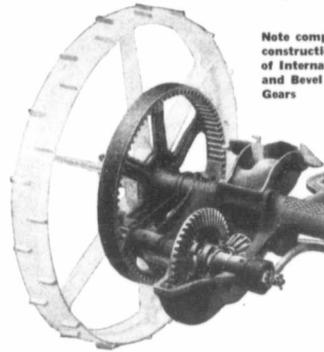
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# Use Deering Hay Machines

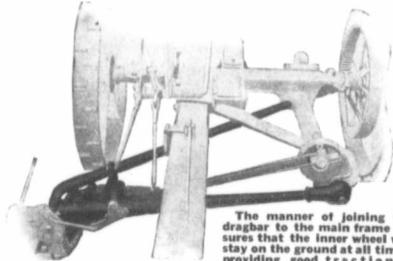
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**T**HIS is perhaps the most important question, aside from the weather, which is perplexing the Western farmer to-day.

On the one side is the tractor enthusiast who sings of the speed and reliability of tractor operation and can see no reason why the farmer should not sell his teams and do all his farm work by mechanical power. He even goes so far as to advocate the tractor for pulling the mower, hay-rake, manure spreader, etc. On the other hand, is the horse booster, who can see nothing but failure for tractor operation and who proves to his own satisfaction at least, that only a very small percentage of those tractors actually tried out in the wheat belt have proved an economic success. He points with pride to the undeniable facts that a large proportion of the outfits already put out have been virtually discarded in favor of horses. The farmer feels that the true solution for his conditions is somewhere on middle ground, but wonders just where.

Part of this difference of opinion is due to a difference in the points of view. The tractor enthusiast is perhaps thinking of the special farmer, such as those raising mainly wheat. Such a type of farming has the tendency to accumulate the power operations at

## Will It Pay Me To Buy a Farm Tractor?

two or three seasons of the year and to accentuate the importance of time-saving, conditions which undoubtedly work toward making tractor operation efficient. The tractor booster forgets the hundreds of little jobs on the general farm, many of which could not be done at all with the tractor, and still more which could not be done except at a ruinous waste of time and energy. The horse man, on the other hand, is thinking on v of the farmer who has interest in live stock, and who would have the time and interest to give his live stock work the constant thought and care it should have. He makes the mistake of assuming for the light weight general purpose tractor of to-day the same conditions and results as obtained for the big heavy outfits of four or five years ago.

But perhaps the greatest cause is lack of reliable data. The tractor situation just now, is in much the same condition as was that of the auto some six or eight years ago. Like the auto, the tractor is a matter of evolution, and the next five years will see a great many

changes, chiefly along the lines of standardization and cutting out of freak ideas and weak points of design. The tractors will be divided into three or four general types, depending on the work they will have to perform, just as the automobiles of to-day have divided into the pleasure car, the business car, the light truck and the heavy truck. The different makes in each class of tractors will come to resemble each other more closely, and eventually we may hope to find things as well standardized as in the automobile trade. As it has been up to the present time, the changes have come so fast that data sufficiently full for comparison purposes is no sooner gotten together than the tractor changes throw the whole mass out of date.

It seems to me that in approaching the purchase of a tractor, the farmer really has about six questions to be answered about in the order given:

(a) Will the use of a tractor allow my work to be done in better time and in a more efficient way?

(b) Have I the necessary ex-

perience, aptitude and patience properly to operate and care for my tractor?

(c) How will the tractor work into my farming arrangements and what improvements can I make through the use of the tractor?

(d) How will the cost of operation compare with that of horses, and how many horses will it efficiently displace?

(e) What size and type shall I buy?

(f) What particular make shall I purchase?

The order in which these have been listed is quite important, because the prospective purchaser really does not need the help of the tractor agent until he reaches the last or perhaps the last two. The first four can better be answered by consulting tractor owners and operators where soil, crop, and weather conditions are very similar to those of the inquirer himself. No one can give better or more disinterested information than one's own neighbors. Also, the experiment station people and the county agricultural advisers are carefully studying the question, and are quite willing to give all the help possible. The tractor representatives have a good deal of information on the problem, and as a rule, are high grade men in all respects; but con-

selling them too soon has a marked tendency to place undue emphasis upon the last two parts of the problem before the would-be purchaser has settled the first four honestly with himself. It is evident that deciding either of the first four against the tractor knocks out all the others.

The first point needs little discussion; even the most rabid horse advocate must admit that much more power is needed, especially in hot, dry weather, for such soil preparation operations as plowing and discing, if the work is to be done thoroughly and within the time which the proper soil conditions rightfully should require. Without question, having plenty of power at one man's command will quickly make for better and deeper seed-bed preparation and a more general use of the disc harrow for keeping down weeds and conserving moisture. Hot, dry, fly-time weather, so killing on teams, is ideal for the best tractor operation.

The second phase of the problem is of vital importance in making for success or failure with a tractor. Some men seem to have a natural aptitude for machinery and have little or no trouble in operating a binder, gas engine or tractor. If trouble develops, as it is sure to do with any machine, they are able to reason back from effect to probable cause and in this way discover the matter at fault. Such men are natural mechanics. They study their machine as they would any other problem, and, once they have it running properly, are content to let it run until some change in sound or mistake in operation warns them that something needs attention. A fault discovered, they stop immediately and either repair it forthwith, or decide after careful observation that repairs may safely be left to a more convenient time and place. Such mechanics should be carefully distinguished from the common "tinker," who is continually fussing with his machine and changing adjustments, even when it is running as well as could be expected under the given conditions.

On the other hand, we have a large proportion of farmers who seem to have no sense of machinery or no mechanical common, or horse-sense. Such men cannot keep even a hoe in proper working condition and to put them in charge of an expensive tractor is little short of a crime. The first type would get good service and long life out of even a poor tractor, while the latter would make a failure with the best tractor in the world.

It seems to me that this matter of good and bad operators is one which the tractor representatives have not given the consideration its importance demands. With

the increased competition and naturally decreased profits on each machine, I am beginning more and more to doubt whether any company making an honest effort to look after and care for its machines can afford to put a machine into the hands of an ignorant and obviously incompetent operator. Such a man is bound to have trouble, to take up valuable time of the office force and experts, and to be a knocker on the machine he was so unfortunate as to buy. The company would be much better off to let him go without or to take up a machine of a rival concern.

The man who does not get along well with machinery may complain that the chances for him to make a success with a tractor seem rather dark, and I grant that it is true. Of course if he is a large land owner he may hire a competent operator, since he will probably have enough tractor and similar work to keep such a man busy the year round. But I have in mind, especially the half-section general farmer who should figure on operating his tractor himself or at least overseeing its operation and looking after all troubles. In many such cases, the inapt farmer may so apply himself to the problem that he may finally overcome his deficiency and acquire the understanding he naturally lacks. Careful painstaking study on any subject will go far towards mastering it. I repeat, however, that until he has satisfied himself that he can operate a gas engine successfully he has no business with an expensive tractor outfit.

It should be kept in mind that answering each of these several questions is a problem depending almost entirely upon the farmer himself, and that no general answer can be given. Often inquiries are received asking whether a tractor is a paying proposition on a 160 or a 320 acre farm, the writer evidently expecting an immediate answer of yes or no. But I always reply that before I can even begin to answer the question, I must know about his experience, the type and lay of his land, the kind and rotation of farming, his chances for belt and custom work, and so on.

All such data is especially important when one begins to consider the third and fourth parts of the question, because modern farming is getting more and more to be a somewhat complicated business proposition, and before so radical a step is made as to introduce tractor power, the farmer should be sure it will dovetail into his farming operations properly. The type of farming, of course, determines the kind of farming operations which must be cared for. As indicated previously, special crop farming tends to cut down the number

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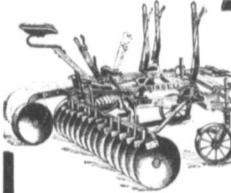
of operations and to group them in special months, while diversified or general farming increases the number of operations to be cared for and spreads the work more over the year. Often it will be found that the use of a tractor, by enabling the work to be done more quickly and at a time otherwise impracticable, may make it advisable to add a different summer soiling crop to the rotation. This matter, however, depends so much on each farmer's special conditions that it is hardly practicable to take it up any more in detail. The size of the farm, of course, determines the amount of each kind of operation to be taken care of and really is of most importance in determining the best size to buy. The lay of the land also is important, as the tractor is less and less practical, due to its lack of reserve power, as the land becomes hillier.

Tractor costs as compared with that of horses is a most important part of the question of the purchase of a tractor and the part where the farmer again cannot accept any set figures, but must work out everything in the light of his own conditions and experiences. Perhaps a few suggestions as to how he may do this may be of help to him in working out this part of his problem. It

should be kept in mind, however, that the better and more timely work made possible by the tractor may overbalance some increase in the cost of doing the work, provided the difference in cost is not too greatly in favor of the horse.

The question is not one of changing the farm from horse operation to doing the work with a tractor, but of finding whether a proper combination of tractor and horse power is not more efficient than either alone; or in other words, how many horses may be efficiently replaced by the tractor. On any general farm there are a good many operations which, with all due regard to the small tractors, it is not possible to do without the use of animal power. No general purpose farmer can get along without at least three horses. Now since a team must be cared for and fed the year round, the farmer must so manage his work that his team is kept reasonably busy, even if he also makes use of a tractor for power. Surely it is better to keep the tractor idle rather than the team.

Again, the operations on a farm naturally divide into those which can best be done with a team and those naturally adapted to tractor power. Here is where common horse sense or the want of it alone will tell.



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This Bissell Disk Harrow is built especially to meet and cope with Western soil conditions. The Disk Plates are shaped to reach well under, cutting and giving the soil a complete turnover. This

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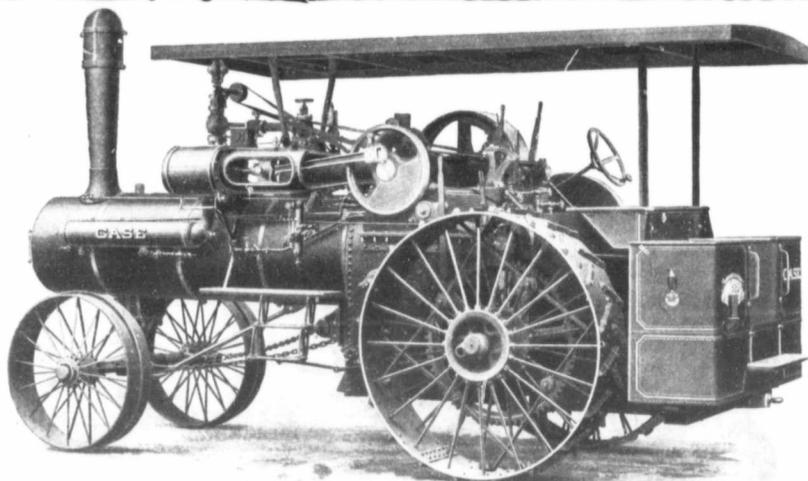
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*A Typical Case Steam Engine*

## Will the American Farmer Win the War?

The whole world is looking to the United States and Canada for its food supply. The millions of men fighting in Europe have been non-producers and a shortage of food stuffs is the result. Every farmer must utilize all of his land, extra pains must be taken in the preparation of the seed bed. "One of the great problems of the war is labor", says the Breeder's Gazette. Then it goes on to say, "It may come to a mobilization of labor or conscription of farm hands. Every useful implement of a labor saving nature should be bought and put to work." Think of the obligations the farmers on this continent are under to supply the nations now at war. The soldier of the furrow is doing his most patriotic duty to his country by staying at his post. The farmer will be the important factor in winning the war.

### HOW ARE WE GOING TO SOLVE THE PROBLEM

Mechanical power must replace the old way of doing things if we are to cope with demand for food. We must supply the nations at war. Farmers must save time, save labor, for labor will also be at a premium. A reliable tractor is the answer to the problem. With a CASE TRACTOR either steam or kerosene you can do your work better and cheaper than with horses. A CASE TRACTOR will work for you day and night, if necessary. It will always be ready to answer your call for service. It will save labor as well. That is another important feature. The power farmer is the farmer that will be equipped to do the maximum amount of work. And if you are not a power farmer, it is time to begin NOW. You must make your farm produce more.

In the tractor field, Case experience is your safeguard. We build only carefully and hone to uphold a reputation that has been known for three-quarters of a century. Our users in the United States and Canada number into the thousands. Quality is the foundation of the Case institution. If you are interested in steam tractors, Case builds eight sizes, 30-40-50-60-65-75-80 and 110 H. P. Case kerosene tractors are built in five sizes, 9-18; 10-20; 12-25; 20-40 and 30-60. A request will bring you information on all sizes. Write today. Fall in line with the army of power users.

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A Typical Case Threshing Machine

## The Part Case Threshers Will Play in the War

Farmers and threshermen have already been told of the alarming shortage of wheat. The May price of wheat went to the highest figure in 53 years.

The farmers on this continent are preparing to make this year's harvest reach figures heretofore unknown to this country. We place full confidence in our farmers in this national emergency. They will be up and doing as they never have before.

Now more than ever will farmers insist on the machine that saves all the grain in the crop. Wheat at such figures cannot be lost by poor or untimely threshing. Case threshers will be "mustered in" by the thousands. And when Case machines thresh—you can rely on getting all the grain there is in the crop.

### FARMERS PREFER CASE MACHINES TO DO THEIR THRESHING

Thousands of farmers have learned in times of peace that their grain threshed with Case machines have brought the highest prices. Now they will insist on a Case thresher to do their work. The Case thresherman will be a busy man and he generally always is for each year *more farmers* insist on Case threshers to handle their crop. Thousands of new Case threshers will dot the big grain districts this season. They are now leaving our factories in big numbers.

**TO SMALL TRACTOR OWNERS:** Farmers with small tractors are requested to learn about the Case lightweight threshers built in three sizes for use with small tractors. You can thresh as much as you please whenever you please. Case threshermen will be busy men after the harvest season. You need wait for no one, if you have a Case lightweight thresher. There are three sizes, 20x28; 20x36 and 26x46 including many features which insure the cleanest and most rapid operations.

We have descriptive information ready to send as soon as you make the request. Write today if you are interested.

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## Alfalfa and Weeds?

Some of the Most Common Causes of Failure and how to Overcome Them

By J. C. BEAVERS

**S**AM FERGUSON—that isn't his real name, but it serves the purpose—is a farmer and sheep feeder in North Central Indiana. He has been feeding sheep for years, and he says they help him in two ways: First, they help to improve the farm; second, they make money for him.

For some reason, unknown to his neighbors, Sam became discontented a while back about the money he was making on his sheep. So far as his closest friends could tell, he was getting ahead every year. He was interested in the bank of the small town near which he lived; furthermore, he had recently bought another farm. Nevertheless, Sam was plainly dissatisfied with results; he wanted those sheep to make gain more cheaply. So in 1911 he ordered a carload of Western alfalfa. Laid down at Fergusonville the hay cost a little better than twenty-two dollars a ton—a pretty high price in Indiana.

Sam fed the hay and made some profit, but not so much as he had hoped. The alfalfa cost too much. Then he began to reason: "Why can't I grow alfalfa here on my own farm and sell it to the sheep for fourteen or fifteen dollars a ton and make two profits instead of one?" He determined to try it.

Accordingly in the fall of 1912 he plowed fifteen acres of well-drained, gravelly loam soil, from which a crop of wheat had been harvested. Two tons to the acre of ground limestone were harrowed in, and in the following spring nine loads of sheep manure

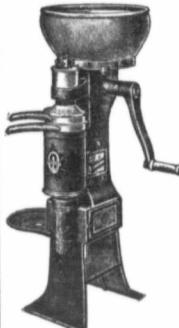
were spread on each acre and disked in. Then began an eight-weeks' campaign against weeds. Cultivation was given once every ten days or two weeks until about June 5th, when the soil was in onion-bed condition. A good rain, following a few weeks of rather dry weather, furnished an excellent opportunity for seeding, and sixteen pounds to the acre of clean alfalfa seed were sown and harrowed in. In ten days an excellent stand of vigorous young plants was started. Everything seemed to indicate that Sam Ferguson's first attempt at growing alfalfa would be successful.

In September I carefully inspected every part of this field. The young alfalfa plants were being choked out and starved by a host of vigorous plants of foxtail and crab grass. Sam had failed in his first attempt to grow alfalfa. He had lost at least \$300 because he had seeded one month too early. If he had delayed until the middle of July those weedy grasses might have been destroyed before the alfalfa was seeded, and Sam's fond hope of growing his own alfalfa would have been realized.

While Sam Ferguson was gaining experience on his fifteen acres, I was getting experience from a number of fields in different parts of Indiana. Some of these were demonstration fields in charge of Purdue Experiment Station.

In one field in Miami County I had an experience similar to Sam's. The land was plowed early in spring, top dressed with ten





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**DAIRY WOMEN** know that the "MAGNET" bowl and one-piece-skimmer is easily washed sweet and clean in less than five minutes—a saving of from 10 to 15 days' labor each year over the time required to properly wash the disc kind. The

#### MAGNET ALWAYS SKIMS CLEAN

because its bowl is supported at both ends, cannot wobble and therefore will do perfect skimming for a life-time. Dairy men and women can avoid all "misery" by buying the up-to-date "Magnet" Cream Separator.

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loads of manure to the acre and then cultivated for seven weeks. No lime was applied because the soil was already slightly alkaline. About the 5th of June three hundred pounds of soil from a well-established alfalfa field were drilled to each acre, and twenty pounds of alfalfa seed were broadcast and harrowed in. Dry weather followed the seeding, but enough seeds germinated to make a fair stand of young plants. After about ten days of dry weather, rains, hot weather, foxtail and crab grass all came together.

I dropped in on the owner about the 10th of July. I have seen lots of pretty meadows, but few that had a more perfect stand of grass than this alfalfa field. It was known as one that for years had been practically free from weeds and weedy grasses, but there on a four-acre lot were enough crab grass and foxtail grass to stock a whole farm.

The question was: Where had the seeds come from? Had they been lying in the soil for years, or had they recently been introduced? If introduced, how and when? I finally found that some hay containing foxtail and crab grass had been fed to the cattle the previous winter, and the manure spread on the alfalfa field. Our work thus far had furnished us two tangible facts: The weedy grasses had succeeded, the alfalfa had failed.

