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homestead land,  
there are still a-  
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MANITOBA  
SASKATCHEWAN  
and ALBERTA,  
55,000,000  
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"THE CLOUD WITH THE SILVER LINING"

The

# ANADIAN THRESHERMAN AND ARMER

WINNIPEG, CANADA

APRIL 1918



## Important!

**Read What these  
Farmers  
say about the  
Waterloo Boy  
Tractor---**

**WOULD NOT CARE TO FARM  
WITHOUT THE WATERLOO  
BOY TRACTOR**

Richmond, Sask. July 14th, 1917.  
The 12-24 Waterloo Tractor that I purchased from you has given the best of satisfaction. We have used it for disking and plowing with the best of results. We are using four plows and although this land is very heavy it does not slacken the speed at all.

We are using two outfits of horses plowing, but find the tractor does the best work.

We would not care to farm without the Waterloo Tractor.

The service we have received from you has been of the best. No one can do wrong by purchasing the Waterloo Boy Tractor.

(Sgd.) GEORGE A. MONTGOMERY.

Brora, Sask., July, 1917

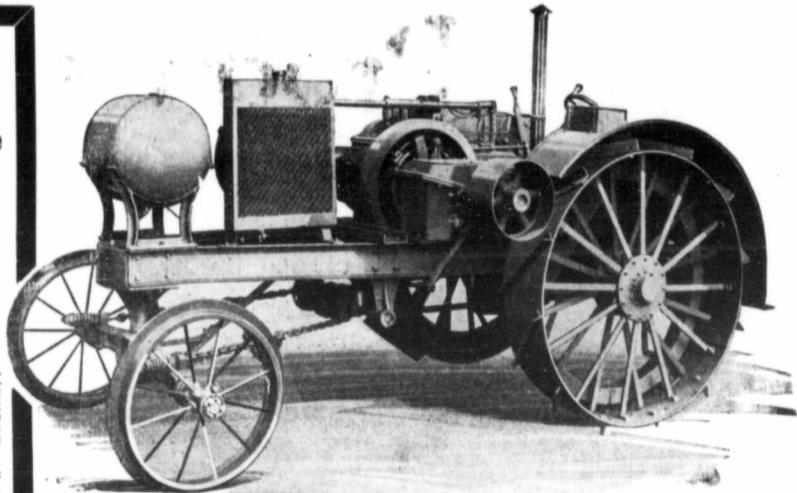
I wish to let you know that the Waterloo Boy Engine which I purchased from you a few months ago gives good satisfaction. We have run a thirty-two disc harrow over 200 acres at a cost of 15c. per acre, plowed about 30 acres, hauled four 10-inch disc plows at a depth of eight inches, at a cost of 50c. per acre. We could not do this work nearly so cheap with horse power. We have had no trouble nor loss of time, and on the Waterloo Boy Engine is our boy's first experience. I would say that in buying machinery for 33 years I never made a better investment. If I were buying again it would be the Waterloo Boy.

(Sgd.) THOMAS BREDIN.

Davidson, Sask., Oct. 29, 1917

In reply to your letter of some time ago, asking for our opinion of the Waterloo Boy Tractor, I got say that we have plowed 425 acres and threshed twenty-five days this Fall. We found the engine to be all you recommended it to be, and we consider it to be as easy on fuel as any tractor on the market. In threshing we pulled a 28-inch separator and threshed around seven to eight hundred bushels of wheat a day. In plowing we plowed from 8 to 12 acres a day in stubble and 6 to 7 acres a day in breaking. We consider the engine is underrated in power of capacity. I will send photo of my outfit in operation threshing, in a few days.

(Sgd.) STANLEY BANKS.



**Buy a three-plow tractor because it is the Ideal size for Field and Belt Work—It does twice the work of a two-plow tractor at the same cost and in the same time—Buy a—**

# WATERLOO BOY ONE MAN KEROSENE TRACTOR

*The Greatest Power Plant of Them All---*

**The Waterloo Boy 12-24 Three Plow Tractor** is the logical size for Western Canada farms, it is the proper weight, it has the power to do all belt work including operating a 24 separator with all attachments. It has reserve power to pull three plows anywhere. There is value built into the Waterloo Boy Tractor that will give you years of service at both belt and draw bar.

**First cost is not the only cost of a tractor**, you need to buy a tractor that will stand up under the strain of heavy work day after day—You want a proven tractor, not an experiment.

**When you buy a tractor get the best**, it is cheapest in the long run. A cheap tractor is an expensive investment, a good tractor is a money-saver and a money-maker—get a Waterloo Boy One-man Kerosene Tractor.

**The Waterloo Boy Tractor is built to operate on KEROSENE—the cheapest fuel.** Hundreds of farmers in Western Canada testify to its successful operation on kerosene, let us send you names and addresses.

MANITOBA  
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**AULTMAN @ TAYLOR**

TRACTORS 18-36 H. P. UP TO 30-60 H. P.  
SEPARATORS 20-IN., 23-IN. AND UP TO 42-IN.

A full line of repair parts carried in stock ready for immediate shipment at our warerooms, 104 Princess Street, Winnipeg

**Waterloo Boy Kerosene Tractor of Canada, Limited**  
WINNIPEG

# AULTMAN-TAYLOR

## KEROSENE TRACTORS



Present-day conditions make the use of Aultman-Taylor Kerosene tractor power a necessity on your farm. Without help, with inadequate power, how do you expect to grow bigger crops? How do you expect to put your idle acres to work? Quite impossible, indeed, unless you enlist the services of a good farm tractor and the surest way to get tractor certainty—good, economical, dependable power for your every requirement, at the lowest possible cost, is to order an Aultman-Taylor Kerosene Tractor.

### BUILT IN THREE SIZES ALL BURN KEROSENE

Aultman-Taylor Kerosene Tractors are built in three sizes—all burn kerosene for fuel and burn it well. Most tractors nowadays burn kerosene, but few burn it economically.

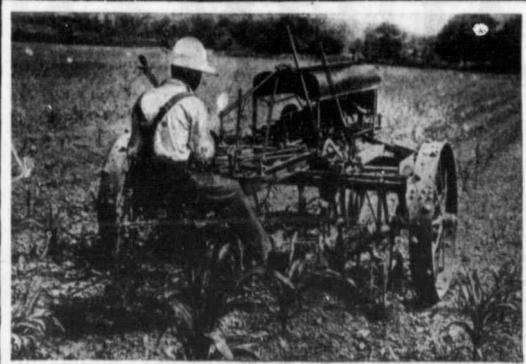
A guarantee that a tractor will burn kerosene means nothing to you if it does not burn it economically. There would be no economy for you in buying a kerosene burning tractor if, in doing your work, it consumed enough more kerosene than gasoline to more than offset the difference in price, so you want to make sure the tractor you buy burns kerosene economically.

Aultman-Taylor tractors are extremely economical in the use of either kerosene or gasoline. They convert every atom of fuel into good, steady power—and their economy does not stop here—they use less oil, require few repairs and are longer-lived, therefore, the cheapest in the end, so take this tip from us, be sure you give the Aultman-Taylor Tractor serious consideration before you buy elsewhere.

For CATALOG and full particulars, write



**The AULTMAN & TAYLOR  
MACHINERY COMPANY  
MANSFIELD OHIO**



## Now You Can Plant and Cultivate With Motor Power Too

The Avery Motor Planter-Cultivator now makes it possible for you to complete the motorization of all your farm work. You can plant and cultivate a corn, bean, cotton or other crop planted in rows without horses or mules. With an Avery Kerosene Tractor and Avery Motor Planter-Cultivator you can make your farm a horseless farm if you so desire.

### Doubles One Man's Acreage

With an Avery Motor Cultivator, one man can handle a hundred acres of row crops alone—with an Avery Tractor and this machine a man can more than double the number of acres he can handle.

The Avery Motor Cultivator is a two-row machine. You can operate the gangs like a horse cultivator and simply guide with the steering wheel, instead of lines. It handles easily and turns short at the ends, so that you can go back on the next two rows. It has a low speed for use the first time over and faster speeds for later plowings.

### Motor Planter and Cultivator Interchangeable

The Avery Motor Planter and Cultivator attachments are quickly interchangeable. You can plant your row crop quickly and easily, and then put on the cultivator gangs and cultivate as often as you like to keep the ground thoroughly stirred up.

Besides planting and cultivating, you can also do many other kinds of work with this machine. You can use it for pulling a hay-rake, binder, harrow, drill and other machines. It is equipped with a belt pulley for feed grinding, sawing, pumping, grain elevating, etc.

### Patriotism and Good Farming Demands Bumper Crops This Year

Only with modern Motor Farming Machinery is it possible for you to raise the largest crops and to save them after you have raised them. Here is the ideal Motor Farming Equipment—an Avery Tractor and Plow to prepare your seed bed, and plant and harvest your grain crops—an Avery Two-Row Motor Cultivator to plant and cultivate your row crops—and an Avery Thresher to thresh your grain crops.

The Avery is the most complete and up-to-date line of Motor Farming Machinery built. Write to-day for complete catalog and ask for special information about the machinery you are particularly interested in.



One of the 6 Size of Avery Tractors



One of the 8 Size of Avery Champion Grain Saver Threshers

## Canadian Avery Co., Limited

**EVERY COMPANY**  
Manufacturers  
685 Iowa Street, Peoria, Ill.

Western Canadian Distributors  
**WINNIPEG REGINA**





Vol. XXIII

WINNIPEG, CANADA, APRIL, 1918

No. 4

# Harry Designs a Tractor

By Geo. P. Pearce

HARRY was quite a mechanic, and had always spent his spare time making things in the workshop he had built next to the barn. He had designed and built many labor-saving devices that enabled his father to operate his 150-acre farm with less trouble and labor than ever before and his father caught the "Make-the-machinery-do-it" spirit, and was always improving his equipment. Naturally the tractor problem came up and many trips were made to various farmers to inspect different makes and types. All kinds of opinions and advice was given by different tractor operators, which, instead of solving the problem, only made it more complicated because each operator had different ideas and suggestions to make.

Harry and his father talked over the tractor situation many times during the evening discussions, but could come to no decision—some tractors had certain advantages that were lacking in others, but then they themselves were lacking in improvements that the other tractors possessed. Some had a fine engine but would not burn kerosene satisfactorily. Some that burnt kerosene would not make a close turn or the driver was too far from the plow. Others that had these things were not geared high enough for hauling loads to the depot. Thus they argued pro and con and could not decide upon a tractor satisfactory to both.

One day Harry said he had been thinking the whole proposition over and had decided that the only way to get a tractor suitable to their needs was to actually build it and he would start on the design that very evening. His father was a little doubtful about such a large undertaking, but finally was persuaded that it would

only cost a little more to build one and then they would have the "ready-to-order" kind beat half a dozen different ways because it would be just what they wanted.

Three months slipped along before Harry had his plans perfect, and he now felt that he had a tractor designed that, when built, was going to be 'way ahead of anything on the market. Harry wanted to start building one at once, to test it out, and if it proved satisfactory he then was anxious to start manufacturing the tractor in quantities, because he said there was a big demand for a good tractor and surely one designed and built by a farmer should be better adapted for the farmers' needs than one designed by some city fellow. His father was more cautious, however, and said that before they ordered the patterns made and machine work started it would be better to let an expert give his opinion on the design; it would not cost much and might save a lot. This seemed to be a good idea, and Harry readily agreed, although he was of opinion that he had thoroughly covered every detail and he could not imagine where any improvement was possible.

A few days later Harry and his father went to a well known tractor expert in the city and asked him to look over the plans and give his opinion on the new type tractor. The expert first asked if they were going to make more than one, and Harry explained that if it proved satisfactory he was going to build them in quantities.

After the expert had looked



over the details for a short time he said: "Well, this is a fairly good tractor and has many novelties about it, but there ought to be many changes and re-design before you start to build even the first one. Look here, for instance, when your tractor is plowing you intend to have the right wheel in the furrow, don't you?"

"Yes, that's the idea, and you will notice I have designed an automatic steering arrangement so it will follow the furrows," said Harry.

"That's all very well, but you have not spaced your wheels right; notice when the wheel is in the furrow and the plow following, that the line of draft comes just so many inches from the furrow and to have the tractor work well it is necessary that the line of draft practically coincides with the line of pull of the tractor, if they do not there is a twist thrown on the tractor, and while it will run under these conditions, still it is not so satisfactory and in soft slippery ground, may prevent it from working at all. You will have to move that wheel in six inches to bring things right."

"I never thought of that, and it is plain enough now since you have called my attention to it," replied Harry.

"Here is another thing. If you draw a line from about where the driver's eye will be down to the front wheel where it is in the furrow, you will notice that it cuts through the cooling hopper and that means that the driver cannot see the wheel in the furrow and so will not be able to steer good. You must either move your engine over or else change the design of that hopper, or you could possibly put the seat about a foot or sixteen inches higher. It would certainly never do to make it as you have designed it."

"That's another one on me, all right," laughed Harry.

"I see you have adopted hopper cooling instead of a radiator; well that cheapens manufacturing some, but upon what data have you designed that hopper?"

"Oh! I didn't see anything at all fine about a hopper, so long as it holds water and covers the cylinder well, what more can it do?"

"Oh, it can do a lot," replied the expert. "That hopper of yours in the first place is much too small; I don't believe you could plow more than half an hour between fillings. You know a tractor is working under practically full load every minute it is plowing, and it will evaporate a large quan-

tity of water unless it is also cooled by radiation. Now, as you have no radiator, all the cooling that can take place is the radiation from the sides of the hopper and as this is quite small, it will not cool much. Therefore, the heat that is constantly being delivered to the water will cause it to rapidly boil away and as the hopper capacity is small, this will mean frequent fillings which will be unsatisfactory to the farmer, especially so if he is plowing about a mile or so from the nearest stream. Make that hopper five or six times the capacity and you will improve it in more ways than one. It will have a greater radiating or cooling surface, and, therefore, save water because every heat unit that is radiated from its walls means just that much less steaming. The larger quantity of water will take a longer time to get to the boiling point and during the stops and at noon it will radiate considerable heat, this also increasing the time before it needs refilling. This large hopper will run possibly six hours, in fact it should be made to run six hours, so that it will only need filling in the morning and at noon, the two times when a tractor gets 'the once over.' Here is another point you want to look out for. Notice you only left  $\frac{3}{8}$ -in. clearance between cylinder and hopper in the lower part; this is plenty, as long as only water is there, but what do you suppose is going to happen when scale, mud, sand and dead leaves accumulate there? It won't take long to overheat the lower part of the cylinder and distort it. Better leave an inch or an inch and one-half and also be sure to make your hopper so it can be easily scraped all around inside so when scale-forming water is used, which can not be avoided in some localities, there is plenty of room to scrape off all scale as often as necessary."

"My, but there is a lot more to a hopper than I had any notion," remarked Harry.

"Your rack and quadrant system of steering has the advantage of being novel, but it is wrong in principle. It turns each wheel through exactly the same angle, which will not do. When you go round a curve the inside front wheel must turn through a greater angle than the outside one; in fact, they must turn so that if lines are drawn as prolongations of the axles of the front wheels and the rear ones, these lines must all meet at one point, and this point will be the center of the circle upon which the tractor is turning. You must design your steering mechanism so that at all positions, right hand or left, the front wheels will automatically turn through different angles, so that each axle is practically a true radial line from the center the tractor is turning upon. The further you get from this design, the harder will it be for the tractor to turn, and power that is consumed dragging a wheel in a different way to which it is headed, means just that much power less at the draw bar. You had better spend a few days on another steering device or accept some of the well-thought out designs that are somewhat standard on automobiles and trucks."

"There is a great deal more to designing a tractor than you thought, isn't there, Harry?" remarked his father. The expert smiled and continued:

"Your method of taking the exhaust away from the engine is neat, but I notice you have the exhaust pipe passing under the carburetor. This you will find is very unsatisfactory, because once in a while the carburetor will leak a little and as soon as the fuel drops upon the exhaust pipe, it will catch fire and possibly set the fuel in the carburetor on fire. Your intention to get the exhaust pipe out of the way and incidentally warm the carburetor was very good, but in this case the risk is too great and so you had better change this part."

"Well, I am certainly learning



Harry and his father talked over the Tractor Situation

things fast," acknowledged Harry. "There is one thing I want to ask you, and that is: What is the objection to running the engine 'left hand'? If the engine were to turn that way it would save a pair of gears and simplify things some. If there is no serious objection, I suggest it be changed."

"There is no reason why an engine can not be designed to run one way as well as another, but there is a very serious objection to putting a 'left hand' engine in your tractor, and that is because everyone is used to 'right hand' engines and it would be as awkward as a left hand thread on a machine bolt, so even if it does complicate the transmission a little, you had far better do that than try to force a 'left hand' engine upon the public."

"Here is another thing you want to look out for. You are running your clutch in oil, which is satisfactory providing it is properly designed, but you have made no provision to stop it rotating when in neutral where it has to be every time you start the tractor. Possibly you think that when you open the clutch and it is disconnected, that it will immediately stop rotating, but such is not the case. The drag caused by the oil revolving with the fly-wheel is amply sufficient to keep the clutch spinning and as soon as you attempt to shift gears the result will be to wear the gear teeth tips and burr them all up; also it will be very difficult to engage the gears at all. To cure this you will have to put some kind of a brake on the clutch or clutch shaft, so that when the clutch is opened it will press against the brake and stop revolving, allowing the gears to be shifted smoothly and quietly just as it is stopping. There are quite a number of things you should change or improve before you think of building your tractor.

"Your valve mechanism is too

much exposed and will rapidly wear on account of grit and fine dust working in. These parts should be well protected with a dust proof cover of some kind. Your exhaust pipe is discharging just underneath the engine and towards the ground; on dry days it will kick up such a dust that the operator will be scarcely able to see or breathe and will use up his energy cussing the tractor and its designer.

"The magneto is in a very poor place, sticking out in front there. Why every time you run into anything, you will be very liable to damage it and put the tractor out of commission for a week or so. Your engine is mounted too high and it would be very awkward to crank unless the man stood on a box, better arrange to lower it about twelve inches. That rigid seat would jar a man almost to death when running over a hard road, and you have not provided any comfortable place for him to put his feet. If he were at all tall his legs would be all doubled up and he would probably have the cramp in a few hours.

"You have given him no protection against the sun or a sudden shower; add at least an umbrella holder for one of those large canvas umbrellas. It seems as though you have tried to hide every oil hole, for they are in odd places where no one would think of looking for them. If you expect the tractor operator to properly oil everywhere, you must help him to the extent of putting the oil holes in prominent places and then running tubes to where you want them to go. Also be sure and put good practical dust caps over every one.

"You have forgotten to put a good brake on the tractor. How do you expect to stop a tractor on a hill? As soon as you pull your clutch out, the tractor will start down the hill, and if you hap-

Continued on page 35



This will mean frequent fillings— especially if he is plowing about a mile away from the nearest stream

## SOLVING THE POWER PROBLEM

By R. WHITEMAN, B.S.A.

**T**HIS article has been written after a careful study of tractor problems both in the field and on the belt. Numbers of owners have been consulted and information regarding their results obtained. Also some of the data was obtained from United States Bulletin No. 719.

### Need of a Tractor for Each Individual Farm

To-day with so many calls on production we naturally are looking for some means to solve the help problem and at the same time if not to actually increase the acreage at least put in the usual amount. Wagon loads of advice

are being dumped on the farmers in general regarding the dire necessity of greater production. It reminds one of trying to get the last drop out of a bottle. By carefully tilting it up a few more drops can be obtained. So every time there is a shortage of food stuffs those at the head of other walks in life say, "Well, the farmer must increase his production to meet the demand," then lean back and wait. No provision is made to help out that production. Rates on railways may be increased; help may be scarce; seed may be hard to get; it does not matter, the farmer has been ordered to produce more—a patriotic duty.

Personally I feel as though the farmer is trying his best despite tremendous handicaps. Regardless of advice he has gone ahead in his clear thinking way and worked harder than ever before, not from a mercenary standpoint on the average, but because he felt the call for more foodstuffs to meet the nations' need. One of the things being boomed to-day is more power. Get a tractor. This advice is being given out in nearly every paper. Much of it is being given by people who are in the habit of going around the country in a touring car and watching the other fellow work. Their experi-

ence is gained from seeing some farmer turning over the ground with a tractor. At once they are enthused.

It's great to think of sitting there, nothing to do but just listen to the motor's hum and behold as the sun sinks in the west acre after acre of soil has been prepared for the seed. Many of these same men are much like the man with a Ford who after travelling some fourteen miles and finding the car would not go any farther lifted the hood and behold there

they are very rare. So with the purchaser of a gas tractor, the inclination for machinery must be inborn before a success can be made with it. The man driving a team has a number of active brains at work. His own and those of the team, because a horse trained for work performs that work using intelligence in doing so. Your engine is different. It has no brains. The engineer must supply them. Its well being also is entirely in the hands of the operator.

engine would work very efficiently or is your place rolling or hilly? On the latter an engine very often must use nearly all its power in pulling itself up steep places.

Many overlook this fact, and buy, say a 3-plow tractor. The land is rolling and the engine is constantly overworked, while the neighbor gets along with less fuel and accomplishes more in a day. A 3-plow outfit on hilly land would be doing well if able to pull two plows day after day. Wet undrained spots on a field also cost money when being plowed by an engine. These are only a few of the things you as an intending purchaser must figure out carefully before spending \$1,200 or \$2,000, or more, for increased production on your farm.

### Types on Market

Many types are represented to-day: Two-wheel, three-wheel, four-wheel and caterpillar. All do good work under certain conditions. The two-wheel type is, perhaps, for strictly cultivation work, a suitable as any. It has a greater range of usefulness because presents implements a re suited to it. The driver sits on the implement,

therefore has his eye constantly on the work being done. It will work in small fields very satisfactorily, and turns easily in restricted areas. It can also be used for belt work. A very important thing some manufacturers seem to overlook is the belt work required. Farmers to-day in investing the amount of money in an engine must demand greater accessibility of the belt pulley.

Some engines appear to have been built and then as an afterthought a belt pulley was added any where the main shaft is located. In these times we cannot afford to waste time in securing alignment. One must remember that on a tractor—especially one of the four-cylinder type—runs at a fairly high rate of speed. This

Continued on page 55



Overhauling his Outfit for the Great Drive

was no engine. It had travelled that distance on its reputation. A great deal of this advice is poor—some extremely good—and the trouble one has with no experience of tractor work is to distinguish the tares from the wheat.

Do you need a tractor? Does your system of farming permit of the purchase at present figures, cost of fuel, etc? Will it give increased returns over ordinary farm operations without it that will make it pay for itself? If it will then you need a tractor and should not delay in buying one. Have you any mechanical ability? Do you like machinery? Did you ever see a farmer who had no love for horses have really good ones?—horses that were always in the pink of condition and capable of doing their work day after day.

There may be rare cases, but

On farms too large for the efficient use of one 4-horse team and not large enough to warrant the keeping of two outfits the small engine should be a paying investment. Where the farm is too large for two outfits and three would be more or less of a loss, a slightly larger engine could be used with good results. The thing to remember is that horses have to be kept anyway. We cannot, as some would have us think, run a farm by mechanical power alone.

There are a hundred and one odd uses for the horse that the tractor will never be able to do as efficiently. Then with these horses on hand they must not be idle for too great a period or even they would be a loss. So we must judge wisely in buying a tractor. Is your farm level where an en-



## Try this test for saving the grain -

**T**AKE a pitchfork full of straw. Pour some grain onto it and into it.

Then lift and shake it up and down. Some grain falls through to the ground.

Next throw the straw down and rake it with the points of the fork. Tear it open—spread it out. More grain falls through than when you merely shook it.

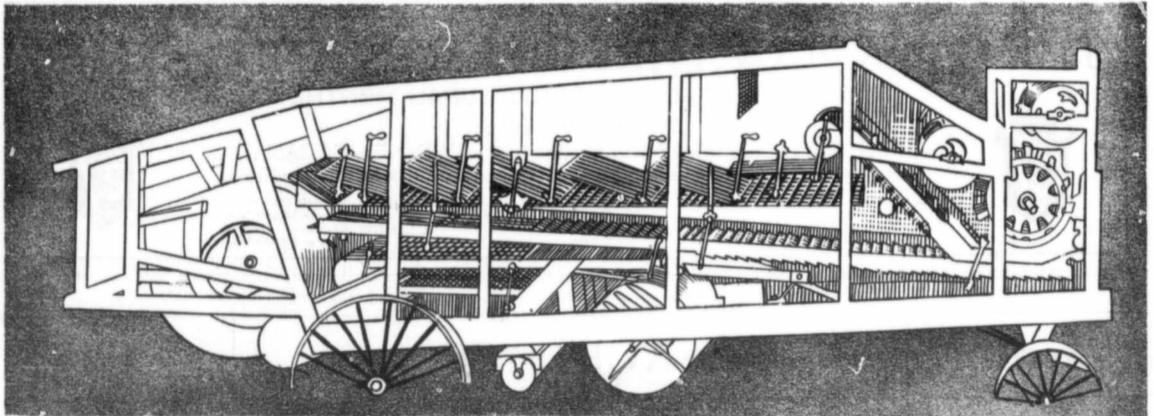
Now scoop up the straw and shake it thoroughly. You'll find this time that there is no grain left in the straw.

Most separator racks just shake the straw. Some grain is shaken out—some isn't—and what isn't goes over into the straw pile.

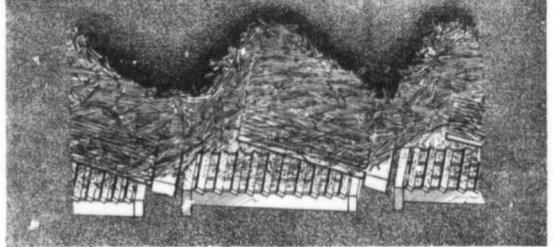
The rack that rakes and beats, as well as shakes the straw—the way the Rumely Ideal does—saves *all* the grain.

*Built in six sizes—Ideal 28 x 48, 32 x 52, 36 x 60 and 40 x 64—Ideal Junior 20 x 36 and 24 x 44*

# ADVANCE-RUMELY



# These lifting fingers in the RUMELY IDEAL shake the straw and rake it, too —



**I**n the Rumely Ideal more separation takes place before the straw reaches the rack than in any other make of machine. We know that by test—Rumely Ideal owners know it by experience—it can be proved by actual comparison at any time.