As I see them, the requirements for successful alfalfa culture may be classified as major and minor. The major requirements are good drainage, sufficient lime to make the soil slightly alkaline, enough available plant food to meet the needs of the crop, and the presence of alfalfa nodule-forming bacteria. The most important minor requirements are a soil well supplied with organic matter, a seed-bed from which weeds have been practically eradicated—especially weedy grasses—a seed-bed well fined and compacted, and pure seed. If any of the major requirements are wanting the alfalfa crop will be a failure; if one of the minor requirements is wanting the crop may not be a total failure, neither will it be a total success.

In selecting a field for alfalfa the character of the soil and sub-soil should be carefully studied. Good drainage is always an essential soil requirement, but for success with alfalfa it is more important than with most other crops. This is a deeply rooted crop, so both soil and sub-soil should be well drained to a depth of three and, if possible, four feet. In my investigations I have yet to find a successful field on land not well drained. The nodule-forming bacteria cannot thrive in the absence of air.

There is no general farm crop that requires more lime than alfalfa.

Red clover grows well on many soils where the surface soil is sweet and the sub-soil acid, but alfalfa thrives only on soils where both surface and sub-soil are sweet. It may thrive for a season or two where the surface soil is sweet and the sub-soil acid, but during the second or third season the crop will turn yellow and finally die. If the sub-soil is decidedly acid it is not wise to attempt the culture of alfalfa until one or two years after making a heavy application of lime—in some cases not then. When only the surface soil is acid an application of two tons of ground limestone will usually be sufficient to produce good crops of alfalfa.

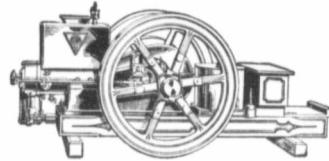
Although alfalfa is able to gather its own nitrogen when soil conditions are suitable, it requires large quantities of phosphoric acid and potash. Many soils in Indiana produce fair crops of alfalfa without mineral plant food, but most of them produce better crops after phosphorus has been applied. On much of the sandy soil potash has also proved beneficial, and from 200 to 300 pounds of basic slag, acid phosphate or steamed bone meal applied to the acre before seeding will give excellent results. Where from 500 to 1,000 pounds of raw rock phosphate have been applied to the acre two or three years before seeding, no soluble fertilizer need be applied unless the soil is sandy, in which case an application of 100 pounds of muriate of potash to the acre will also prove profitable.

Without nitrogen-fixing bacteria alfalfa becomes an exhaustive crop instead of a soil improver. In 1913 a study of twenty-five or more fields revealed the fact that in only two instances had the young alfalfa plants become well inoculated by natural agencies. Both these fields are overflowed nearly every spring. Round the edge of one field wild sweet clover has been growing for several years. The soils of these fields are also abundantly supplied with lime.

A few fairly well-inoculated plants were found in every field where no inoculation had been supplied, but the increase in yield of hay from the first cutting of the inoculated fields would more than have paid for the cost of inoculation. Indiana farmers have been getting the best inoculation where from 300 to 500 pounds of alfalfa or sweet-clover soil have been broadcast or drilled to the acre. For this purpose we have been using from five to six inches of the surface soil from alfalfa fields or patches of sweet clover that contain an abundant supply of nodules, putting the soil through a sand screen to remove trash and small pebbles so that it can be easily drilled.

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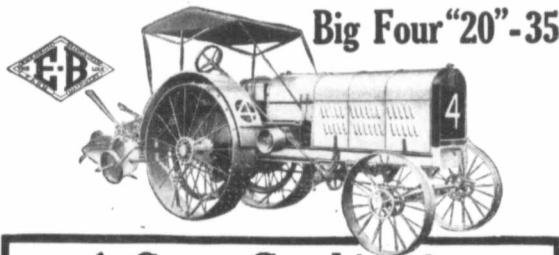
You need a good gas engine on your farm. Send for our illustrated engine catalogue, which describes the ALPHA in detail and tells why farmers who use it get the most for their money.

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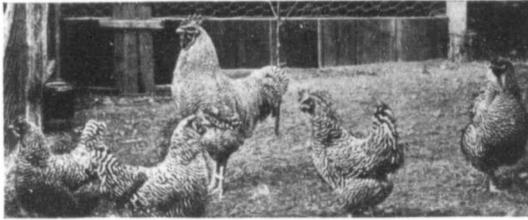
ILLUSTRATION shows Big Four "20"-35 with Emerson Plow and power hoist. The Big Four "20"-35 motor raises or lowers the plow by simply pushing a foot lever—whether tractor is running or standing still. Plows, when raised, are

back up and plow out corners. Plows may be quickly detached and tractor used for harrows, disks, drills, mowers, etc.—and all belt work. The four cylinders of the Big Four "20"-35 insure steady, dependable power. Two speeds forward and reverse make flexibility—adaptable to all soil conditions.

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**BREEDING FOR EGG PRODUCTION**

**Distinguish Between Layers and Loafers by Leg Bands—Pedigree System Not Too Difficult.**

For many years there has been in progress at the Maine station an investigation on the laws of inheritance concerning egg producing ability in poultry. As a result the following suggestions are offered as a basis for improvement. When selecting the breeding fowls, first choose on the basis of constitutional vigor and vitality. The scales in particular may be called on to furnish evidence.

It is not advisable to use as a breeder a cockerel which (in the case of Plymouth Rock, Rhode Island Red or Wyandotte fowls) has not attained a weight of at least eight pounds at 10 months of age, and better nine pounds. No pullet should be used as a breeder which does not weigh at least 5½ pounds at the same age. All deaths in the shell and chick mortality should be charged against the dam, and only those females used as breeders a second time which show a high record of performance in respect to the vitality of their chicks, whether in the eggs or out of them. This constitutes one of the most valuable measures of constitutional vigor and vitality which we have.

If for no other reason than to measure the breeding performance, a portion of the breeding females each year should be pullets. In this way one can in time build up an elite stock with reference to hatching quality of eggs and vitality of chicks. Neither is it advisable to use any bird as a breeder which is known to have been ill, to however slight a degree. In order to know something about this an extra leg band may be put on each bird, chick or adult when it shows the first sign of indisposition. This then becomes a permanent brand, that marks this individual as one which failed to a greater or less degree to stand up under its environmental measures of constitutional vigor.

The use of breeders of such females only as have shown themselves by trap-nest records to be high producers is recommended. It is only from such females that there can be any hope of getting

high laying qualities. The males for breeding are those known to be the sons of high producing dams, since only from such males can we expect to get high producing daughters.

Another practical help in breeding for egg production is the use of a pedigree system, whereby it will be possible to tell what individual male bird was the sire of any particular female. This amounts, in ordinary parlance, to a pen pedigree system. Such a system is not difficult to operate. Indeed, many poultrymen, especially fanciers, now make use of pen pedigree records. It can be operated by the use of a toe punch. All the chickens hatched from a particular pen may be given a distinctive mark by punching the web between the toes in a definite way.

It is important to make at first as many different matings as possible. This means the use of many different male birds, which will further imply small matings, only comparatively few females to a single male. Continued, though not too narrow, inbreeding for line breeding of those lines in which trap-nest records show a preponderant number of daughters to be high producers will give more productive fowls. A half dozen at least of the lines which show the highest proportions of high layers may well be kept. Each line is then bred within itself.

The plan of breeding for egg production above set forth, which involves nothing in principle or practice which any poultryman cannot put into operation, will not fail if consistently and intelligently followed for a period of years, to bring about a material increase in the productiveness of the flock.

**No Best Breed**

"Experience has shown that any variety of hen will lay, and lay abundantly, if bred along the right lines. If you are satisfied as to shape and color of your fowls, do not change for something else in the hope of getting more eggs, such as Leghorns for Plymouth Rocks, or Wyandottes for Minorcas or Brown Leghorns." This is the advice given by a breeder, who has found from experience that this changing is merely a waste of time and patience.



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One frequently sees or hears of a poultry keeper whose birds lay profusely and almost incessantly, while a neighbor across the way has the same variety, gives his just as much attention, and yet they scarcely lay at all," continues this authority. "Now, while this neighbor has the same variety or breed of chickens as the other, he has not an egg laying strain in that particular variety of breed, and that is just where the trouble is. To get a large egg yield one must have birds which were descended from an egg producing strain.

"Back in the old days with the ancient Egyptians, 'Biddy' laid only 11 eggs, sometimes one or two more, and then went to setting. She was then on a par with the quails and pheasants. Now there are hens that lay 90 or more eggs before their litter is out, and then do not become broody at all, but take a short rest and start again and pile up 281 or more before the year is out.

"A big change has come about in the chicken industry since Pharaoh's time, and this has all been accomplished by a process of selection. They merely mated the pullets from the hens which laid the most eggs with males that came from similar stock, and by doing this over and over again, always selecting females that happened to lay a few more eggs than their antecedents to mate with males whose parents possessed egg laying proclivities.

"Until now nature compels 'Biddy' to lay nearly 100 in a litter three times a year, which amounts to about 300, against a record of only 33 in the same length of time for the old-fashioned hen. That is why some poultry does not pay. The owners do not know how many old-fashioned hens they have.

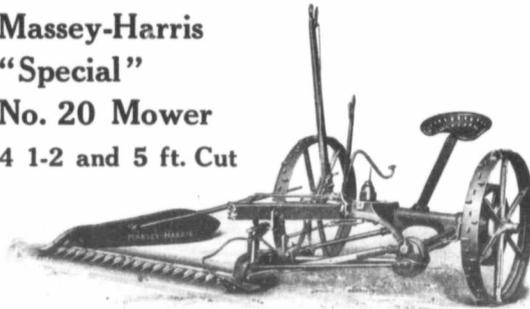
"About the quickest way to brace up the egg yield is to bear the above firmly in mind. Get some male birds that you are positively sure are descended from an egg producing strain and mate with your hens that lay the most eggs per year. Mate the progeny from them in a similar manner, being sure they are not very closely related. In this way you can produce birds of untold merit as far as eggs are concerned, and 'hen fruit' is something we can always use."

"There goes Dr. Swelldom. Quite a lady-killer, isn't he?"  
"Oh, he treats the other sex, too."

"Yes, when he started in life he hadn't a shirt to his back, and now he has at least half a million."

"What, shirts?"

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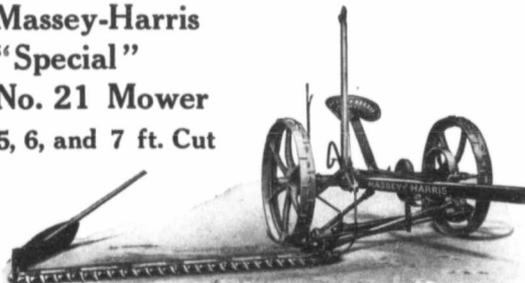
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5, 6, and 7 ft. Cut**



## Labor of Spreading Manure

One drawback apparent everywhere with farmers is the extravagant use of human labor. In the introduction of labor-saving machinery there was thought to be a good deal of aid, but the time is now present when there are too few laborers to man the machinery properly. In the increased scarcity of labor and the consequent high prices paid laborers now command that the tiller of the soil looks to the economy of the factory and to the employ of machinery wherever he can.

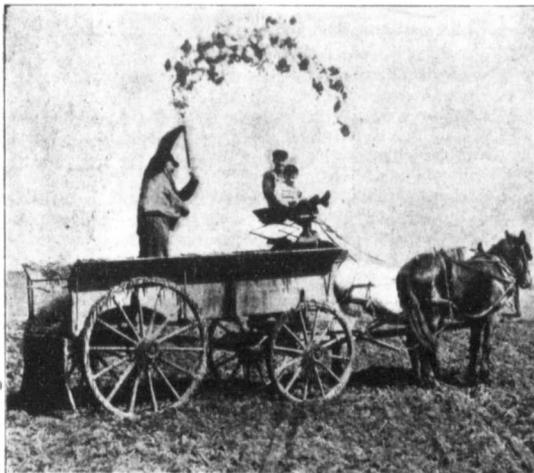
The farmer is fast getting away from the old method of spreading manure by hand in the slow, tedious manner and is rapidly coming to the use of the manure spreader. In the spreading of manure by hand the laborer is wearied without doing the most effectual work, while using the manure spreader there is less weariness and more efficiency from the labor performed.

It has been observed that farmers, as a rule, are slow to take hold of new devices to perform their farm work. Someone has to be the pioneer in such things in almost every vicinity. There is a feeling that it is not necessary, hence they will get along as best they can without. Almost every farm is equipped with plows, harrows, cultivators, harvesters and mowers, but the manure spreader has not convinced every farmer of its necessity as a part of the farm equipment. There seems to be no heavier or more disagreeable work than hauling and scattering manure, and so few figure how to avoid it, and at the same time reap its benefits.

Not alone is the saving of labor all that should be considered, but the kind of work accomplished is

quite an important factor. The same amount of manure if scattered broadcast by the spreader will do more good than when thrown by hand in the best manner possible, for it will everywhere reach the roots that are to be fed by it. Experience has taught us that when we have enough manure to cover twenty acres spread by hand that we have enough to cover forty acres when scattered by a spreader, and it will do an equal amount of good because of its availability for more plants. One will get the same results in the increased crops per acre on the forty-acre field that would be obtained from the twenty-acre field under the conditions mentioned. The reason why this is so is because one has applied more manure by hand than the crop needed, to say nothing of the great bunches of manure which has caused trouble in plowing and in cultivating and to drink up the moisture needed by the plants.

When scattering manure by the hand process one looks about himself and he thinks he is applying it too meagrely and being anxious to get his load off, more is spread in the thin places and the land is over fertilized and a partial loss occurs the first year which is quite often attributed to condition of season or something else as it is thought impossible for it to be attributed to manure, which is good for the land. When the manure spreader is used the manure cannot only be spread in a most scientific manner, but it is drawn on the ground as it accumulates, and while it is fresh and has all of its fertilizing properties, and it is out of the way.



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  - Chantenay Red Table Carrot . . . . .Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. \$2.00
  - XXX Cardinal Globe Beet . . . . .Pkt. 10c, oz. 20c, 4 oz. 60c, lb. \$1.50.
  - Prize Hard Head Cabbage (12 lbs.) . . . . .Pkg. 5c, oz. 30c, 4 oz. 90c
  - Perfection Cucumber (for table or pickles) . . . . .Pkg. 5c, oz. 20c, 4 oz. 50c
  - XXX Pink Skin Tomato (continuous cropper) . . . . .Pkg. 15c, oz. 60c
  - Rennie's Mammoth Squash (biggest that grows) . . . . .Pkg. 25c
  - English High Grade Mushroom Spawn . . . . .Brick 60c, 5 bricks \$1.65
  - XXX Solid Head Lettuce . . . . .Pkg. 10c, oz. 25c, 4 oz. 75c
  - Kangaroo Swede Turnip (high quality) . . . . .4 oz. 20c, ¼ lb. 35c, lb. 65c
  - Irish King Swede Turnip (table or cattle) . . . . .4 oz. 20c, ¼ lb. 37c, lb. 70c, 5 lbs. \$3.40.
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  - XXX Spencer Giant Sweet Peas . . . . .Pkg. 15c, oz. 35c, 4 ozs. \$1.00
  - Summer Cypress, lovely summer hedge . . . . .Pkg. 5c, ¼ oz. 25c
  - XXX Climbing Nasturtium, all colors . . . . .Pkg. 10c, oz. 20c
  - Branching Giant Asters, Pink, White, Crimson or Mixed . . . . .Pkg. 10c
  - Giant XXX Comet Asters, mixed, all colors . . . . .Pkg. 10c
  - XXX Defiance Sweet Mignonette . . . . .Pkg. 10c, ½ oz. 60c

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You 3 boxes of feet long two inch twenty-c Carefully side of e three fe sides fa ends po Measure necessary; boxes to inches b Then 1 on in the them see



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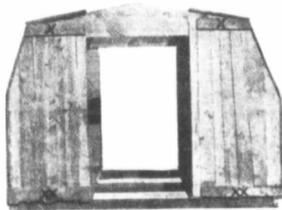
## A Piano-Box Henhouse

It can be Built at a Cost of Nine Dollars  
By F. S. JACOBY

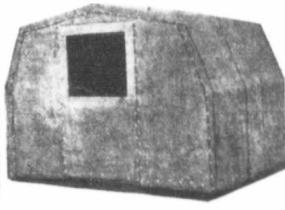
THE high cost of lumber has caused many poultrymen to wonder how they can afford the construction of necessary colony houses. For those who must consider the dollars carefully, the prospect of a colony house for nine dollars will be encouraging. Furthermore, the house to be described is pleasing in appearance, comfortable and practical. Wherever empty piano boxes can be purchased, this house can be built. Hundreds of these boxes are chopped up for kindling in many of the larger cities.

the tops of the braces to make a smoothly constructed front. Remove any irregularities on the outside or the boxes.

Construct the rear in like manner with the exception of a seven-foot cleat, which is nailed horizontally at a height of three feet from the floor. Saw a section from one of the discarded sides, which will close the opening in the rear of the house. Nail this section securely to the brace and the cleat. Use the remainder for completing the roof and the floor. Then nail cleats on the inside at the junctions of the front side and



The Two Boxes as placed on the Frame



The finished House Covered with Roofing Paper

You should have two piano boxes of the same size, about six feet long, five feet high, thirty-two inches wide at the bottom and twenty-one inches wide at the top. Carefully remove the top and rear side of each box. Place the boxes three feet apart, with the open sides facing each other and the ends pointing north and south. Measure the length of scantling necessary for an underframe, the boxes to project two or three inches beyond the frame.

Then place the two boxes thereon in the desired position and nail them securely to the underfram-

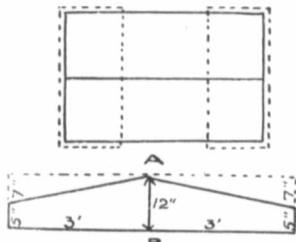
the floor and the rear side and the floor, in order to strengthen these while the remaining strips on the outside (XX) are removed. The house should then present a perfectly flat surface on all sides.

The door, three feet by five feet one inch, is constructed to fill the entire opening in the front. Fresh air and sunlight are admitted through the opening, two feet four inches by two feet, in the door. Four-inch strips are used for the sides, top and cleats, while two twelve-inch boards and a four-inch strip complete the bottom half of the door. One-inch-mesh poultry netting should be nailed to cover the opening in the door.

The door is hung to swing outward on a pair of five-inch T hinges. An opening eight by ten inches for the entrance and exit of the fowls should be cut in the rear side of the house.

The house is now ready for the roofing paper. The strips for the front and rear are placed vertically and tacked in place temporarily. The strips for the roof are cut long enough to extend from the ground on one side, over the roof to the ground on the other side. They are allowed to overlap the strips at the front and rear, thereby making the house perfectly tight. Strips of paper over the door give the house a uniform appearance.

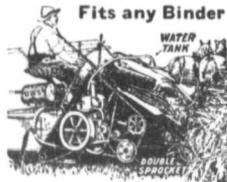
If the builder takes care in cutting the roofing paper, two rolls will be found sufficient. Cut the strips for front and rear; then cut



A. Showing Construction of Frame  
B. How to cut the Halves of 12 ft. Boards

ing with eight-penny nails. Take a twelve-foot board twelve inches wide and saw it into two parts. Find the middle of each part and draw a line that will cut off seven inches of the width at each end. Save the sawed pieces. After nailing the braces in place at both ends of the building, remove the cleats (X) on the outside of the piano box. Nail the strips that were sawed from the board along

## Cushman Light Weight Engine Saves a Team on the Binder



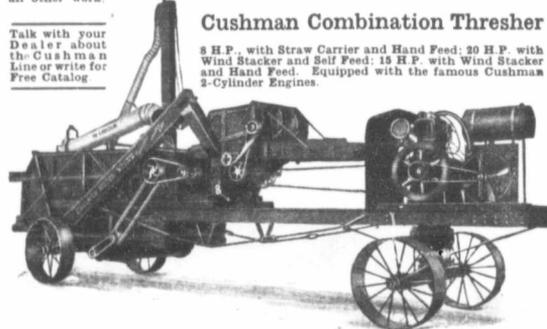
Fits any Binder

Cushman 4 H.P. Engine on a Binder. Fits any Binder. Same Engine does all other work.

Talk with your Dealer about the Cushman Line or write for Free Catalog

This is the original and one practical Binder Engine. Attachments for any binder. With a Cushman you can cut from 8 to 10 acres more and with less horses. If the sickle chokes, in heavy or tangled grain, simply stop or slow down the horses and engine clears the sickle. Binder runs the same, whether horses go fast or slow, and will last several years longer. In a wet harvest, Cushman saves the crop, as slipping of the bull wheel does not stop sickle. Engine on rear of binder is balanced by water tank on front. Direct driven water circulating pump keeps engine cool on all-day run.

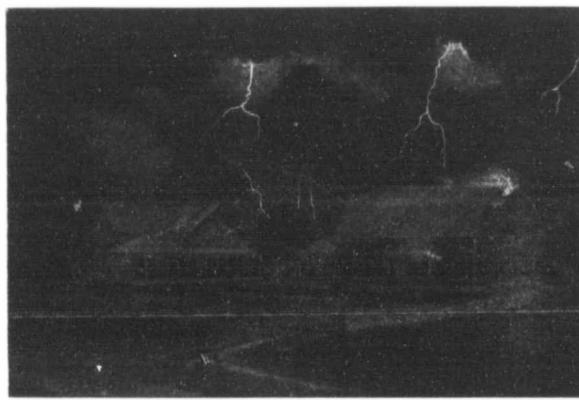
Cushman Engines are so light and so reliable that they do so many jobs other engines cannot do. 4 H.P. weighs only 190 lbs.; 8 H.P., only 320 lbs.; 15 H.P., only 780 lbs.; 20 H.P., only 1200 lbs. Throttle governed and equipped with Schieleb Carburetor and Friction Clutch Pulley.



Cushman Combination Thresher

8 H.P. with Straw Carrier and Hand Feed; 90 H.P. with Wind Stacker and Self Feed; 15 H.P. with Wind Stacker and Hand Feed. Equipped with the famous Cushman 2-Cylinder Engines.

**CUSHMAN MOTOR WORKS OF CANADA, LTD.**  
Dept. A, Whyte Avenue and Vine Street, WINNIPEG  
Builders of Light Weight Engines for Farm and Binder use. Distributors of Reliable Power Driven Machines, such as Fanning Mills, Grinders, Saws, Power Washing Machines, etc. Also Barn Door Hangers and Mountaineer Neck Yoke Centres.



## The Townsley System

Will Guarantee Protection From Electric Storms

You will also save the cost of thorough protection by reduction on Insurance Rates, if your buildings are rodded by the TOWNSLEY SYSTEM of Lightning Protection.

NOW is the time to make inquiry as to how, at an infinitely small cost, you can safeguard the lives of your family, your live stock and your property. Write us for full particulars—refer to "The Canadian Thresherman and Farmer."

See page 50 of this Issue of this Magazine for some Startling Particulars

Canadian Lightning Arrester and Electric Co., Ltd.  
BRANDON, MAN.



two long strips for the sides and roof leaving a space between them. By cutting the paper lengthwise, two strips will be obtained that will cover this space on the roof and overlap sufficiently to make a waterproof house.

Whatever paper may be left from the roll may be cut to cover the door and the rest of the rear side.

THE MATERIALS AND COST OF EACH ITEM ARE AS FOLLOWS:

2 piano boxes	\$3 00
2 rolls 1-ply roofing paper	3 50
1 piece 2"x4"x12' Y.P.A.	
1 piece 2"x4"x16' Y.P.A.Sils.	62
1 piece 2"x4"x8' Y.P.A.	
1 piece 1"x12"x12', No. 1 Y. P.	
Brace	32
1 piece 1"x12"x8' ADoor	52
2 pieces 1"x4"x12' A	
2 pounds seven-penny box nails	06
1 pound eight-penny wire nails	04
1 pound sixteen-penny wire nails	05
1 pair 5-inch T hinges	10
1 piece poultry netting 2"x2"x6"	10
Total	\$8 31

IS THE SMALL FARM PASSING?

Some students of the problem have concluded that the day of the small farmer is ended, and that hereafter we must depend upon the large capitalist farmer or the farming corporation. That would be a pity. Where the two have equal opportunities, the small or middle-sized farmer has always beaten the big farmer and the farming corporation in competition. There are only two conditions under which the big capitalist farmer has won out. The first is where he has had a large supply of cheap labor, such as slaves, or gangs of coolie laborers, which he could direct and control. The independent small farmer who works with his own hands has then found himself compelled to compete with these cheap laborers, and he has had a "hard row to hoe." The other condition is where the big farmer, or the big farming corporation has had some advantage in bargaining. If he can buy his supplies to better advantage, if he can secure capital on more favorable terms, if he can sell his produce to better advantage, he may succeed in competition with the small farmer. But when it comes to the real work of production, as distinct from bargaining—that is, as distinct from hiring labor, borrowing capital, buying supplies, or selling produce—the small farmer can beat him and eventually run him out of business. That is, to-day, as a producer the small farmer has no equal. As a bargainer, he is often at a disadvantage.

Here is where the banker may come in and amply justify his existence. It is not enough that he sit in his office and scrutinize the security and collateral of the would-be borrower. That is the job of a cashier, or some one with-

out discretion, who must follow fixed rules. It is the banker's job to see that the money which Jones borrowed is so used as to pretty surely provide him with the money with which to pay his debt when it is due. By this is meant that the banker's function is to finance productive enterprises, and his first qualifications is the ability to decide what is and what is not a productive enterprise. That is what a good investor is. The banker, especially the country banker, ought to be a good judge of investments. There may be room for a finer differentiation of functions in a city, where some bankers may be financiers, and others mere custodians of funds, to receive deposits, on the other hand, and lend them out on good security on the other. But a country banker must be both.

THE "ORNERY CALF"

I'll tell you a tale of an "ornery calf"

Not a story to make you laugh, But one that will make you wink your eye

As if you believed I'd told a lie. Hardly a dozen years ago I found a motherless calf in the snow—

Only a pitiful ball of hair Left to shiver and freeze out there.

I brought it home and thawed it up,

And I fed it milk in an old tin cup.

And it fattened fast as a pig, I vow,

And grew and grew till it made a cow.

And what is more, she was scarcely grown

Before she found a calf of her own;

And here I could hardly believe it true,

My cow was mother and grand-ma, too.

Then they began to multiply

At a rate that knocked the mortgage high.

They gave me butter and milk to sell,

And plenty to use at home, as well

And the cattle I've sold—but let that go,

You wouldn't believe the truth, I know;

But down in the meadow you may see

A portion of her posterity,

And the brindle cow with the wrinkled horn

Is the calf I found that wintry morn.

And this is a tale I tell to you, To show what an "ornery calf" can do.

—Whitney Montgomery.

Knowledge is power, but more than knowledge is needed to keep an auto going.

Backyard Garden HIGH GRADE SEEDS

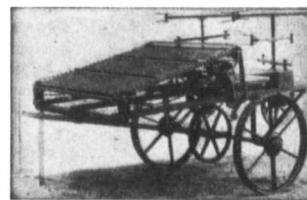
- Cardinal Globe Table Beet ..... Pkg. 10c, oz. 20c, 4 ozs. 50c, lb. \$1.50
- Stringless Refugee Wax Butter Bush Beans ... 4 ozs. 15c, lb. 50c, 5 lbs. \$2.25.
- XXX Early Summer Cabbage, hard heads Pkg. 10c, oz. 30c, 4 ozs. \$1.00
- Spinach Beet for greens, used as spinach ..... Pkg. 10c, oz. 30c, 4 ozs. 90c
- Chantenay Red Table Carrot ..... Pkg. 5c, oz. 25c, 4 ozs. 65c, lb. \$2.00
- Cauliflower, Best Snowball, gilt edge ..... Pkgs. 15c, 25c, 1/4 oz. 85c
- Paris Golden Celery, extra fine ..... Pkg. 15c, 1/4 oz. 60c, oz. \$2.00
- Citron for Preserving, most productive ..... Pkg. 5c, oz. 15c, 4 ozs. 40c
- Golden Bantam Table Corn ..... Pkg. 10c, lb. 40c, 5 lbs. \$1.90
- Early Market Table Sugar Corn ..... Pkg. 10c, lb. 35c, 5 lbs. \$1.50
- XXX Table Cucumber, early, prolific ..... Pkg. 10c, oz. 25c, 4 ozs. 60c
- Select Nonpareil Lettuce, fine heads ..... Pkg. 5c, oz. 15c, 4 ozs. 60c
- Tall Climbing Nasturtium, standard ..... Pkg. 5c, oz. 20c, 4 ozs. 40c
- Giant Yellow Pritzaker Onion (black seed), Pkg. 10c, oz. 25c, 4 ozs. 65c
- Yellow Globe Danvers Onion (black seed) ..... Pkg. 5c, oz. 25c, 4 ozs. 65c
- Yellow Dutch Onion Setts ..... lb. 35c, 5 lbs. \$1.70
- XXX Guernsey Parsnip, best for table ..... Pkg. 10c, oz. 20c, 5 ozs. 50c
- Champion Moss Curled Parsley ..... Pkg. 5c, oz. 20c, 4 ozs. 50c
- XXX Earliest Table Marrow Peas ..... 4 ozs. 15c, lb. 40c, 5 lbs. \$1.90
- Improved French Breakfast Radish ..... Pkg. 5c, oz. 10c, 4 ozs. 30c
- Scarlet China Winter Radish ..... Pkg. 5c, oz. 20c, 4 ozs. 50c
- Improved Beefsteak Tomato, very large ..... Pkg. 10c, 1/2 oz. 35c, oz. 60c
- XXX Earliest Scarlet Tomato ..... Pkg. 10c, oz. 50c, 4 ozs. \$1.50
- Rennie's Prize Table Swede Turnip Pkg. 5c, 4 ozs. 20c, 1/2 lb. 35c, lb. 65c
- Giant Branching Asters, Crimson, White, Pink, Blue, etc. .... Pkg. 10c
- Spencer Good Mixed Colors Sweet Peas ..... Pkg. 10c, oz. 25c, 4 ozs. 80c

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# Gophers Must Be Destroyed

Millions of Dollars Lost through the Ravages caused by these Pests  
By FRANK W. SKINNER

Two billion (2,000,000,000) dead-beat boarding-house guests—some boarding-house!

There are 200,000,000 acres of 479,162,438 acres in the provinces of Manitoba, Saskatchewan and Alberta, which are arable. This territory is a vast gopher boarding-house with considerable more dead-beat guests than there are human beings in the world.

When you stop to consider that each of these gopher dead-beats costs the farmer as much to board as it would cost him to board a hen, and that gophers produce no value whatsoever, only a net loss, it seems that the farmers of the western provinces ought to be banded together with one unailing purpose—to stamp out this costly pest.

## Springtime Carnival of Destruction

When they first come out of the ground after their long winter's sleep, they are hungry. This devouring hoard descends upon the growing grain and takes an enormous toll of it.

Their natural enemies (hawks, owls, coyotes, foxes, weasels and such creatures), have been destroyed and gophers have been left free to multiply, which they do with amazing rapidity.

So rapid is their increase that one gopher killed in the early spring is equivalent to fifteen killed in June.

The gopher does his greatest damage to the growing grain plants, of which a vast quantity is required to satisfy his voracious appetite. If these plants were allowed to come to maturity, they would add an immense total to the volume of grain produced. Agricultural authorities tell us that each pair of gophers eats or destroys a bushel of grain a year. Think what an unbelievable total this reaches.

If gophers confined their damage to the grain they eat and the grain plants they destroy, it would be bad enough. But, in addition, they often render the land totally unfit for tillage by the holes which they dig and the mounds they throw up, draining the top soil and making the fields unutilizable.

## What To Do About It

Efforts in the past have proven that gophers can be exterminated. Some farmers will state that this is not true. It has been proven true. But it requires the co-operation of every landowner. If every landowner would take adequate precautions against gophers at the time they first appear in

spring and poison every burrow and keep it poisoned throughout the few weeks between the time when the gophers appear and the time when the grain comes up, the gopher menace would be a thing of the past. While this is entirely practical, it is not possible to awaken every man to the danger, but the fact remains that any one farmer who cares to go to the trouble, can keep the gophers on his land in check. It means constant vigilance, but it's worth it.

## This Year's Efforts Vital

Unless the most careful precautions are taken this year—to this spring—to destroy all the gophers possible, Canadian grain crops will suffer seriously. If farmers neglect to take precaution against gophers, as many of them will be tempted to do, before the end of the summer all the good work of the past will be nullified and gophers will be more plentiful than they ever have been before. It is vitally important that every farmer take every means at his command to destroy gophers this spring. Never has there been a time in the history of the Dominion when a full production of grain was of so much importance as this year, and it is a matter of service to the country for every grain grower to "do his bit" and destroy the gophers on his land.

## How to Exterminate Gophers

In a recent statement, Professor V. W. Jackson, of the Manitoba Agricultural College, says that a careful survey of twenty-five townships in Manitoba, the least over-run of the Western provinces, there were fully nine million gophers, causing an annual loss of not less than \$2,250,000.00. Quoting his statement further, he says: "These reliable figures show that in many townships the loss due to gophers exceeds the cost of seed grain, or \$2.50 per acre, and in many townships double this loss. In view of the fact that the cost of treating infested land with a reliable gopher poison is less than three cents per acre and which, if systematically applied at the right season, gets the gopher, it is apparent that this enormous loss could be saved."

The remainder of Professor Jackson's statement is worthy of close consideration.

## What is Being Done

"The Biology Department of the Manitoba Agricultural College took up the gopher problem this spring. Owing to the scarcity of strychnine, and its prohibitive price (over \$2.00 per ounce),

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## A RUNAWAY HORSE

can't break a Peerless Fence. No fiery bull can make a dent in it, hogs can't push through the spaces.

It holds them all securely. Ask your nearest dealer to show you the Peerless farm fencing. See the heavy, crimped horizontal wires that allow for all expansion or contraction in extremes of temperature. See the famous Peerless lock that holds the intersections in a firm, non-slippable grip. See the Peerless farm gates. Your dealer guarantees the Peerless to give satisfaction and we stand back of him unconditionally.

**Letters Like These from Halifax to Vancouver**

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Hamilton, Ontario

Dear Sirs: I am writing a testimonial as to the strength of your PEERLESS Junior Chain-Fencing. Mine is four feet high. It turned two horses, each weighing 1400 pounds. They ran full tilt into the fencing about 2 miles from each other at the same time. The result was that they turned a summersault over the fence, all right on their heads and necks, scratching them up some, but the fence remained intact.

Yours truly,  
JOE BOOTHBY,  
Surrey Centre, B. C.

The Banwell-Hoxie Wire Fence Co., Ltd.,  
Hamilton, Ontario

Gentlemen: I have handled your fence for four years and find it a good, strong and durable fence, and find that the guarantee is first-class. In referring to this I have a fence that I put on four years ago across a gulch and the water ran high as the second wire and it is not rusted nor broken yet. I have a town of heavy horses that ran into the fence last summer and did not break or damage it in the least, and I am glad to say that on the four years I have handled your wire I have had no complaints about it.

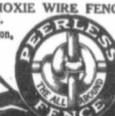
Yours truly,  
DAVID CUMMINGS,  
Bowersville, Ont.

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## They'll Steal You Blind

Every pair costs you a bushel of grain per year counting what they eat and the growing grain plants they destroy. Can you afford to let them live? You can kill them all for 1 cent an acre by using

# Kill-Em-Quick

## GOPHER POISON

**Don't let the Little Pests Ruin your Crops**



**Get after them when they first come out of their winter sleep. Give 'em a feast of Kill-Em-Quick and they won't bother the tender young grain.**

**Gophers will eat Kill-Em-Quick in preference to other foods. Its odor attracts them, its sweet taste pleases them and it invariably kills them.**

Recommended by the Manitoba Agricultural College and by thousands of farmers in Canada as the best gopher killer.