But in every separator, some grain goes to the straw rack with the straw. The tougher and more damp the straw, and the faster the machine is being fed, the more grain there is that stays in the straw when it goes onto the rack. It's getting *all* this grain out of the straw that makes the separator a *real* grain saver.

The Rumely Ideal rack you will find quite different from other straw racks. Instead of common shakers, it is made with sets of lifting fingers—six of them—which operate up and down from the oscillating, slatted shaker base to which they are attached.

*Note that carefully—six sets of lifting fingers—six complete breaks in the straw.*

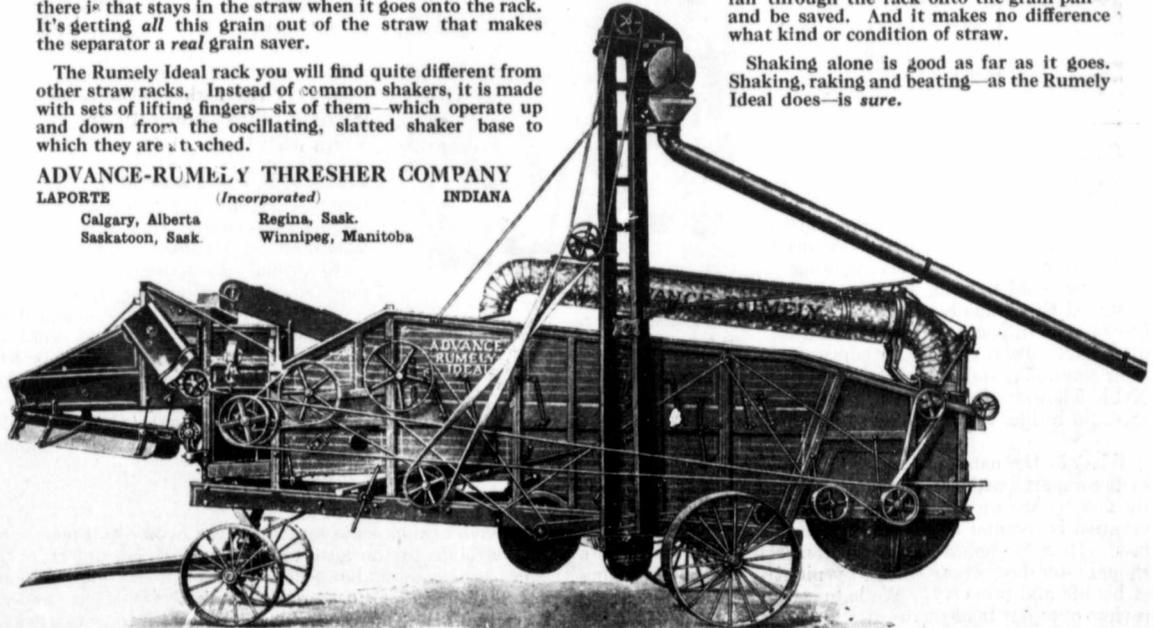
The common rack with the common shaker agitates the straw—and that's *all* it does.

The Rumely lifting fingers, together with the shaker, not only agitate the straw—they tear the straw open—rake it—beat it from beneath—*compelling* all the grain to fall through the rack onto the grain pan—and be saved. And it makes no difference what kind or condition of straw.

Shaking alone is good as far as it goes. Shaking, raking and beating—as the Rumely Ideal does—is *sure*.

**ADVANCE-RUMELY THRESHER COMPANY**  
LAPORTE (Incorporated) INDIANA

Calgary, Alberta      Regina, Sask.  
Saskatoon, Sask.      Winnipeg, Manitoba



# THE CANADIAN THRESHERMAN AND FARMER

CANADA'S LEADING AGRICULTURAL MONTHLY



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April

SACRIFICE

1918

### 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 by E. H. Heath Co., Ltd., will make good the loss resulting therefrom, if the event takes place within 30 days of date advertisement appeared, and complaint be 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."

**E**ASTER week of 1918 has passed into history with a record of human sacrifice that has never been matched since the night of Calvary. Not since the Shepherd of Souls gave his life for the flock has the world witnessed such selflessness and heroic devotion as that of those wonderful British lads who died or who courted death for us in that week. Men they were whose names are written in a nation's tears; of whom the world was not worthy. They gave all or they staked all they had to give that the line might be held for home, for friends, and for liberty. We have all read the story of their valor in cold, passionless type, but how many of us have verily seen those indomitable spirits as they faced that inundation of death?

As we sit in our comfortable pews, or take

our place with the midnight card party, how dare we measure ourselves with the humblest ranker in that deathless army—to wit, that little decimated band of "Buffs," of whom it is written: "Reduced to less than half a company, fighting—marching—and fighting again, their fire dwindled till it finally ceased; and they have not been heard of since!" And all for what? To cover the withdrawal of their comrades, and the scarcely less beloved horse and guns! Noble fellows! How one longs to look such men in the face, splendid in life, thrice glorified in death!

What in the name of "sacrifice" are our mean little dribblets compared with the complete immolation of these wonderful men? Are we not of those who conceive that self-preservation is the first law of nature, and who also make it the last? How far removed are we from the yellow cur whose thought by day, whose dream by night is the safe-guarding of his life and property? We hate censoriousness, but as we review over our inadequate part in the face of what is being done for us, it does seem as if the "hog" is rampant, wallowing—as it is his habit to wallow—glorious and unrestrained, in the swill of his indulgence. Thus far have we drifted from the simple ethics of that Man of Sorrows, who was also the King of Love!

Is there anything in the average home of Western Canada to indicate that any such thing is taking place as that which is being enacted in Europe at this hour? Is there anything in human meanness that can hold a candle to the shameful interval there is between the plight of the men in the trenches and that of ourselves, squatting in security around the still loaded dining table? Is there anything so damning to the prospect of "a speedy and righteous peace" as a

whole nation given up to the spending of its splendid income at the sporting tables of debauchery? for even the mildest form of indulgence is debauchery at a time when millions are perishing and the last ounce of sacrifice is needed to save them.

A man was very properly punished the other day for making certain observations with regard to the conduct of the Canadian soldiers in France. It was a base libel. The man meant well, but he was foolish, and had been misinformed. Had his strictures been directed towards the folks at home, he would have found ample scope for the most splenetic reflections. Here we are—"dyed in respectability, embalmed in complacency," the very last word in western culture, actually unfit to be left at large where food is around! The country clamours for police protection to save it from itself, and a Food Controller with plenary powers is found to be the only means after all others have been tried to enforce common decency in food consumption.

We have a wholesome regard for the Food Controller, and will obey him to the letter; but our own self-respect must never play second fiddle to the Food Controller. God helping us, it shall be the business of our life to keep that self-respect inviolate. The self-respecting man's chief concern is that he may never discover himself in *secret sin*. Loyalty to one's own self is the foundation of all fidelity. "It follows as the night day" that a man who is true to himself is above all law, for he cannot be false to any man. Let us *secretly* so live that the Food Controller's job will become a sinecure.



The Civilian: "Are we going to win this war?"  
 The Soldier: "That depends more on you than on me, now, my lad."

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# - and Henry Ford, too, chooses Oliver Plows



"We appreciate the co-operation the Oliver Chilled Plow Works have given us in designing the proper plow for the Fordson tractor.

"We know that with the Oliver No. 7 plow the Fordson will work to the very best advantage."

[Signed] HENRY FORD & SON

To plow the maximum acreage with best results with your Fordson tractor, supplied by the Canadian government, make sure that it is equipped with the No. 7 Oliver Plow.

The Oliver No. 7 Plow is sold by the Agents of the International Harvester Company of Canada, Limited, who are distributors of the Oliver line of Plows.

**OLIVER**  
Tractor Plows

## WAR TIME IMPORTANCE OF THE TRACTOR

By J. B. BARTHOLOMEW

**T**HE tractor industry has the largest graveyard of monumental failures behind it of any industry that has been established in modern times, but out of it has come success.

The tractor is distinctly a better-farming machine. It is so evidenced by the fact that it is used by a large number of farmers who are not machinery cranks but who are wide awake to the advantages of adopting methods that will enable them to produce better crops and more of them.

I am not out to promote any particular tractor. Tractor in general is to be the center of thought, and what tractors will do to win the war.

I have heard a lot and read some in the way of speculation on what the ultimate tractor is to be. Let us pay no attention to that. We have no time, neither has the farmer. What the world needs is bread and they need it now. Let the ultimate tractor take care of things at the ultimate time.

The man who farms during the year 1918 must pick for his use from the tractors that are now available and there are a lot of them and they will do good work if properly handled and all the farmer has to do is to make his selection wisely, purchase through the local dealer that is in a position to supply him with a machine made by an established and reliable company and who can and who will give him the necessary service and instructions. And here I want to press the idea that it is the farmer who stays at home and farms that must run the tractor and not the young fellow who has gone to war.

For he is the fellow who is really required by Government request to meet the world's food requirements, to double or more than double his output, and in doing so he has got to contend with the shortage of farm labor. His inability to drive and handle more than a limited number of horses makes it necessary for him to turn to mechanical means in performing this work. The tractor is the most important machine, because one man can handle a greater amount of power and accomplish more than double the amount of work in the same length of time, do it with less expense and do it on a character of fuel that will leave the feed necessary to maintain horses available for feeding meat-producing animals and thereby increase the quantity of human food. Neither man nor beast can exist

on the fuel the tractor uses and there are not enough horses in the country to meet the power requirements.

A man with a medium sized tractor and a double row motor cultivator can raise and cultivate more than twice as much corn as the same man could do with horses, and the same equipment will enable the same man to raise three to four times as much small grain.

I claim, the patriotic farmer is the one who sees the advantage of adopting the tractor and utilizing it to meet the country's needs through its crisis and at the same time gets the profits and advantages of early adoption. The

proving to be practical and economical; plowing, discing, harrowing, seeding, pulling harvesting and haying machinery; then comes the belt power; running a thresher, a silo filler, a corn sheller, corn shredder, pulling hedge and trees, moving buildings, grading roads and making roadways, pulling ditching machinery, filling ditches, raising buildings, sawing wood, feed grinding and general hauling.

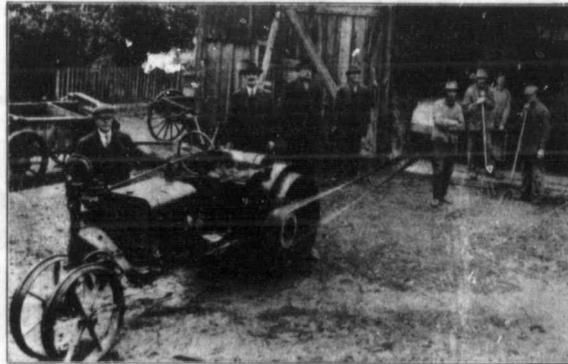
There are many other kinds of work, of course, but the advantages of the tractor are largely due to the fact that the tractor does not get tired, works better in hot weather. The operator is

farmer who buys a tractor that is guaranteed to burn kerosene is showing a spirit of patriotism—not only that, but he is showing a streak of wisdom, because gasoline is liable to be needed for the war and may be restricted in its use. There are tractors on the market that are guaranteed to handle kerosene successfully, economically and satisfactorily.

When the farmer makes a purchase of a tractor he should immediately receive the manufacturer's instruction book and study it carefully. He should avail himself of the opportunity of attending the tractor schools. Then when his tractor arrives at the railway station, during the time it is being delivered to him and run to his farm, it should be carefully handled, watched and studied; no bearings should be allowed to heat; careful examination should be made at short periods to see that everything is running properly; after it is delivered to the farmer, he should continue to familiarize himself with every piece and part, both design of construction and mode of operation. Tractors will stand an overload of 20 to 25 per cent for a few minutes, covering such conditions as plowing through a hard spot, discing over a hill, or pulling a tree or stump. It should not be expected to work at the utmost capacity continuously.

My advice to the beginner in running a tractor is to take it carefully; any unusual sound, knocking, pounding or rattling should be the signal for the wise operator to stop and determine what is the matter before causing serious damage to his tractor. The wise operator pays attention to these signals and if he is unable to locate and remedy the difficulty, he calls for assistance, for he knows that if he should persist indefinitely he will encounter serious trouble. If the operator could understand these unusual noises to be the scolding and cussing of the machine because it had an operator who did not understand his business, or was neglecting to tighten up bolts or make adjustments or put some oil in a certain bearing, he would be more prompt to act.

Tractors should not be forced to work a certain way because that work has heretofore been accomplished by horses in such a manner. Do work with a tractor the tractor way. Use care in laying out the field that is to be



The Light Tractor may some day revive the old custom of barn threshing. In this case an Avery 8-16 is supplying the power

farmer who waits until the time arrives when he is forced to buy a tractor is not only losing sight of his own best interests and greatest opportunities, but is not heeding his country's call for greater food production.

Doing work at the right time is of the greatest importance to the successful farmer.

With the tractor he cannot only plow deeper and cheaper but he can wait until the conditions are most favorable and then rush the work through faster, because he has greater capacity. The average farmer without a tractor is like a factory without sufficient power to run it—it is under powered.

Power is the great requirement to the accomplishment of larger things. The farmer with a good powerful tractor can keep ahead of the seasons in the matter of seeding; he can do all of his heavy work with a tractor, reducing the horses required to a minimum.

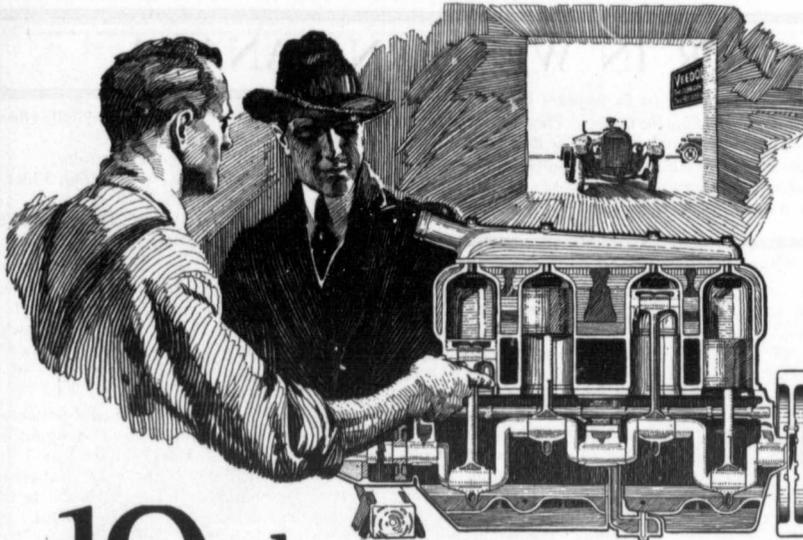
I do not wish to be understood as advocating the horseless farm, but there are many kinds of farm work for which the tractor is

enthusiastic and eager to get his work performed, therefore he puts in greater hours in the field with the tractor than he would with horses, because he does not have to do the same amount of work in caring for the tractor as he does caring for horses and then if he wants to he can double the capacity of the tractor by putting on headlights and another man and running it at night during the rush season. This is equal to practically quadrupling the amount of power on the farm, because the horses could not work continuously night and day.

With the price of wheat fixed at \$2.20 a bushel and other farm products soaring at an equally high price, the farmers' ability to buy has been very materially increased. At the present steadily advancing rates of labor cost, the prices of tractors are bound to advance; in fact, they should be sold higher right now and would be were it not for the fact that manufacturers are afraid of each other's competition.

Kerosene is the most logical and most economical fuel. The

Continued on page 33



**19 places where sediment damages your engine**

1. Cylinder walls
2. Pistons
3. Piston rings
4. Wristpins
5. Wristpin bearings
6. Crankshaft main bearings
7. Crankshaft
8. Connecting-rod bearings
9. Connecting-rods
10. Valves
11. Valve seats
12. Valve cams
13. Camshaft bearings
14. Camshaft
15. Timing gears
16. Ignition driveshaft bearings
17. Generator shaft bearings
18. Oil circulating pump
19. Spark plugs

# 19 places where sediment damages your engine

**W**HEN your engine loses power, knocks, bucks and overheats, nine times out of ten it is sediment in the oil that is to blame.

Just look at the long list of vital parts that will quickly show serious wear when sediment is present in any considerable amount.

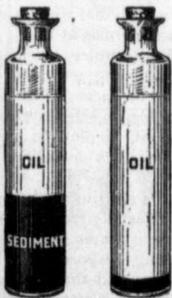
Ordinary oil cannot resist the intense heat of the engine—200° to 1000°F. It breaks down quickly. The resulting sediment crowds out the oil with true lubricating qualities from points where it is needed most. Moving metal surfaces, which should always be separated by a protecting film of lubricant, are thus thrown into direct contact.

**Why sediment causes wear**

A strong magnifying glass reveals millions of microscopic teeth covering the apparently smooth surface of a bearing or other working part.

When the cushioning oil film between these surfaces is destroyed or excluded by sediment these tiny metal teeth grind together, thus causing friction and wear.

When this happens in any important part of an engine, costly replacements soon become necessary. Damage due to sediment in ordinary oil can never be repaired.



Ordinary oil after Use Showing sediment formed after 600 miles of running

Veedol after Use

A Ludlow Clayton, Engineering Editor of Automotive Industries, and one of the most prominent engineers in the automobile field, says:

"In the past, too little attention has been paid to lubrication. Oil needs to be chosen for an engine almost more carefully than food for a child."



P. M. Heldt, recognised authority on internal combustion engines, and author of "The Gasoline Automobile," declares:

"The proper selection of oil for the lubrication of an automobile engine is a very important matter. The grade of lubricant used affects not only the efficiency of the engine but also its life."



Chas. A. Duryea, consulting engineer and a pioneer in automobile construction, states:

"Buying superior oil is the poorest economy a motorist can practice. Inferior oils must be used in greater quantities and even then they increase friction, loss of power, fuel consumption, heat and repair bills.

"Good oil costs a little more per gallon but far less per mile."



That is why you cannot afford to buy ordinary oil at any price. The cost of using it is appalling, because of its injurious effects on your engine.

**How the problem was solved**

As a result of exhaustive research and comprehensive practical tests the formation of sediment in dangerous quantities has been successfully overcome.

To-day over a million motorists avoid the sediment menace, with its accompanying troubles and repair expense, and keep their cars running like new, at reduced operating cost, by using Veedol—the lubricant that resists heat.

How Veedol reduces sediment 86% is made plain by the two bottles, showing the famous Sediment Test, at the left of the page.

When figured by miles of service, and not by cost per gallon, Veedol proves much more economical than ordinary oils.

The average motor oil acts like water in a kettle. When water is subjected to intense heat it evaporates as steam. Under the terrific heat of the engine ordinary oil evaporates very rapidly through the oil-filler in the form of vapor.

Veedol not only resists destruction by heat and the consequent formation of sediment, but also reduces evaporation in your engine to a minimum. You will get from 25% to 50% more mileage per gallon with Veedol for this reason.

**Buy Veedol to-day**

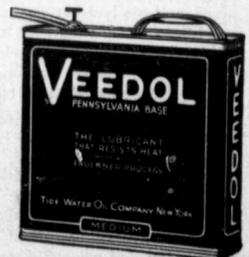
Your dealer has Veedol in stock, or can get it for you. If he does not, write us for the name of the nearest dealer who can supply you.

**An 80-page book on lubrication for 10c**

The most complete book ever published on automobile lubrication, written by a prominent engineer, and used as text book by many schools and colleges. Describes and illustrates all types of lubrication systems; tells how to keep your car running like new at minimum expense. Also contains Veedol Lubrication Chart, showing correct grade of Veedol for every car, winter or summer. Send 10c for a copy. It may save you many dollars.

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## THE TRACTOR IN WESTERN CANADA

### A SPLENDID STORY OF INDUSTRY AND BRAINS

High River, Alberta,  
Jan. 24, 1918.

Dear Sir:

I AM using a 12-24 Waterloo Boy Kerosene Tractor. I purchased same late in the fall of 1916, when I plowed eighty acres in nine days, but did not keep track of the oil or gasoline used. During the winter I used this tractor to drive a 12 inch, low down Manitoba Grinder, with elevator running from bin to grinder, and one from grinder to wagon, and did quite a lot of custom grinding.

The use of kerosene and oil varied very much, as it all depends on the condition of the grain. I have ground as much as forty bushels of oats on a gallon of kerosene, and again I have used as high as three gallons for the same amount. Some grain might be dry while some might be wet and full of snow and ice.

In the spring of 1917 I plowed two hundred acres, using a La Crosse three bottom 14 inch light engine Gang. I also packed and harrowed in one operation 320 acres, using a 22 wheel, I.H.C. packer and a three-section lever harrow attached behind the packer. The complete work took 526 gallons of kerosene at 19c. a gallon, 80 gallons of gasoline at 32c. per gallon, 25 pounds of hard oil at 11c. per pound, 14 gallons of machine oil at 35c. per gallon and 32 gallons kerosene tractor cylinder oil at 62c. per gallon. \$155.00 covers expenses for same.

There was also \$45.00 for repair, caused through my own neglect. The actual cost for all these operations was considerably less than \$1.00 per acre. We began working on the land April 7th and finished May 19th. I worked with the tractor myself, and had one man with a four-horse team to do the discing and seeding.

Without the tractor it would not have been possible to do the work, as the year before I used one four-horse team and one five-horse team, and put in only 249 acres, and we had better weather conditions in 1916 than we had in 1917. I had put some electric lights on the tractor, and in good weather I worked the tractor eighteen hours every other day, just stopping long enough to eat my meals and take oil.

In the summer of 1917 I broke up 50 acres of my own land, using a two-bottom 14 in. breaker gang, averaging about five acres a day, and using 2½ gallons of kerosene per acre. I also

*The following letters are in response to our request for actual experience in handling the tractor. They are entirely unedited—except as to punctuation, and are given as they reach us. We reproduce them whether the testimony is favourable or otherwise and believe that nothing printed in these pages can be of greater interest and value to the Western farmer.—Ed.*

broke up 19 acres for a neighbor, which he could not do with horses, as it was too hilly, stony and dry.

In the fall I threshed 720 acres, 320 acres for myself and 400 acres for a neighbor, he furnishing a 22-36 Red River Special separator and I furnished the engine. We used three bundle teams, one pitcher in the field, and I ran the engine and separator. It costs us about \$160.00 for kerosene, oil, etc., not counting wages for help. Even allowing standard wages for the help,

outfit. Plowed 100 acres stubble for summer-fallow 6-7 in. deep; 12 acres per day, about 10 hours, used 30 gallons gasoline per day, or 2½ gallons per acre.

Plowed 140 acres stubble in the fall 4½ in. deep, with harrow trailing at 12 acres per day, 2½ gallons gasoline per acre, gas engine oil about one pint per acre, lubricating oil about half pint. Cost of plowing about \$1.50 per acre, including wages, but depreciation not included; no repairs needed. I have done no other work with it.



The real mechanic regards his machine with a feeling of affection

it did not cost us half of what the custom outfits charged.

After threshing this fall I plowed 140 acres, then I put the engine in the grinding shop.

My land is a light, sandy loam, hilly and very stony. If I did not have a tractor, I would not care to farm this land. Even if the tractor is a bother and a trouble sometimes, by just using common sense, it is, not only a good investment but also a money maker, and a very sorely needed labor saver. I am enclosing some photos, the only ones I have left.

Yours very truly,  
F. K. Schmitt.

**JUST FILLS THE BILL**  
Piche, Sask., Feb. 6, 1918.

Dear Sir:

MY tractor is a Case 20-40, fuel gasoline; used for threshing and as an auxiliary to the horses for plowing.

Plow is a Case-Sattley, four-bottom power lift—a one-man

both in summer and fall, almost too hard for horses.

Yours respectfully,  
John Elder.

### AN UNQUALIFIED SUCCESS UNDER KEEN TEST

Strassburg, Sask.

AS one who has had some experience in power plowing, I trust the following may be of some help to those who anticipate the purchase of a machine.

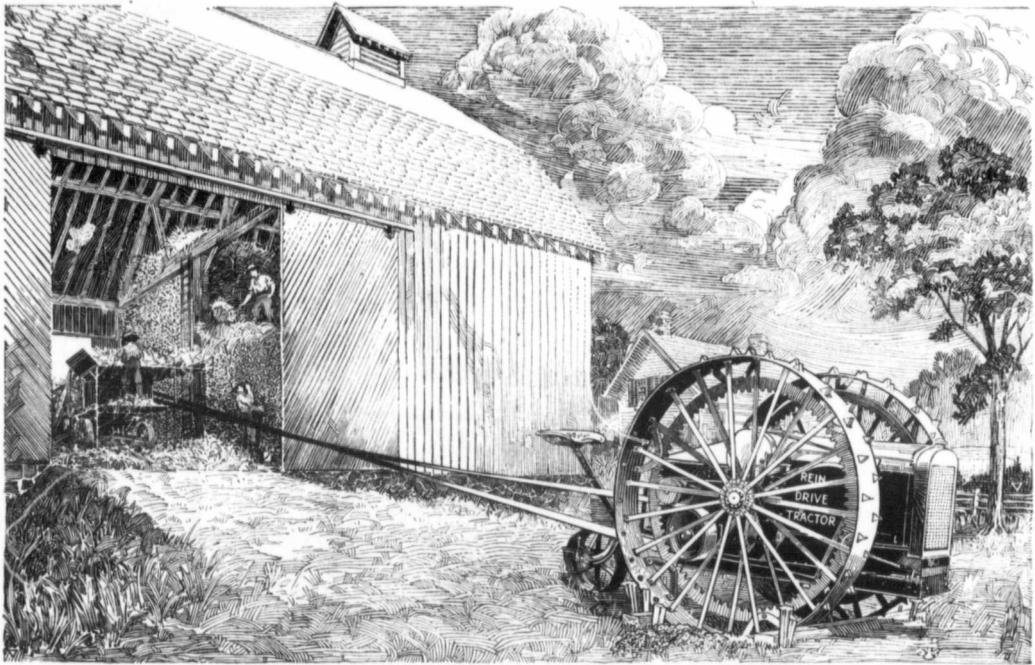
I have always had a preference (when speaking of the engine) for one of four cylinders, as I feel that this is the nearest approach to a steady power, similar to that delivered by a steam tractor. My ideal of a general purpose farm engine is this, first, engine four cylinder, automobile type, kerosene burner, radiator cooled, four wheel, and not to be heavier than 5,000 lbs.

And talking of the wheels, here is a matter which is often overlooked, or not known of at all, that the front wheels should be tall and not over wide in the tire; this is very important when one has to turn upon newly plowed land, as a smaller wheel would at once bury itself. This was my own experience only last year, and is very annoying. I think a wheel about 42 in. x 5 in. tire is best for the front.

Of course, as tractors go today, there are very few that are not economical to a certain degree, while others are even more so, and just here we have the most important thing from the farmer's point of view, and for an example I will describe our own working cost last fall on a 30 acre field.

Our tractor is a Huber light four, 12-24 h.p. kerosene burner, and in my opinion one of the best light tractors on the market today. It pulled a 3-bottom 14 inches high lift, self lift, P. & O. plow, at a depth of seven inches, up hill and down (and there were some pretty stiff ones at that), at a speed of 2½ miles an hour, using the following amounts of fuel, etc., to the acre: Coal oil, 1½ gallons, 33c. worth; lubricating cylinder oil, ½ pint, 6c., and grease too small a quantity to mention, while gasoline 1 quart was ample for starting and stopping during a whole day. I also used 1 quart of water each m-day for cooling purposes.

Thus you see that the cost was about 40c. per acre, generally speaking. Anyway, what I paid for fuels, etc., for the 30 acres was just \$17.12. I feel bound to say



## WHAT THE REIN DRIVE TRACTOR IS AND WILL DO

**T**HE Rein Drive Tractor gets its name from the fact that it is started, stopped and guided by a pair of leather lines in exactly the same way as a team of horses. This principle has many advantages which are not at first obvious. It is this principle which makes the Rein Drive Tractor, under all conditions, a "one-man outfit." It is not possible to plow, seed or operate a binder unless the operator is seated on the plow, drill or binder, as the case may be. The operator of the Rein Drive Tractor sits, not on the tractor, but on the machinery he is operating, and drives the tractor from the regular seat.

With a great and increasing shortage of help, it is imperative that one

man be able to operate your tractor and the machinery he is using under all conditions. If one man is needed to operate the tractor and another the binder, no saving in man-power is effected.

All the traction in a Rein Drive Tractor is on two wheels only. This, experiments have proved, is the only way that full, efficient traction under all conditions can be obtained. Where the weight is distributed over four wheels, traction is lost under a heavy load.

The Rein Drive Tractor has a pulley attachment which enables it to be used as a power plant for any work required on the farm, such as grinding feed, driving a separator,

cutting wood or ensilage, baling hay, pumping water for stock, etc.

It is equipped with a high powered, efficient motor, burning the most economical of fuel—kerosene. The motor delivers at the draw-bar sufficient power to haul the heaviest load without distress, equal in fact to the pulling power of from eight to ten horses. The power which it delivers on pulley is thirty horse-power, sufficient power for almost every belt job on the place.

The power-plant of the Rein Drive Tractor is designed and built on the most modern and proved lines in every point. It represents the last word in motor construction and accomplishment.

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# THE REIN DRIVE TRACTORS, Limited

C.P.R. BUILDING, TORONTO, ONT.

Agents for Saskatchewan:  
THE SASKATCHEWAN GRAIN GROWERS' ASSOCIATION  
REGINA, SASK.

We would be glad to receive applications from responsible dealers and to allot sales territory for the Rein Drive Tractor in the Provinces of Manitoba and Alberta.



## *Steady Power is Necessary for Good Threshing*

**T**HE Nichols-Shepard Steam Traction Engine is right on the job, day after day, season after season, and always furnishing that steady power that is necessary in threshing.

THE TINKERER IS NOT NEEDED WITH IT.

IT HAS THE STRONGEST AND BEST BUILT BOILER.

IT IS AN EASY STEAMER.

IT IS EASILY HANDLED.

The farmer knows that his job will be speedily done with a Nichols-Shepard Steam Engine.

The Nichols-Shepard Double Cylinder Rear-mounted Steam Engine has ample power, and a boiler without a bolt, stud bolt or cap screw going through the shell into steam or water space.

Many threshermen prefer steam power because of its great dependability, and the best is the most profitable to him as well as the farmer.

The Red River Special Line excels in every feature.

---

## **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 and Agencies: (with Full Stock of Repairs) at

REGINA, Saskatchewan

H. P. NORTON COMPANY, CALGARY, Alberta

WINNIPEG, Manitoba

hard oil. No record was kept of the fuel oil, which was kerosene. We used about one quart of gasoline per day for starting.

In plowing and harrowing 90 acres, I used 286 gallons of kerosene, which is a little less than 3.2 gallons per acre, and would be a fair average on our clay loam. In breaking, about 20 per cent more fuel is used, as it apparently pulls four breakers with the same ease as it does five stubble plows and a harrow.

Most of this plowing was in heavy clay loam. The best time made was 27 1/2 measured acres plowed in two days of 14 hours each. This included time used in filling with fuel, and all stops. I had a man on the plows these two days.

We have done no other work except to move granaries; for such we find the tractor ideal.

This is the extent of my experience. But I believe the tractor holds a vital place in Canada's programme of production, and expects to enlarge upon my equipment and try out further experiments as early as possible.

I enclose a photograph of the tractor and plows.

Very truly yours,  
J. B. Hunter.

**A BRIGHT BOY MAKES A FINE RECORD**

Gilbert Plains, Jan. 30, 1918.

I AM enclosing two pictures of my boy, not quite 16 years, when doing the plowing with my 12-24 Waterloo Boy Tractor.

Last spring he plowed for me on my own place. I did not much notice what he was doing, any more than I could see I would not have got through my seeding if

plow. It was dry, stiff and hilly land. Could only do about 10 acres a day. He not only did breaking, but pulled the trees out too, the plow being a Massey-Harris 22-inch breaker.

I thresh with a Geizer Separator, 24-32 self-feeder and blower—thresh 1,000 bushel oats a day and 500 to 600 bushels of wheat on about the same quantity of fuel. Crushing grain—30 bags of



"He not only did breaking but pulled the trees out too"

oats in a hour and 25 bags of barley in the hour with very little fuel.

The boy takes entire charge of the engine and it is really a great saving on the horses, and they are able to be doing something else while the engine is working.

I have the opinion that a farmer needs one on every farm, more so just now, as help is scarce. The machine doesn't mind working at noon, but the horses must have their time for feed, and only those who don't know when a horse has done enough work think of keeping their animals going after 6 o'clock in the evening.

Altogether, my boy plowed

**A BIG SUCCESS AND A BOY DID IT**

Grainger, Alta., Jan. 23rd, 1918.

Dear Sir:  
MY tractor is a 18x36 H.P. Aultman-Taylor Gas and Oil Tractor.

I have used it for plowing, moving buildings and for threshing.

In plowing, I use the Cockshutt, carrying seven plows in

stubble, and five in sod. The soil is not very heavy, neither is it too light, about medium, of a chocolate color. I plow about six or seven inches deep, an average of twenty acres per day in stubble. I use about one and one-third gallons of kerosene per acre, and about a quarter of a gallon of lubricating oil. In using gasoline it requires about one and one-quarter gallons per acre.

I move all my granaries with the tractor. I moved one 12x16-8 with three hundred bushels of oats in it, and she was traveling right along.

Running a Rumely Ideal separator 28 in. cylinder and 44 in. body, I used three pitchers, and had eight rows of corn sieves in, and the grain was very tough, but she was going right along.

I believe this tractor of mine is one of the best tractors made in America. My boy was the engineer, and he usually started the tractor on the switch. He just put the switch on and off she went. I believe this tractor is exactly the thing a farmer should have to increase production. The Aultman-Taylor Gas and Oil Tractor is the first I have seen that gives so much satisfaction.

Every man who saw us threshing said it was the best machine he had ever seen or heard of, so steady from morning till night.

The following are men I threshed for:—Mr. T. Little, Grainger, Alberta; Mr. R. Little, Grainger, Alberta; Mr. B. Eilford, Grainger, Alberta; Mr. P. Smith, Grainger, Alberta.

You can ask any one, or all four of them, about our work and about my outfit.

Yours very truly,  
Fred Braunberger.



"It was dry, stiff, hilly land"

it had not been for the tractor and four plows, the latter (14 in. Lacrosse) purchased from the grain growers.

After he had finished he took the tractor with the four plows and plowed 25 acres for a neighbor in two days—10 hours a day. He used for the two days 36 gallons of coal oil, 1 gallon gasoline and 1 gallon cylinder oil for the 25 acres. The picture where he has the tractor he has three plows; it took longer, of course, to

about 200 acres spring and fall; some was timothy sod three plows and broke 25 acres.

Yours truly,  
Alfred Taylor.

**SHO-ER**

"Women," declared the quiet little man in the corner seat, "endure pain more heroically than men. I know it by experience."

"Are you a doctor, may I ask?" queried fellow passenger.

"No, sir. I am a shoemaker."

**BUILD THE BARN OF BISHOPRIC STUCCO BOARD**

First of all there is a clear saving of at least 25% in time and money, compared with lumber and sheathing paper.

**WARM AND DRY**

Bishopric Stucco Board makes a warmer and dryer barn than you can possibly get with ordinary boards, because it is made of asphalt mastic, reinforced with kiln-dried lath. This gives a surface absolutely proof against wind and dampness, rats and vermin.

Bishopric Stucco Board makes the ideal Barn, Stable, Poultry House and Grain Storage. It costs less, gives better service, and is so much easier to put up.

Write for our booklet, describing it in detail, with many illustrations showing Bishopric Products in actual use.

**BISHOPRIC WALL BOARD CO.**

LIMITED 100W  
529D Bank Street, Ottawa, Ont.  
General Distributors for Western Canada  
Winnipeg, Walter Belya & Co.  
Brandon, McDiarmid & Clarke.  
Saskatoon, McKenzie & Thayer, Ltd.  
Calgary, W. H. Green, Esq.,  
204 13th Ave. N.E.  
Edmonton, J. A. Bullman, Esq.,  
c/o Alsip Brick & Supply Co.



**GILSON TRACTOR**



**THE STANDARDIZED TRACTOR**  
—is a business machine designed along sound mechanical lines of proven worth, with no freak features. 11-22 and 15-30 h.p.  
Write for free catalogue and rock bottom prices.  
GILSON MFG CO. LTD.  
DEPT. 1 WINNIPEG, MAN. 37

**FOR SALE OR TRADE**—I have a 36-60 all pull tractor in good shape; will trade for large steam engine or will sell tractor with 40-64 Rumely separator at a bargain. Curtis C. Baldwin, Sparta, Michigan.

**BOYS AND GIRLS**—Everybody—Chew spruce gum, it is the best. Send 25c. for 2 big chunks. A. Wallace, Tees, Alta.

**FOR SALE OR TRADE**—Stewart Sheaf Loader, good repair; also American Abell 26 H.P. Steam Engine. Wanted, 4-cylinder Gas Engine. C. S. Thomas, Hartney, Man.

**AGENTS WANTED**—To take orders for Ford-a-Tractor Attachment, which at small cost converts any Model Ford into a tractor, guaranteed to do the work of four horses. Ten minutes changes auto to tractor, or vice-versa. Every Ford owner is a live prospect. Exclusive territory. Liberal commission, big business. You can also handle the only successful kerosene burning carburetor for Fords. If you want to sell these necessities and make good profits, write for particulars to-day. Small town agents desired. J. D. Adshead, 818 Somerset Block, Winnipeg.

**FOR SALE**—Complete Threshing and Plowing Outfit; 40 h.p. Flour City Gas Tractor, in prime condition; also Yellow Fellow Avery Separator, 22-26, complete with all attachments. Outfit cost originally \$7,000. Will sacrifice, as I have sold farm. What offers? Cash or terms. X., care of E. H. Heff Co., Box 3164, Winnipeg.



A Rumely 11-25 Tractor—in which Madison-Kipp Lubricators are standard equipment.

## They Assure You the Horsepower You Pay For

**T**HE rated belt and drawbar horse-power of a tractor is a vital thing to every tractor purchaser.

Still more vital is it that the tractor deliver that horse-power month after month.

How well it will do this depends largely upon the manufacturer.

He must use only excellent and carefully tested materials in the motor and must provide it with adequate and efficient lubrication.

Practically all manufacturers now provide the first.

Those who offer you machines equipped with Madison-Kipp Lubricators assure you of the second.

Their live-oil lubrication means the perfect oil seal and protected cylinder walls necessary for delivering continuously the horsepower you pay for.

### Their Live Oil Forms a Perfect Seal

Maintaining the horse-power of your motor depends on maintaining compression.

Good compression demands a perfect oil seal between pistons and cylinder walls.

Only live oil—oil used only once—in the right quantities, at the right times, can supply this seal.

The Madison-Kipp Valveless Principle provides it by feeding "live" oil regularly and unfailingly.

And with them a saving of 10 to 40 per cent in lubricating oil is common.

### They Protect the Cylinder Walls

With "dead" oil lubrication—systems that use all over and over

again—your cylinder walls are sure to suffer.

The dead oil's sediment scores and grinds the polished surfaces, almost fatally affecting compression.

The horse-power of your motor declines in consequence.

But with Madison-Kipp lubrication sediment can not accumulate and your cylinder walls and horse-power are preserved.

You should make sure that a Madison-Kipp Lubricator is on the tractor you buy.

It costs you no more and is worth much more.

So clearly is the merit of these lubricators recognized everywhere that the factory making them is now the largest in the world devoted to the manufacture of lubricators.

**The Madison Kipp Lubricator Co  
Madison, Wisconsin**

## The Products of These Tractor Builders Are Kipp-Equipped

### On All Sizes of Tractors

Advance Rumely Thresher Co.  
Avery, B. F. Co.  
Bates Tractor Co.  
Eagle Manufacturing Co.  
Fairbanks, Morse & Co.  
Fair-Mor Tractors

Gile Tractor and Engine Co.  
Hart-Parr Company  
International Harvester Co.  
Titan Mogul  
International  
Klumb Engine & Machine Co.

La Crosse Tractor Co.  
Happy Farmer Tractors  
Nichols & Shepard Co.  
Southern Corn Belt Tractor Co.  
Western Tractor Co.  
Wichita Tractor Co.

### On Some Sizes of Tractors

Case, J. I. Threshing Mach. Co.  
Case Tractors—12-25, 20-40  
Holt Mfg. Co., Peoria  
Caterpillar Tractors  
25-45, 50-75, 60-120

Monarch Tractor Co.  
Neverslip Tractors—20-12  
The Russell & Co.  
Russell Tractors—30-60

**Madison-Kipp Lubricators**

**VALVELESS**

**FORCE - FEED**

**GOOD WORK AND GOOD SPEED AT VARYING DEPTH**

Rapid City, Manitoba.

Dear Sir:

**A**T your request I would venture to send you what small experience we have had with our tractor. Being a Scotchman from a good farming district in that country and coming here ten years ago, and seeing the slipshod methods of working the land practised around here (bound to end in failure), we had to turn our attention to some new method, and I hope the tractor will solve the problem.



"We failed in every attempt with the horses. It just turned over in chunks"

We farm one section, owning one-half and renting the other half. I have two sons, and for years they have been reading and studying everything they could get a hold of concerning tractors. We got the new outfit about September 1st, 1917, consisting of a 10-20 Titan Tractor and a 20-38 Goodison Separator, with self-feeder, high bagger and wind stacker, and a three-bottom 14-in. P. and O. Plow. Of course, it was too late for that when we got it, but we worked the plows successfully in the fall.

Our first work was threshing, which gave us no trouble whatever, as the engine had plenty of power.

Then we started plowing. The field we were plowing had lain for four years in timothy for pasture. In 1916 I plowed it three inches deep and took a grain crop off, but a lot of timothy came up again, so I was going to summer-fallow in 1917, but with the dry season, and the sub-surface being so hard we failed in every attempt we made with the horses. It just turned over in chunks. Then the tractor came on the scene, and that field seems to be just the right sort of land for it, good hard footing. We



## IMPERIAL SERVICE

If you are in doubt about the proper lubricant, *ask the Imperial Oil man.* He will give you courteous attention and sound advice on your lubrication problems. That is part of Imperial Service.

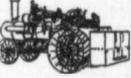
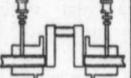
**LOOK TO US FOR LUBRICATION ADVICE**

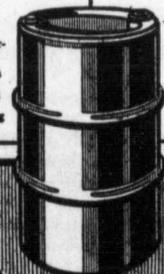
**T**RACTORS, automobiles, stationary engines, threshing machines and binders, present different problems in lubrication. When you burn kerosene in place of gasoline, you change your lubricating requirements. Tight and loose bearings—cylinders and axles—require different lubricants. There is no one best lubricant for all purposes.

But there is a scientifically correct and extremely efficient lubricant for each type of engine and fuel. There is an oil for every lubricating condition. At Imperial Oil stations in all parts of Canada, you can find the oil that will make you forget lubrication troubles and give you the full power and usefulness of your machine.

Each Imperial lubricating oil is sold in steel barrels and steel half-barrels—most convenient and economical. There's no waste. You use every drop you pay for. And it's uniform and clean.

**A Correct Lubricant for every Farm Machine**

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

LIMITED

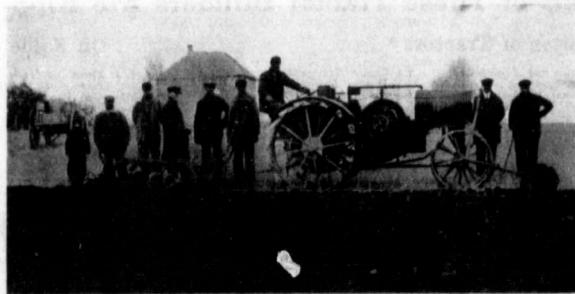
## BRANCHES THROUGHOUT CANADA

tried it at varying depths of six, seven, eight and nine inches, and it seemed to make very little difference in the speed. The hard-pan was at four or five inches, the depth at which it had always been plowed before, but we set it to eight inches for the

balance of the field, twenty acres, and got a fine mould on top and a finer seed bed one could not wish. We seeded it to winter rye.

After we got through threshing, we started into a forty acres field of stubble, and were doing

good work. Some of our neighbors were anxious to see it working, so we set a day for them to come. I also sent to the I.H.C. of Brandon to send an expert. Mr. Robson of that company turned up in the morning. He is a good hand to coach a boy with a tractor. When in a fix he doesn't try to run the thing, but shows the boy how to get out of the trouble. Well the ground was in fine shape for a trial, and in the forenoon it was run at depths from six to eight inches. In the afternoon an acre was measured off and the fuel measured and the plows set to six inches depth. It plowed the acre in one hour with a few inches on one side over, on two and a half gallons of kerosene at 18c. per gallon. One gallon of lubricating oil lasts around eight hours.



"Every one present that day was highly satisfied"

THE PRESIDENT of the Interstate Association of Southwest Threshermen (Mr. John A. Scott) ENDORSES

The Grain Saving Wind Stacker

THRESHERMEN! Read His Letter:

Interstate Association of Southwest Threshermen

JOHN A. SCOTT, PRESIDENT  
600 EAST ELDER  
OKLAHOMA CITY

OKLAHOMA CITY, OKLA., January 30, 1918

The Indiana Mfg. Company, Indianapolis, Indiana

Gentlemen:

I notice your advertising in threshermen papers, and write you in regard to the Grain Saving Wind Stacker I purchased three years ago, and attached to my separator.

I must truthfully say that you have made a wonderful improvement in the mechanism of this machine. The intake is perfect, as well as the delivery, without the least sign that can be noticed of back-lashing, which makes it far lighter running than the other stackers.

The Grain Saving Stacker is perfect within itself. It will return all loose grain that comes with the straw, or over the sieves, back to the threshing machine. On an average it will more than pay half the threshing bill, and where machines are crowded it will more than pay the threshing bill by the saving made.

I agree with Prof. Bassett, of the Minnesota University, that in a short time Grain Saving Wind Stackers will be used on all threshing machines.

Yours truly,  
JOHN A. SCOTT.

SAVE THE GRAIN!

SAVE THE GRAIN!

The Grain Saving Wind Stacker saves the grain the threshing machine wastes; it stacks the straw; eliminates back-lash; runs with less power and saves fuel; is superior to all stackers, and costs no more than an ordinary wind stacker.

Obtain Catalog from threshing machine manufacturers illustrating and explaining how the grain is put in the sack, and not wasted in the stack, with the

GRAIN SAVING WIND STACKER

The Indiana Manufacturing Co.  
INDIANAPOLIS Indiana, U.S.A.

Our land here is just a medium heavy black soil, with very few stones. Everyone present that day was highly satisfied with the work done. The headlands were just about the same width as we used for horses and the tractor plowed them, also going closer to the fence that you could possibly go with horses.

After we had put it away for the season another neighbor who had been late in getting through threshing wanted to see it working. There had been a very hard frost that morning, too hard to plow, but the sun was strong and by two o'clock in the afternoon the ground was just mucky on the surface, in half an hour my son started, but only went once around. The lugs on the drive wheels got bugged up, and he could not get up the speed. We got a good lesson never to start after frost. We plowed after a rain during threshing time and it went all right.

We have not had the outfit long enough to have results yet, but indications point to its being a very useful implement. As far as I know this is the only one-man outfit around here, so I had no chance of seeing one at work, but intending buyers should try to see one at actual farm work, where they will see the farm boy running it. While at the Fancy Fair Demonstrations they are all run by experts, and it is a matter that we have to think well over for prices are very high and still going up.

Yours very truly,  
Alex. Blake.

**BETTER AND CHEAPER THAN STEAM**

**A Careful Survey of Good Work**

Carman Man., Jan. 28th, 1918.

Dear Sir:

I RECEIVED your letter requesting me to give my opinion of the tractor on the farm, so I will give you my findings, as I keep close track of everything in connection with the tractor as to the cost of work done by same.

My tractor is a 25-50 Nichols & Shepard Oil Gas Tractor. I find it excellent power for both threshing and plowing. This is all I have done with it as yet, but I think plowing can be done with the tractor cheaper and better than can be done with horses, especially hard, dry, heavy land, as the engine gang is much heavier than the horse plow, and the tractor has lots of power and the plows being heavy they stay in the ground better than the horse plow.

For summer-fallowing in the hot summer you can use your tractor and let your mares with

their colts out in the pasture. When fall plowing starts you can soon turn over a lot of land in a very short time, and time is as a general thing in this country, very short.

Now as to the cost of plowing, the amount plowed per day, the number of plows pulled per day and the make of plows; would say, my plow is a Cockshutt eight furrow, and I pull eight in stubble and six in breaking. Our land is very heavy. We plow twenty acres per day in stubble to a depth of four inches on two and a half gallons of kerosene per acre. In breaking we plow fifteen acres per day on three and a half gallons of kerosene per acre and two gallons of gas engine oil per day.

In threshing I drive a 36-60 Waterloo Separator with my 25-

50 Oil Gas Tractor, and use forty-five gallons of kerosene per day. I also have a steam threshing outfit, but I find my gas outfit is much the better as far as convenience goes as we get away from scarce and bad water, the tank team with man to drive them, coal hauling. Or if we burn straw, then another man for firing, not mentioning having to burn wet straw lots of times, and do not have to wait for steam nor keep so many men, as one good man will run both ends of the gas outfit. In my estimation the gas engine is the best both for plowing and threshing.

I have owned and operated steam engines for threshing for twenty years, and steam plowed for ten years, but I would rather have the gas engine. It is more

convenient and cheaper. I think the tractor as a farm implement is doing its bit, and fills a place in Canada's programme of production, that is the large and medium sizes, say, the 30-60, 25-50 and 15-30. I think the 25-50 or the 15-30 are the best, as they are not so heavy as the 30-60, and can do more work with less man power.

Then with the two or three plow tractor, one man can run a 15-30 and draw five or six plows just as well as he can one of the two or three plow tractors, and for the same wages, and the 15-30 will run a much larger separator in threshing time with the same man power it takes to run an 8-16 or a 10-20, and the extra cost is not much, as I find the small tractor is very dear for its rating.

# SHERWIN-WILLIAMS PAINTS & VARNISHES



## "COMMONWEALTH" BARN RED

The Paint for  
Barns, Roofs,  
Fences, Etc.



**S-W COMMONWEALTH BARN RED** is a bright, rich Red, that works easily, covers well and dries with a fine, smooth, durable finish. Put up in convenient sized cans, all full Imperial Measure. Why not try it this year to protect your barn against the weather?

You have a heavy investment in farm machinery, implements, wagons, etc. Increase their life and usefulness by protecting them against rust and decay, by using **SHERWIN-WILLIAMS WAGON AND IMPLEMENT PAINT**. The longer they last the less they cost.

It is economy to use **S-W BUGGY PAINT** on your buggies and carriages, and **S-W AUTO ENAMEL** on your car. They give entire satisfaction and are easy to apply.

Color schemes and suggestions for any part of your building furnished by expert decorators, free upon application and without any obligation.

Send for our book:—"The A.B.C. of Home Painting" written by a practical painter, telling how to paint, varnish or enamel every surface in and around your home.

**THE SHERWIN-WILLIAMS CO., OF CANADA, LIMITED,**  
897, Centre St., Montreal, Que. 110 Sutherland Ave., Winnipeg, Man.  
PAINT, VARNISH AND COLOR MAKERS. LINSEED OIL CRUSHERS. 7

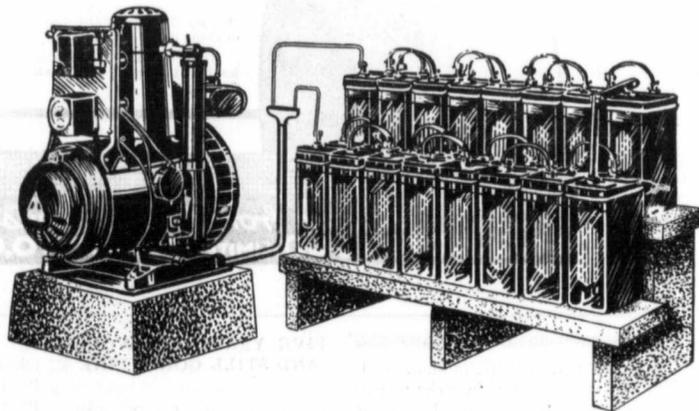


# DELCO-LIGHT

## Increases Farm Efficiency

1. **Saves time and labor**—Work formerly done under poor light and by hand can be done better and in less time with the aid of electric light and power.
2. **Labor is attracted to the farm**—The "back to the farm" movement is made practical when the conveniences afforded by electric light and power can be had in the country.
3. **Keeps the boys and girls on the farm**—Electric service on the farm offsets city attractions. Valuable labor and valuable young manhood and womanhood are saved to the country community.
4. **Solves the retired farmer problem**—Electric light and power make the farm home so attractive and comfortable that the farmer and his wife remain on the farm where their advice, experience and immediate interests are of great practical value.
5. **Lightens burden of the housewife**—Increased farm work in war times means increased labor for the housewife. Electricity offers the only practical means of taking the drudgery of household tasks from her shoulders.