**Kill-Em-Quick is easy to use. Simply stir into thoroughly moistened oats or ground feed and drop into holes.**

**Guarantee printed on every package. Money back, if it fails.**

**Two sizes—40-acre size 50c; 100-acre size \$1.00.** Get it from your druggist. If he can't supply you, we ship direct upon receipt of the price.

**Free—Interesting book on gophers. Send for it.**

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If your dealer does not carry these metals in stock, send your order direct to us. In order to insure prompt delivery, send postal money order.

Nickel Genuine	Less than 25 lbs. .... 85c per lb.	Frost King	Less than 30 lbs. .... 40c per lb.
25 lb. box	..... 20c per lb.	40 lb. box	..... 37c per lb.
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Delivered to your nearest express or post office station.

## Hoyt Metal Co. Eastern Ave. and Lewis St. TORONTO

FACTORIES—London, Eng.; Toronto, New York and St. Louis.

well-known prepared gopher poisons were recommended, and one firm volunteered to give free samples.

"Over 400 free packages were thus distributed and over 1,500 larger packages, treating 80 to 160 acres each, were sold at prices usually given to municipalities; and if local druggists and others throughout the province have sold three times as much, it means 6,000 packages, or an expenditure of about \$3,000.00 to prevent a \$3,000,000.00 loss.

"It is therefore evident that we are not making an adequate effort to control the gopher. From every trial we got satisfactory results, and reports from all over the province on the effectiveness of gopher poison. Our experience and success this year warrant recommendations in dealing with the gopher problem, which we beg to submit.

"First, that a Provincial Gopher Act, similar to the Noxious Weed Act, be passed, making the treatment of gopher infested land compulsory, and permitting municipalities to treat vacant lands and charge to the absentee owners. The great barrier to individual effort seems to be the vacant lands. Scores of farmers give this as a reason for not treating their land. Gophers can move about more readily than weeds, and at all seasons, making the vacant land a greater menace from gophers than from weeds. Others say that it is useless to put out gopher poison when neighbors neglect to control their gophers and when vacant lands serve as breeding grounds. Uniformity and co-operation are necessary to get the gopher, and there seems a general desire for a Provincial Act to ensure control and save this loss of several million dollars.

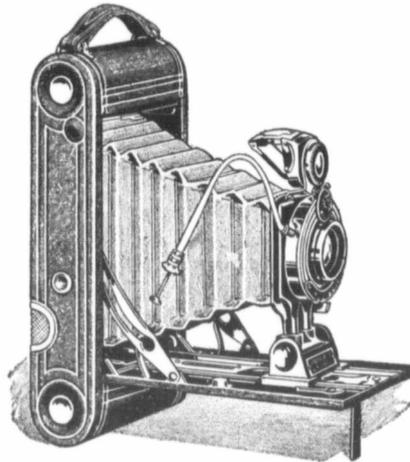
"Second, we believe that the municipal weed inspectors are the proper agents to enforce and carry out such a gopher act. This would not interfere with their regular duties, but simply extend their working season which they complain is too short to be profitable. Their duties begin on May 15th, before which time the gopher land should be treated. Being a municipal agent, he could act in unison with the municipal council in dealing with vacant lands."

**Do It Now**

Never was there a time when it was so important for you to kill gophers as it is this year. Don't let anything interfere. Poison every burrow with a poison that will kill and be sure that it is a poison that gophers will eat.

Few men do as well as they could do, to say nothing of doing as well as they should do.

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



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"MADE IN CANADA"



THE GOLD IN YOUR STUMP LAND

In order to assist in relieving the shortage in foodstuffs and to enable our Government and that of Great Britain and other countries to feed the large armies in Europe, you must make every foot of your farm produce its full share of crops. Read this and think as you never did before—how about that acre of waste, stumpy land down by the south fence? You haven't paid much attention to it—you have rather dreaded the work of clearing it.

**Don't delay any longer**

One man in his odd moments can pull all those stumps without other help than a

### KIRSTIN Stump Puller

It makes no difference what kind of stuff you have to clear or whether you have one acre or one thousand acres, the Kirstin method is guaranteed to clear your land from 10 per cent to 50 per cent cheaper than any other method. When you buy a Kirstin Stump Puller you get a guarantee Bond which protects you against breakage—flaw or no flaw—for fifteen years and the helpful advice of our land clearing experts is at your command for all time. Look Into This Labor Saving—Profit Producing Device—send for our illustrated book, "The Gold in Your Stump Land" and details of our profit sharing plan, which will be sent you without obligation. Sign the coupon and mail to-day.

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Send me a Free Copy of "The Gold in Your Stump Land" and full particulars of the Kirstin Method. The Money Back Bond. The 15-year guarantee. The profit sharing plan.

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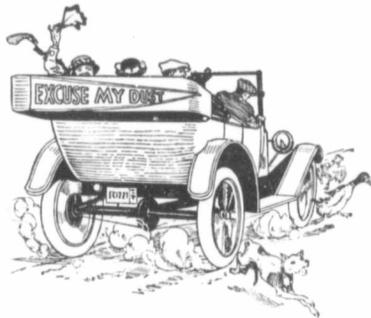
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OSHAWA - ONTARIO



WESTERN SERVICE AND DISTRIBUTING BRANCH: REGINA, SASK.

### Watering the Horse

The proper watering of the horse is important. Mr. Peters, of the North Dakota Experiment Station, makes the following suggestions: A horse that is thirsty should be watered before being fed hay or grain, rather than after. The reason for this is that the stomach of the horse is comparatively small and if he eats a heavy feed of grain or hay or both, and then drinks a large quantity of water a portion of the feed will be washed from the stomach into the intestines before it has been sufficiently acted upon by the digestive fluids of the stomach and colic is likely to develop. The regular practice should be to water before feeding, Ex. Dept. N.D. Agr. College.

### Care of Young Pigs

Provision should be made so that early farrowed pigs can take exercise after they are six or seven day's old, according to Mr. Peters, Animal Husbandman at the North Dakota Experiment Station. He also states that the young pigs should begin to receive feed when about 5 weeks old. A thin mixture of shorts and skim milk is good. Care must be taken that it does not set around long enough to become sour. If skim milk cannot be had, water will have to suffice. In this case, it

will pay to feed the pigs some tankage till at least 3 months old.

A little whole wheat or rye is also good for starting the young pigs to eat.

### Milk for Dairy Calves

In feeding the dairy calf, the aim is to cut down the period of whole milk feeding. At the North Dakota Experiment Station, two lots of 4 calves each were fed as follows: Whole milk first 3 weeks both lots. From then on, lot A was fed half whole milk and half skim milk till six months' old. Lot B, after 3 weeks old, were fed skim milk with flax seed. Just enough flax was added to supply as much fat as was given the calves in lot A in their whole milk. Each calf was given 2 gallons of milk a day. The whole milk calves made the best gains the first 3 months, but during the next 3 months the skim milk calves nearly caught up; the 4 lacking but 15 pounds of weighing as much as the whole milk calves and several expert cattle men who examined the two lots pronounced the calves in lot B in as thrifty a condition as those in lot A. The saving in using skim milk and flax in place of the whole milk amounted to \$19.00 per calf for the 6 month period. The grain and hay cost the same for both lots.

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# Eradication of Weeds

By JOHN ADAMS, M.A., Assistant Dominion Botanist

## A.—Different Classes of Weeds

According to their manner of growth, weeds may be grouped under three heads.

1. Annual Weeds—These complete their whole life-history in one year or less. The seed germinates sometimes in the fall, but more often in spring, the plant grows rapidly, produces flowers, ripens and scatters its seeds, and then dies before winter. Wild Mustard and Wild Oats are annuals.

2. Biennial Weeds — These during the first season of growth produce a tuft of leaves close to the surface of the ground; during the second season a tall stem is produced which bears flowers and ripens seeds, and then the whole plant dies. The life-history is thus comprised inside two years. Biennial Wormwood and Burdock are examples.

3. Perennial Weeds — These produce flowers and seeds, but after ripening the seeds only those parts of the plant above ground die down, while the underground parts live on for many years. Three types of perennial weeds may be distinguished.

(a) Spot-bound — Weeds of this class do not spread readily in the ground beyond the spot where they first take root. Their seeds may, of course, be distributed over a wide area. Examples are Dock and Dandelion.

(b) Creeping on the surface—The parent plant sends out runners in all directions along the surface of the ground, which eventually take root. Examples are Silverweed and Orange Hawkweed.

(c) Creeping below the surface—The parent plant sends out shoots or, in some cases, roots, which travel horizontally at a considerable depth below the surface of the ground. New shoots grow up from these above the surface of the soil and eventually become independent plants. Likewise, a small piece of the underground shoot an inch or two long is capable of producing a new plant. Field Bindweed and Canada Thistle are examples.

## B.—How Weeds Spread

Weeds may gain entrance to the farm, or, if already there, may be dispersed over a wider area in one of the following ways:

1. As impurities in the seed sown—Most samples of agricultural seeds contain weed seeds in greater or less amount, which

are sown with the useful seeds and thus the weeds may, quite unknown to the farmer, gain an entrance on to his land. The seed sown should be absolutely free from weeds of all kinds — a condition of things which is seldom realized.

2. By the Agency of Threshing Machines—The threshing machine should be thoroughly cleaned before it is allowed to begin operations on the farm.

3. In Stable Manure and Feeding Stuffs — Hay and feeding stuffs often contain weed seeds, some of which are liable to find their way into the manure heap and eventually on to the land.

4. By the Action of Wind—Many seeds, such as those of Dandelion and Thistle, are furnished with a tuft of hairs which enables them to float in the air for long distances. In other cases the seeds or even the whole plant may be blown over the frozen surface of the snow.

5. By the Agency of Animals—The seeds or adjacent parts of some plants, such as Blue Bur and Burdock, are provided with hooks by means of which they become attached to the wool of sheep or the clothing of workers on the farm and in this way may be carried into fields where formerly they did not exist.

6. By Cultivation — In some plants, especially those with creeping, underground stems, the broken pieces may be carried all over the field by farm implements and thus dispersed over a much wider area than the parent plants originally occupied.

## C.—Methods of Destroying Weeds

1. By Destroying the Weed Seeds already in the soil—Where the ground has been badly polluted with weed seeds through neglect in former years the surface should be disturbed to a depth of a few inches and the seeds encouraged to germinate either after harvest or in spring. If the land is then plowed deeply the seedlings will be buried and the fresh supply of weed seeds brought up should be encouraged to grow in the same manner and should then be destroyed. A hoed crop should be planted and the spaces between the rows ought to be cultivated regularly throughout the season.

When the ground has been badly polluted with weed seeds some of them may lie dormant for several years and germinate when the soil is again disturbed.

2. By Preventing them from Ripening Seeds—The formation of seeds can be prevented in var-

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ous ways, such as mowing several times during the season or cutting the roots with a hoe or spade, or frequent cultivation of the land by horse labor, or by pasturing the ground closely with sheep. Annuals and biennials will eventually die out if the production of seeds is prevented.

3. By Frequent Cultivation and Destruction of the Green Parts as Often as they Appear—Prevention of seed-formation will prove somewhat to check the spread of perennial plants, but as they can live for many years and even continue to occupy new ground by the growth of underground shoots, etc., some more thorough methods are required to get rid of them. The implements employed for this purpose should be such as will loosen the soil to such an extent that the weeds can be readily pulled out and collected into heaps, after which they should be burnt when dry. It is very important that the underground parts of such weeds as Field Bindweed should not be broken into small pieces difficult to collect and liable to be scattered over a wider area. But, however carefully the work of collecting and burning may be done, some of the weeds are sure to be left in the soil and, if undisturbed, will grow again. Consequently ground that is badly infested with such weeds will require to have the surface disturbed by frequent cultivation. This can only be done if the land is left without a crop (summer-fallowed), or bears a crop of such a nature that it can be planted in rows with sufficient space between the rows to admit of ready cultivation without injury to the plants. The cultivation should be done sufficiently often to destroy all green parts as quickly as they appear and the implements used should be of such a nature that they will cut all underground stems and roots in the area covered by them without letting any escape. One of the weed-knife type of implements should be used. The underground parts of a plant are nourished by the green parts above ground and if the green stems and leaves are destroyed as quickly as they appear the parts below the surface will be starved out and the whole plant will eventually die. This is the only way to eradicate finally such weeds as Canada Thistle and Field Bindweed.

4. By the Use of Smother Crops—A vigorous growth of some other crops such as alfalfa tends to crowd out some kinds of weeds and the cutting of the crop several times during the season prevents the weed from ripening its seeds.

5. By Excluding Sunlight—This can be done by the use of building paper, or a thick layer of

straw or other suitable material and can only be practised on small areas that are entirely overrun by some very troublesome weed.

6. By spraying with Chemical Solutions—The substances most commonly used for killing weeds are iron sulphate (copperas or green vitriol), copper sulphate (blue vitriol), common salt and sodium arsenite. Iron sulphate can be used to destroy wild mustard when growing in a grain crop without doing any material damage to the crop. For this purpose a 20 per cent solution is employed and 100 pounds of the sulphate dissolved in 50 gallons of water will spray one acre. Copper sulphate can be used for the same purpose, a 2 per cent solution being employed (10 lbs. in 50 gallons of water per acre). Both these sulphates are poisonous. Sodium arsenite if applied at the rate of 2 pounds to 50 gallons of water will blacken the leaves of Canada Thistle. It is very poisonous and cannot safely be applied to the thistles when growing among hay or other crop as it will damage the useful plants as well.

Common salt is a useful weed killer to employ in the case of weeds growing on paths or roadside or waste ground. It should be applied in dry weather at the rate of 125 lbs. in 50 gallons of water per acre. Strong solutions of the other foregoing chemicals may be used for the same purpose.

**D.—General Conclusions**

The control of weeds on the farm requires in a marked degree the two virtues of thoroughness and perseverance. If a farmer goes about it in a half-hearted way, he will never accomplish their eradication. Constant watchfulness is necessary if progress is to be made. If bare fallow is resorted to, it should be possible to get rid of even the worst weeds in a single year. But the practice of bare fallow is not a paying game. It is in most cases better to graze the land or take off a crop of hay or grain early in the season and then leave the land bare for the rest of the year. Shallow plowing should be followed by continuous cultivation throughout the rest of the season, and a hoed crop planted the following year.

It is safe to say that weeds can only be held in check where a suitable rotation of crops is followed. Where the same land is sown with wheat year after year, or where the land is pastured indefinitely, the weed problem is liable to become worse every year. In the former case bare fallow every few years will be necessary and it is very doubtful whether the return from the land will be equal to that where the rotation of crops is followed.

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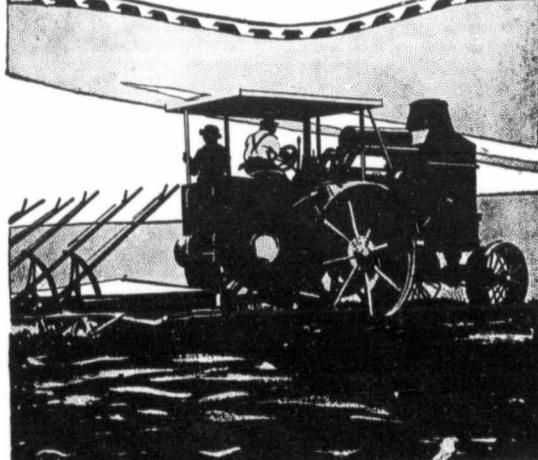
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## What the Manitoba Agricultural College is Doing

By PROFESSOR L. J. SMITH, and others, M. A. C.

WITH the ending of March closed the first long special course in farm engineering given in Canada. It was tried somewhat as an experiment, it being felt that the old three weeks' courses in tractioning that the Manitoba Agricultural College has been giving annually for over ten years, were not long enough to get the best results. The attendance proved that many of the farmers were feeling the need of this more extensive mechanical training even to the extent of being willing to spend two months in the winter to that end. Seventy-six men enrolled for the course and nearly fifty more would have come had they but known in time or had there been sufficient accommodation.

The days were spent in the shop and engine laboratories and with practical lectures, while the evenings were largely given over to basketball, wrestling and reading in the library. Nor was the literary side neglected. In addition to the lectures in English literature given by President Reynolds, the short course men organized a literary society and held many debates.

The students appreciated the shop visits in Winnipeg. Members of the Agricultural Engineering Department took them on inspection trips through the following places of interest, many of which are not open to the individual visiting the city; Ford Assembling Factory, seeing the assembling of the famous Ford car; Vulcan Iron Works, where the big shells are made and where the boiler shop and foundry present wonders to the uninitiated; The Winnipeg High Pressure Gas Producer Plant, with its big pumps for the protection of the business district; The Winnipeg Electric Steam Plant, with its six thousand horse power steam turbines waiting to pick up the load should anything fail at the dam away out on the Winnipeg River; The Free Press and the mechanical mysteries of the wonderfully complex newspaper business; The Manitoba Bridge and Iron Works, deep in structural steel and shell making; and many of the tractor warehouse. The mysteries of the "Pit" and the Grain Trade were revealed, at least so far as the eye and the mind of the amateur might be able to absorb it.

At the close of the course the students presented resolutions of thanks to the instructors, to those who kindly gave special lectures, to the firms for their visits of in-

spection and to the Gas Engine and Tractor Companies for their generous donations of equipment to the Department of Agricultural Engineering.

The place of usefulness of the two months' farm engineering course is assured. The problem will be for the Agricultural Colleges of Canada to provide sufficient accommodation for the many who are eager for the work.

### Amended Weeds Act is Available

During the past session of the Manitoba Legislature the provincial Noxious Weeds Act was amended somewhat. As this is one of the acts in which farmers are most intensely interested, the Department of Agriculture has had a large supply printed in the amended form. These are now available to any person in Manitoba who addresses a request to the Weeds Commission, Department of Agriculture, Winnipeg.

### Bulletin on Vegetable Canning

Did you ever try to can vegetables—green peas, beans, tomatoes, and other common garden crops? Perhaps you have tried it—and failed. Many a housewife has had that experience. The truth is that thousands of women who seem to get along splendidly in canning fruit simply "meet their Waterloo" when they attempt to can vegetables.

This fact, together with the popular Canadian movement this year to produce more garden crops than usual, and thus add to the national food supply, will make doubly welcome a new 24 page bulletin, "Canning by the Cold Pack Method," that has just been printed by the Manitoba Department of Agriculture.