Over 50,000 Satisfied Users Throughout the World



Delco-Light Engine and Generator  
Self-Cranking—Air-Cooled—Ball Bearings—No Belts  
30 inches high—Runs on Kerosene or Gas

Delco-Light Batteries  
Thick Plates—Long Life—Highly Efficient

*Delco-Light is a complete electric light and power plant for farms and suburban homes—It will operate a water pressure system, churn, cream separator, washing machine and other appliances—It is also lighting stores, garages, churches, schools, army camps and rural railway stations.*

**Over 2,000 Representatives—there is a Delco-Light Man near you**

THE DOMESTIC ENGINEERING COMPANY - DAYTON, OHIO

**BREEN MOTOR CO.**  
WINNIPEG

**B. L. ROBINSON**  
CALGARY

Then, again, the small tractor is just as hard to keep in repair or adjustment as the larger one, and this is just where I think the small tractor is going to fall down as most farmers are not practical engineers, and their 8-16 or 10-20 tractor won't do enough to afford to pay a good engineer his wages as will the large or medium-sized tractor. Consequently the small tractor will be in the hands of the impractical men as a rule, and it will run for a short time, until it gets out of order, then there will be trouble as most men that are running them can't keep them up.

However, the small tractor will do what it was made to do, and is a good machine if in good hands.

Yours truly,  
G. H. Carther.

**PLOWING A SWAMP IN GOOD STYLE**

Box 172, Melfort, Sask.,  
Feb. 4, 1918.

Dear Sir:

As to my engine, the "Happy Farmer," a 12-24, which I purchased last fall, I think it a very good investment for the average farmer who has a half section or more.

I plowed and threshed with her last fall, pulling three fourteen-inch bottom plows and a section of harrows, at the depth of six to eight inches, doing two things at once with one man. She is very simple to operate and self guiding.

My plows are the Case make, and the engine will guide herself, so the man can look after the plows and harrows. This engine burns coal oil to perfection, plowing from 10 to 15 acres a day on about 10 gallons of coal oil and a gallon of lubricating oil. I also threshed with her and she did good work with a 24-46 inch separator in wheat, oats and barley.

Enclosed find a photo of the "Happy Farmer" plowing through a slough which has not been plowed for two years.

Yours truly,  
Geo. Ellis and Bro.



Plowing through a slough which has not been plowed for two years

# Bob Long

Union-Made

## Overalls Shirts & Gloves



**THE TEST**  
68 lbs. to the square inch under hydraulic pressure is the test that "Bob Long" overalls have been put to. Their strength is in the tightly woven fabric.

*Bob Long says:*

"My overalls and shirts are the best, because— they stand the test of the wash-tub—no starch filler or cheap dyes to wash out."

Insist on "Bob Long" brand. Ask your dealer for Big 11—the big grey overalls—the cloth with the test.

My Dad wears 'em.

*Known from Coast to Coast*  
**R.G. LONG & CO. LIMITED TORONTO, CANADA**

**FIVE YEARS' BIG WORK AND STILL GOING FINE**

Rosetown, Sask., Jan. 26, 1918.

Dear Sir:

In reply to your letter will say I own an Aultman-Taylor Gas Tractor, 30-60, which I purchased the spring of 1912, and have found it to be the very best in every way. This engine has run every season steady, and is in good shape yet.

I have done all kinds of farm work with this engine, plowing, harrowing, discing, seeding and threshing and also moving granaries. We pull a 10-furrow disc plow with 20 feet of harrows behind which double harrows what is plowed. The plow cuts 10

feet. This makes a beautiful job of plowing. We pull 3 double 10 ft. E.B. Disc Harrows and 3 10 ft. harrows behind them. I found them to do perfect work. Never used cultivator.

We also do all cutting with engine, pulling 3 Deering binder. This engine is extra strong on moving buildings and good in the belt. We pull a Red River Special Separator with "Garden City" wing feeders and she pulls this machine with ease with four spike pitchers.

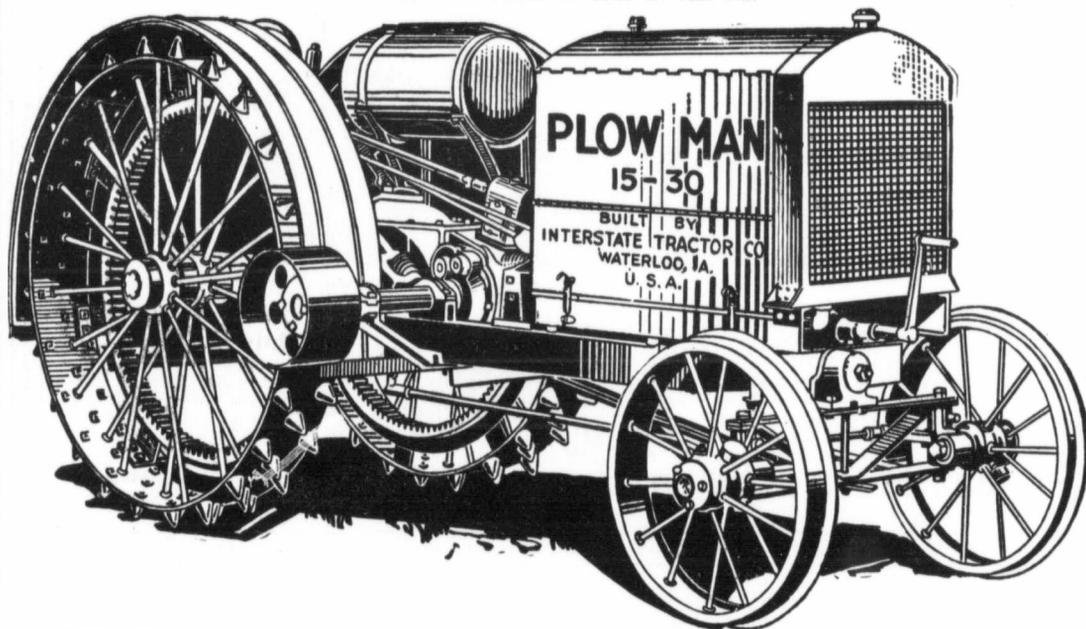
In a steady run of 10 hours we plow 21 acres per day on about 3 gallons of gas per acre and 3 gallons of Mobile B. cylinder oil per 21 acres.

I think the tractor is the only

# PLOW MAN "30"

ALL-STANDARD FARM TRACTORS

AT SAME LIST PRICES AS SOLD IN THE U.S.



2-3 PLOW  
13-30  
MODEL

COMBINES THE BEST FEATURES OF  
**Tractor, Automobile and Truck Engineering**  
Operates on **KEROSENE OR GASOLINE**

3-4 PLOW  
15-30  
MODEL

### 33 1/3% RESERVE POWER SAVES TIME AND MONEY

To get satisfactory results you must have a tractor with plenty of excess power.

Plow Man Tractors set a high mark, having 33 1-3% reserve in excess of rating. That's why they do better work and last longer. They make good under difficult field conditions and can handle heavy belt work with ease.

You can cover more acres, get more from each man's work—save time and reduce costs.

### LOWEST IN UPKEEP

Back of the Plow Man is a great record for low operating and fuel expense in both America and Europe. Farmers say the Plow Man operates smoothly with but few repairs or delays. Thus the value of our all-standard construction is proved from the standpoint of practical every-day service.

### DEALERS—ACT NOW

We have an excellent proposition in Plow Man Tractors for good, responsible dealers. Many automobile and garage men will be looking for other lines, owing to the impossibility of automobile manufacturers filling all orders. If you are such a man and want quick action—write or wire to-day for full particulars.

### BUILT FOR HARD WORK

Read the partial list of all-standard features at the right and you will realize why the Plow Man is equal to the hardest kind of farm work.

No machine faces more severe duty and more constant strain than the farm tractor. The Plow Man is built in every detail to meet these conditions.

### UNIT POWER PLANT

By using a carefully designed clutch bell housing we secure an absolute unit power plant combining our motor, clutch and transmission. This conserves power, cuts out a lot of lost motion and protects the important operating mechanism from all dust and dirt.

### ALL-STANDARD FEATURES

Plow Man "Buda" 4-Cylinder Motor for heavy duty service.  
Foote Transmission delivers the power without waste.  
Hyatt Roller Bearings reduce friction and save power.  
Perfex Radiator — quick constant cooling.  
Bennett Producer Carburetor makes success of kerosene as fuel.  
High Tension Magneto, Impulse Starter, starts on quarter turn.  
Pivoted Front Axle provides flexibility for rough land.  
Automobile Type Control, easy to handle.  
Trouble proof French and Hecht Wheels.  
Light Weight—approximately 4,500 lbs.

### Square Deal for Canadian Farmers

SAME LIST PRICE AS USED IN UNITED STATES

Now that the Government has removed the Duty from this class of Tractor, no farmer in Canada should be called upon to pay from \$100 to \$400 more per machine than in the United States. Plow Man Tractors are sold at the same price to you as to the American farmer—i.e. factory—no extra profit to Canadian Distributors. Immediate deliveries can be guaranteed in Manitoba and Saskatchewan. Machines stocked in Winnipeg. Write or wire at once for all particulars.

# NORTHERN IMPLEMENT COMPANY

Distributors for Manitoba and Saskatchewan

35 WATER ST., WINNIPEG, MAN.

Plow Man Tractors built by INTERSTATE TRACTOR CO., Waterloo, Iowa, U.S.



JOHN DEERE PLOW

COMPANY LIMITED



**The ONLY SPREADER with the BEATER ON THE AXLE**

**\$15<sup>00</sup>**

Per Day for Four Days

How one man and two boys made \$60 extra money

This interesting Booklet furnished free on application



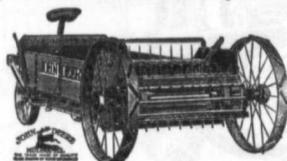
Straw Spreader Attachment mounted on John Deere Spreader

ONE hundred and fifty castings less than are found on any other spreader.

LIGHT DRAFT

The Simplest in Construction

**BarnMarure** <sup>the very best</sup> Fertilizer when properly spread on the ground. You can do it comfortably and correctly with the **John Deere Spreader**



**Only Hip High** From the ground to top of box is only thirty-eight (38) inches. You have only to lift the manure this high when loading.

**JOHN DEERE PLOW CO. LIMITED**

WINNIPEG CALGARY

REGINA SASKATOON

LETHBRIDGE EDMONTON



thing by far to farm with. I feel it fills a high place in Canada's programme of production.

The only thing to do to make the tractor thrive is to remove that 42 1/2 per cent duty on repairs from the U.S.A., and everything will be O.K.

Yours truly,  
W. R. Dexter.

**THE ONLY THING FOR BREAKING IN DRY SEASON**

Daysland, Alta., Jan. 29, 1918.

Dear Sir:

**W**E (my boys and I) have two tractors, one is a 24x45 Rumely Oil-Pull and the other is a 15x30 same make. We are working 9 quarters of land, which we have, about 475-500 acres under cultivation.

In the spring of 1917 we disced about 300 acres of breaking, using the 25x45 tractor, pulling 5 disc harrows loaded down to the limit with rocks. By putting in 12-14 hours working day with the rig, we kept a 12-foot seeder (pulled by 6 horses), going all the time.

The soil here is black loam in some places mixed with clay and clay subsoil. After finishing spring work, two of my boys went out to do breaking, using a Cockshutt gang plow, 8 plows in the gang (prairie).

They broke from 5 to 8 inch deep in all kinds of soil, and turned over about 450 acres during the summer. Last summer it was so dry that it was almost impossible to do any breaking with horses, so a year like last summer a tractor would undoubtedly be the only thing for breaking.

To give an account of the running expenses while breaking, the nearest correct account we can give is:

Kerosene, per acre (at 23c. per gallon) .....	\$1.30
Lubricating oil .....	.14
Gearing oil .....	.06

Total cost per acre .... \$1.50

Of course, this is open prairie land and we have no experience yet in breaking brush land.

In the fall we operated a 32x50 inch Aultman-Taylor grain separator. Everybody was well satisfied with the threshing.

While the boys were out threshing one of my boys and myself run the 15x30 tractor, plowing, using the same gang as for breaking with 6 plows. We went right along with it, though this was mostly second year's plowing (backsetting).

We turned over around 350 acres during the fall, plowing from 6 to 8 inches deep, averaging about 10 acres a day. The



On the Farm or in the Shop—

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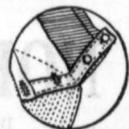
- Most comfortable to work in
- All seams double stitched
- Size where size is wanted
- High bib and high waist
- 4-Piece Sliding Web Suspender
- Coat has cinder and dust proof collar and cuffs

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If your dealer cannot supply you write us direct

**Western King Manufacturing Co. Limited**

WINNIPEG



Continuous one piece facing at side openings and fly prevent casing

average cost per acre would be about:

Kerosene (at 23c. a gallon) \$0.70  
 Lubricating oil ..... .12  
 Gearing oil and grease .. .08

Total cost per acre .. \$0.90

We have done very little hauling, with the exception of moving our granaries around in the fall from one place to another, and once taking it out from town (we live 13 miles out of town), we had the kerosene tank holding 450 gallons full, and a big load of lumber and a disc harrow behind.

When leaving town we watched to see how far it would run on the gallon. We filled up 5 gallons of kerosene and run it 8 miles on that. It has two gears, high and low, and can go up to 3½ miles per hour on high and 2¼ on low.

If I am going to explain what I think of a tractor as a farm implement, I want to say that I am in no doubt that a tractor fills its place in Canada's programme of production, and I also think it comes cheaper than horses.

Of course, it takes the cash when a man is working it, but when a man is through work it does not cost him anything to keep it. When one considers the price of grain, cost of harness repairs, etc., I do not think horses will fill the place of a tractor, as it also costs a lot to keep horses over winter.

One is also running a great risk in keeping so many horses. I have lost four horses in three years (died). And, another thing, last fall it was so dry that it was almost impossible to do any plowing with horses, but on account of the heavy plows we used we made good success in plowing with the tractor. We also made good success in putting in the crop in the spring. The engine packs the soil at the same time, and it pulverizes it better than with horses on account of the discs being loaded down with rocks.

We also used it successfully in grinding feed and sawing wood in 40 degrees below.

Yours truly,  
 P. N. Loberg.

**FAR AHEAD OF THE STEAM OUTFIT**

Mere, Alberta, Feb. 3, 1918.

Dear Sir:

**W**E own and operate an 18-36 Avery Tractor, which we have used for plowing and threshing.

In plowing we used a four-furrow Avery self-lift plow. This outfit makes a good one-man rig. Our land is very hilly and stony, and of a medium heavy grade, that is, it takes four good horses to drag a plow. And last summer



**Big Implements will Make Up for the Labor Shortage**

**O**NLY in one way can the situation created by the present scarcity of men be met, and that is by the use of large Machinery which will enable one man to do what formerly required two or three.

This is especially true of farming operations, and just now, when increased production is so important, the use of Labor-Saving Implements cannot be too strongly urged.

Whether you want Implements for use with horses or with Tractor we can supply your needs, and you can rest assured that you are getting the best Implements that the highest-grade of

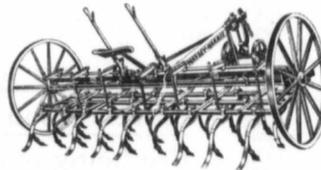
Materials, unsurpassed facilities for Manufacturing, and an experience of over 70 years can produce.

Plowing, Harrowing, Seeding, Cultivating, Haying, Harvesting, Grinding, Wood Sawing, Hauling, Spreading, Cream Separating—for all these various jobs we can fit you out to your entire satisfaction.

You owe it to yourself to get the very best in

Implements, so that your efforts may be most effective, and we are satisfied that, if you investigate carefully, the "MASSEY-HARRIS"

Line of High-Grade Farm Implements will be your choice.



**MASSEY-HARRIS CO., Limited**

Factories at:

Toronto,  
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 Everywhere.

it was very dry. We plowed at a depth of from five to six inches.

Our expenses for breaking per acre were as follows: Kerosene, three gallons, at 22c., 66c.; lubricating oil and grease, 20c.

We plowed from ten to eleven acres per day, according to the time put in. As I run this outfit myself, I am not giving the cost of any other items than fuel and lubricants.

The tractor on belt work—We ran a 28 in. Avery Separator with

all attachments, using gasoline for fuel, at a cost as follows: Gasoline, 30 gallons, at 38c., \$11.40; lubricating oil and grease, \$1.50.

We threshed from 1,200 to 1,800 bushels per day, according to the condition of the grain, and one man operated the outfit.

At one time we used a steam outfit, which in plowing required six men and eight horses, and burnt three tons of coal. The best we could do with this outfit was twenty-five acres a day.

When you compare this with our gas outfit it shows quite a difference.

The small tractor is a great labor and feed saver, and is the means for bringing a large acreage under cultivation.

Yours truly,  
 Snyder Bros.

Why not raise some sugar beets this year, the price is high and the old world sour.

**A VALUABLE TIP AS TO SIZE**

Dear Sir:

I HAVE a J. I. Case 20-40 Gasoline - Kerosene Tractor, purchased in June, 1917, therefore used only one short season.

I have a four-bottom power lift plow, as they did not have a five-bottom plow, which is the proper size for this tractor.

I broke an average of ten acres per day, five inches deep in rather heavy soil at a cost for fuel and oil of approximately \$1.00 per acre.

I did no cultivation work, but others in this district have with entire satisfaction.

I run a 32-54 Case separator with ample power to thresh fifteen hundred bushels of wheat per day under fair conditions.

It must not be supposed that ability to guide a tractor across the field constitutes an efficient operator, far from it. It requires one with considerable mechanical ability, and an aptness for detail, as he will find that an hour given to filling, oiling, and an inspection of the outfit for each eight hours work is none too much. It is absolutely necessary that the outfit be in working order, and kept so to obtain the best results; and the present time is when best results will count most in increased production.

I am going to take the liberty of expressing my views on the small tractor. A 15-30 is certainly small enough. I tried one smaller and discarded it as a toy, and I would have gotten a larger one, a 20-40, but for the fact it was too late in the season to get delivery.

There is too great a tendency to overloading of gasoline tractors; while the lighter load may require a little more fuel to do a given amount of work, it takes less engine. There are few fields in which there are not places that require reserve power, and if your tractor is loaded to its capacity on level ground, you are handicapped when striking the unfavorable spots.

For various reasons, the tractor has come to stay, and it is for each one who owns or contemplates owning one, to acquaint himself as much as possible with its disadvantages as well as with its advantages.

Yours truly,

E. C. Jacoby.

"You ran over that fellow there at the corner. Aren't you going to stop?" demanded the startled passenger in a friend's car.

"Yes," nodded his friend, "as soon as we reach a garage. I heard something break when we hit him."

**"Most Envied Tires in all America"**

**"YOU ARE WELCOME!"**

Wherever DUNLOP TIRES are sold—and that means every city, town, and hamlet in Canada—the Service Latch—String of welcome is always hanging out, no matter what tire equipment you use.

The service, as noted, is unprejudiced, but, if owners of Dunlop Tires have any advantage, it is this: they have less reason to seek the service and

more reason to appreciate the value of a tire being made trouble-proof at the start.

**DUNLOP TIRE & RUBBER GOODS CO., LIMITED**

Head Office and Factories: TORONTO.

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Maximum Mileage and Safety

Masters of the Road



**"SPECIAL"**

**"TRACTION"**

**ANOTHER SWAP OF STEAM FOR GAS POWER**

Newdale, Manitoba,

February 14, 1918.

Dear Sir:

THE size of my tractor is 25-50, Nichols and Shepard, and I use it to drive a 36-56 separator of the same

make, and it works fine. We kept six teams going easy, and I find it a good and cheap way to thresh. I have been using a steam engine for fourteen years up to this fall when I traded for the gas on account of the scarcity of help, as we can thresh with less help using the gas tractor. We used about thirty-five gallons of kerosene,

and three of gasoline to thresh about 2,500 bushels of oats per day.

I don't know much about plowing with the engine, as I just got the rig last fall, and only had a few days to try it, and then the ground was partly frozen. I have a P. & O. engine gang with seven plows and use three sections of harrows behind them. We could

plow and harrow about twenty acres of stubble land five inches a deep a day, on an average of twenty gallons of coal oil and two of gas engine oil.

I think the tractor is a good rig for the farm, and I would not like to be without mine.

Yours very truly,  
J. A. Hammond.

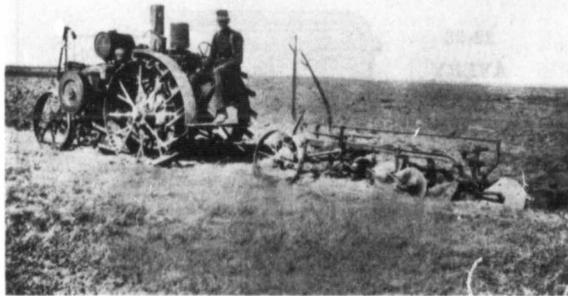
**ITS ADVANTAGES AND ALSO ITS DISADVANTAGES**  
Imperial, Sask., Jan. 24, 1918.

Dear Sir:  
MY father received a letter from you asking about his experience with a tractor. This is a mistake, for he

can be adjusted, so the side draft will all be on the tractor and let the plow run straight, or it can all be put on the plow and let the tractor run straight. I find it best to divide it up and put a little on both. Side draft can be done away with entirely by running the right-hand drive wheel in the furrow, but the wheel on my tractor is too wide to fit the furrow.

I disc'd and dragged about 140 acres of breaking last summer. I pulled a sixteen disc harrow and trailer, and an eight foot plank drag loaded with about four hundred pounds of stone.

I use it to run a twenty-four inch, fully equipped separator,



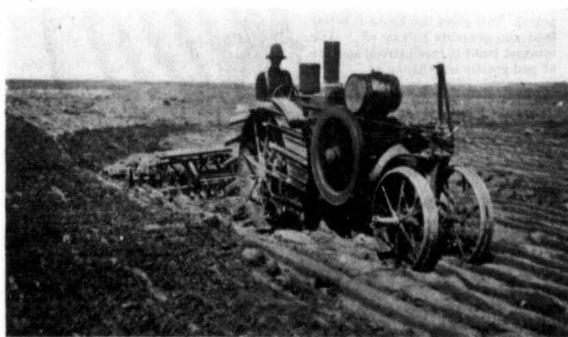
Breaking with a Mogul 10-20

has none, but I have one, so I am writing you my experience.

The tractor is a Mogul, 10-20, equipped with a self-steering device for plowing. I have a John Deere, three bottoms automatic lift plow, which works to perfection. I plow about five inches deep in stubble at a speed of two and a half miles per hour, and about three inches deep in breaking with three plows at a speed of one and three-quarter miles per hour.

but have not quite enough power for that size separator.

I do not think that a tractor can take the place of horses entirely. The tractor has no brains and you cannot teach it anything. The self-steering device will guide it as long as there is no break in the furrow, but if you are busy with the plow, and the device comes to a break in the furrow, it will make a bad crook in the plowing before you can bring it back.



The same outfit with a disc and plank drag

I can plow about six acres per day of ten hours in stubble, and use about three gallons of kerosene and about one quart of lubricating oil per acre.

I find a little trouble with the side draft on the plow and tractor. The draw-bar and plow hitch

It is impossible to do quite as good work of any kind on the land as can be done with horses. It is also more disagreeable work to operate a tractor than horses. One is always covered with grease and it kicks up more dust in the field than horses do. Then it has to

# Food is Ammunition-- Produce It

WRITE FOR CATALOG TO-DAY

Not only must we cultivate our gardens and fields that we may raise food enough for ourselves, but we must cultivate our resources so intensively that we may have a surplus to help support our allies who have not the power to raise sufficient food stuff for themselves.

## Grow Your Own Vegetables

Never has the importance and the necessity of the home garden been so great as this year. It will mean more than it did last year or ever before.

### McKENZIE SEEDS

will help you grow MORE and BETTER Vegetables than ever before. Twenty-two years' continuous experience in seed selling is behind every packet.

#### TIMOTHY, BROME, WESTERN RYE of the highest type—extra re-cleaned.

	Per 100 lbs.	
	Brandon	Calgary
Western Rye.....	18.00	18.50
Timothy.....	15.00	15.00
Brome.....	22.00	25.00
Clover, Red.....	41.00	44.00
Alfalfa—Stock 3253.....	33.00	34.00
Turkestan.....	36.00	36.50

—Bags 45 cents extra.

#### ASK FOR PRICES

We have all the leading varieties of Seed Potatoes, Fodder Corn, Flax, Rape, Field Roots, Millet.

#### Spring Rye—Winter Rye

and will quote current values by return mail on request.

## A. E. McKenzie Co., Ltd.

BRANDON, MAN. CALGARY, ALTA.

The Best Seeds for Farm and Garden

## U.G.G. Potato Planter \$92<sup>80</sup>

The U.G.G. single row potato planter will plant from 5 to 8 acres a day—97 per cent good with very few doubles.

This light draft machine is constructed along simple lines. The capacity of the all steel hopper is 2½ bushels. The hopper is equipped with an agitator which forces the potatoes to feed down, wet or dry. Wheels made of steel with staggered spokes, 34 inches in diameter, with a concave tire 4 inches wide. Two hand levers, one for furrow opener, which throws feed in and out of gear automatically, the other for the covering discs.

Adjustable feed gates regulate flow of seed into picker basin. The shoe furrow opener, covering disc and ad-



justable disc marker, are other special features of this machine. F.O.B. Winnipeg, \$92.80; Regina, \$94.90; Saskatoon, \$95.30; Calgary, \$96.35.

**GUARANTEE**—Every article sold by United Grain Growers Ltd. is guaranteed to give satisfaction. If you are not satisfied with any purchase, your money, including transportation charges, will be returned to you at once.

## UNITED GRAIN GROWERS LTD.

WINNIPEG REGINA SASKATOON CALGARY

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

### THE ORIGINAL AND ONLY SUCCESSFUL ENGINE FOR BINDER WORK

#### Fits any Binder



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

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 1,200 lbs. Throttle governed and equipped with Schebler Carburetor and Friction Clutch Pulley.

### CUSHMAN MOTOR WORKS OF CANADA, LIMITED

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 Shinn Flat Lightning Conductor

be filled up with water and oil every three or four miles. The tractor has an advantage over horses in many ways. It can be operated day and night, and does not need any harness, and no attention or feed during the winter. It can also be used for belt work.

You will find enclosed two photos, one breaking prairie and the other discing and dragging with a plank drag on my own farm.

Yours truly,  
Duncan W. Smith.

**A SUCCESS, BUT ONLY AS A SUPPLEMENTARY**

Viscount, Sask.,  
January 24, 1918.

Dear Sir:

I HAVE operated a tractor for two seasons where all the work on a 320 acre farm must be done by a tractor or not at all. This has placed me as close to the tractor proposition as anybody can get. I have a 12-24 "Waterloo Boy" of the vintage of "15" I use a "Deere Pony Engine Gang" of 3 14-in. bottoms for

son-Brantingham two-way throw engine disc 10 feet. After seeding I removed the rear in-throw set of discs and had better results, though far from satisfactory.

The seeder attachment was a failure to my notion. The disc rode high in the center and low at each end, due, I thought, to the hitch. The pull comes on each end and caused the discs to sink or pull into the ground up to and over the axle. This causes the dirt to crowd the disc chain shield until it pushes the chain out of gear. This is really off the tractor subject so we will pass it by.

The only other work I did was hauling rock, and there the difficulty of manoeuvring a tractor to where you want it makes it a failure at that kind of work. I contemplated road hauling, but when I figured the difficulties to be encountered up and down hill and the rack to machinery on hard roads, I gave it up.

There is the same hour cost in almost every operation, and in a one-horse job you must use the tractor just the same as in a four



"Under right conditions the tractor will eventually find its place"

or six-horse job. I believe there are places where a tractor is a paying proposition, but alone on a farm they are a failure. This might look to you as a broad statement, but I have given the matter careful consideration for seasons (1916-17). I have farmed with oxen and horses and a tractor at different times, and before buying a tractor I had some experience with a stationary gas engine and an automobile, besides taking "Modern Power" and "The Gas Age." Also had literature on all the modern makes of tractors and attended two tractor shows at Kansas City, Mo.

I have been on seven different threshing machines of both steam and gasoline, and worked one winter in the Weber Gas and Gasoline Works, of Kansas City, Mo. I would like to make the tractor a success, as I like to be around machinery, but my experience has proved that they can only supplement, and then under certain conditions only.

stubble work and 2 14-in. for breaking. In breaking, I aim to go about 3 to 3½ inches deep, and in stubble between 5 and 6 inches. I do not notice much difference in operating between breaking and stubble work. The cost approximates 4c. an hour for cylinder oil (polarine), about ½ pint; 27½c. for kerosene, 1¼ gallons; 2½c. for lubricating oil and about 1c. an hour for cup grease. This amount totals 35c. per hour.

The Bull pinions are geared to 3 miles per hour, which should give me about ⅔ acre per hour; but I find that I must deduct for stops, going around the ends, and other incidentals, which cuts me down to about ½ acre an hour.

This is for breaking. Add one-third more for stubble work; the soil is mostly black loam with streaks of chocolate loam. It works up very much easier than blue loam. My greatest day's work was just over 6 acres in a day of 12 hours actual field work.

In harrowing I used an Emer-

son-Brantingham two-way throw engine disc 10 feet. After seeding I removed the rear in-throw set of discs and had better results, though far from satisfactory. The seeder attachment was a failure to my notion. The disc rode high in the center and low at each end, due, I thought, to the hitch. The pull comes on each end and caused the discs to sink or pull into the ground up to and over the axle. This causes the dirt to crowd the disc chain shield until it pushes the chain out of gear. This is really off the tractor subject so we will pass it by. The only other work I did was hauling rock, and there the difficulty of manoeuvring a tractor to where you want it makes it a failure at that kind of work. I contemplated road hauling, but when I figured the difficulties to be encountered up and down hill and the rack to machinery on hard roads, I gave it up. There is the same hour cost in almost every operation, and in a one-horse job you must use the tractor just the same as in a four

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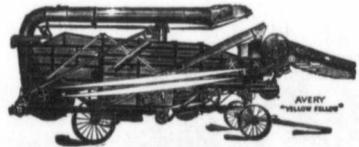
**For Sale**  
**This Complete Threshing and Plowing Outfit**



40 H.P.  
"FLOUR CITY"  
ENGINE

**6 FURROW VERITY GANG PLOW**

22-36  
**AVERY**  
**SEPARATOR**



Outfit consists of 40 H.P. Flour City Gas Tractor, used only part of two seasons, in excellent condition and equipped with Bosch magneto, extension rims, mud guards and head light. Yellow Fellow Avery Separator, 22-36, complete with all attachments, self-feeder with both chain and slat carrier, wind stacker, high bagger and automatic register, almost as good as new. Six-furrow Verity Engine Gang, equipped with roller and finn coulters. Cost of this Outfit when new was nearly \$7,000.00. Have sold my farm and have no further use for it, so will sell at great reduction in order to clean up.

Terms:—Cash or terms to suitable purchaser.

Address—E. H. HEATH CO., Box 3614, Winnipeg, Man.

**MORE WORK FROM YOUR HORSES**

The use of collar pads is humane. Again, your horses will do more work if properly protected by the right kind of pad. TAPATCO is the right kind.

**A NEW AND BETTER HORSE COLLAR PAD HOOK ATTACHMENT**

Consisting of wire staple, reinforced with felt washer (note where arrows point). This gives the hooks a better hold and prevents pulling off. The weakest point is made strong and life of pad greatly lengthened.

Look For The Felt Washer.

SOLD BY DEALERS EVERYWHERE

The American Pad & Textile Company

Chatham, Ontario, Canada



Pat. In U.S. Dec. 1, 1914. Pat. In Can. Apr. 6, 1916.

**MAX Wagon Water Tanks**



Best Quality 20 gauge Galvanized Steel. Stamped Sides.

Double seamed top and bottom. Built to last and give service.

Size	Bbls.	Price
3 x 2 x 8	9 1/4	\$33.75
3 x 2 x 10	12 1/4	\$38.25

F.O.B. WINNIPEG

**Winnipeg Ceiling & Roofing Co., Limited**

P.O. BOX 3006. C.T. 118.

WINNIPEG, MAN.



**A SATISFACTORY ALL-ROUND EXPERIENCE**

Govan P.O., Sask., Jan. 25, 1918.

Dear Sir:

ANSWERING your letter re Annual Traction Number, will say the tractor I have is a "Titan" 10-20 by the International Harvester Company.

This is a two-cylinder horizontal motor with double throw type of crankshaft, crank balanced by counterweights taking an impulse every revolution this makes a smooth running nicely-balanced engine. The tractor is very compact, but rather inaccessible when it comes to overhauling.

Lubrication is by a six feed mechanical oiler, without a splash system. This uses up more oil but is preferable, I think, in an engine using low-grade fuels as a certain amount of distillate works past the pistons and would dilute oil carried in the crank case.

beam may be easily detached when it is advisable to use two plows. The plow would be improved if it were made to lift a little higher.

In threshing a 24-40 Racine separator was used, the engine was nicely loaded and the outfit worked perfectly. We averaged about 700 bushels wheat per day.

I find 8 acres a fair day's plowing, using 16 gallons of distillate and 1 gallon of lubricating oil.

My cost per acre plowing and harrowing man and tractor for last year was \$1.60 per acre, for man and horses \$2.10 per acre.

The bearings on the tractor are a good size and equipped with steel shims. On looking it over this fall I found none of the bearings would stand taking up and no sign of excessive wear on any other part.

Yours faithfully,  
G. W. Hamner.



The tractor worked first rate breaking, pulling three plows.

Angle lugs are provided as an extra. I find it necessary to keep these on all the time, although on cultivated land they are a source of discomfort, throwing dust into the face of the operator.

This tractor has a chain drive with provision made to take up the slack when necessary. The wear on the chain is not noticeable. The chain rollers are extremely hard.

Cooling is by water from a tank holding about 35 gallons. This type having no radiator or fan uses a lot of water, about a barrel a day.

In the spring when the land was wet, I found the tractor would slip and get stuck with the angle lugs on when the horse team had no difficulty plowing on the same land.

The plow I use is a P. and O. 3x14 and works very well. I drag a section of harrows behind the same width as the plow.

The tractor worked first rate breaking, pulling three plows when there was lots of moisture. This plow is built so that one

**SMALL—TRACTOR WILL WIN**

Boissevain, Manitoba,  
January 21, 1918.

Dear Sir:

I RECEIVED your letter of the 18th inst. asking for information regarding traction cultivation. I do not think I can give you very much valuable information, as I have not had my tractor very long and have not done a great deal of work with it. But I will tell you what I have done, and might add that I intend doing more of this kind of work in the future.

I have a 12-24 Waterloo Boy tractor, and use it to drive a 22-36 Nichols and Shepard separator. This outfit requires four stook teams and threshes about 800 acres of ordinary crop per year. The tractor burns kerosene, and as nearly as I can estimate will thresh about two and a half acres of ordinary average crop per gallon. This year I only used about twelve gallons of cylinder oil, although last year I used a little more than that. I also used a small amount of gaso-



**The Handy Scales for Farm Use**

Here is the handiest weighing outfit ever designed for farm use. Convenience and service are the chief features of the

**Fairbanks Farm Scales**

The handle at the base of the weighing post permits of ready transportation on its own wheels to any part of the farm buildings. In house or barn or dairy it serves any purpose up to 2000 pounds capacity.

The Fairbanks Portable Farm Scale has a low weighing post, is compact and absolutely accurate. The platform is 34 x 25 1/2 inches and has a clearance of 11 3-8 inches above the ground.

Write our nearest branch for full details of this and other types of scales.

**The Canadian Fairbanks-Morse Co., Limited.**

Fairbanks Scales are the World's Standard for accurate weighing.

72



St. John  
Quebec  
Montreal  
Ottawa  
Toronto  
Hamilton  
Windsor  
Winnipeg  
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Saskatoon  
Vancouver  
Victoria

**THESE FOR SPRING WORK**



**Diamond Steel Harrows**

Every tooth set on line of draft. The only Diamond Harrow made that will not creep.

6 section Diamond Harrow, complete with Pulley Hitch  
Price ..... \$32.00  
Extra sections ..... 4.25

**Extra Draw Bars**

6 section pulley hitch draw bar \$7.50  
6 section plain draw bar ..... 6.50  
5 section plain draw bar ..... 5.50

**Plow Shares**

When ordering, give number and letters stamped on back of plow shares, also name of plow.

12 in. shares ..... \$3.25 each  
13 in. and 14 in. shares .. 3.65 each  
15 in. and 16 in. shares .. 3.95 each  
18 in. shares ..... 4.50 each

**HARROW TEETH . . . 07c. each**



The Eclipse guaranteed plow is perfect in material and construction. Will clean where any other plow will clean and where most others fail.

Price, 12 in. gang ..... \$118.00  
Price, 14 in. gang ..... 120.00

**Boss Steel Harrows**

Bars are all 1 1/4 in. angle steel. Teeth held firmly in place by steel wedges so that cutting edge is directly in line of draft. Cross bars made of channel steel, securely bolted.

Size, 149 tooth, cuts 24 feet weight 400 lbs. Price .... \$31.00

Write us to-day regarding your needs

**THE CANADIAN STOVER GASOLINE ENGINE CO., Limited**  
BRANDON, - MANITOBA

line, but that was only used in starting and warming up on cold mornings.

With regard to plowing, I might say I have only plowed one season with the tractor, that was summer-fallowing this past summer, 1917. I was plowing in low, heavy clay land, using two ordinary 12 in. horse gang plows, making in all four 12 in. bottoms. I plowed about seven inches deep, and averaged about ten acres a day.

If I put in a long day I could do twelve acres, but I quit at night about the same time as the horses. There were horses plowing in the same field, and the tractor went about the same number of rounds in the day, it travelled a little slower than the horses but kept continually at it. It was very hot weather, and the horses had to be rested frequently.

I might say that we had these plows hitched by a home-made hitch. The tongues were taken off, and short tongues, about 2 ft. long put in (made out of ordinary 2x4 scantlings). The front plow was fastened by a chain right up close to the engine, and the short tongue tied to any convenient place that suited the run of the plow. The second plow was also fastened by a chain, long enough to let it follow close behind the front plow, the chain and clip of both plows being set so that the plows traveled just where desired.

The seat was taken off the front plow, and the short tongue of the second fastened to the place where the seat came off the front one. It was bolted loosely with washers, so it could turn at the ends. When these horse gangs are hitched behind a tractor or the clips on the front can be set in the center or over nearer the furrow if desired, and the tongues set where desired, which eliminates all side draught. They worked better this way than I ever saw them work behind horses.

With regard to fuel, I used about twenty gallons of kerosene per day, plowing from ten to twelve acres. It averaged a little less than two gallons per acre. A five gallon can of cylinder oil would last for a week or so.

What plowing I have done with the tractor was satisfactory, and I think that plowing can be done as cheaply as it can with horses. When the price of horse feed, harness and men to drive them are considered, I think the tractor will do just as cheaply.

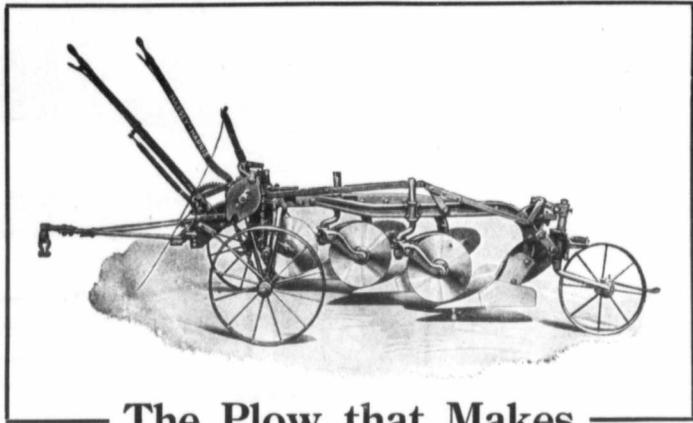
I believe the small tractor is going to be one of the leading farm implements in the future. But I think there are many tractors on the market that are too small, and are not capable of

doing ordinary farm work properly, and I think there are tractors that are too large and heavy for farm work.

Yours truly,  
W. A. Latimer.

Call a spade a spade and get down to business.

Justice, not sophistry, is what the backbone of the country wants.



## The Plow that Makes Your Tractor Worth While

In Tractor Plowing, the work is judged by the results. No matter how well the Tractor may operate, if the Plow does not turn a proper furrow, the result is disappointing.

The Massey-Harris Power-Lift Tractor Plow is the Plow you can depend on for satisfactory work under the most trying conditions.

Two Levers within easy reach of the operator on the Engine regulate the depth of plowing.

By simply pulling a rope the Power Lift operates to raise or lower the Plow as desired.

The Hitch has wide range of adjustment both vertical and lateral,

and, being stiff, permits the Plow being backed.

A Hardwood Break Pin prevents breakage.

When raised, all the Bottoms are at the same level, the rear being equally as high as the front, namely 6 inches.

*The Third Bottom or Plow can be detached to convert a Three-Furrow into a Two-Furrow, or vice versa, it can be attached to a Two-Furrow, thus making a Three-Furrow.*

## MASSEY-HARRIS CO., Limited

Branches at

Head Offices:  
Toronto.

Montreal, Moncton, Winnipeg, Regina, Saskatoon,  
Swift Current, Yorkton, Calgary, Edmonton,  
Vancouver and Kamloops.

Agencies  
Everywhere

Dr. Thomas' Eclectric Oil  
Relieves all Pain in Man or Beast  
25 Cent Bottles at all Dealers

### LOTS OF WORK AND SATISFACTION

Vibank, Jan. 31, 1918.

Dear Sir:

**A**FTER operating several tractors for the past years, I am still operating a 18-36 Canadian Avery, and it gives me best satisfaction. I broke about 400 acres in 34 days in 1917 with the Cockshutt Avery Self-lifter Plow.

I plowed from 4 to 6 inches deep, a medium yellow clay, averaging about 11 acres daily, with a four-bottom plow. I used about 28 gallons of kerosene daily, and about 1 gallon oil.

I harrowed and disced above land twice, in three weeks with same tractor.

Regarding road grading, I may state that I graded 13 miles twice in 10 days, in August of 1917.

It pulls a 28-46 inch grain separator with all attachments. In 29 days I threshed 33,700 bushels of grain, which averages about 1,100 bushels daily in last season.

This summarizes my experience since I operated a gas tractor satisfactorily.

Yours very truly,

A. F. Gerein.

### BIG TRACTOR SATISFACTION ON A BIG SCALE

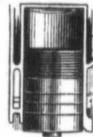
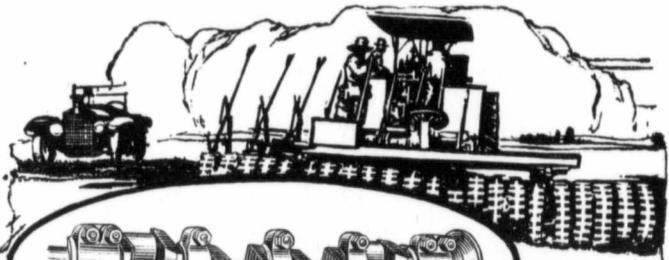
Gentlemen,—I have your enquiry of January 17, and beg to inform you that we operate eight tractors: six "Big 4," 30-60 horse-power; one Aultman-Taylor, 35-60 horse-power, and one Imperial, 40-80 horse-power.

We plow, harrow, disk, root, plant and harvest with our engines and find we can do excellent work in all these lines.

We pull six John Deere plows, doing about eighteen acres per day on about sixty gallons of gasoline and five gallons lubricating oils, besides some hard oil and transmission grease.

We also run two separators, and haul grain from separators to cars, using small elevator to unload grain into cars. We haul four tanks, 125 bushels to each tank at a trip. The Imperial engine handles a 35 Minneapolis Threshing machine very nicely and the Aultman-Taylor a 30 Minneapolis machine. We pull five sets John Deere heavy lever harrows and do excellent work with same. We pull four John Deere double disk harrows with each engine, and four grain drills largest size "Van Brunt," single disk.

In harvest we usually pull five 8 ft. cut binders. Can pull six, but feel we can do better work pulling five. We do just as good clean work as can be done with horse binder. Of course we use about six binders with horses to



These parts must have the right oil.

## Correct Lubricants Lengthen Engine Life

**Y**OU know that your tractor or automobile engine cannot run at all without oil and that it won't run right for long, or deliver full power, on an incorrect

oil. So it is wise economy to use the right oil, even if you have to pay a few cents more per gallon. Unsuitable oil is expensive at any price; the right oil is cheap in the long run.

**Polarine**  
FRICTION REDUCING MOTOR OIL

### Crankshaft Oiling Important

Of the five main moving parts of a motor, the crankshaft is highly important. The connecting rods are fastened to it. These move at high speed—up to 1,000 revolutions per minute. Good oils like Polarine or Polarine Heavy form a thin film between the bearings and the crankshaft. This prevents metal from touching metal—eliminates friction wear—keeps the bearings and crankshaft from overheating—bearings cannot burn out.

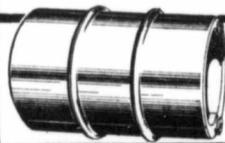
Any oil will do this for a little while. But a poor oil will "break-down" and wear out when the engine heats up. Polarine and Polarine Heavy won't. These oils stand up under intense engine

heat—hold their body and keep right on lubricating perfectly. When you use them you don't have to shut down to let the engine cool off. You work steadily. You turn losses into profits.

### Expert "Imperial Service" Free

When you decide to use Polarine or Polarine Heavy we are vitally interested in seeing that you get the grade best suited to your engine's lubricating requirements. Put it up to us. Send a full description of your engine. You'll be glad that you got our expert assistance.

Polarine and Polarine Heavy are sold in steel barrels and half-barrels, and in one-half, one and four gallon cans. Buy in the larger sizes for economy but always keep a four gallon can on your tractor.



**IMPERIAL OIL**  
**LIMITED**  
Branches Throughout Canada



keep corners rounded off for six engines pulling five binders each. In drilling we also use about six horse drills to fill in corners, low places, or any places that missed. Two men look after four drills, each man carries flags on his drills. When he happens

*Continued on page 51*



A great scene on the F. A. Bean Farm, Young, Sask.

# "The Great Minneapolis Line"

**Satisfactory**

**QUALITY**

**Serviceable**



REMAINS LONG AFTER THE PRICE IS FORGOTTEN

The selection of a threshing and plowing outfit is an important matter to you. Doubly important now when we are all striving to increase food production and to eliminate waste.

*Investigate Thoroughly  
Compare Carefully*



## There is a Minneapolis Outfit to Meet Your Requirements

**MINNEAPOLIS 20 H.P. 4-Cylinder**

This size Tractor is a very popular size and furnishes dependable power for operating medium sized threshing machines and other belt machines.

It will plow and harrow, draw your drills or binders, haul your produce to market, help to make good roads or do various other kinds of tractive work in a highly satisfactory manner. It will work faithfully for you as many hours in the day as you require.

You can plow deeper, plow cheaper, get in your crops in better season and reap bigger harvests.

You will be pleased with the work this Tractor will do for you and satisfied with your investment.

Would you like to have a catalog giving all the details about this **4-Cylinder Kerosene Burner**.

**MINNEAPOLIS 40 H.P. 4-Cylinder**

**BIG SAVINGS** are made possible in the operation of **BIG FARMS** by the use of the now famous **MINNEAPOLIS BIG 40 Kerosene Burning Farm Tractor**.

This Tractor was designed and built for the purpose of performing the most work possible in the least time and at an economical cost of operating expense and upkeep. That it has fulfilled all the requirements in a satisfactory manner is evidenced by the fact that the demand for it has largely exceeded the supply each year.

If you are farming a large acreage with horsepower, won't you give us an opportunity to show you the way to **Big Savings**?

If you are already a Power Farmer, you will surely want to know more about the Minneapolis Big 40 **Kerosene Burner**.

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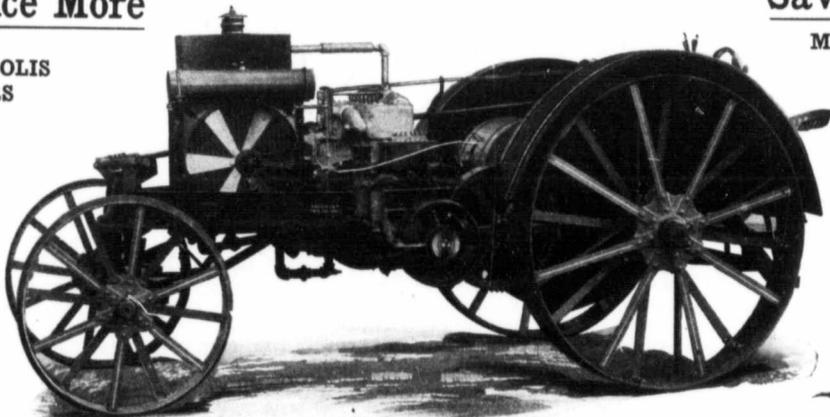
**Successful KEROSENE Farm Motors**

### Produce More

**MINNEAPOLIS TRACTORS**

Properly Designed

Carefully Constructed



### Save More

**MINNEAPOLIS THRESHERS**

Rigidly Inspected

Thoroughly Tested

**THE MINNEAPOLIS 15-H.P. 4-CYLINDER TRACTOR**  
All Gears Encased, Running in Oil Baths.

Farmers owning small or medium farms can now profitably own and operate an efficient Tractor, but it must be efficient in the highest sense of the word.

It must operate economically on Kerosene, be simple in design, strongly constructed of the highest grade material and working parts should be easily accessible.

The Tractor should have ample power to draw the size plow suited to it over all kinds of tillable soil and at proper speed to enable the plow to do its best work.

Don't buy a Tractor cheap in price, freaky in construction, or too small for your needs. The best is cheapest in the long run.

A Minneapolis 15 will place you in the class of **SUCCESSFUL POWER FARMERS**

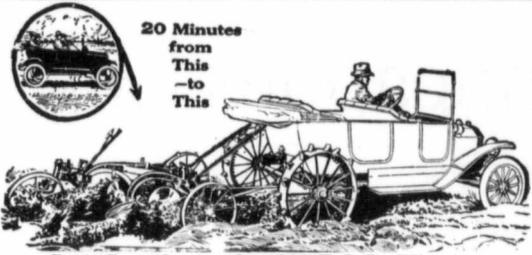
Write for a catalog giving full description of this Tractor, as well as Separator and Plows of suitable size to operate with it.

**The Minneapolis Threshing Machine Co.**

HOPKINS (West Minneapolis) MINNESOTA

WINNIPEG REGINA CALGARY EDMONTON





**20 Minutes  
from  
This  
-to  
This**

**Cost Complete only \$265 F.O.B. Winnipeg**

Solves the problem of that extra four horse team to get in the acreage you aim to crop this year, and to do summer fallowing and breaking for next year.  
The Government and the Press are asking you to produce more—the Staude Mak-a-Tractor helps you to do it. Simply use your Ford car which would otherwise be idle when you are working. Your boy or girl will enjoy plowing with the Staude, and it positively won't damage your car.  
Construction simple and efficient.  
Change from Car to Tractor or back again made in twenty minutes easily.  
Does the work of Four Big Horses and does it continuously. Put in long hours if you want to, the Staude does not get tired.

**GUARANTEED TO DO THE WORK OF FOUR HORSES—COSTS LESS THAN TWO**  
**—READ THESE LETTERS—**

I used a Staude Mak-a-Tractor with my seven-year-old Ford throughout my summerfallow work this year. I plowed about seventy acres. I am well satisfied with the work it did. I was always able to do more work in a day than my five horse team, although I never tried to make any record with my machine. The best I have done is twenty-six miles in an ordinary day.  
Carron, Sask., July 31, 1917.

A. S. HURLBURT.

Campbell Bros., Assiniboia, Sask.  
The Staude Tractor that I bought from you is satisfactory in every way. I have used it on a 14-inch breaker and it did fine work, and had plenty of power. I find that I can do farm work at less expense with the Staude Tractor than any other Tractor made.

I would rather drive a Staude Tractor than horses, and I can do more work in a day or a week, or a year than any four horses can do. I do not think it is any

**Farmers!** Use the power already on your farm by equipping your Ford with a

# Staude Mak-a-Tractor

A Tried and Proven Tractor Attachment for Ford Cars. Soon ready for Chevrolets, Maxwells, Overlands and Studebakers.  
Price subject to change without notice.