The joint authors of this bulletin are Professor C. H. Lee and Miss R. M. Atkinson, of Manitoba Agricultural College. Both Prof. Lee and Miss Atkinson have given very special attention to this subject, and they have produced a bulletin that is up-to-date in every respect, being explicit, simple and reasonably comprehensive. Illustrations show the various canning outfits employed, explain their use, and in some cases quote the approximate prices. Instructions as to how to put goods up in tins as well as in glass jars are included, although employment of glass jars for home use is recommended.

Individual recipes are given for almost all ordinary Manitoba vegetables that require to be

# GROW ALL YOU CAN SAVE ALL YOU GROW

- Every patriotic Manitoba farmer has long ago decided to respond to the Empire's call to produce the last possible ounce of Food Products during 1917.
- The way to do this is not so much through spreading the energy over unready acres as by giving better attention to the undertakings already in hand.
- This Department is glad to help in every way. Its advice to every farmer is to—

### PREVENT SMUT LOSS BY USING FORMALIN

See posters with instructions in every Manitoba town and village.

### DESTROY GOPHERS

Get in touch with the Biology Department of Manitoba Agricultural College.

### ENLARGE AND IMPROVE THE POTATO CROP

Write this Department for the new Manitoba Potato Bulletin.

### HANDLE YOUR WOOL PROPERLY

Secure the new circular, "Marketing Manitoba's Wool Crop."

### SAVE ALL YOUR FOALS

Secure the new bulletins, "Management of the Brood Mare and Foal," and "Common Diseases and Disorders of the Foal."

### DELIVER YOUR CREAM IN NUMBER ONE CONDITION

Secure new circular, "Finding the Dollar in the Cream Can."

### LEARN HOW TO CAN VEGETABLES

Write for "Canning by the Cold Pack Method."

### DESTROY THE WEEDS

Secure copy of "Control of the Sow Thistle in Manitoba."

All these publications may be had by writing the Publications Branch, Manitoba Department of Agriculture, Winnipeg.

# GROW ALL YOU CAN SAVE ALL YOU GROW

MANITOBA DEPARTMENT OF AGRICULTURE

## Provincial Exhibition

BRANDON, Man. July 16, 17, 18, 19, 20, 1917

A Provincial Exhibition that has made good every year. An improvement over the previous year. It's a bigger and better Exhibition for 1917. LET'S GO!

### LIGHT TRACTOR PLOWING DEMONSTRATION

The unqualified success of last year's demonstration (the first held in Canada) justifies our repeating it this year. Rules and entry forms are ready. Entries positively close July 1st.

### INDUSTRIAL EXHIBITS

The buildings and outside space for Manufacturers' Exhibits make this the best place in the West for the display of all kinds of Farm Machinery, Farm Implements, Automobiles and Mercantile Exhibits. It's where the Manufacturer meets the Farmer. It's where sales aggregating hundreds of thousands of dollars are made. It's where you meet the MAN WITH THE CASH.

EXHIBITS SOLICITED. Application for space should be made early to insure a location. WRITE FOR PRIZE LIST

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Wide distribution of the bulletin will be made to several thousand members of the Boys' and Girls' Clubs who, this year, have entered the Canning Contest; also a copy will be placed in every school library in Manitoba; but several thousand other copies will be held to meet the requests of individual housewives and other enquirers. For a free copy, write Publications Branch, Department of Agriculture, Winnipeg.

**New Map of Manitoba**

A new and very fine wall map of Manitoba, 36 by 36 inches, has just been issued by the Provincial Department of Agriculture. All the railways are shown in different colors. The municipalities are very clearly defined, and considerable statistical matter referring to the province is presented in tabular form. Free copies are to be had by applying to the Immigration and Colonization Office, 439 Main Street, Winnipeg.

**Beavers are Increasing**

There was a time when the beaver was almost extinct in all the older parts of Manitoba. Such is not now the case. The 1916 report of the Manitoba Department of Agriculture points out that "these animals are increasing rapidly and are to be found in the midst of old settled districts." Sentimentally, the preservation of the beaver should appeal to all Canadians; yet the value of its fur and the ease of capture would soon cause the total extinction of the species if the guardianship of the government were removed and free hunting or trapping permitted. As it is now, the beavers in all the older parts of Manitoba are considered as the exclusive property of the government, to be administered for the good of all the people, and for many years no open season has prevailed.

**Manitoba's Co-operative Wool Circular**

All sheep owners in Manitoba should write to the Publications Branch, Department of Agriculture, Winnipeg, for a copy of revised Circular No. 33, "Marketing Manitoba's Wool Crop."

This 12 page circular is the best print of its kind issued by any province in Canada. It contains ten illustrations, not only showing how to handle wool properly, but also illustrating and describing the various wool grades.

There is a very big field for education to be done in wool improvement, and the Dominion Department of Agriculture are heartily co-operating in this campaign. The value of this work, just at this time when wool is so high in price and so much needed for war clothing, is very great.

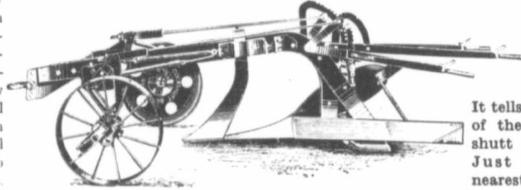
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The beams are carefully forged and strongly braced against pulling strain. Powerful, easily operated levers, equipped with helper springs, control its operation. No handles are necessary. The heavy steel colter is exceptionally strong and rigid. Provision is made for hitching one plow behind the other.



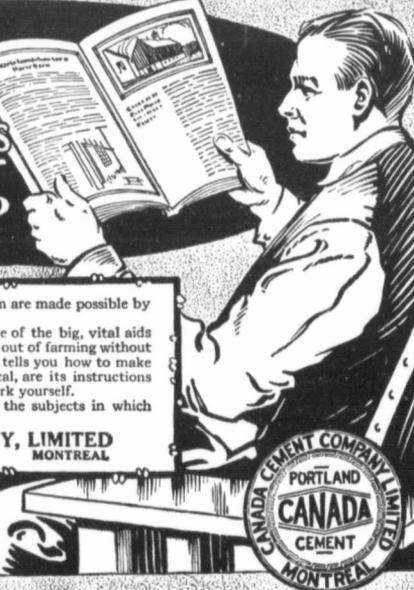
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this summer. The plans for our summer subscription campaign call for 300 more men. The opportunity is particularly big in view of our continuing to sell The Canadian Thresherman and Farmer at present subscription prices. Several Canadian farm publications have been obliged to increase their price on account of the increased cost of paper. Considering this fact The Canadian Thresherman and Farmer should be the greatest and easiest sold magazine for the farmer to-day. We particularly desire farmers who are well known in their localities. These men can conduct a vigorous campaign with our help to their decided profit.

Applications should be sent immediately to the Circulation Manager,

**E. H. HEATH CO., LIMITED, WINNIPEG, MANITOBA**

## Gophers Destroy Half as Much Grain Annually as Would Feed Saskatchewan

While it is difficult to calculate the damage caused by gophers to the crops of Saskatchewan, a conservative estimate would place the yearly loss at from three to four million dollars. That is to say, the farmers of this province actually produce enough grain over and above what is reaped and marketed to provide food for more men than there are in the Canadian army to-day, or half enough to feed the entire population of Saskatchewan. Unfortunately this grain is consumed or destroyed by gophers. This great waste is not fully appreciated and it should not be allowed to continue if there is any possibility of avoiding it.

The Empire is contending in the greatest economic war in history, so that waste, especially in foodstuffs, should be reduced to a minimum. The question then arises: Can the people of Saskatchewan successfully combat the gopher? The answer comes that it is quite impossible to destroy them entirely in one or two years, but their numbers can be so greatly lessened in a few days each spring to save the greater part of this annual loss.

The experience of most of our farmers is that a successful campaign can only be brought about by co-operation. And this is, in reality, a very feasible plan. Gophers move about from place to place, making their homes where they can obtain the best food most conveniently. Thus it is comparatively useless for one man to poison his gophers if the neighbors neglect theirs or delay the work until it is too late. It is money and time largely thrown away. With the idea of encouraging united action May 1st was chosen as gopher day, a day for all both adults and children to wage war on these destructive rodents. May 1st is sufficiently early to catch them before the young appear or the green grass or blades of grain entice them away from the poison. A pair of gophers destroyed on gopher day are equal to at least eight or ten two months later.

Since the announcement of a gopher day a number of municipalities have written endorsing the scheme. Some are supplementing the prizes offered by the department to the schools and children by offering substantial bonuses for gophers destroyed any day up to and including May

1st. Full particulars regarding the prizes offered in the campaign may be obtained from any school teacher. Information has been mailed to all of the school teachers of Saskatchewan.

The children of Saskatchewan both rural and urban can render a material service to the country by getting busy with their traps and snares and thereby further contribute their little bit during this great national crisis.

### THE MIND OF A POTATO

A recent experiment in the United States bureau of plant industry at Washington resulted in a very interesting discovery in regard to the persistency and ingenuity with which a plant, finding itself under strange conditions where growth cannot be naturally continued, and where it is unable to provide for the formation of its reproductive seed in the normal manner, will make efforts to form these seeds by whatever poor means may be left to it.

The subject of the experiment was the common Irish potato. Now, it is well known that this plant produces the potato, the seed whence it is reproduced, under the ground, at one of the nodes or points from which the roots branch off from the main underground stem or root. It never produces a potato above ground any more than an apple tree produces apples beneath. This term "node" is also applied to those points on the stalk above ground from which spring the branches and leaves.

The experimenters first cut off the stem of a growing potato plant and set it in a barren sand, placing the butt end of the stem deep enough for the sand to cover one of the stem nodes. It was then supplied with water from time to time. The plant, finding no root node from which to grow a potato beneath the ground, adopted the next best plan. It started a young potato at the stem node buried, as mentioned, and bravely persisted in living until its young offspring had reached maturity, when it died at once.

Another stem was cut from a growing plant, and planted in the sand in the same manner as the first, save that the part of the stem buried in the sand was perfectly smooth and without any node whatever. This plant was also liberally watered and curiously watched by scientists to see

## TALKS ON TRACTOR FUELS

By The Imperial Oil Company, Limited

WE recommend SILVER STAR KEROSENE and ROYALITE COAL OIL as fuels for your tractor. Kerosene is the most economical and the most powerful tractor fuel. Many tractor owners are using it successfully. It may be that you can save money, too, by making the change from the more expensive gasoline.

500 prairie stations, one near you, can sell you ROYALITE COAL OIL and SILVER STAR KEROSENE, and if you must use gasoline, be sure to get the clean-burning, powerful PREMIER.

## FIVE ROSES FLOUR

FOR BREADS - CAKES  
PUDDINGS  
PASTRIES

### Can you guess it?

There are housewives whose cake is always praised—whose pastry is famous for its melting flakiness—whose firm, light bread wins daily compliments—whose puddings are noted for savoury lightness—whose cookies are so lastingly crisp. They have one rule that applies to all their baking.

Can you guess it?

Twelve Months of this Magazine for \$1.00

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what steps it would take to reproduce its kind.

But the potato was not to be balked; that faculty or whatever it is, in a potato seemed to have set actively to reproduce its kind as soon as the plant discovered that there was nothing of a node kind below ground from which it could sprout a new potato. The results of this plant mentality was soon evident; in a short time there appeared at the first node above ground, the point from which the first branch grew from the stem, a small potato. While the rest of the plant appeared to be barely alive this potato grew rapidly to a maturity. It was small in size, but perfectly formed and with the "eyes" necessary to form new potato plants. As soon as this was done the whole plant rapidly died.

It was noted that not only did the plant appear to bestow all its nutriment—save what was barely enough to keep it alive—upon this single potato, but also that from no other node did it attempt to grow a potato. It would seem as though it realized it had but small strength and short life in those unfriendly surroundings and hence like a mother who will stave herself to keep her offspring alive, gave all its strength to bring its one poor little child to maturity.

**Inoculating for Alfalfa and Clover**

Alfalfa and clover are peculiar in that they do not grow well unless they have bacteria working with them and for them. These bacteria are so small that they can only be seen by a high power microscope. It is easy to tell when they are present as they form grayish white masses on the roots. On alfalfa roots they are a little larger than alfalfa seeds. On peas they are about as big as peas. These masses are commonly called nodules. In experiments on the North Dakota Demonstration Farms it has been found that the first time alfalfa, clover or peas are planted, they usually do not have the nodules unless the bacteria are sown with the seed. The second or third time that the alfalfa, clover or peas are seeded on the same land the plants develop nodules on the roots and also make a more thrifty growth. The conclusion is that it pays to sow the bacteria when such crops as alfalfa, clover and peas are planted. Each crop usually has a different bacteria. Sweet clover and alfalfa use the same one. This usually results in alfalfa developing nodules quicker on land that has raised sweet clover than if the land has been in any other crop.

# National Service

## Prepare NOW for Bigger Crops in 1918!

Canada's paramount duty to the Empire and her valiant Allies is to produce wheat—and still *more wheat*—on her broad and fertile prairies.

There are many indications that the need may—probably will—be greater in 1918 than it is now.

The imperative necessity for Canada's best efforts is emphasized by the shortage of tonnage, and the fact that a ship can make *three* trips to North America for *one* to any other overseas wheat country

The time for breaking new land, and summer fallowing for next year's crop, is upon you! Unless you do it NOW you cannot profitably add an acre to your grain crop next year.

## A Win-the-War Message To the Farmers of Canada

"A War Savings Certificate in every Canadian Home will help to win the war, and will also pay you over 5% interest."  
*Sir Thomas White, Minister of Finance.*

Certificates are issued in denominations of \$25, \$50 and \$100, selling at \$21.50, \$43 and \$86 respectively, at all Money Order Post-Offices and Banks. You can get your money back at any time should you need it.

### The National Service Board of Canada

R. B. BENNETT, Chairman      C. W. PETERSON, Secretary

One way to introduce the bacteria is to sow soil from a field that is growing the crop well. The most effective way is to sow it right with the seed. The cost of inoculating or sowing the germs is small. It usually means success with the alfalfa, clover and pea crop from the first. It not only pays well but it saves a good deal of disappointment. When a field becomes well inoculated it seems to stay inoculated for a long time.

**CLASSIFIED**

**PATENTS: CANADIAN, FOREIGN** — Egerton R. Case, Patent Solicitor, Temple Building, Toronto. Valuable booklets free.

**FOR SALE—A** 12-24 h.p. Tractor and 3-furrow plow. Price \$950. Apply Box 81, Donavon, Sask.

**WANTED—A** position as Sales or Collection Manager by young man with fifteen years' experience in Eastern and Western Canada, as office Clerk, Collector, Salesman, Collection Manager and Sales Manager in farm, threshing and road making machinery, also automobiles. Will consider offers as District Representative for reliable Automobile or Loan Company. Address Box 3164, Canadian Thresherman and Farmer.

**FOR SALE—A** 20-60 H.P. Rumely Double Cylinder Steam Engine. Practically new. Reason for selling, too heavy for this district. Price \$2800.00, g. J. W. Rattray, Killam, Alta.

**BRED SOWS—DUROC JERSEY**, registered, also males and females unrelated, from prize winning stock; will give you better returns. Write for particulars. J. W. Bailey & Son, Wetaskiwin, Alta.

**WANTED—To hear** from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

**FOR SALE CHEAP—One** 25 h.p. Reeves steam engine, Canadian special boiler; one 30 h.p. Avery steam engine; one 40 by 60 Sawyer-Massey separator; two 36 x 56 Nichols & Shepard separators; one 40 x 62 Minneapolis separator. For further particulars, write S. Swanson, Semans, Sask.

**WANTED—Management** of farm or season's work with steam outfit, by man and wife, one child 18 months; thoroughly reliable and competent; locomotive engineer. State wages offered, etc., in first letter. Box 3164, Winnipeg.



**SYNOPSIS OF CANADIAN NORTHWEST LAND REGULATIONS.**

**T**HE sole head of a family, or any male over 18 years old, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. Applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the District. Entry by proxy may be made at any Dominion Lands Agency (but not Sub-Agency), on certain conditions.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres, on certain conditions. A habitable house is required except where residence is performed in the vicinity.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.90 per acre.

Duties—Six months' residence in each of three years after earning homestead patent; also 80 acres extra cultivation. Pre-emption patent may be obtained as soon as homestead patent, on certain conditions.

A settler who has exhausted his homestead right may take a purchased homestead in certain districts. Price \$3.00 per acre.

—Must reside six months in each of three years, cultivate 80 acres and erect a house worth \$500.

The area of cultivation is subject to reduction in case of rough, scrubby or stony land. Live stock may be substituted for cultivation under certain conditions.

W. W. CORY, C.M.G.,

Deputy of the Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.—64388.

**The Manitoba Farm Loans Act**

Perhaps no piece of legislation has been submitted to the consideration of a legislature of this province that is so fundamentally sound in principle, economically desirable, progressive in character, and which promises so much as the Manitoba Farm Loans Act, which received the unanimous support of both Government and Opposition alike, and the fullest approbation of the public in general.

It is within the bounds of conservative judgment to suggest that the passage of this Bill will become historic, and will mark the passing of the period of pioneering uncertainty and speculation, for an epoch of sound progressive development of the great industry of agriculture, which is the life of this prairie province.

It is befitting the times in which we live, that foundations should be well and truly laid, upon which to build the economic structures of the future, when greater problems than we may at present realize will have to be solved; and when the legislature at its last session laid down the principle that the farmers of this country should be provided with working capital on terms befitting the dignity and importance of this basic industry, they created a foundation upon which may be builded a superstructure which may well stand out as a lasting monument to the inception of truly constructive development of the natural resources of the province.

**Incorporation of the Manitoba Farm Loans Association**

This Act incorporates an association to be known as The Manitoba Farm Loans Association which has all the powers, and can do and perform all such acts and things as bodies corporate can usually do and perform.

**Management by Board**

The administration and management is delegated to a board of five members presided over by the Commissioner, who is the chief executive officer.

The Board of Management is composed of representatives of agricultural, municipal and business interests, and passes on all applications for loans.