More horses mean more chores. With the Staude you ride in comfort all day and then fifteen minutes will suffice to look over the car and see that everything is ready for the next day. Costs nothing when not in use.  
No rigid attachment. No strain on the car. The tractor pushes the car by the brackets to the rear axle. The tractor or wheels draw the load. The Ford pulls nothing. Simply delivers the power to the rim of the big wheels.  
The Staude is equipped with proper cooling devices so that over-heating does not occur. The Circulator special fan and pulley and new Radiator make the Ford better than ever. Does not alter the appearance of the car. Can furnish either 1917 or old model Radiators.

harder on the Ford car to use it in the field as a tractor than using it on the road as a touting car.  
Feb. 21, 1918.

ROGER AVERY, Assiniboia, Sask.

I have done everything on a half-section for one season with the Staude Mak-a-Tractor, and will continue to use it in 1918. It is reasonable to operate, in heavy summerfallow 67c an acre; light plowing 57c. Hauling less than on the road. Repairs are less than when running on the road. I can prove this.  
Tate, Sask., February 10, 1918.

ROY GRAHAM.

I have only used the Staude for harvesting yet, cutting with an 8-foot binder 240 acres of crop at the rate of 20 to 30 acres per day. I think it is a very handy tractor on the farm. I will use it for everything in the spring. There are three neighbors here that each want to buy for the spring.  
Rosthern, Sask., Jan. 31, 1918.  
HENRY A. FRIESEN.

**SEND YOUR ORDER IN TO-DAY**

## Western Canada Auto Tractor Co. Ltd.

**MOOSE JAW, Sask.**

Western Canada Auto-Tractor Co., Ltd., Moose Jaw, C. T. & F.

Dear Sirs: Please send me at once full details of your proposition.

Name .....

Town .....

Dealer in .....

Farmer owning .....

**P**UT the run on the Huns,  
And throw them on their  
backs,  
By threshing every kernel of  
grain  
And putting it all in your sacks.  
\* \* \* \* \*  
Have your grain put in the sack,  
Do not waste it in the stack.  
\* \* \* \* \*

The thresherman's greatest asset is his satisfied customers, who are entitled to the most effective machinery for saving all the grain.  
\* \* \* \* \*

Every farmer wants all his grain saved. Every thresherman must use the most improved machinery to save all the grain.  
\* \* \* \* \*

Enough grain is wasted every threshing season to feed millions. Every thresherman must do his utmost this season to prevent this frightful waste.  
\* \* \* \* \*

Waste not, want not, is an old and true saying. We plow, till, sow, reap and slave, only to have our grain wasted during threshing time. Waste brings woe. See that all your grain is saved in threshing with a Grain Saving Wind Stacker.  
\* \* \* \* \*

There would be no meatless days if the world had wasteful threshing days. This frightful



# Uncle Hiram ON CONSERVATION

waste can be prevented by using improved machinery. Investigate before you purchase.  
\* \* \* \* \*

Every bushel of grain wasted in threshing is food for our enemies. Why waste it, when it can be saved! Save the grain! Save the grain!  
\* \* \* \* \*

To save is to serve, and to serve is to save every kernel of grain threshed this season. Save all the grain.  
\* \* \* \* \*

Face to face with waste, when you know your threshing machine wastes grain, why not at once attach the most modern saving attachment and **save all the grain.**  
\* \* \* \* \*

Power farming is the modern method of producing grain, and modern machinery for saving every grain is the power of the farmer.

I live and die each year to save the hungry. Boys in the trenches love and eat me three times daily. Give me a good threshing next harvest with the latest grain saving machinery so that I will not be lost in the straw stack. To save me is to serve your country. — A Grain of Wheat.  
\* \* \* \* \*

Leadership in threshing means the most efficient machinery and service for saving all the grain. Investigate the latest improvements before purchasing threshing machinery.  
\* \* \* \* \*

Save your grain, eliminate green straw stacks, and thereby increase our greenbacks. Save your grain. Save your grain, with a Grain Saving Wind Stacker.  
\* \* \* \* \*

"Think out new ways; think

out new methods; think out new ways to deal with old problems," is the advice of David Lloyd George. The new way for saving the grain wasted by the threshing machine has been thought out for you. Investigate; ask your dealer or manufacturer of threshing machinery.  
\* \* \* \* \*

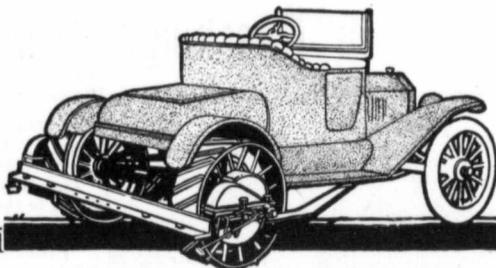
The whole is greater than a part. Then why waste a part of your grain in threshing. It can be saved, and this is the year to save it all.  
\* \* \* \* \*

From start to finish every effort must be made to save every kernel of grain next harvest. Now is the time to investigate the latest improved machinery for saving all the grain.  
\* \* \* \* \*

Grow up with the threshing machine business by using the latest improved machinery for saving all the grain. Take advantage of every improvement and maintain your rightful place as a saver of the grain.  
\* \* \* \* \*

Think it over! We need every grain that can possibly be saved. Every thresherman should now begin to consider the latest and most efficient devices developed for saving all the grain when threshing.

**SAVES  
MONEY, TIME**



**AND LABOR**

# Auto Pull

PATENTED

## Make Your Ford a Food Producer

**FOOD WILL WIN THE WAR! INCREASE YOUR PRODUCTION!**

*The demand for FOOD will become more insistent as the war continues—and the demand MUST be met.*

**COMBINED WITH YOUR FORD THE AUTO-PULL**

gives you a machine that will duplicate the work of four horses on the farm, will pull up to five tons on the road, and do all that any 10 H.P. stationary engine has ever done.

**BUILT FOR SERVICE**

Frame is constructed of selected angle iron. Tractor wheels are of steel with steel spokes. Ten-inch tread; steel cleats. Large roller bearings are of chilled steel.

The AUTO-PULL is guaranteed to stand up under continuous service.

**NO UNDUCE STRAIN**

The AUTO-PULL is the tractor attachment that has perfect frame suspension. It attaches to your Ford in three places. Every ounce of pull is evenly and equally distributed. Cannot strain car under normal load.

**EFFICIENT COOLING SYSTEM**

EVERY AUTO-PULL is equipped with a "Du-Al" cooling system, the only one that successfully did the work required of it under every severe test we could devise. It consists of an enlarged fan and compactly built centrifugal pump. The pump is built with a bronze shaft with 3 1/2-inch bearing on one end and a 2-inch bearing on the other. This 3 1/2 inches of bearing surface prevents excessive wear. This cooling system greatly increases the efficiency of your car whether used with the Auto-Pull attachment or as a pleasure car alone.

**BUSY EVERY DAY**

The AUTO-PULL won't replace a big tractor and isn't designed for the same work. But it will be busy every working day in the year while the big tractor will be idle three-quarters of the time. There's no end to its uses on the farm.

**PUT YOUR FORD TO WORK**

It is a slacker for any purpose other than pleasure. Put it to work. Make it pay for itself. The AUTO-PULL turns your Ford into something more than a means of pleasure. It places the useful side of your Ford power within ever ready reach. It saves man power. It replaces horsepower. It saves money, time and labor.

**IT IS UNNECESSARY TO REMOVE WHEELS OR FENDERS WHEN TURNING YOUR FORD INTO AN AUTO PULL TRACTOR.**

**IF YOU OWN A FORD**

or expect to get one, write at once for the AUTO-PULL FOLDER. It shows how the AUTO-PULL is a money maker for every farmer. Send for your copy to-day. Write Department T.

**DEALERS WANTED!**

We are looking for good, live dealers to handle AUTO-PULL in exclusive territories. Attractive proposition to responsible men. If you are a dealer and interested write to us at once to Department T.

## Northern Implement Company

Foot of Water Street

WINNIPEG, Man.

Whether you have a large or small threshing machine you will not do your duty to yourself or customers if you do not learn about the latest grain saving devices for your machine, the Grain Saving Wind Stacker.

The Grain Saving Wind Stacker standardizes all threshing machines and makes them save all the grain all the time. The Liberty Motor is a great example for aeroplanes to win the war. It has been adopted by all the allied governments, and means all of the best principles of English, French, Italian, American and German constructions. Standardization is the secret of its success.

**THE TREATMENT OF WILD OAT LAND**

**T**HERE are many injunctions given out to western farmers on the elimination of wild oats and despite all that has been said and done the weed still flourishes and will continue to flourish so long as grain raising is the dominant feature of western agriculture. The seed is germinable almost as soon as it is formed, but it will not germinate until conditions are favorable for its growth. It is almost impossible to induce it to germinate under artificial conditions, or at any other time of year than the early spring, or at any depth except within a couple of

inches of the surface of the ground.

The only effective methods are derived from the facts that seed germinates more readily in early spring and in the presence of other plants. In a system of all-grain farming, therefore, the fallow and the stubble must be so worked as to furnish the most favorable conditions for early spring germination. The seed of the wild oat falls to the ground at the time of, or shortly previous to, harvest, and so long as it lies there is perfectly safe, for it will not grow, but if covered by a little earth, it will be sure to grow the following spring. If this stubble land be left till spring and then seeded to grain, or

plowed or cultivated, or disced and then seeded, the wild oat will germinate at the same time as the sown grain and lower the yield of good grain accordingly. If, however, the wild oat be covered in the fall or early spring by shallow plowing or double discing or cultivating, and then harrowed and left till germination has well begun and again shallow plowed or double disced, the weed is killed and the land is in clean condition for a crop of good grain.

In a system of farming where the rotation is all grain, such as summer-fallow followed by two crops of wheat and a crop of coarse grain, the treatment is in accordance with the foregoing principles.

After harvest shallow plow or double disc all stubble that has borne more than one crop since previous summer-fallowing. In early spring harrow this worked-over stubble land and leave till the weed seeds are germinated. Sow and pack the land that had been fallowed the previous year. Then come to the land that has borne only one crop since fallowing and shallow plow it, harrow and pack and sow to wheat and pack again. If the preceding fall was wet, the first year stubble might have been plowed in the fall and sown in the spring immediately after the summer-fallowed land was sown. All the land should be packed as soon as sown.

By the time the wheat is sown in an ordinary season, the weeds on the remaining land will have germinated, and all that which has borne two crops since fallowing should now be plowed a little deeper than previously, packed, sown to oats or barley and packed again. The time is well on now towards the middle of May and respite can be taken for planting such hoed crops as may be grown and by the end of the first week in June there will be a beautiful stand of weeds and especially of wild oats on that which should be plowed now at least six inches deep and kept cultivated for the remainder of the season sufficiently to prevent further weed growth.

**Cultivation for Treatment of Land Infested With Wild Oats**

Order of fall operations:  
Shallow plow second year wheat stubble and oat and barley stubble, and if ground is moist shallow plow first year wheat stubble. If pressed for time double disc instead of plow.

- Order of spring operations:
1. Harrow everything except first year wheat stubble land.
  2. Seed summer-fallowed land to wheat.
  3. Plow first year wheat stubble, if not already fall plowed, and seed to wheat.
  4. Plow second year wheat stubble and seed to oats or barley.

**First year—Summer-fallow**

Plow shallow previous autumn. Harrow early in spring. Plow six inches in June and pack. Cultivate to keep weeds in check for remainder of season.

**Second year—Wheat**

Seed in spring as soon as all land is harrowed. Pack.

**Third year—Wheat**

Plow shallow previous autumn if land is moist. If not plow shallow in spring, pack and seed and pack as soon as fallow is seeded.

**Fourth year—Oats or barley**

Plow shallow previous autumn and pack, or double disc.

Harrow as early as possible in spring. After wheat seeding is finished plow shallow, harrow, seed to oats or barley and pack.

**"WATERLOO" Threshing and Farm Power Machinery**

Kerosene Tractors, Steam Tractors, Plows and "Champion" Separators



**Burn Kerosene—Save Gasoline**  
Especially designed manifold—switch from one fuel to the other without carburetor changes.

Proven by 10 Years Actual Field Work

**Back Up to Your Load a Fraction of an Inch at a Time**

**CREEP** back to the exact spot under perfect control of the operator every quarter inch of the way.

That's just one of the many of your advantages in the Heider special friction transmission—sometimes called the biggest single feature ever built into a tractor. No sudden jerking of machine—no straining of the engine—no power eaten up in turning needless gears, no gears to strip. Easy and perfect control of the tractor anywhere. Seven speeds forward and seven reverse—all with one lever. Easier than handling an automobile. The

**Heider**

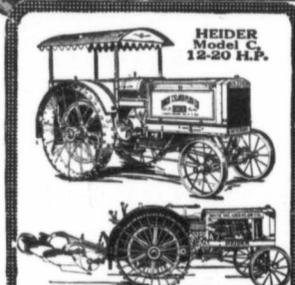
12-20—The Real All-Purpose Tractor—9-16

has a remarkably low upkeep cost. "My repairs cost less than 40 cents for past year and I have plowed hundreds of acres with my Heider," says one farmer. "So easy to operate that my youngest boy does a hired man's work in plowing and working the field," says another owner.

You buy no experiment when you get a Heider. It's backed by ten years of good service in owners' fields. The first Heiders sold are still in use. Being built right in the first place, they couldn't be changed and still be right. And back of Heider construction there are 63 years of experience in building Rock Island farm

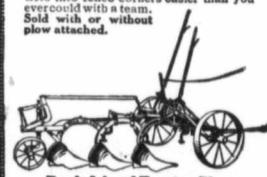
implements with their unbeatable reputation in all parts of the world. Here is the one-man outfit you want for your farm. Standard four wheel construction, four cylinder, heavy duty Waukesha Motor, 7 speeds forward, 7 reverse. Burns kerosene or gasoline. Two models, Model D, 9-16 h.p. pulls two plows; Model C, 12-20 pulls three plows. What are your power needs? Let's show the answer to that in Heider construction. Write for our new catalog and booklet of "Owner's Say So." Know the economy of owning a Heider—the tractor that gives you all your ideals in one outfit.

Write for Catalog of Rock Island Tractors and Plows



Heider Model D, 9-16 H.P.

Carrying Rock Island No. 9 plow. Handiest plowing outfit you could own. Your hand operates the tractor while your foot raises or lowers the plow. Automatic power lift. Gets into fence corners easier than you ever could with a team. Sold with or without plow attached.

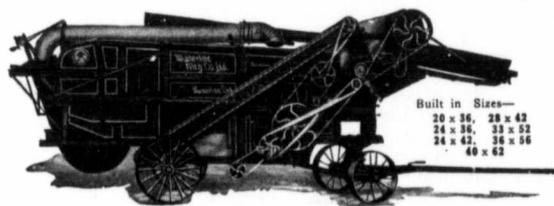


Rock Island Tractor Plow

No one has been able to beat the plowing made possible with the Rock Island "Front Farrow Wheel Lift" Tractor Plow with 2, 3 or 4 "CTX" Bottoms. It's ready for any soil—and the pull of any tractor. Extra high clearance. "CTX" Bottoms turn the furrow slices clear over and prevent air spaces from stopping moisture. This means increased crops.

"Waterloo" Steam Engines all have high pressure boilers and are made to conform to the statutes of all provinces. They are built in the following sizes: 16, 18, 22 and 25 H.P.

**The Celebrated "CHAMPION" SEPARATOR cannot be equalled for fast and clean threshing**



Built in Sizes—  
20 x 36, 28 x 42  
34 x 38, 33 x 52  
34 x 42, 36 x 56  
40 x 62

We carry a full line of Rock Island Horse Gangs and Sulky Plows, as well as the Tractor Plows. These plows have special features not contained in other makes. A full stock of repairs kept on hand at all our branches. We also keep all threshers' supplies.

Write for our new catalogue; it is free.

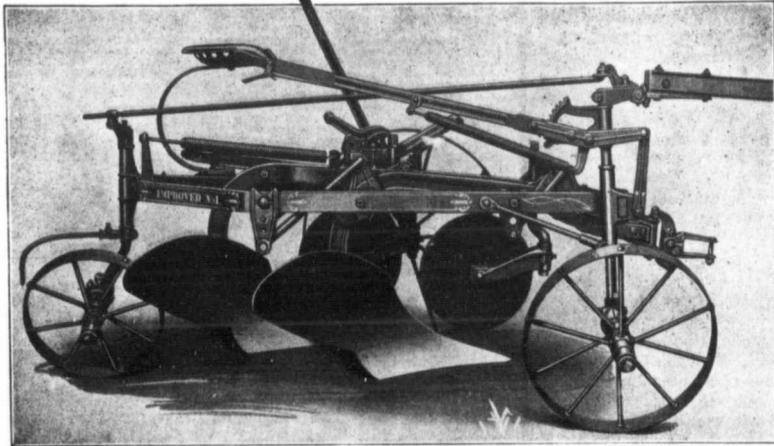
**The Waterloo Manufacturing Co. Limited**

REGINA, Sask. PORTAGE LA PRAIRIE, Man. SASKATOON, Sask.

# Own an OLIVER PLOW!

**H**ERE is shown the OLIVER IMPROVED NO. 1 GANG, the great Western Canadian favorite. It is a model of strong construction, light draft, close adjustment, ease of operation—the result of 59 years of good plow building.

Getting down to details, compare the heavy one-piece bar steel frame, the bracing, the bail hangers, the wheel connections, wheel bracket bearings and control rod adjustment, with those of any other plow sold in Western Canada. The OLIVER No. 1 leads them all. The plow beams with their rigid bracing; the long, strong frog that makes the foundation of the plow bottom; the longer, stronger, sharper point of the OLIVER share; every feature that means good work and long life for the tool, is found in this OLIVER plow. Look it over carefully; compare it point by point with any other gang plow offered.



In this same good OLIVER plow line are tractor plows, sulky, disk gangs, prairie and brush breakers, and walking plows to meet every possible plowing condition. See the local dealer for full information about any plow in the OLIVER line. Write the nearest of the branch houses listed below.

## International Harvester Company of Canada, Limited

### BRANCH HOUSES:

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

### HARRY DESIGNS A TRACTOR

*Continued from page 8*

pened to put the gears in neutral you would have a difficult job to put them in 'gear' again before the tractor ran into something. I would suggest that you take these plans and carefully go over them and make these changes, together with any others that may suggest themselves, and then we will have another discussion and see if any further improvements can be made. Remember the cheapest place to make changes is on the drawing paper."

Harry and his father both thanked the expert and felt that he had saved them considerable time and expense, and Harry decided to spend at least another month upon the design before he was going to have it criticised again.

### SOLVING THE POWER PROBLEM

*Continued from page 7*

necessitates a small drive pulley. And a small rapidly revolving drive means that in order for the belt to stay on at all—almost perfect alignment must be secured. Now a steam engine is furnished with a large drive pulley and considerable latitude can be made in order to keep the belt on. Not so with a tractor of high speed type.

This being the case then, and if threshing is one of the purposes for which a machine is bought, see to the accessibility of the belt pulley. If, on the other hand, cultivation is your aim the pulley does not matter nearly so much because then only occasionally will it be used for belt purposes. The pulley then should be on the same side as the steering wheel, should be high enough to allow sighting over and considerable time will be saved in setting for belt work. The small light tractor does not materially pack the soil when it is damp—a big advantage over the heavier type. Against this we have the larger machines giving a few more years of service. This is to be expected, however, because of greater cost. Regarding three and four-wheel type, preference seems to be merely a matter of opinion, both doing good work under proper conditions.

### Power for Size of Farm

When one purposes buying a machine it is well to figure out every possible use you may have for it and buy for the use requiring most power. An 8-16 would handle a small thresher of the overshot type, say 24-in. cylinder equipped with a blower, or a small separator 24-in., built after larger models without blower; 12-20 will operate a 24-36-in. or

**Comfort**

As easy as an old shoe but as strong as an ox

## NORTHERN Shirts & Overalls

Money saved is money earned. You earn money for yourself if you wear Northern Brand

THE NORTHERN SHIRT Co. Limited  
WINNIPEG

OPERATOR

*Northern*

UNION MADE

SIZE

## Steam or Gas Tractors

Equipped with

# PICKERING

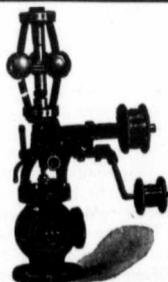
"THE GOVERNOR WITHOUT JOINTS"

give greatest efficiency

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.

10 machine nicely, if built along light lines, as one built for a combination machine, where engine and separator are both on one frame completely equipped, or a 20-36-in. body, perhaps larger, small model machine, and should furnish ample power. After that we get into the larger heavier type of engine, and it is not the intention to discuss those here.

For plowing it is a great deal harder to estimate owing to various soils. But it may be stated that where a 14-in. gang can run by four fair-sized horses an 8-16 will pull two 14-in. plows; 10-20 will pull three plows and 12-25 four plows. However, there are heavy clay soils where a 10-20 will only handle two plows. And when one understands that an overload is a terrific strain on a gas tractor, care must be taken to avoid giving it too much heavy work. With steam we can furnish a sufficient amount of extra horse power to help over bad spots and up grades. But with gas only a certain amount can be placed there and no surplus secured. It is well for the intending purchaser after selecting the make of engine he desires, to take the manufacturer into his confidence and give him particulars regarding the character of the land—whether level or rolling—and the dealer will be able to advise as to the size required.

From the material at hand it is estimated that for a farm of 140 acres or less, a 2-plow outfit is sufficient; 140 to 250 acres, a 3-plow outfit; 200 to 450 acres, a 3- or 4-plow outfit; 450 to 750 acres, a 4 or 5-plow outfit.

**Cost of Operation Compared with Horses**

According to United States Bulletin No. 719, the life of a tractor is estimated at six years for a 2-plow and ten and a half for a 6 or heavier type engine. This is taken from estimates of several hundred owners. This means then that if a 2-plow outfit were to cost \$600, one hundred dollars per year would be wear. (This might also include average repairs because a vast difference in a machine's life is made by the man in charge. Several years may easily be added or the same number taken away.) The average number of days these owners worked their machines was fifty. Thus, if these estimates are correct, there is a cost of \$2 per day before any account is taken for fuel.

These figures seem rather severe, and from experience it seems that a machine properly cared for should give ten or twelve seasons of fifty days. At this rate \$1 would cover depreciation per day. This is not much more than any other farm machine used for hard work, such as the binder or mower. Also it must be remembered in compari-

son with horses that there are many extra belt jobs that come in and these if added would materially lessen the cost of depreciation. According to tests made by one manufacturer, cost of fuel for their 10-20 was 2.3 gallons of kerosene, at say 15c.—34.5c. per acre. Oil would be about 5c. per acre. Making a cost of 39.5c. per acre plowed six inches deep. To plow one acre required one hour eight and three-quarter minutes at a rate of travel of 2.29 miles per hour. Now, costs can be considerably above this figure, and may run to 60c. per acre quite easily. Carbon on cylinders will use more fuel. Heavier soil, rolling land, all these increase the cost of plowing.

A team (four) of horses will require one gallon of oats per feed. With oats at 80c., three feeds per day would cost \$1.20; hay at \$20 per ton, feeding 25 lbs., would cost \$1.00; total \$2.20.

A four-horse team would average four acres per day, \$2.20 ÷ 4 = 55c. per acre, and no account taken of the winter and idle days when the tractor is not consuming anything and the horse is eating away. Now these are figures place before us by the manufacturer. But is it a fair basis? Your horse does a dozen and one jobs the engine cannot do.

The mares are able to increase the numbers and give us at the end of six years say an average of three colts—3x4=12. An increase of eight horses fit for work and the engine is done. Therefore from actual acres plowed we are prepared to grant that the engine will do it much more cheaply, but from profit extending over a number of years it remains to be proven.

Now, the important thing is this: The engine does the work of about six horses and one man only is needed to operate it. More land can be prepared in a given time with less man power and at less cost. On hard soils and where we want to get right down stir up the subsoil the tractor is right there and works away even in the hottest weather. From information at hand an engine only pays for itself when the result is increased production per acre.

The modern tractor is dependable just as much as the modern car. Early model cars were rather fearsome things. One never felt safe in one, and it was a foregone conclusion that sometime on a cold dark night, miles away from home, the engine would stop and absolutely refuse to budge, and you faced a long cold tramp with a spirit of "Never again," but when the sun once more shed its light your being was stirred and away you went again. To-day the car takes you there and back just as often as old Molly did.

The tractor, however, is under

1842
1918

## Little Genius Tractor Plows

Success was built into the P & O Little Genius from the very first. Away down in a marshy field in Mississippi, three winters ago, the first P & O Little Genius made good against big odds, and right there justified the faith of its builders in the one-man light tractor plowing outfit as the ideal plowing unit for average farms. Its unparalleled record of going out and making good under conditions reasonable and unreasonable, the preference which tractor demonstrators have shown for pulling the P & O Little Genius, and the manner in which it stands up under continuous service should convince you that the P & O Little Genius is the logical plow for use behind your light tractor.

**POWER LIFT**—The land wheel furnishes the power. Two-to-one gearing causes the bottoms to be raised and lowered in the right distance of travel to insure straight head-lands and at the same time cuts in two the power required to raise the bottoms—the land wheel never slips. The plow raises on all three wheels, giving a high level lift. A single trip rope, convenient to the hand of the tractorman, gives him instant and positive control. Power lift operates both as bottoms enter and leave the ground, bringing the whole weight of the plow to bear in forcing the bottoms into hardest soils.

**OTHER FEATURES**—Pin-break hitch; heavy, full-throated beams; retracting levers;

high-grade coulters; easy adjustments for securing proper depth and action; dust-proof wheel boxes with hard-oil lubrication; perfect bottoms, with quick detachable shares; wide clearance between bottoms, insuring good work in trashy ground; these and many other splendid features make the P & O Little Genius THE plow for use with any light tractor.

Made by Parlin & Orendorf Co., Canton, Ill., U.S.A.

**International Harvester Co. of Canada, Limited**  
Sales Agents for Canada

Winnipeg	Brandon	Regina	Saskatoon	North Battleford	Yorkton
	Estevan	Calgary	Edmonton	Lethbridge	

## "Bissell"

### A NAME THAT HAS BECOME FAMOUS

A good name is the greatest asset any man or any business can possibly have, providing the name stands for quality and thoroughness in the product it represents.

T. E. BISSELL

Experienced farmers in Canada and the U. S. vouch for the name Bissell—they have used Bissell Disk Harrows and Bissell Land Rollers and know that they stand the wear and tear of hard farm work which is the endurance test of any implement. "Bissell" Implements are built from the practical farmer's standpoint to do the work properly, and efficiently,—and results show that they do it.