**Land Mortgage Loans**

Loans may be made to persons residing or intending to so reside on farm lands, and money so loaned shall be used for the purpose stated in application for said loan, and must be utilized to pay off prior encumbrances, to make improvements, or for productive purposes.

The security for such loans must be a first mortgage, any encumbrances have to be removed

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**YOU NEED EATON'S GROCERY PRICES**

**WE WILL BUY YOUR CREAM**

You can make your money go further by buying at EATON prices  
—Our Special Grocery Catalogue will prove this to you—Write for it and it will be sent postpaid as soon as we receive your name and address.

**THE T. EATON CO. LIMITED**  
WINNIPEG CANADA

**Myers Cog Gear Pumps**

OPERATE EASIER  
LAST LONGER

Pumping is made easy by using Myers Cog Gear Pumps for they save one-third of the operating power. The line includes hundreds of styles and sizes of hand, windmill and power pumps, well, cistern and tank pumps, spray pumps, etc.

Other Myers features are the long set length, adjustable base, removable spout and handle, non-corrosive glass valves and anti-freezing construction etc. Illustrative catalogue sent upon request.

**F. E. MYERS & BRO.**  
ASHLAND, OHIO  
Ashland Pump and Hay Tool Works

**BUY YOUR LUMBER DIRECT**

FROM MILL TO CONSUMER

Why pay middlemen's profits when you can buy highest quality lumber, shingles, lath, doors, windows, fence posts, etc., direct from us, and save 20 to 40 per cent? We make prompt shipment on everything in lumber of guaranteed quality, required to build a house, barn, implement shed, etc., granary, school or church. Farmers, Contractors, Secretaries of School Districts and Municipalities, write for our prices, delivered, freight paid, to your nearest station. Write now.

**The F.M.T.C. LUMBER CO.**  
DEPT. VANCOUVER, B.C.

**THE MARTIN DITCHER AND GRADER**

DIGS YOUR DITCHES  
GRADES YOUR ROADS

EASILY QUICKLY CHEAPLY

REVERSIBLE ADJUSTABLE

PAYS ITSELF IN ONE DAY

**DOES THE WORK OF 50 MEN**  
SEND FOR FREE BOOKLET

The PRESTON CAR & COACH CO. Limited  
74 DOVER ST. PRESTON CANADA

**"Seal of Quality"**

**Wall Paper**

Ready Trimmed

HAVE you tried them? Our ready trimmed Wall Papers, the greatest saver of time yet produced for the Paper Hanger, and a Boon and Blessing to the Amateur Decorator. No more tiresome trimming with scissors, no more sticky edges littering the floor, just slit the binding paper, give the ends a slight twist and off they come in your hands. (See illustration.)

The beautiful and up-to-date designs, the exquisite colorings of our Wall Papers make them wonderful Home Beautifiers.

See our agent in your locality, or you can obtain large sample books by writing direct to the store.

**THE HUDSON'S BAY COMPANY**  
WINNIPEG - CALGARY

**The "Challenge"**

WATERPROOF all-wool COLLAR

THE CHOICE OF PARTICULAR MEN  
SMART—STYLISH—ECONOMICAL  
NO LAUNDRY BILLS TO PAY

AT YOUR DEALER'S, OR DIRECT, 25c

THE ARLINGTON CO. OF CANADA, Limited 54-56 Fleet St. TORONTO  
MADE IN CANADA

**RAW FURS**

We Pay Highest Values

Write for Price List and Shipping Tags

**Sierce Fur Co. Ltd.**  
King and Alexander, WINNIPEG, Canada

from title out of money loaned. The mortgage will be for a term of thirty years, but may be paid off at any annual payment date, at or after the end of five years from date of such mortgage.

The amount loaned will be 50 per cent of the appraised value of the land together with the buildings thereon, and the value of the land will be based on the earning ability or productive value for purposes of agriculture only. (Further details next issue.)

**A Change of Name to Fit the Goods**

The famous Waterloo Boy Kerosene Tractor which heretofore has been handled by the Gasoline Engine & Supply Company will in future be marketed over the firm name of "Waterloo Boy Kerosene Tractor of Canada, Limited."

This change in the name of the company will involve no change in the policy, nor will it involve any change in the personnel of the old concern. The growth of the business in Waterloo Boy Kerosene Tractors during the past year and a half has been phenomenal. It was found that this growth called for a closer relationship with the factory in order that the most efficient service might be rendered to the owners and operators of Waterloo Boy Kerosene Tractors.

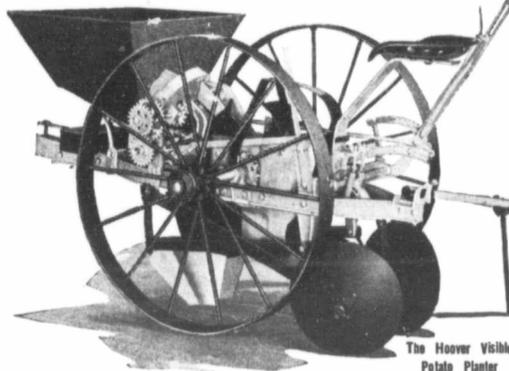
The Waterloo Boy Kerosene Tractor of Canada, Limited, will sell only Waterloo Boy Kerosene Tractors, Waterloo Boy Grain Separators and Portable Elevators. All contracts and agreements made by the Gasoline Engine & Supply Company have been taken over and assumed by the new company.

A great deal of credit is due those who have had charge of the business of marketing Waterloo Boy Kerosene Tractors in Canada. The offices of the company will be at Winnipeg as heretofore—612 McIntyre Block.

**Fill the Cars**

A little more co-operation between the merchants and the railways will do much to relieve the present freight situation. The railways are not trying to shift the responsibility on to the public, but are asking the public's help. Much more tonnage, for instance, could be handled with the existing locomotive power and terminal facilities if cars were loaded to capacity instead of being so often only two-thirds full. In the old days when traffic was lighter, it mattered less to the railways if a shipper did not use all the space he paid for—

**The HOOVER Potato Planter**



The Hoover Visible Potato Planter

The only Visible Planter. The operator can always see what work the machine is doing.

The amount of seed in the picking chamber can be controlled by the operator while machine is in motion. No wasting of High Priced Seed Potatoes.

Plenty of traction — wheels 40 ins. high with 4 in. concave tire.

Feed can be shut off without raising covering discs from the ground. The above are only a few of the exclusive features on this wonderfully accurate machine. It has other features, too numerous to specify in this ad. For instance, you can cover seed to the extreme end of the furrow without waste. We have had

a big sale for them this year and have less than 75 left. Write early for free catalog.

**John Deere Plow Co. Limited, Winnipeg** REGINA CALGARY SASKATOON

**Raise Poultry**

*"There's Money in hens"*



To increase the Nation's Food Supply

*This is a Patriotic National Duty*

**10,000,000**

Ten million more hens are needed to meet the home and overseas demand for eggs.

**That means 15 more hens on every farm in Canada.**

Britain makes insistent demand for eggs at high prices.

**Raise two additional broods of chicks and let the hen help you increase production.**

**Patriotism and profit both urge you to increase the supply.**

**Every pound of food produced helps defeat the enemy.**

**Let the hen help you.**

**Interest your boy and girl in poultry keeping.**

*If you need information on any subject connected with poultry raising and marketing, write,*

**THE INFORMATION BUREAU,  
DOMINION DEPARTMENT OF AGRICULTURE,  
OTTAWA.**

HONOURABLE MARTIN BURRELL, Minister.



*The Best is none too good for the Farmer*

THE UNION DAILY GREAT CANADIAN SUCCESS  
Bob Long's 4212 No. 4 Indus. St.

**BOB LONG**  
UNION MADE GLOVES & OVERALLS

Known from Coast to Coast  
R. G. LONG & CO. LIMITED  
TORONTO ONTARIO

that was the shipper's loss. But now it is realized that the extravagance of one shipper may cause delay to others owing to the limited amount of locomotive power and terminal facilities. The shortage is not so much in equipment as in train crews, and labor in the yards and round-houses. Anything which can help to secure quicker clearance and freer movement in the yards, helps to speed up the movement of freight. Another drawback to the economical movement of freight is that a great many consignees order not the full carload of freight, but merely the minimum allowed under the classification. It would materially help to solve the problem if in placing orders consignees would order enough to fill a car to capacity instead of the minimum, which very often does not represent more than half a carload.

The question of the capacity of cars is itself the subject of investigation. The standard of loading grain, for instance, has remained the same for many years, but improvement in the engineering of cars has gone on steadily, so that the modern freight car can bear stresses greatly in excess of what was possible twenty years ago. The result is that there is prospect of considerably increasing the load line on quite a large proportion of freight equipment, thus increasing the train capacity without requiring additional train crews. Grain cars rated for 80,000 lbs. are found capable of carrying over 90,000.

Canadian business men are, therefore, being urged to co-operate with the railways in their endeavor to increase the existing carrying capacity by using to better advantage the present available rolling stock. Light bulky commodities, of which there are many should be loaded to the full cubic capacity of cars. Heavier freight should be loaded to the full carrying capacity which is 10 per cent in excess of their stencilled capacity.

The following figures are taken from the Railway Statistics of the Dominion of Canada, issued by the Deputy Minister of the Department of Railways and Canals, and cover all the railways of Canada:

Total tons freight carried 1 mile, 1907, 11,687,711,830; 1915, 17,661,309,723—increase, 51.1%.

Aggregate capacity of freight cars (in tons), 1907, 2,908,903; 1915, 6,731,265—increase, 131.4%.

Total freight cars, 1907, 105,540; 1915, 201,690; increase, 91.1%.

Note—1907 is the first, and 1915 the last year for which figures are available.

The car capacity increased 5.8 tons. The contents increased 3.0 tons.

# I Built this Shoe For Farm Wear

The Originator of Low Prices

Let Me Tell You About It

I know the requirements of a farm work shoe as well as any man living. I have personally worked around the barn—in the barn acids—in the mud—in the fields—from my boyhood up. I know what a shoe must be to stand the hard test of farm life. I have built this shoe to meet these very requirements, and I give you my personal guarantee that it will prove satisfactory from every standpoint or I agree to refund your money and pay postage both ways besides.

THIS IS MY FAMOUS HARD WARE SHOE built for farm wear. It is SOLID LEATHER through and through; it has two full solid leather double soles both standard screwed and stitched. The upper part cut from full solid first quality grained leather with full leather backing; has hollow tongue to keep out the dirt and water, and is lined with good quality soft flexible leather. It is made in a good fitting, broad, easy last that will give greatest comfort to the wearer. Made in sizes for Men, Young Men and Boys. Order direct from this Ad, or send for free Catalogue as described below.

Wm. Galloway  
Farmer, Manufacturer

Guaranteed to please or money refunded.

12X1165	Boys' Sizes, 11 to 13.	\$2.95
12X1166	Young Men's Sizes, 1 to 5.	\$3.50
12X1162	Men's Sizes, 6 to 11E.	\$3.95

Send For My Big Free Catalogue

It contains hundreds of styles in men's, women's and children's shoes for every purpose—farm shoes, work shoes, pilot shoes, walking shoes, dress shoes, dancing shoes, school shoes and evening shoes—and all at prices that I guarantee will save you big money. This catalogue contains every thing in high class, wearing apparel for men, women and children—all at prices that will greatly help reduce the present high cost of living.

Don't let my word for it—just fill in the coupon and send the book and then judge for yourself.

Mail this Coupon for Free Book

Wm. Galloway Co. of Canada Limited  
Princess and Bannatyne Streets  
Dept. 17 Winnipeg, Man.

Please send me your Free Catalogue, postpaid

Name \_\_\_\_\_  
Address \_\_\_\_\_

ALL GIVEN TO GIRLS

**FREE FAIRY PALACE DOLL HOUSE, 5 BEAUTIFUL DOLL TOYS AND "PRINCESS PAT" DOLL**

Just think girls we will give you all these grand presents absolutely without cost. First the big beautiful Fairy Palace Doll House, so big and roomy that it will hold a whole family of dolls; then a real Wash 1 1/2 of 14 pieces, consisting of wash tub, wash board, wringer, iron and stand, big clothes basket, clothes line and a little case full of doll clothes; next, then you get five pieces baby set; and the cute little French knit baby doll that you'll just love. Next come a baby doll a lovely enameled bed with its canopy and the beautiful baby doll carriage you see above, handsome as can be with its European and bright metal finish. Last but not least, every girl can get the lovely big "Princess Pat" dressed doll—very lifelike, high. It's a "made-in-Canada" beauty, with unbreakable head and she is dressed completely from head to foot, real shoes, stockings, underwear, etc., and she has many different styles of dresses.

Girls—Write to day and we will send you Free a big sample package of what you want. Address THE FAIRY BERRY COMPANY, DEPT. B. 80 TORONTO, ONT., 75c

Receive the lovely new Cream Candy Coated Bread Perfume. We want you to try them and learn how delicious they are. Write your sample we will send just 50 handsome big packages to introduce among your friends only 1 each. That's easy. Open your sample package and ask everyone to try a Fairy Berry. Everyone just loves them—they perfume the breath, purify the mouth and leave a delightful lasting fragrance. Everyone takes a package too, so you, so you will sell them quickly. Then return our money only 50c, and we will promptly send you the big Doll House, complete wash set, baby set, baby doll, doll bed, doll carriage, just as you see them, and the lovely big "Princess Pat" doll you will also receive for simply showing your grand presents among your friends and getting only three of them to sell Fairy Berries and earn our lovely premium as you did.

Write to-day girls—We arrange to stand payment of all delivery charges on your presents and if you can't toll the brochure we will take them back and give you presents of what you want.

**WE'LL BUY YOUR TIME** this summer. We want about 300 men, who, for first-class remuneration are willing to represent us in their own neighbourhood. For full particulars, write to the circulation manager.

E. H. HEATH CO. LTD., WINNIPEG.



**Let Us Hope This Baby Won't Reach The Poison**

106 children were reported poisoned in the last three years by arsenical fly destroyers. And this is but a fraction of the actual number. Arsenical fly poisoning and cholera infantum symptoms are almost exactly the same. Diagnosis is difficult. And fly aid in arsenic poisoning must be quick.

Don't subject your children to this danger. Use the non-poisonous fly catcher



safe, sure and efficient, which catches the fly and embalms its body and the deadly germs it carries in a coat of disinfecting varnish.

**Government Issues Warning**

Earnest A. Sweet, Passed Assistant Surgeon in the United States Public Health Service, makes the following statement in Supplement No. 29 to the Public Health Report: "Of other fly poisons mentioned, mention should be made, merely for a purpose of condemnation, of those composed of arsenic. Fatal cases of poisoning of children through the use of such compounds are far too frequent, and owing to the resemblance of arsenical poisoning to summer diarrhea and cholera infantum, it is believed that the cases reported do not, by any means, comprise the total. Arsenical fly-destroying devices must be rated as extremely dangerous and should never be used, even if other measures are not at hand."

Made in Canada by THE O. & W. THUM COMPANY Walkerville, Ont.

American Address Grand Rapids, Michigan

Another Form of Arsenic

Twelve Months of this Magazine for \$1.00

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# Patmore's RELIABLE SEEDS AND HARDY HOME GROWN FRUIT TREES

The Cool Moist Weather we are now having is Favorable to Seeding and Planting

## SEEDS For FIELD and GAREN

## NEW EVERBEARING STRAWBERRY

The Greatest Acquisition Yet Introduced into the West to Produce Fresh Fruit Constantly

## Hardy Fruits

**FODDER CORN**

North West Dent, per bus.	\$3.00
North Dakota Flint, per bus.	2.50
Longfellow, per bus.	2.50
Minnesota, Yellow Dent, per bus.	2.00
Red Cob Fodder, per bus.	2.00

**GRASS SEED**

Sorghum, per 100 lbs.	\$12.00
Millets, per 100 lbs.	3.50
Rape Seed, per 100 lbs.	14.00
Brome Grass, per 100 lbs.	15.00
Western Eye, per 100 lbs.	12.00
Timothy, per 100 lbs.	10.00
Permanent Pasture Grass, per 100 lbs.	18.00
Lawn Grass Seed, per 100 lbs.	22.00

**GARDEN SEED - Hardest and Earliest Maturing Varieties**

Per lb.	
Onion Seed, Extra Early Flat Head	\$1.60
Onion Seed, Australian Brown	1.50
Onion Seed, Red Wethersfield	1.50
Onion Seed, Yellow Danvers	2.00
Peas, Earliest of All	.20
Peas, Abundance	.30
Peas, Roundfall	.20
Peas, Fortfield	.20
Peas, Telegraph	.20
Peas, Stratagem	.20
Carrot Seed	1.40
Beet Seed	.55
Beans, Wax or Butter	.35
Beans, White Haricot	.25
Beans, White Pea	.25
Corn, Early White	.30
Corn, Native Squaw	.25
Corn, Minnesota Squaw	.25
Corn, Golden Bantam	.35

**TO GET GOOD CROPS YOU MUST HAVE GOOD SEED**

Our Garden Seeds are all tested in our Greenhouses during the winter season, so that they may be depended upon as being of good germination and vitality. We grow many of the seeds we offer, which enables us to make our prices so moderate compared to many other catalogues.

Orders Shipped by Return Mail or Express Same Day as Received



Photo taken in our Nursery

Note the vigorous growth, the berries in all sizes (some ripe) and flowers still showing far more fruit. This plot was planted first week in May. We picked ripe strawberries from it 24th of June, and continued picking ripe strawberries every day until the hard frosts came in the middle of September.

Crabapples, Plums, Gooseberries and Currant Bushes, Raspberry and Strawberry Plants  
Raspberry Plants, best and hardiest varieties, per 100 ..... \$5.00  
Gooseberries, per doz ..... 1.80  
Red Currants, per doz ..... 1.50  
Black Currants, per doz ..... 1.80

## EVERBEARING STRAWBERRY

These plants flower and fruit continuously as long as the weather remains warm. They winter well and are safer to ship and transplant than are the ordinary varieties, owing to their continuous producing habits. They do not make many new plants and consequently are higher in price.

With us a plot of Superb planted in the first week of May commenced to ripen fruit in late June, and we picked ripe fruit every day until hard frost came in the middle of September.

**Superb** - Yield a heavy crop of large berries of splendid flavor from June to September; plants are strong and vigorous.

**Progressive** - On this variety the foliage is vigorous and plentiful, protecting the flower and fruit in the late fall.

Both Varieties (postpaid) doz ..... \$1.00  
Per 100 (per express) ..... 6.00

## ORNAMENTAL TREES and SHRUBS

We make a Special Offer this spring of

Manitoba Maple, straight young trees, 3-6 ft., at, per 100	\$10.00
Hudson Golden Willow, 6-7 ft., at, per 100	10.00
Red Willow, 6-8 ft., at, per 100	10.00
Lance Willow, 3-6 ft., at, per 100	10.00
Elm for hedges, 2-3 ft., at, per 100	5.00
Caragana, 2-3 ft., at, per 100	5.00

Nursery Established 1883

**Patmore Nursery Co. Limited**  
BRANDON, Man. SASKATOON, Sask.

Capacity 27 1/2 Tons
Contents 15 1/4 Tons

Capacity 33 1/2 Tons
Contents 18 1/4 Tons

48 per cent of the additional capacity provided was not used.

The public is asked to co-operate with the railways in an endeavor to remedy the existing car shortage.

It can be done by utilizing to

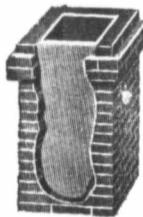
better advantage the present available rolling stock.

By increasing the average car load to 23.4 tons or 5 tons more than during 1915 would be equivalent to the placing of 54,800 additional cars in service.



Officer (to patient newly arrived). "What's the trouble?"  
Patient. "Nae trouble, Sir."  
Officer. "Well, what's your complaint?"  
Patient. "I didna complain at a'."  
Officer. "Then why did you come here?"  
Patient. "I was jist sent."  
Officer. "But have you no wounds?"  
Patient. "O ay! I hae a wheen o' them."

# Chimney Flue Lining



**ALL CHIMNEYS** should be lined on the inside with hard burned flue lining. Not only does the lining of a flue add to the safety of a flue from the standpoint of the danger of the flue cracking, but also from the possibility of soot fires. The inside of the flue being smooth it leaves no place for the soot to gather, and for this reason it is almost impossible to have a chimney fire.

## FARM DRAIN TILE

Some of the most fertile land is kept out of cultivation because it is under water at planting time.

It is worth while to convert a worthless marsh into a fertile field and to do it right.

Our facilities for turning out this material are so unusually good that we feel safe in the assurance that not only will our farm drain tile be found the highest in quality but the lowest in price.

WRITE US FOR INFORMATION AND PRICES

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BUILDERS' SUPPLIES OF ALL KINDS

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We now have a satisfactory arrangement for supplying Groceries to our Locals at prices on same level as paid by dealers. We need your business to make this a permanent success and to enable us to open up wholesale distributing warehouses in Saskatchewan.

We can also handle your Eggs on a co-operative basis, paying you the full proceeds (less expenses only) in hard cash.

See your Local Secretary WITHOUT DELAY or write the Central.

**The Saskatchewan Grain Growers' Association**  
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Overalls and Working Shirts

Big Roomy Garments. Cut to fit easy. Seam Sewn. Extra Strong.

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**EUREKA HARNESS OIL** is a scientific preparation. It is a pure mineral oil, therefore cannot turn rancid. It contains no acids, and so does not destroy stitching.

Eureka tones up all black leather—makes it bright, shiny, pliable—new looking.

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Branches Throughout Canada

## Succession and Succession Duties

THE laws of succession which operate when no will is left are framed on broad principles and they are inelastic. The man who dies intestate is presumed to have been satisfied that his estate be divided according to the statutes of his province and except perhaps for the manner of payment of minors' shares the courts do not vary the succession. The prudent man will ascertain how the law would apply to his case and provide against that contingency by a will.

In Manitoba a man whether married or single has absolute power of disposal of his whole estate, but in other provinces a will cannot defeat. In Saskatchewan where a man dies survived by a widow and children and leaving a will under which the widow would receive less than she would had he died intestate, that is one-third of his estate, such widow may apply to the Supreme Court for relief and the court may make such allowance to the applicant as shall be equal to one-third of the husband's estate.

In Alberta a Dower Act has recently been introduced which provides for a homestead being held undisposed of for the benefit of the widow during her lifetime subject, of course, to any mortgage rights. Subject to these exceptions and some minor details the laws of the different provinces are in general agreement. Taking the Province of Saskatchewan, for our purpose, the law would operate as follows in the case of a male domiciled in that province dying without leaving a will and survived by

- (a) a widow and children— one-third to widow and two-thirds to children.
- (b) a widow, parents and brothers, but no children— all to widow.
- (c) no widow but children—the whole estate equally among the children.
- (d) no widow nor children but parents—all to father if living or mother if father dead.

Illegitimate children (in Saskatchewan) inherit from the mother as if they were legitimate and if an intestate of illegitimate birth dies leaving no widow or husband or issue the whole of such intestate's property shall go to his or her mother.

Any man whose estate is comparatively small and which would pass under clause (a) above should consider whether his wid-

# UNION BANK

OF CANADA



Head Office: Winnipeg  
Total Assets over \$109,000,000  
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## MONEY ORDERS ISSUED BY THE UNION BANK OF CANADA

are conveniently secured, safely forwarded, readily cashed and inexpensive. Issued for any sum up to \$50.00 at a cost of from 3c to 15c. Payable at any branch of any chartered bank in Canada, Yukon excepted, and in the principal cities of the United States.

Over 305 Branches in Canada—Over 210 in the West.

### BRANCHES IN MANITOBA

Baldur, Birtle, Boissevain, Brandon, Carberry, Carman, Crystal City, Cypress River, Dauphin, Deloraine, Glenboro, Hamiota, Hartney, Holland, Killarney, Manitow, McCook, Melita, Minnedosa, Minto, Morden, Neepawa, Newdale, Nings, Rapid City, Roblin, Roland, Russell, Shoal Lake, Somerset, Souris, Strathclair, The Pas, Virden, Waskada, Wawanesa, Wellwood, Winnipeg

Nature gives no guarantee—  
-but a  
**HAIL POLICY**

with the British America Assurance Company is as good as the golden wheat itself.

## Take No Chances on Policies or Weather

Get insurance that really insures—get a policy with a company whose financial strength assures you of prompt and full settlement. During the past 80 years we have built up a reputation for fair and square dealing that has won for us the confidence of the farmers everywhere.

Ask for particulars of our policy

Write us to-day or see our Local Agent

**British America Assurance Company**

HAIL DEPT., WINNIPEG

## FARMS FOR SALE

Belonging to Estates which must be closed out.  
Send for Particulars.

# UNION TRUST

STRENGTH—FIDELITY

COMPANY LIMITED  
REGINA, SASK. WINNIPEG, MAN.

TWELVE MONTHS OF THE BEST FARM PAPER PUBLISHED FOR ONE DOLLAR

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 LIVE ENERGETIC AGENTS  
 for a new and progressive Life Assurance  
 Company whose policies are based on the  
**SCIENTIFIC SYSTEM**  
 and are therefore easy to sell.  
 Let us tell you of our 15 powerful reasons  
 why our policies are superior to others.  
 Do YOU want a Profitable Agency?  
 Write us for particulars.

THE  
**NORTHWESTERN LIFE**  
 Assurance Co.  
 Canada's Only Scientific Life Company  
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**Money to Loan**  
 on improved farm property  
 Lowest Current Rates  
 Apply through our representative in your district or direct to our nearest office.

**National Trust Company Limited.**  
 323 Main Street  
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 TORONTO MONTREAL  
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**THE C. P. R. GIVES YOU TWENTY YEARS TO PAY**  
 An immense area of the most fertile land in Western Canada for sale at low prices and easy terms ranging from \$11 to \$30 for farm lands with ample rainfall—irrigated lands up to \$50. One-tenth down, balance if you wish within twenty years. In certain areas, land for sale without settlement conditions. In irrigation districts, loan for farm buildings, etc. up to \$2000, also repayable in twenty years—interest only 6 per cent. Here is your opportunity to increase your farm holdings by getting adjoining land, or to secure your friends as neighbors. For literature and particulars apply to Allan Cameron, General Superintendent of Lands, Department of Natural Resources, 912 First Street East, Calgary, Alta.

**Well Drills**  
 For Drilling WELLS or BLAST-HOLES  
 Built to stand up under heavy work. Most economical and rapid drillers made. Styles and sizes for all purposes, with or without power.  
 Write for Circular  
**WILLIAMS BROS.**  
 425 West State Street, Ithaca, N.Y.

ow would be treated fairly by receiving out of an estate, of, say, \$9,000 only \$3,000, while able-bodied children equipped to earn their own livelihood would take \$6,000. A will making adequate provision for the widow is a prime necessity in such cases.

**Succession Duties**  
 These duties form part of provincial revenue and thus vary in the different provinces in rates and terms of payment.

In Manitoba and Alberta when the duty is paid within six months of death no interest is payable; thereafter 6 per cent per annum is charged from the date of death.

In Saskatchewan the estate is allowed eighteen months free of interest and thereafter 5 per cent from date of death. In larger estates and where large amounts pass to strangers this provision is worthy of attention; in fact, life insurance is often taken out to provide for the prompt payment of duty and so avoid enforced realization of assets.

The estate of a person domiciled in Manitoba which does not exceed \$25,000 gross is not liable to duty if all the assets are in that province. On Manitoba estates of from \$25,000 up to \$50,000, a duty of (a) 1/2 per cent is payable where the estate passes to grandfather, grandmother, father, mother, husband, wife, child, grandchild, son-in-law, or daughter-in-law; (b) 2 per cent on that which passes to any other lineal ancestor or descendant; and (c) 5 per cent for any other person or beneficiary.

In Saskatchewan no duties are exigible where the net estate does not exceed \$5,000. Where the estate passes to father, mother, husband, wife, child, grandchild, daughter-in-law or son-in-law of the deceased no duties are payable unless the gross value exceeds \$25,000. Where the gross value exceeds \$25,000, but does not exceed \$100,000, 1 1/2 per cent is payable on that which passes to any of the last mentioned kindred. Where the gross value exceeds \$5,000, so much thereof as passes to the grandfather or grandmother or any other lineal ancestor except the father or mother, or to any brother or sister, or to any descendant of a brother or sister of the deceased, is subject to a duty of 5 per cent. Where the gross value exceeds \$5,000, so much thereof as passes to any person in any other degree of collateral consanguinity to the deceased than as above described or to any stranger in blood the duty is 10 per cent.

TWELVE MONTHS OF THE BEST FARM PAPER PUBLISHED FOR ONE DOLLAR. : : :

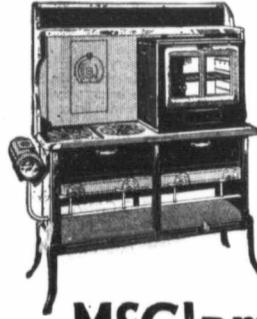
**"I WILL INSURE NEXT YEAR"**  
 Very few men deliberately refuse to carry Life Insurance. In nine cases out of ten the man whose life is unprotected believes in Insurance, intends to insure,—but procrastinates. "I will insure next year," he says, forgetting that if only one could count upon "next year" there would be no need for Life Insurance.  
 The Great-West Life Policies are issued on terms so attractive that there is no sound reason for anyone to delay taking out a Policy. Plans are available to meet every need and circumstance, and premiums may be paid annually, half-yearly, quarterly or monthly, to suit the convenience of the insured.  
 Ask for personal rates—giving date of birth.

**The Great-West Life Assurance Company**  
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 LIVE STOCK DEPARTMENT  
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**AGENTS WANTED**



**MORE TIME FOR**  
 reading, fancy work and the children if you have a McClary's Florence. This is a time-giving stove, because it needs no watching. Height of flame never varies of itself. Properly adjusted, with plentiful oil supply, it will do its work untended for an hour or two if desired.






**McClary's FLORENCE**  
 OIL COOK STOVES  
 Wickless, Valveless, Blue Flame, Automatic  
 LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER, ST. JOHN, N.B., HAMILTON, CALGARY, SASKATOON, EDMONTON

# OUR WOMEN FOLK

## CONDUCTED BY PEARL RICHMOND HAMILTON



### HOME

(By Grace G. Bostwick)

My humble little home is not a castle reared in Spain, Nor does it raise its lofty roof from others in disdain. It has no vaulted type nor style, no pillared beauty here. But low beside their cot at night, my wee ones kneel in prayer!

My cottage lies not on the lea, with rolling acres wide, No velvet sward is there to see, nor blossoms stiff with pride. No trolleed arbor waits my step, its cultured grace to show. But little touselled, curly-heads pop up where'er I go!

My dwelling place is old and worn, the roof is low and dark, The walls are soiled with tiny hands, the woodwork stained—but hark! The curly-heads are calling, "Mother, Mother!"—don't you see The reason why this little place is good enough for me?

### Mother's Corner

When there's a little child to love, the weary way turns sweet, With blossoms where we used to find rough rocks beneath our feet; A little child to love and rear and pity and behold— Thank God for one more life, my dear, with all its dreams of gold!

When there's a little child to love the little cares seem less, The echo of a childhood laugh has such a way to bless; More human beauty fills the earth and softer grows the strife— Thank God for one more life to love, for one more little life.

—Folger McKinsey.

Dear Mothers,—Last month the editor published only the first part of my talk with you about our girls. As it was not my intention to have the article separated, I shall repeat the first two paragraphs as published last month:

For a long time I have wanted to have a heart to heart talk with you about your daughters—those girls whose lives throb with emotions hard to understand at times. For eleven years I have found joy and sorrow while trying to guide the lives of girls from environments clean or filthy; wherever I see a girl my heart goes out in love to her, for to me the loveliest opportunity in this whole big, wide world is the chance to encourage a girl to climb upward.

Just now our womanhood is going through strange experiences. Our girls must develop every bit of moral, mental and physical strength possible to be worthy of those brave men who are offering their lives in sacrifice for our protection and honor. Our future women must be the strongest in the world. All corners of the earth expect it. If every girl and woman in Canada possessed a pure determined will, there would be in Canada no jails, no reformatories, and I almost believe no insane asylums. Canada would be a paradise if all our girls were pure and clean. Why is this not possible?

It is, if the right co-operation exists between mother and daughter, or between some other woman and the motherless girl. The power of love generates sunshine

in the moral universe. I want to warn the mothers not to allow their daughters to come to the city without providing for their protection. Last week a girl of sixteen came to this city from a country town. While at lunch some one asked her if she wanted work. When she said she did, the questioner gave her an address. It was a Chinese restaurant. Girls who work in Chinese places are in great danger. In this case the police women found the girl and placed her in a good home in domestic service before the Chinese had time to weave their dope-charged influence over her. Another place that is dangerous for girls is the selling of drinks in jitney bars. Somehow girl wreckers spot the good, clean country girls as soon as they see them, and do their best to suggest places where they can get positions. On the street corners, in public waiting rooms, and in stores these slimy enticers make dates with girls only to hurl them into the surging sea of vice.

If every mother whose daughter must come to this city or any other city, would write to some one of her denomination, such as the one at the head of her denomination, she would find a way for her daughter's protection. The Catholic, Protestant, Jewish and all other churches are interested in their own girls. I have found them all anxious to help their own. The Salvation Army is a very sure protective agency for caring for girls. Whatever a mother does, let her be sure of sending her daughter to some one she knows will place her in a safe environment.

I have a large collection of letters from girls who have made a success of their lives, and girls who have failed. The difference between the two is largely the difference between their mothers—for the girls who failed, as a rule, had no mothers at all, or mothers who did not enter sympathetically into their little affairs. Girls do reflect the influence of their mothers. I do hope the mothers of this department tell their daughters the secrets of life—for it is ignorance that is largely responsible for their downfall.

Many a girl has told me that her mother's influence alone has guided her through fearful temptations.

One girl came to me this winter and took from her purse her mother's picture. "I always carry this picture with me," she said; "it is the only thing that keeps me straight."

I would like to publish a typical letter from a deceived girl—but I dare not. I might say I had it half copied, and decided it was too plain. Here is a typical letter, though, from the other collection I have:

"Dear Mrs. Hamilton,—Years have passed since I last saw my dear mother, and I recall so many memories of her that it is difficult to say which is the most beautiful. I like best of all, in recalling old scenes, to think of her last farewell to me, on my leaving the old home to come to far-away Canada. I was a glorious day in the month of June. Mother came to the garden gate to see me start. As she wished me good-bye, and gave me her blessing, standing there among the

flowers (the fruits of her own loving labor), her silvery white hair shining in the morning sunlight, she made a picture that seems to remain with me through the years. When I am in any trouble or difficulty I say to myself, 'Mother, am I praying for me now and always.' When I am tempted to do wrong, that thought is the first one that comes to me, and it makes me stronger to resist the temptation. Oh! if every girl in this city had the memory of such a mother! Sincerely, An Old Country Girl."

### Home Economics

The editor of this department is very much pleased with the kind messages of appreciation from the H. E. S. women. We are anxious to receive as many reports and papers as possible, because the societies want to keep in touch with one another.

#### Hamiota H.E.S.

At Tuesday's meeting of the Home Economic Society, a request was read from the Social Service Council of Canada asking the Society to circulate a petition praying the Dominion Government at its next session to enact legislation to further protect the rights of women and girls.

Three requests are to be made:

- (1) To alter section 301 of the Criminal Code, which places the age at which a girl becomes responsible for the safeguarding of her own purity at 14 years. This means that while the law would give a man a term of life imprisonment for taking away the honor of a girl under 14 years of age, the same law lets him go free if the girl is over 14 years of age. The request is to raise the "age of consent" to 16 years.

- (2) To alter section 301 which deals with a similar matter, placing the "age of seduction" above the age of 14 years and under the age of 16. The request is to have the figures read 16 and 21 instead of 14 and 16.

- (3) To make adultery a crime. At present a man may tear up his marriage vows as a mere "scrap of paper," and the wife has no remedy in the law of the land. There is some protection for the man if the wife prove unfaithful—he can sue the other man for damages for "alienation of his wife's affections." But when the woman lures the man away from his wife, the wife has no means at law by which she can reach her faithless husband or his paramour. The request of the petition is to alter this and make adultery a crime, whether committed by the man or the woman.