The man who constructed the first "Bissell" Disk Harrow and Roller knew what he was about and has spent over a quarter of a century in perfecting what now stands second to none. He made a life study of this work and is a farm implement specialist. He knew what the farmers needed and the success of "Bissell Implements" is due to years of study and experiment with Disk Harrows and Land Rollers that would serve the farmers best.

Bissell Implements are strongly constructed, of light draught and correct proportions, assuring the farmer of standing up to the hardest kind of work, yet being easier than any others on the horses. Built also in sizes for use with Tractors.

T. E. BISSELL CO. LTD., ELORA, ONT.

## DON'T SCRAP YOUR BREAKAGES

Send us all your broken or cracked Cylinders, Crank Cases, Gear Wheels, Gear Housings or Machine Parts. We will deliver perfect results and save you money.

HUB WELDING COMPANY

253 SHERBROOKE STREET, WINNIPEG  
Lowest Price consistent with Best Workmanship.



into ready cash, especially in the busy seasons. The instruction books put out by the manufacturers are of very little value because so many troubles are apt to occur while the machine is actually at work which never occur under test conditions. The value of the instruction book lies in its explanation of parts and care of the machine. The more study one puts on his machine the more efficient service will he receive from it.

#### Sales and Service

One crying need to-day is efficient service stations at country points. Many men are deterred from buying a tractor because of the fear of breakages or engine trouble. It is a sad but true fact that many salesagents know as little or less about a tractor as the intending purchaser.

Motor car manufacturers have a string of thoroughly efficient service stations where one can get repairing done quickly. But with a tractor one buys the machine, the agent gets his commission and unless the purchaser has had training he is loaded with somewhat of a white elephant.

And so the farmer very often loses days before an expert can arrive to set the engine running. Manufacturers should insist on salesmen having training on their engines. Some are doing this, but many are not. They overlook the fact that one satisfied customer is better than a dozen unsatisfied. We hope to see the time arrive very shortly when every town has a service station.

#### LEAKS ABOUT THE TRACTOR

Small cracks or leaks in cylinders or water jackets may often be stopped by filling with a strong solution of sal ammoniac and water until well rusted up. In larger holes or leaks, it is better to fill the opening with a cement of some sort. A number of cements are made to withstand heat, water and oil in iron and other metals. They also are excellent for use in fitting pipe joints. Following are some formulas: Sal ammoniac, four parts; sulphur, two parts; iron filings, thirty-two parts.

This formula is for iron exclusively, and should be mixed to a paste with water.

Another formula for iron or other metals may be made as follows: Dry white lead, six parts; sulphur flowers, six parts, powdered borax, one part. This should be mixed to a paste with strong sulphuric acid and used at once.

Following is another mixture for general use where the heat is not too great: Red lead, five parts, and litharge, five parts, mixed to a stiff putty with glycerin.

Small oil or compression leaks

around cylinders, crank case or bearings may be stopped by cleaning the parts and coating one or more times with shellac. The first coat should be allowed to dry before later applications are made. When the leak is in the cylinder head it usually will be best to remove the head entirely and give the cylinder head gasket a thorough coating of shellac on both its sides. Bolt securely back in place and allow the shellac to dry before running the motor.

Paint or putty should never be used to stop leaks in a motor, though these will sometimes do for use in making water pipe connections.

One of the best methods for stopping a leak in a radiator, tank, water jacket or pipe is to use chewing gum. Almost any brand will do. Place a piece of well masticated gum—being sure to remove all the sugar—over the leak and wrap well with adhesive tape. This will make a perfectly tight repair and will last a long time.

If small leaks occur in the pipes or radiator they may be temporarily stopped by sprinkling fine cornmeal, bran or oatmeal in the water. This should be done while the engine is running and the water hot enough to circulate.

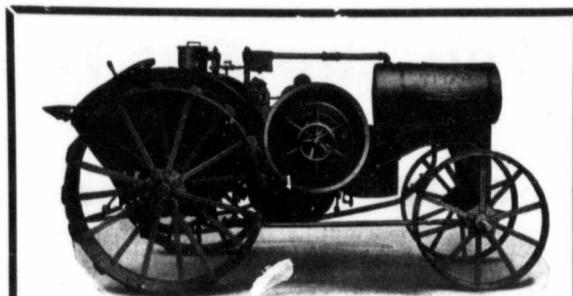
P. T. Hines.

#### WAR TIME IMPORTANCE OF THE TRACTOR

*Continued from page 12*

plowed, for instance. Leave a margin of 30 or 40 feet around the edge of the field for turning space. After the center is plowed out, then plow around the field and plow out this margin that was left for the turning space. Study the science of laying out the field and the art of plowing it with a tractor in a booklet furnished by the company from whom you purchase a tractor.

The operation of a tractor is very simple and easy to understand; it is simply a matter of study and practice. Ingersoll became a great orator by careful study and practice; that is true of any undertaking of life—the man who gives study and practice to attain an undertaking is the man who makes the greatest success. The tractor is an agricultural implement and it performs efficiently just in proportion to the amount of efficient handling it receives from the operator. The ignition apparatus is perhaps the most delicate part of a tractor's construction. My advice to a tractor owner is to first carefully examine the ignition apparatus—do it intelligently—it only takes a few seconds. Don't go to making adjustments of carburetor, governor, air tension valve and various other things before you are sure you



## INTERNATIONAL TRACTOR SERVICE

**W**ISE tractor buyers insist upon three features: Their tractors must operate on the cheapest fuel a farmer can buy.. They must be so simple that the farmer or his help can operate them. They must do enough good work in the field, and at the belt, to more than pay for themselves. **Titan 10-20** and **International 15-30-h.p.** tractors meet all three of these demands.

One reason for the very satisfactory records these tractors make is the service our local dealers and branch houses give—a service that enables farmers to keep their tractors going whenever there is work to do. It includes all necessary instructions in the care and handling of the machines.

Keep this service feature in mind when you come to buy a tractor. It applies equally to our **Titan 10-20-h. p.** and **International 15-30-h. p.** tractors. There is such a demand for these tractors that we cannot promise as early deliveries as you may desire unless you act promptly. Send for catalogues now, make your decision soon, and you will have your tractor for heavy rush work to come. Address the nearest branch house listed below.

## INTERNATIONAL HARVESTER COMPANY OF CANADA, LIMITED

#### BRANCH HOUSES

**WEST**—Brandon, Man., Calgary, Alta., Edmonton Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

**EAST**—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N.B.

have located the trouble. Any farmer with ordinary intelligence can take the direction book and in thirty minutes familiarize himself with the essential elements of a magnet. There is nothing complicated or hard to understand about a modern tractor.

They have a slogan down in some county in Missouri which goes something like this: "Make an effort to get acquainted with your neighbor—you might like him." I think this applies to the tractor—the farmer should make an effort to get acquainted with it—he might like it.

The country is calling for more food production. The prices are ranging high. The farmer is being offered through the tractor the means of more than doubling his output and the boys are going to the war. The boys are compelled to take a course of strenuous training for the job they have in hand. Is it asking too much, under the circumstances, that the farmer study the advantages of the tractor and when he adopts it, that he give a little time and attention to the matter of learning how to operate it in the most successful and efficient manner, being assured that if he does he will receive a handsome reward in the form of profits?

#### A NOTE OF APPRECIATION

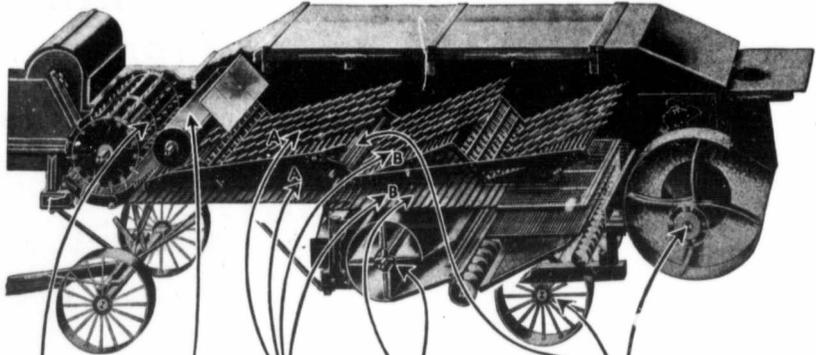
The Farm Engineering Short Course, held at Manitoba Agricultural College, Winnipeg, from January 22nd to March 22nd, was exceptionally well attended by farmers and farmers' sons from Manitoba, Saskatchewan and Alberta. The students were taught everything in connection with steam and gasoline tractors, also small stationary engines of all sizes; their construction, ignition and operation generally. They were also taught forge work, building construction, concrete work, grain-judging, stock-judging, arithmetic and English. The students received lectures and practical work alternately, which made it more interesting for them, and gave each man a chance of becoming more familiar with the different subjects taught.

During the term they visited some of the large power plants and implements showrooms in the city, also Grain Exchange and Inspection, Board where the students saw how the grain was inspected and graded as it came into Winnipeg.

Professor L. J. Smith had charge of the course, in which he was ably assisted by the following members of the engineering department:

Lecturer Lawson Siangs, gas engines; Instructor R. Watt, forge work; Instructor R. Mitchell, woodwork; Instructor R.

# HART-PARR



Large cylinder. Five tooth track. Maximum threshing surface. Hexagonal sealed taper shank steel teeth.

Straw racks and grain pan "A" work in opposite direction from straw racks and grain pan "B." Perfect counterbalance. No vibration. Double eccentric driven.

Undershot fan. Two adjustments of wind blast.

Ratchet driven windstacker pulley doubles life of belt. Prevents windstacker clogging.

Solid beater. No wrapping.

Two piece grain pans. No warping. No sagging.

Straw is completely turned over here, eliminating possibility of grain being carried over in straw.

Spring mounted rear axle.

## Hart-Parr Threshing Outfit Makes Threshing Easy

All threshers are made to thresh—all will do the work under good conditions. But the separator you want is the separator that has the greatest capacity and does the best work under every condition—the separator that is easiest to handle and adjust, the separator that is well made and has long life.

The Hart-Parr "Money-Maker" has hardwood sills. It is thoroughly reinforced from deck to axles. Every joint is a tight fit. No twists or bends—it is a sturdy, durable separator.

The cylinder is a 15-bar large cylinder equipped with steel teeth with hexagonal tapered shanks. These teeth withstand the most severe tests. A loose tooth in the Hart-Parr "Money-Maker" is rare.

The Hart-Parr "Money-Maker" is double belted and double eccentric driven. This insures smooth running, eliminates side strain and means longer life. One-half of the straw racks and grain pan is balanced against the other half.

Think of the value of these features!—perfect counterbalance, no vibration, long life, no grain pan warping or sagging out of shape.

The capacity of the Hart-Parr "Money-Maker" is limited only to the number of pitchers at the feeder. It has ample straw clearance. At the center of the racks the straw is completely inverted, insuring thorough separation and eliminating carry-over.

Our ratchet windstacker drive pulley equalizes the difference in speed between the cylinder and the windstacker. This saves your windstacker belt and prevents clogging of the windstacker.

All adjustments are on the outside of the Hart-Parr "Money-Maker" within easy reach. All oiling is done from the outside. The undershot fan with two windboard adjustments means sure and thorough cleaning under all conditions. The Hart-Parr "Money-Maker" is equipped with adjustable sieve and riddles, with belt reel and belt pulley guides—at the same price, and without extra charge. The feeder is a solid steel feeder—no chance to clog, no chance to warp.

It is a pleasure to thresh with the Hart-Parr "Money-Maker." You can make more money with it. With a Hart-Parr "Money-Maker" you have a long-lived machine as well as a very efficient and easily adjusted separator.

Write at once for detailed catalog, giving us the size engine for which you want a separator.

### Hart-Parr Tractors

The "Old Reliable" is just what the name implies. The Hart-Parr "Old Reliabiles" have served farmers for years. Hundreds are in use. Not only will they thresh and plow, but they are reliable, economical, kerosene burning tractors for road grading, hauling, field work, etc. We founded the tractor industry and our tractors are the result of years of experience in building tractor leaders.

Hart-Parr tractors are made in three sizes:

The "Old Reliable"—"Our 60."

The "Oil Kings"—"35."

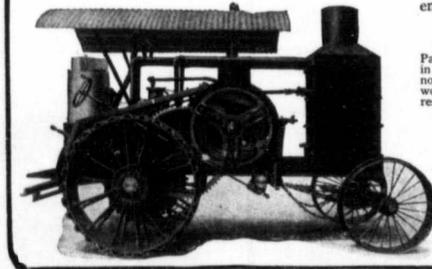
The "New Hart-Parr"—Three Flow.

Write for full information. Special inducements to dealers handling large sales.

**THE HART-PARR COMPANY**

560 Lawler St. Charles City, Iowa

HART-PARR of Canada, Ltd., Winnipeg and Regina



Milne, steam and gas engines; Instructor P. Shanks, gas engines; Professor Harrison, field husbandry; Professor Lee, electricity; Professor Sproule, English; Mr. Weir, animal husbandry; Mr. Reynolds, mathematics.

The students appreciate the interest taken in them by the staff, and they go away feeling that they have spent a very profitable two months in the Agricultural College. They take this opportunity to express their thanks to the firms of Winnipeg for their

courtesy in allowing the class to visit their plants; also to the various agricultural firms in loaning the college machinery for their use.

### SOIL BLOWING

There are several things that can be done to lessen the blowing of the soil. Straw or manure scattered on the land is one of the best measures. Cultivating strips 3 to 4 feet wide at intervals of two or three rods and at right angles to the direction of

the prevailing winds is helpful. The Corn Cultivator can be used. Leave the soil rough. Furrows made with the plow will be still more effective.

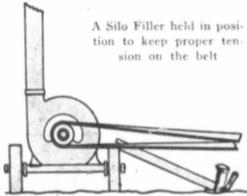
"You must put your shoulder to the wheel," said the earnest citizen.

"Glad of the chance," replied Mr. Shuggins. "I feel lucky if I don't have to crawl under a motor car and lie on my back to fix the works."

## Belting the Tractor

By F. N. G. KRANICH

**T**O be a commercial success the tractor must be just as capable of delivering belt power as drawbar power. It should, therefore, be provided with a drive pulley. Unfortunately, however, not every tractor has its main drive pulley situated so the tractor can keep it before him for lining up belt machinery. If some of the designers



A Silo Filler held in position to keep proper tension on the belt

could spend a season in the field, actually doing this work, they would realize the importance of this position for a drive pulley.

On some of the early steam tractors the drive pulley was placed on the left side, while the handwheel for steering was on the right side. With this kind of tractor, lining up was a big job, which usually required the work of the whole crew shouting directions for ten to thirty minutes.

Before long, however, all manufacturers realized that this wasn't practical, and the result was an almost uniform standard on steam tractors with reference to location and peripheral speed of the main drive pulley.

Time may develop such changes on our present tractors. The pity is that lessons cannot be learned from what the older manufacturers have gone through. This would relieve the farmer who purchases a tractor of a lot of unnecessary hard and discouraging work.

On nearly all the belt-power machines, such as threshers, shredders, hullers, balers and so on, the drive pulley is in the same plane with the truck wheels or length of the machine. On some silo fillers, shellers, grinders and so on, the drive pulley is at right angles to the length of the machine.

In lining up with machines of the former type, like threshers, the wheels of the machine should be well blocked before the tractor is backed into the belt. It is, of

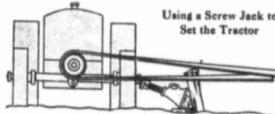
course, supposed that the belt-power machine has been leveled up properly. This is best done by digging out from under the high rear wheel.

It is assumed that the tractor has a tractor with the drive pulley within plain view when he has his hand on the steering wheel. It is also assumed that he has a friction clutch pulley on his tractor; the machine would be most impractical without it for farm work—in fact, almost useless.

### Running Into the Belt

A good plan is to run up toward the machine to be belted, getting as nearly in line as possible. Stop as soon as the drive pulley of the tractor and the driven pulley on the machine are in line, and the tractor is within the belt's length.

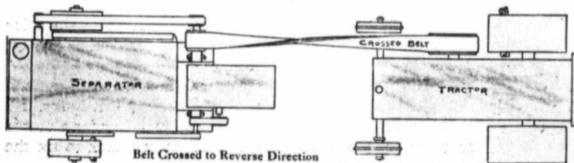
The belt should be put on crossed or straight, depending upon the direction of rotation required, and the tractor backed up very slowly, keeping an eye on the alignment continually until the belt is taut. At this same time have one man alongside the drive wheel with a "block" to keep the tractor from pulling forward due to the belt pull when running. As soon as the belt is taut, stop and drop the block into place, being sure that it is pressed close under the drive wheel.



Using a Screw Jack to Set the Tractor

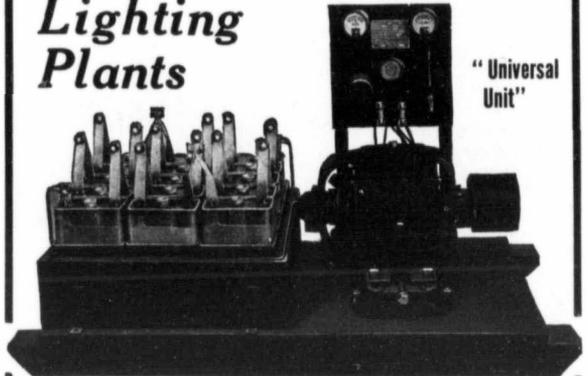
By taut I don't mean as tight as a fiddle-string. But the belt should be good and tight, because when releasing the gearing it will loosen up a trifle. After this loosening it should not be any tighter than is absolutely necessary to drive the machine.

If this main drive belt is unnecessarily tight, heavy loads are thrown on the bearings of the power machine and the tractor. With the old type of babbitted boxes there has been many a sad experience because the tight drive belt made such a pressure that the box would burn out within twenty minutes. With the modern roller-bearing box in the belt machine and in the tractor,



Belt Crossed to Reverse Direction

## Lister STORAGE BATTERY Electric Lighting Plants



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Ready to run when you get it. Made in four sizes: 15, 20, 25 and 32 Light erator, and switchboard, already assembled and set up on one base. No complicated apparatus; no parts or devices that can cause trouble. The Universal Unit means economy from every view point. Ask us for full particulars, with catalogues.

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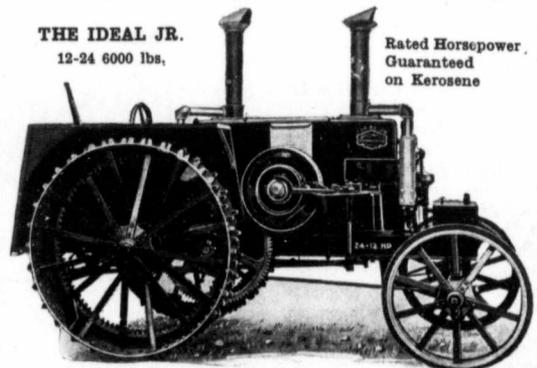
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Equipped with our own specially made Kerosene Carburetor and with a large slow speed motor, this Engine gives the utmost power from Kerosene. Being equipped with latest type high speed Tension Trip Magneto no batteries are required for starting.

**THE IDEAL JR.**  
 12-24 6000 lbs.

**Rated Horsepower Guaranteed on Kerosene**



Road wheels are large and wide. Tractor is driven from both sides. The Ideal Jr. is of specially strong construction, yet is light enough not to pack the soil hard. It pulls three plows at 2 1/4 to 2 1/2 miles an hour and handles a 24-inch Threshing Machine with all attachments. The Ideal 15-30 is stronger, pulls 5 plows, weighs 13,000 lbs.

WRITE FOR ILLUSTRATED CATALOG No. 46

We also manufacture the Beaver 18-24 four Cylinder Tractor and a full line of Gas, Gasoline and Kerosene Engines, Windmills, Grain Grinders, Pumps, Tanks, Steel Saw Frames, etc.



# An Unbreakable British Line

is any "line" of the "LION" or "YELLOW FELLOW" brands of Thresher Belting. They are made of sterner stuff than the average mass of power transmission media. Like the race that makes them, there is nothing in physical endurance that will out-class them. You may BEND them to any necessary or convenient adjustment, but you can't break them by anything short of sheer annihilation. For the strenuous work of 1918 make your date NOW with us for what you want in the



**LION BRAND**  
**Rubber Belt**  
 OR THE  
**YELLOW FELLOW**  
**ENDLESS THRESHER BELT**



Sold by all thresher companies doing business in Canada. They may cost a trifle more than some fabrics that are always a big risk but that is forgotten in the added years of service, and we guarantee our goods against all disappointment from slippage or breaking. It is not possible to make better belting by any scientific method known at this day.

## Gutta Percha and Rubber Limited

WINNIPEG FORT WILLIAM REGINA SASKATOON CALGARY LETHBRIDGE EDMONTON

this is impossible, yet the loads are often greater than necessary.

### Leveling the Tractor

It will often be found that after getting the alignment and being backed into the belt, the tractor will not sit level. This now needs first attention. Leveling can best be done, as in the case of the belt-power machine, by digging out from under the wheel on the high side. A little experience will soon enable the tractioneer to know exactly how much ground to remove to make his tractor level. It is usually when working in the barnyard, as at silo filling, shelling or shredding, that this is most needed.

When you are all ready wait until the operator of the other machine gives the signal to start. Many dangerous accidents have resulted from the tractioneer's eagerness to test out his alignment too soon.

The novice will find very often that the alignment is not so good as it looks and that resetting is necessary. Practice will enable the tractioneer to get his correct setting the first time.

When setting in the field or wherever a strong side wind is blowing, allowance should be made. It will be found that it is necessary to set quite a bit out of the true alignment to compensate for this wind. Frequently

there will spring up during the day's work a wind that threatens to blow the main drive belt off the pulleys. In this case a jack can be placed under the front axle of the tractor and the front end moved into the wind until the belt runs properly.

Lining up tractors with the drive pulley at right angles to its direction of travel is a bigger task. In this case the tractioneer should run his tractor as nearly in alignment as possible and with the assistance of another man get the exact location.

Another plan is to get the exact alignment with the eye beforehand and mark this by driving a stick into the ground. Then run the tractor up till the pulley just touches the stick. The proper alignment should be had if the first line was made correctly.

In this case it is necessary in order to get the belt taut to back the machine into the belt. This, of course, means all hands at the wheels. Here, too, judgment must be used to get the main drive belt the right tightness. Both machines should then be leveled to insure the belt's running on the crown of the pulleys.

If one has this type of tractor to belt to a corn sheller or a silo filler with the drive pulley also set crosswise, other means must be

*Continued on page 50*

### PEERLESS PERFECTION

No matter how fast it comes, the most unruly animal can't break through a Peerless Perfection Farm Fence—it springs back into shape. Made of heavy Open Hearth steel galvanized wire with all the impurities taken out and all the strength and toughness left in. Every wire is crimped making the fence into one continuous spring. Top and bottom wires are extra heavy. Will not sag. Requires less posts than ordinary fence. Absolutely guaranteed.

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With forty years' experience in manufacturing alloys for all classes of machinery, the HOYT METAL CO. has evolved two alloys which are unsurpassed by anything of the kind now in use.

HOYT'S NICKEL GENUINE Babbitt is especially designed for heavy duty gas tractors.

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20-40 H. P.

## CASE KEROSENE TRACTORS

Prepare now for handling the big crops expected for 1918. If you have extensive acreage to plow and sow, or if that burdensome job of preparing those big corn fields is worrying you on account of the shortage of man and team power, then simplify the whole problem by investing in a Case Kerosene Tractor. For the farmer who does things on a large scale we especially recommend the Case 20-40 Kerosene tractor illustrated above.

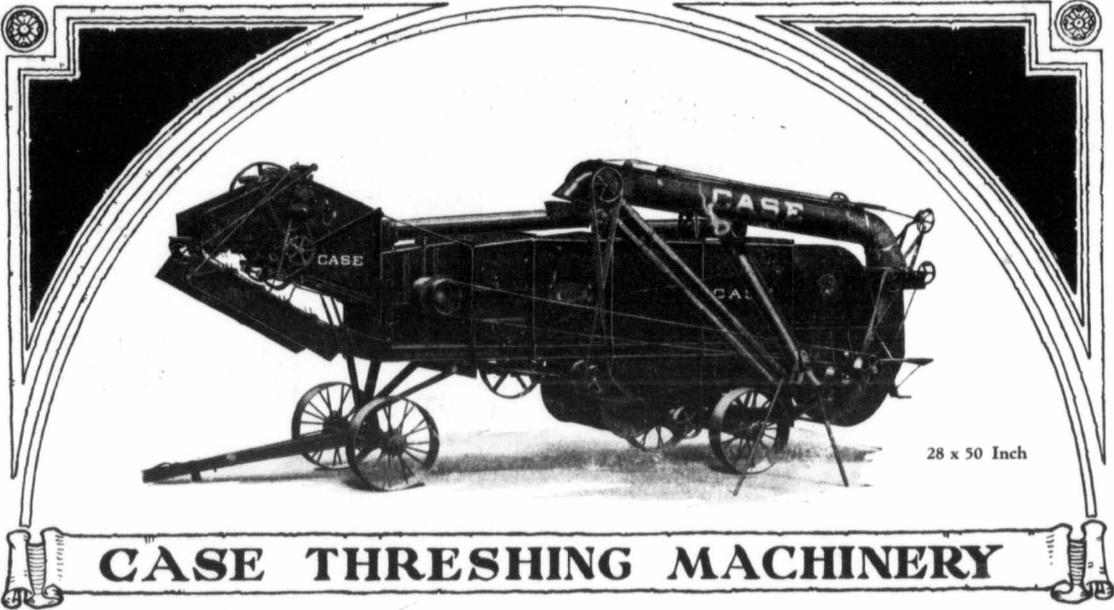
This tractor can pull a 5 or 6 Bottom fourteen inch plow. It handles a battery of other implements such as a disc, spring or spike tooth harrows and grain drills. It is a most excellent tractor for heavy belt work. The Case 28x50 Thresher as illustrated on the opposite page or a 32x54 Case Thresher fully equipped can be driven successfully with this economical kerosene burning tractor.