Six canvassers have been appointed and will visit all the homes in town to get signatures. In addition to this the petitions will likely be available for signature at the Sunday services of the various churches.

On Sunday evening, April 22nd the Home Economic Society, by invitation, attended at Zion Methodist Church where a special sermon was preached and a final appeal made for signatures. All men and women citizens of Canada over the age of 21 years are eligible to sign.

Dear Mrs. Hamilton,—It is some time since you heard from Hamiota, and I am afraid you will begin to think we must have lost interest in the things of this life, but assure you such is not the case. While we have not taken up patriotic and red cross work entirely through our H.E.S. Society, we have contributed to the different worthy calls at

## The Contest Winners

The following are the winners of our Big Automobile Contest, which closed on 1st April. A handsome 1917 Model Ford Touring Car has gone forward to each of these lucky contestants.

#### Manitoba

H. AVERY, Clearwater

#### Saskatchewan

ED. SEDGWICK, Tezerton

#### Alberta

R. ORR, New Norway

### 76,403

The actual number of kernels in the five pounds and seven ounces of No. 1 Northern Wheat, according to the Board of Judges, was

Mr. Avery's estimate of 76,406 kernels was nearest to the correct number in Manitoba. Mr. Sedgwick won the Saskatchewan car with a count of 76,402, being only one kernel out, while Mr. R. Orr was the winner in Alberta with an estimate of 76,400 kernels.

### THE JUDGES' CERTIFICATE

April 5th, 1917.

THE CANADIAN THRESHERMAN & FARMER

E. H. HEATH CO. LTD., Winnipeg Man.

Dear Sirs,—We, the undersigned, have completed the counting of the five pounds and seven ounces of wheat contained in the jar stored in the vault of the Union Trust Company, and we find the correct count to be 76,403 (seventy-six thousand four hundred and three grains).

We are, yours sincerely,

JAS. B. ATTRIDGE  
W. J. FIELD  
D. D. CAMPBELL

Needless to say the competition was a huge success from every standpoint, and we desire to thank all contestants very much indeed for their splendid practical appreciation of The Canadian Thresherman and Farmer.

E. H. HEATH CO. LIMITED

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well as working through our local red cross society, which is carrying on a faithful and energetic work for all branches in the war relief work.

I have been asked by several of the members of our society who are not receiving the Thresherman, to send in their names, wishing to receive a copy monthly. We all enjoy so much the reports of the other societies, and hope you have not had many, like ourselves, too slothful in business, or rather too busy to report.

I feel assured that we can never repay you in your efforts to make the woman's page bright and interesting. I always enjoy your articles in The Western Home Monthly so much, and wish you would give us more of them in the Thresherman. I am always hoping your words will burn as deeply in the hearts and minds of every mother as they do in mine. It is the duty of every mother to be up and doing for the welfare and safeguarding of not only our own, but someone else's girl.

I have asked the Rev. Mr. Middleton to give us his sermon in written form, which was to women, with a special invitation to Home Economic members. His sermon was excellent, and I thought it might be interesting to members of other societies, and hope they have taken a share in this effort for the better protection of girls.

I might also add that our society is putting forth a strenuous effort to encourage every boy and girl to have a garden of their own. "A Vegetable Garden for every Home" is the slogan for 1917.

In this year of supreme effort, Britain and her armies must have ample supplies of food, and Canada is the great source upon which they rely. Everyone with a few square feet of ground can contribute to victory by growing vegetables. Four patriotic reasons for growing vegetables:

- (1) It saves money that you would otherwise spend for vegetables;
- (2) it helps to lower the "high cost of living";
- (3) it helps to enlarge the urgently needed surplus of produce for export;
- (4) growing your own vegetables saves labor of others whose efforts are needed for other vital war work. We are hoping that every boy and girl will find healthful, profitable and pleasurable recreation in gardening.

The agricultural college is supplying H.E.S. members with an excellent Bulletin No. 12, on canning by the cold pack method. Members would be wise to apply for this pamphlet and plan their gardens accordingly, as vegetable canning is being done most successfully at home.—I am, yours very truly (Mrs. E.J.) L. Venables, sec.-treasurer H.E.S.

**Emerson.**

My dear Mrs. Hamilton,—I am enclosing a report on the social side of the recent H.E.S. convention, written by Mrs. E. Casselman, one of our delegates. I thought it so good. I was wondering if you would like it for the Thresherman, so send it on to use at your discretion. We have so enjoyed the delegate's reports of the convention, it was almost like being there over again. Our society is just humming with work at present. This week, as we do once every six weeks or two months, we are sending 51 boxes to the boys of Emerson who have enlisted and are overseas. On March 31st we are to have Miss Aikinson, of the M.A.C., give us a canning demonstration, and then the first Saturday in April we have our regular monthly meeting, which takes the form of a gardening meeting; and between whiles we sew and knit, sew and knit.

I often wonder what we did before the war, as we seem to do nothing else now. Oh, I must tell you of something that occurred at a little country school last Thursday night: A poor woman, who was working for one of the farmer's wives, but who is at present in the hospital, gave to the junior Red Cross workers a cushion top. It had been a gift to her, but she wanted to help and it was all she had to give. It was auctioned off at a Red Cross concert, and was bid for \$7.50, given back and auctioned off again, with every bid having to be paid, and the highest bidder, of course, getting the cushion top. That time it realized \$31.90, altogether bringing in \$39.40. Wasn't it wonderful? It makes one think of the widow's mite. The concert was held at a small country

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school and they made about \$160. The money is turned over to our H.E.S. to pay for boxes which we pack and send to the boys of that district who are wearing the King's uniform overseas. Now, dear Mrs. Hamilton, I hope I have not bored you with this long epistle; I only meant to mention the report when I began, but you know it is usually so easy for a woman to just talk on.—Yours very sincerely, Emily Bell, secretary Emerson H.E.S.

**The Social Side of the H.E.S. Convention**

By Mrs. E. Casselman

Ladies, if you want to have a very good time, just attend a Home Economics convention. I don't wonder our president says she wouldn't miss a convention. I wouldn't either if I were in her place. I think this privilege must be a large compensation for having to be a president!

This convention was my first experience, and I looked forward to it with a great deal of interest. Being comparatively new to Home Economics work, I knew I had a great deal to learn, but I had no idea of the extent of the work that is undertaken, and carried successfully through, and of the wide interest shown in everything that affects woman's life and work, not only the community, but her individual life.

It was a great privilege to come in personal touch with so many of the splendid, brainy women of our province who are doing things worth while, and making things move in the right direction in the life of the country.

We enjoyed meeting Mrs. Thomas, who is "Lilian Laurie," editor of the woman's page of the Free Press, a member of the Woman's Press Club, and a

very clever speaker. Mrs. Thomas' address on "The Nation," at Kelvin Institute, on the Thursday evening, was very fine indeed.

Pearl Richmond Hamilton, who is the women's department of the Canadian Farmer, also connected with The Western Home Monthly, was at the convention. I am told Mrs. Hamilton is also very active in girls' rescue work in the city. We were pleased to have her one of our company during one of the sessions and found her very interesting.

Mrs. Dr. Bond, president of the Red Cross Society, and prominent in the local council of women, is a most energetic woman. Mrs. Bond was one of the organizers of the red cross in Winnipeg, and gives herself unsparingly to all war aid work.

Mrs. John Dick is another of the clever and public spirited women who are doing good work. She is connected with the Civic League, also of the Mothers' Club. The day we met her, Mrs. Dick was trying to interest the women in an indemnity scheme for the benefit of the wives and mothers of soldiers of the poorer class who, when they give their husbands and sons, give their all.

We also enjoyed renewing acquaintance with Dr. Mary Crawford, of the Political Educational League, and Mrs. Campbell, of the Daughters of Empire, both of whom have talked to us in Emerson on their particular line of work.

Then, last but not least, was Mrs. Dayton, our provincial president, who presided so gracefully and so expertly at the sessions. She is very delightful to meet. Mrs. Dayton had many nice things to say of our work in Emerson. She told us she had been watching and admiring the work of our society for a year or more, and was much interested

in our report. Evidence was given of this in the fact that our president was appointed to act on two important committees, one on legislation and one to arrange the districts in preparation for next year's convention.

Then it was so interesting to meet women from other parts of the province, to find what they are doing and how and what they are especially interested in. It all has a very broadening influence that is most helpful to the women of the small towns and country districts. It was interesting to note also that all the clever women did not belong to the city. Mrs. McBeath, of Headingly, showed herself a very clear thinker on the economic problems of our times, and one who has solved, to a large extent, the problem of the high cost of living. "If there is anything you want to know, just ask Mrs. McBeath," we were told.

We read the names of these people in the newspapers and the work they are doing, but it does not touch us in the same way as when we go and hear them talk, and get to know a little of their personality.

Special entertainment had been provided for convention delegates to fill in all the time not given to the routine of sessions and business.

A very cordial invitation was extended to all the delegates and their friends to attend a reception at Government House on Thursday, from four to six. We found Lady Aikins a very gracious and charming hostess, and much interested in the work of the H.E.S. In conversation with her she expressed a hope that we might solve the problem of keeping the young people of the country on the farms; that we might help the women to make the home life and surroundings so attractive that the boys and girls would not want to go to the city when,

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at this time particularly, there was such great need for their help at home.

Assisting Lady Aikins were Mrs. (Prof.) Reynolds, of the Agricultural College, Mrs. Dr. Thornton, Mrs. Edward Brown, Mrs. Thos. Johnston and Miss Aikins. In the dining-room we saw several friends we were glad to meet; one lady who was serving formerly lived in our own district. The dining table was a very pretty sight with the bright lights and a profusion of pink roses and pink carnations, while a bevy of bright young women looked after the refreshment of the many callers.

On Wednesday we were guests of the Agricultural College all day. Lectures were suspended that the staff and students might be free to explain all the different features of the college. Luncheon was served in the dining hall, each table seating eight persons. Our delegates became acquainted with some ladies from Dauphin in this way. The courses were served at the table just as we do at our homes; the duty of serving at our table fell to one of our party. The menu was simple, but each item was of the very best quality. Where would we find perfection if not at the college? At the next table on our left we discovered several men from our own district, as it was farmers' day at the college also. After lunch, which was much enjoyed by us all, we gathered in the parlors for a period of rest, music, and getting acquainted. The wives of the professors were very kind and attentive, introducing strangers, and making us all feel at home. Miss James, instructor of music, sang and played delightfully, and altogether the hour was a very pleasant one.

Following the afternoon session, President and Mrs. Reynolds held an informal reception in their own home. Those delegates who attended report a very friendly, informal and pleasant time. It being the 14th of February, the house was decorated with St. Valentine favors, cupids, hearts, etc. After that the guests made a tour of the greenhouses and other buildings.

Dinner was served at 6.30, followed by music in the college auditorium. The evening session was a combination of entertainment and instruction. The Hon. Premier Norris presided, and Sir James Aikins, lieutenant-governor, addressed the delegates. Music was supplied by the College Glee Club and College Quartette.

On Thursday, the last day of convention, the delegates were guests of the T. Eaton Co. at afternoon tea. Invitations for this were given to each one who registered at the Fort Garry the first morning. All agreed that it was a very pleasant function and that everything about it was quite up to the excellent standard for which the T. Eaton Co. are famous. Mrs. Dayton moved a vote of thanks for the courtesy extended, which was responded to by one of the gentlemen receiving.

Thus ended the convention which, we all agreed, was most enjoyable in every way. Our only regret was that all our society members were not there to enjoy it with us; and I do hope that another year many more of the members will go and see and hear for yourselves, and get the inspiration that we have received, for we can bring back only a meagre idea of it all to you.

The inspiration received was two-fold: that which we had from hearing what the leaders in other places were doing, and how; secondly, that of finding that in H.E.S. and war aid work, our society in Emerson, though not as large in numbers as some we heard about, stands near the top for results accomplished. Following the hearty applause given the reading of our report, Mrs. Dayton, in the chair, commented on our strong organization handling all the different lines of work. Many places reported that they were over-organized, and the work so divided that none were accomplishing what they should.

In the corridor of the hotel some ladies were talking over the session where these reports were given, and this remark was overheard by one of our delegates: "Say, didn't that report from Emerson take the wind out of your sails?"

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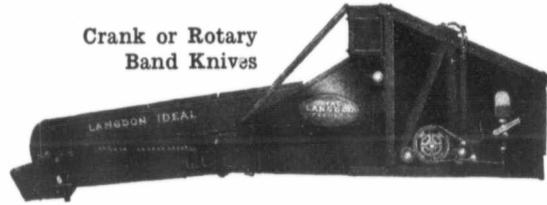
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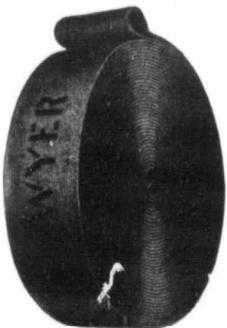
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Society, but in that time we have not been idle, and I think I may say that we have accomplished a very great deal of good. The society is gradually growing larger, and the members becoming more interested.

At our December meeting we were called upon to accept the resignation of our president (Mrs. Thornton) which we all regretted very much; still, we are pleased to have her name on our roll, and hope to have her here in person shortly. At this meeting the officers were elected for 1917, as follows:—

Directors—Mrs. Weidenhammer, Mrs. Jas. Steedsman, Mrs. R. Franklin, Mrs. A. Hainsworth, Mrs. A. W. Riddell, Mrs. R. Price, Mrs. W. Lerryberry, Mrs. J. Rankin, Mrs. P. W. Perry, Mrs. R. A. Johnston.

Officers—President, Mph. R. A. Johnston; first vice-president, Mrs. Lerryberry; second vice-president, Mrs. P. W. Perry; sec. treasurer, Mrs. J. M. George;

assistant secretary, Mrs. F. M. Turner; auditor, Miss Cowan.

At our November meeting we were asked to donate small pillows to the General Hospital, Winnipeg, which resulted in over 40 pillows, 10 in. by 14 in., being sent in. At this meeting Mrs. Robert Franklin gave us an excellent paper on "The Country Church and its place in our country's development."

In January, we had two short courses, one on "Home Nursing," by Miss Clark, and one on "Cooking," by Miss Atkinson, both very interesting.

At our February meeting, we had a very interesting paper, prepared by Nurse Stewart, on infectious diseases among children. Then, for our March meeting, we listened to two very full and lengthy reports of the convention held in Winnipeg during February, by our delegates, Mrs. R. A. Johnston and Mrs. J. M. George.

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Saskatoon	July 30 to August 30	C. D. Fisher
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### HYDE PARK HOMEMAKERS

The Hyde Park Homemakers met for their first meeting this year at the home of Mrs. McNabb on Thursday, March 8. There was a good attendance, sixteen members being present. The meeting opened by singing the "Maple Leaf," then the minutes of the last meeting were read and adopted, and correspondence received by the programme committee was read. The number of garments and socks made for the Red Cross was reported. It was decided to take a silver collection at our next two meetings to raise funds to send a delegate to the convention held in Saskatoon. Mrs. Parkhouse and Mrs. Moore then read very interesting papers on "What the women can do for the Empire." The meeting closed by singing the National Anthem, and then all enjoyed a social hour and the kind hospitality of our hostess. The next meeting will be held on Thursday, April 12, at the home of Mrs. Ellsworth.

On Wednesday, March 14, the Homemakers met at the home of Mrs. Shepherd to make garments for the Red Cross. There were eight members present and two visitors, Mrs. Richards and Miss D. McNabb. Most ladies took their sewing machines and all worked so hard that 18 garments were finished by 4 p.m. A most enjoyable day was spent and all enjoyed the kind hospitality of their hostess.

(Mrs.) A. C. W. Dodd.

### HYDE PARK HOMEMAKERS

The Hyde Park Homemakers met at the home of their president, Mrs. Ellsworth, on Thursday, April 12. As it was a very stormy day only ten members were present. The meeting opened by singing the "Maple Leaf," and then the minutes of the last meeting were read and adopted. Mrs. M. Dodd then read a very interesting and instructive paper entitled, "Why I should Vote," lent to the club by Mrs. Colbeck, of North Battleford. A silver collection was taken to help get funds to send our delegate to the Saskatoon convention. It was decided to elect our delegate at the next meeting, which will be held at the home of Mrs. E. Parkhouse, on Thursday, May 10. The meeting closed by singing the National Anthem, then all enjoyed the dainty lunch provided by our hostess.

On Thursday, March 20, the Homemakers met at the home of Mrs. McNabb to make garments for the soldiers. There were fourteen members present, eight of whom brought "their" sewing machines. Most members arrived about 10 a.m. and by 4 p.m. 24 garments were finished. A very enjoyable day was spent and all appreciated the kind hospitality of their hostess.

(Mrs.) A. C. W. DODD

### TONIC FOR THE TIRED

A hammer will always be only a tool.

We do not know how cheap the seeds of happiness are or we should scatter them oftener.

Those who are most fond of display usually have the least to show.

Successful records all remind us.

We can make our records great.

And by hustling leave behind us.

Those who take a slower gait.

If you are constantly thinking of how people may look upon your efforts you will make little advancement.

The women who have succeeded are those who forged ahead, unmindful of what people thought or said about them.

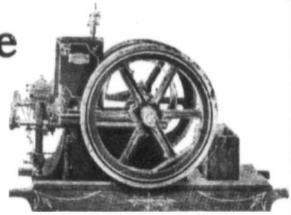
Be independent. Lay your plans carefully and make every move advance you toward the goal set. If the goal be a worthy one, and you reach it, the scoffers will later come to you for assistance—or they may envy you for what you have accomplished.

The woman with a definite purpose is going to meet with rebuffs; she is going to be commented upon in an uncomplimentary manner.

Choose your own life's roads.

Do not let others run your business for you, and do not let derision put you in the ranks of the "might-have-beens."

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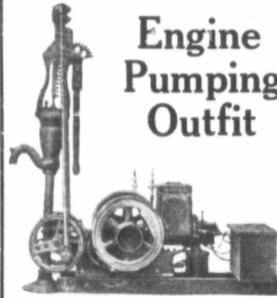
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