A few figures given below gives you an idea as to its size and capacity. Total length 177', width 100', height 107 with cab. Weight 13,780 lbs. Drive wheels 66" diameter by 20" face. Extension rims furnished on special order. Conservatively rated 20 H. P. Draw Bar pull - 4200 lbs. at plowing speed. The maximum brake horse power available for belt work is 50 although we rate it at only 40 H. P., giving the purchaser plenty of reserve power. The motor is a Case valve-in-head 2 cylinder, opposed type with 8½" bore by 9" stroke. Normal speed 475 R. P. M. controlled by a Case throttling governor. The belt pulley is 24" in diameter by 8½" face fitted with a dependable expanding shoe clutch and an efficient pulley brake both operated by one lever. The

all spur gear transmission with a sliding gear shift is easily controlled by another conveniently located lever which also controls the reverse gear. Lubrication is by a multiple force feed Madison Kipp Oiler and carburetion by Kingston Kerosene carburetor; Ignition by K. W. high tension Magneto with impulse starter requiring no dry cells. Cooling by Thermo syphon, aided by a friction driven fan, and heavy truck type radiator Case made. A powerful foot brake is regular equipment and convenient when lining up to a belt job in uneven places or when gear shifting becomes necessary on a grade. Write for further information about this or any other size Case tractor, all have successful and economical Case Kerosene motors.



**J.I. Case Threshing Machine Co. Racine, Wis. U.S.A.**



Conservation is the crying demand of the time. This is especially true of grain. The basic point from which to commence saving grain is in the threshing operation. Case Threshers are all real grain savers. The grain goes into the sack, not in the straw pile. For nearly four score years Case threshers have been known the world over for doing a clean job. In these critical times grain is worth big money. Can you afford to waste it?

This 28x50 Case steel Thresher is an excellent medium sized machine, which, under various conditions of crop, will thresh, separate, clean and save all kinds of grains and seeds.

Read the following brief specifications - Frame of structural steel; sides and deck rust-resisting sheet steel, securely riveted to frame. This prevents total loss by fire or distortion of frame by pull from heavy drive belt. It heads off warping and rotting.

It has big cylinder, 20 double bars; length 28"; diameter 32"; speed 750 R. P. M. 135 Sandow steel teeth with tempered blades and annealed shanks, cylinder and concave teeth interchangeable. Regular pulley 13 1/4" diameter, 9 1/2" face, other sizes to suit your engine speed. This 28x50 Case thresher is mounted on good sub-

stantial Steel truck. Wheels 34 inches in diameter with 8 inch steel tires; 12 inch skein, Spliced tongue, neckyoke and set of whiffletrees regularly furnished. Like other sizes of Case threshers the 28x50 machine, can be fitted with self feeder, gearless windstacker with grain saving device, slat stacker, swinging stacker, hand feed and different styles of grain handlers.

Send for our big free catalog showing six other sizes of Case grain saving threshers together with our other products. You will find much valuable information therein. Write today.



**J.I. Case Threshing Machine Co. Racine, Wis. U.S.A.**



**THE SOIL IS THE PLANT KITCHEN**

By R. S. Goodhue

THE soil is not a dead, inert mass of material that we farmers are so often apt to think it to be. It is filled with life. More wonderful processes are going on within it than human ingenuity can imitate. The greatest chemical laboratories in the world do not compare with it. In the soil, organic matter is being decomposed, mineral compounds broken up, and new compounds formed, all to feed the hungry plant roots creeping down into every niche and cranny of the soil to feed upon the surface of the tiny soil particles.

I like to think of the soil as a great plant kitchen; the plants are the boarders who must be well fed, bacteria are the cooks, organic matter and mineral compounds the raw material which must be worked over and served as prepared plant food.

How well the crops will be fed will depend upon three factors: First, the amount of raw materials in the soil that can be used for plant food; second, the number of bacteria at work as cooks; third, the environment in which the bacteria work.

**Soil Conditions**

Just as it is necessary to keep the cooks in our kitchen good natured, by providing them with plenty of fresh air, light, and sanitary surroundings, so we must give attention to keeping the bacteria in the soil good natured by giving them the kind of conditions they like. Bacteria to do their

work rapidly and well must have air, moisture, heat, and a soil free from acids.

Soils not properly drained do not let air circulate through them. Cold, water-clogged, undrained land does not offer favorable environment for soil bacteria and plants growing in such a soil will not be properly fed.

One of the first steps, then, toward increasing the productive power of the soil is to drain the wet spots. Often, by a few hours labor with a team, plow, and scraper, outlets may be made which will let the water run off from low spots that would otherwise be flooded in wet times. A few rods of tile properly laid may often increase crop production sufficiently to many times pay for the cost of the tile.

Organic matter in the soil helps to improve soil tilth. It loosens heavy soils and binds together loose, sandy soils. It acts like a sponge to hold moisture in such form as is most desired in the soil. It is also a source of food for the bacteria and constitutes a large part of the raw material which must be worked over into plant foods. For these reasons much attention should be given to provide the soil with sufficient organic matter, either as manure or green crops plowed under.

**Three Elements Likely to be Lacking**

Nitrogen, phosphorus, and potassium are the three elements most apt to be lacking in the soil. Nitrogen is for the most part contained in the organic matter of the soil. Soils with a large supply of this element are dark in color and for this reason black



THE FLEET—"AT SEA"

Liveryman: "Want a horse? What kind o' a horse?"  
Jack: "Oh, a good long 'un; there are four of us going aboard of her."



**Canada's Job**

in these days is the all-round job of (1), fighting; (2), producing; (3), saving. Not a word of testimony is needed on behalf of her fighting men. What of the non-combatants at home? As for ourselves, we are producing to the very limit of our resources in money, material and brains. We are producing—in Canada, mark you—the

**"MAGNET" Cream Separator**

The greatest labor-saving and food-conserving machine ever introduced into Dairy Farming.

After nearly 18 years' constant use on Canadian farms the "Magnet" has established beyond the shadow of a doubt that its square gear drive and ball-bearing adjustments is unequalled as an effective piece of dairy mechanics and has nothing in front of it in lasting quality.

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.

**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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INDIGO CLOTH**

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Better than you expect—a cloth that's built to stand wear and tear and weather. Three generations of wearers have found it the most-for-the money cloth.

Be sure your overalls, shirts and jumpers are made of Stifel's—it hasn't an equal anywhere for all-round satisfaction. Look for the label on the back of the cloth inside the garments when you buy. Insist upon STIFEL'S and you'll never be disappointed in service. Remember, it's the CLOTH in your overalls that gives the wear!

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St. Joseph Mo. .... Saxton Bank Bldg. Montreal ... Room 500, 489 St. Paul St.

soils have always been desired by farmers. Peat soils and soils heavily fertilized with manure often have excessive amounts of this element and a deficiency of the others. On such land, grain grows tall and rank, lodges badly, ripens slowly. Light colored silt loams and sandy soils are apt to be deficient in this element and produce grain so short in straw and with so little stooling that low yields are the result.

Phosphorus seems to be of special value to the plant in producing large, plump kernels of grain, good root development, and early maturity. Tests with acid phosphate added as a source of phosphorus shows that corn well supplied with this element matures much earlier and resists frost better. Whether this element is lacking in our soil cannot be told except by chemical analysis. It is a safe guess that most of our upland silt loams and sandy soils are quite deficient in this element. Chemical analysis have shown that the chief cause of low yield on many farms has been the lack of phosphorus.

Potassium is necessary to give health and vigor to plants. With a deficiency of this element, the straw is weak and is readily attacked by rust and other diseases. Potatoes, sugar beets, and other crops storing up large amounts of starch and sugar require an abundance of this element. All peat soils are extremely deficient in this element and special effort should be made to supply it. Wood ashes contain from 3 per cent to 5 per cent of this element and until muriate of potash and sulphate of potash can be purchased at a reasonable price, the peat land farmer should make use of this source of potassium. Most of our upland soils, especially those containing some clay, have large supplies of potassium. In sandy soils the potassium is not readily available, due to the coarseness of the soil particles and a lack of sufficient organic matter to make the proper environment for soil bacteria. Proper tillage, plenty of organic matter, and the right amount of moisture will do much to make available sufficient of this element from the large store already in our soils.

With acidity in the soil, bac-

teria do not work actively. The preparation of plant food is slowed down. Legume bacteria, living on the roots of alfalfa, sweet clover, medium red clover, and soy beans are especially sensitive to acid conditions. The largest yields of these crops cannot be expected from acid soils.

**Barnyard Manure**

Barnyard manure is a great store of plant food. It ought to be carefully husbanded. It ought not to be piled close under the eaves of the barn to leach away its soluble plant foods. Exposed for only three months it will lose more than one-half of its plant goods. It should be hauled direct to the fields, kept well tramped down under cover, or piled in manure pits with concrete bottoms and kept well packed down. It should be applied to the fields with a manure spreader and never in small piles from a load to be spread by hand later, as such methods result in much waste and uneven distribution of fertility. Applied as a top-dressing to winter wheat and rye, new clover seedings, and old meadows, light applications of manure will do much good. Heavier applications should be used for corn or potatoes. Disked into the soil either before or after plowing it is said to be more effective than when applied first and plowed under.

Manure alone does not meet the demands for plant foods if the soils are deficient in either phosphorus or potassium. Many dairy farms receiving frequent application of manure now produce so rank a growth of straw that the grain lodges and does not fill well. In most cases this is due to a lack of balance between the amount of nitrogen and phosphorus and potassium available to plants. Manure is disproportionately high in nitrogen and continued use of large amounts has the effect described above. On soils which chemical analysis shows comparatively low in phosphorus, special attention should be made to supplement the manure with either acid phosphate, rock phosphate, or bone meal.

To get the quickest returns acid phosphate should be used, applying it with the manure at the rate of 300 to 500 pounds per acre. Thirty to fifty pounds spread as



**The Best Advice Obtainable**

Every farmer and dairyman knows that breeders or owners of record breaking cows don't experiment or take chances with their champions.

It is obvious then, that in regard to the care of cows, and the best method of milking, no better advice is obtainable than given by the owners of championship stock.

Mr. G. A. Brethen of Norwood, Ont., owner of many champions, Senator A. T. Fancher, owner of the world record holder, "Fancher Farm Maxie", and hundreds of the leading farmers throughout Canada advise—and by using, endorse



The experience of these owners of Empire Milking Machines proves that cows and heifers take readily to being milked by an Empire. The soft, gentle massaging of the vacuum cups sets up a pleasant sensation which soothes, causing the cows to give down willingly and contentedly.

If you have ten cows or more, an Empire can be installed economically, paying for itself in a short time by saving time and labor. With an Empire one man can do the work of three men milking by hand in the same time.

Empire Milking Machines do away with drudgery on the farm—they are always ready to work—and always work well, saving the cost of extra men, time and trouble.

The breeders of Champion Stock who use Empire Milking Machines have given us valuable information, which we have put into booklet form. It's certainly worth a stamp, so drop us a line now while you have the inspiration.

**THE EMPIRE CREAM SEPARATOR CO.**

of CANADA, Limited

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Just plain soap and water and a little "elbow grease"

Will remove DIRT and STAINS from Walls and Ceilings that are covered with

**SILKSTONE**  
Flat Wall Colours  
"Smooth as Silk—Hard as Stone"

**24 Colors and White**  
FROM LEADING HARDWARE DEALERS



an even layer over the lead in the manure spreader will do this if ten loads of manure are applied to the acre and the manure and phosphate will be evenly mixed by the spreader.

Rock phosphate is less expensive, but its results are not so quickly apparent. It should be applied in larger amounts, usual applications ranging from 500 to 2,000 pounds to the acre. It must be applied with manure as described above.

Legume crops when properly inoculated are great soil builders. They gather nitrogen from the air and store it in the soil. They produce high protein foods so important in the ration for the milch cow and growing animals. We should grow these crops more extensively for their feeding value and on the light colored silt loams and sandy soils for the special purpose of increasing the nitrogen supply in which these soils are deficient. Let us grow more soy beans for hog pasture, for hay, and for grain. Our lighter soils will grow this crop well and it will be appreciated only as we grow this crop more extensively.

**HOME-MADE SYRUP FROM SUGAR BEETS**

(Experimental Farms Note.)

AS one of the consequences of the war the price of granulated sugar has very materially advanced during the past two years. This fact has prompted the inquiry, can a wholesome syrup be made in the home from sugar beets that can be used as a sugar substitute?

To ascertain the possibilities in this direction the Division of Chemistry of the Experimental Farms has been making a number of experiments, taking as a basis the simple process described in the U.S. Department of Agriculture, Farmer's bulletin No. 823. The results of this investigation have shown that a syrup may be prepared from sugar beets, which, though not palatable for direct use, as on pancakes, porridge, etc., can be successfully employed as the "sweetener" in the making of buns, muffins, cookies and gingerbread, and possibly other cookery products in which a dark color is not objectionable. The syrup—the method of making which is about to be described—is of a thick consistency, very dark and contains from 50 to 60 per cent of sugar. It is intensely sweet but unfortunately leaves in the mouth a very distinct and unpleasant after-taste which is very persistent—due no doubt chiefly to the mineral salts extracted from the beet in the process of making the syrup. This

disagreeable after-taste precludes, in our opinion, the possibility of using the syrup directly on articles of food. However, a number of trials with it as a sweetener in cooking has demonstrated that it can be satisfactorily employed in baking operations, as already stated, the product being free from any appreciable unpleasantness. The process, which is exceedingly simple, is as follows:

1. The beets should be thoroughly washed, and the crowns cut off at the lowest leaf scar and rejected. The remainder of the beet is then sliced as thinly as possible, put into a tub, crock or other suitable receptacle, and covered with boiling water at the rate of 1½ gallons per 10 pounds sliced beets. The whole should be kept hot for an hour or so, with constant stirring and then strained through two thicknesses of cotton. The juice so obtained is brown or brownish black in color and was found to contain 5.75 per cent to 6.75 per cent sugar.

2. The juice, obtained as already described, is boiled down to a volume of approximately one-tenth of that originally present, care being taken that the syrup as it thickens does not scorch or burn. During the boiling the scum, which constantly rises, should be removed.

To preserve the syrup for future use it should be bottled while still hot in self-sealer and the covers at once tightly screwed down.

**CORN AS A SUBSTITUTE FOR SUMMER FALLOW**

(Experimental Farms Note.)

THE experimental work at Brandon Experimental Farm, as well as the practical experience of many Manitoba farmers has shown that fodder corn can be made to take the place of summer fallow with good success.

**Effect on Yield**

In 1917, a season of extreme drought, a field of wheat on corn land at Brandon yielded twenty-eight bushels per acre, a field on summer fallow nearby yielded twenty-one and one-third bushels per acre. In 1915, the corresponding fields in the same rotations yielded forty bushels per acre on corn land and thirty-two bushels per acre on summer fallow. These are not exceptional cases, but are quite the usual result obtained.

**Cost of Production**

Not only is the yield of wheat maintained, or even increased, by the substitution of corn, but the cost of production is greatly decreased. The corn fodder pays for the use of the land and for the work applied during the year

**RENNIE'S War Time Production Seeds**

THERE must be no "slackers" this year, either among the seeds or the growers. Every man and woman with garden space, must produce to the limit of his or her ability. And that is why Rennie's seeds are so essential—live, vigorous seeds from tested stock, to ensure record crops.

<b>BRUSSELS SPROUTS</b> —Amager	Pkt. ¼ Oz.	Oz.	¼ lb.
Market	.10	.90	2.75
<b>CABBAGE</b> —Rennie's First Crop	.10	.75	2.25
<b>CABBAGE</b> —Early Jersey Wakefield (Improved)	.05	.60	1.75
<b>CAULIFLOWER</b> —Rennie's Danish Drouth-Resisting	.15 & .25	1.00	3.50 10.00
<b>CELERY</b> —Paris Golden Yellow, Extra Select	.15	.60	2.00
<b>TOMATO</b> —Bonny Best (Original)	.10	.60	1.75
Rennie's Improved Beefsteak	.10	.75	2.50

<b>FLOWER SEEDS</b>	Pkt.
New Giant Asterum—Mixed Colors	.15
Rennie's XXX Giant Comet Asters—Mixed	.17
Dreer's Peerless Pink Aster	.15
Early Blooming Cosmos—Mixed	.10
Rennie's XXX Exhibition Mixture Fanny	.10
Rennie's XXX Prize Ruffled Giant Single Mixture	.25
Rennie's XXX Large Flowering Globe Stocks—Mixture	.20
Rennie's XXX Mammoth Verbena—Mixture	.10
Giant Zinnia—Mixed	.15

Mail Your Order TODAY For Planting Up to April 15th

**LOOK FOR THE STARS**

Turn the pages of your Rennie catalogue. You will notice a great many paragraphs with stars at the corners. These are extra special values that defy competition. When buying from dealers insist on RENNIE'S.

THE WILLIAM RENNIE COMPANY LIMITED. KING & MARKET STS TORONTO. ALSO AT MONTREAL WINNIPEG VANCOUVER



**Do More Work with Less Men and Less Horses**

LESS men and less horses are available for the farm than ever before. Wages for farm help and feed for farm horses are the highest in all time. Yet the farmer is expected to produce more food than ever before.

"Doing the Impossible" is easy for the Huber Light Four. Does the work of 4 men and 12 horses. Plows an acre an hour. Light—works on a seed-bed without packing the ground. Strong—runs all farm machinery, pulls stumps, hauls loads and multiplies the production of your men in most places where horses are now needed. Economical—saves money in every farm operation requiring power.

Write for Full Information

The Huber Mfg. Co.

446 Center St., Marion, Ohio  
Canadian Branch, Brandon, Manitoba. Parts carried in stock at Saskatchewan.



of summer tillage. When wheat is grown on summer fallow, the interest on the value of the land for an idle year and the cost of the work of summer fallowing should be counted in determining the cost of production. But when corn is used, the corn fodder pays for these costs, and the following wheat crop has only the costs of its own year of growth to pay for. In this way the cost per bushel of growing wheat after corn is found to be from one-half to two-thirds what it is on summer fallow.

**Earliness**

Wheat grown on corn land matures about a week earlier than that grown on summer fallow at the same date. This gives a safer crop, less likely to be damaged by frost, rust or windstorms. The straw is less bulky and rank and stands up better in wet weather. It is easier to cut and cheaper to tie.

**Limitations**

There are several limitations in the use of corn for this purpose. The area must necessarily be limited to what the farmer can handle properly, and the product of which his live stock can use economically. On most farms 20 to 30 acres would be as much as could be handled properly. Then too it should not be sown on very dirty land. On most well managed grain farms a regular rotation of crops is followed, so that a certain area is due for summer fallowing each year. Usually part of this area is comparatively clean, with only a limited number of weeds and these not of a very tenacious character. This part should be chosen for the corn, so as to make the work of keeping it clean as easy as possible. The dirtier parts of the land, and especially any infested by persistent perennial weeds, should be left for a regular bare fallow.

In order that corn may successfully replace the fallow, it must be kept clean; this means thorough preparation of the land before planting and frequent intertillage while the corn is growing. If the corn is kept free of weeds there is no need to plow it before sowing wheat the next year. Best results are obtained when the wheat is sown among the corn stubble in the surface soil which has been cultivated frequently while the corn was growing. The surface should be loosened up in the spring by means of disc or harrow, the harrow is sufficient in loamy soil, but the disc is necessary in heavy clay.

The livestock breeder who knows what good blood lines are soon has the world trekking to his door.

# CANADA MUSTERS HER MANHOOD



**FOR** the war against hunger as well as for the war against the Hun. For every Canadian fighting overseas, at least two on farms at home are serving none the less effectively because they wear neither uniforms nor marks of rank or valour.

Long and strenuous days are theirs, without leave or furlough! a steady drive through the daylight hours to keep the work abreast of the season, and save the crops so sorely needed to feed our fighting men.

Only those who spend such days can realize how good it feels to have a "wash-up" and a clean Gillette shave at night—or how it fits a man to enjoy the evening's rest or pleasure of the trip to town.

The busier you are going to be this

summer, the more you'll need a Gillette Safety Razor, with its clean, comfortable, five-minute shave. And the better you know and like good tools, the more you'll appreciate the simple mechanical perfection that gives the Gillette such a lead over every other razor.

The Gillette Safety Razor is made in several different styles, civilian and military. Choose one of the former for yourself and delight some soldier friend with a new Military Set. Your dealer can supply you at \$5.00 up.



STANDARD \$5.00

## Gillette Safety Razor Co., of Canada, Limited

Office and Factory:  
GILLETTE BLDG., MONTREAL.



BULL DOG \$5.00

**THE FARM WELL**

(Experimental Farms Note.)

**G**OOD water is as essential as good food for the maintenance of health in the family and the thrift of the farm live stock. An ample supply of pure, wholesome water is not only a blessing of inestimable value, but one of the most valuable assets a farm can possess. There is no country in the world

with a greater abundance of pure water in lakes, rivers and springs than Canada, and there is no insuperable difficulty in the larger number of our agricultural districts in obtaining a supply ample and pure.

A glance through the annual reports of the experimental farms shows that the division of chemistry is doing a valuable work towards the improvement of the farm water supplies throughout the Dominion. In the course of the past thirty years many hun-

dreds of samples from farm wells have been analysed and reported on. A perusal of these reports shows that year in and year out only about one-third of the waters were pronounced as pure and wholesome, in other words, were free from excretal drainage matter. This is not as it should be, and the reason is not hard to find. In too many instances convenience only has been considered in locating the well. For the most part we find these polluted wells under stables, in barnyards

or dangerously near the privy or where the slops from the farmhouse are thrown out. Wells in such locations can never be depended on to yield pure water. They must sooner or later become polluted by filth draining into them from the surrounding soil, which inevitably becomes saturated with manurial products. These wells indeed act as cesspits and the records show not a few instances in which the water of such wells possessed a distinct fertilizing value from the presence of excretal matter.

The lesson from these facts is: don't sacrifice health to convenience, locate the well at a safe distance—50 to 100 yards at least—from any possible source of contamination. A bored or drilled well tapping a deep seated source, tightly sealed off at the junction of the soil and rock, is likely to give the purest supply. If a dug well, line it to a depth of 10 or 12 feet with concrete or puddled clay, 4 to 6 inches in thickness, to ensure the exclusion of water from the surface layers of soil. Keep the surroundings of the well absolutely clear from the accumulation of filth and preferably in the grass. Make provision to carry off the waste water from the pump, so that it may not re-enter the well and so protect the mouth of the well that surface water cannot flow in and mice, frogs, snakes, etc., are excluded. With wells such as these pure water may be secured. A windmill, gasoline engine, or hand force pump will be found a paying investment, enabling the water to be piped to the house, stable and barn, thus securing running water in the farm buildings—a convenience and blessing that needs only to be experienced to be appreciated.

**THE BRITISH FARMER**

*Specially contributed to the Canadian Thresherman and Farmer by an Officer in the Canadian Army.*

**T**O an extent that is becoming increasingly realized in the British Isles, the farmer holds the key to the economic situation. Food, food, and yet more food is the urgent need of the hour. And the food supply depends upon the farmer.

Wonders have already been done by the British farmers. But greater wonders still must be wrought before any sound solution of the food problem can be found. Last year, it was stated recently in the House of Commons, over a million new acres were added to the cultivated area of Great Britain producing additional cereals of 850,000 tons and an additional 3,000,000 tons of potatoes. This year a further 1,200,000 acres will go under the plow in England, Scotland and Ireland. Think for a moment of the vast effort behind these increases, in a land where for many years there have been all too few encouragements to the farmer. In these strenuous days of agriculture—the "backbone of any country"—is coming into its own.

There are many features of the present agricultural situation in Great Britain of extreme interest to all engaged in agriculture and some of these changing phases may appeal to many readers of "The Canadian Thresherman and Farmer."

At last there are signs that the British farmer is beginning to realize a principle that has long been recognized by the agriculturist of Canada and the United States—that to reap the full measure of success, the farmer, no less than the merchant, must cooperate.



Harry (just "out"): "Listen, Bill! Sounds like ole Fritz comin' over in the mud-squish squash, Squish squash."  
Bill: "That's orl right—that's only the American boys further up a-chewin' their gum rations."

**Mr. Farmer!**

PUT SOME PUNCH INTO YOUR SPRING SEEDING by wearing

**NORTHLAND**

**The Two Dollar Knock-out Glove**

They will sure put the K.O. on all work glove trouble by giving comfort and glove satisfaction

For those who prefer a short "band top" glove with string fastener, we would recommend

**The \$2.00 Junior Knock-out Glove**

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**TORONTO**

DOUBLE GEARED WINDMILLS

**FREE POWER**

Running water in your home, barns, and pastures, without a cent of cost for power! Wind power, of course! Not the old style wind power, accompanied by sleep destroying rattle, constant repairs, frequent oilings, and trouble half the time. To-day a TORONTO Windmill gives all the pumping power you need—no repairs, no expense for upkeep beyond an occasional oiling. What is the main difference? The Toronto Windmill is built with double gears removing side strain, saving wear on bushings, stopping rattling and enabling the mill to run in the lightest breeze. It is a revolution in windmills that has brought wind power back to favor! We are sending out windmill books as fast as we receive requests. Send us your name and address without delay. 148W

**Ontario Wind Engine & Pump Co., (Western Branch) Limited**  
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# FROST FENCE FIRST



Strength  
Service  
Security

*"It pays to use it"*

**FROST STEEL and WIRE CO. Ltd. HAMILTON CANADA**

100

An important meeting was held in London the other day, in a very decided sense an historic meeting. It was a conference of farmers and allotment-holders called for the purpose of forming an Agricultural Wholesale Society. Proposals were made to form a co-operative society, with a capital of £100,000, to assist farmers in the purchase of land, the raising of crops by the most scientific methods and the most advantageous disposal of their crops. It will be interesting to watch the development of this sound scheme. Who knows but from these beginnings may come a complete reorganization of farming methods in Great Britain?

That the present government

appreciates the vast importance of the whole-hearted co-operation of the farmers is abundantly clear. Innumerable are the appeals and exhortations made to them; and loyal the response. But at last the powers that be are awakening to the fact that these appeals must be thoroughly practical, made by men who understand the situation, know exactly what is wanted, and say so in an unmistakable fashion. It was officially announced a few days ago that the Ministry of Food and the Board of Agriculture have ruled that in future all orders dealing with agricultural matters "should be couched in the plainest possible language" instead of in the old official jargon which would frequently puzzle the very lawyers

to understand. Plain speaking to plain men is a pretty good plan the world over.

Not all the suggestions and appeals that are being made to farmers are distinguished for their wisdom. There is a tremendous controversy in the press at the present time upon the ruling that pig raising is undesirable at the present time. The powers that be take the view that pigs cannot be fed without use of grain needed to feed the population. Practical hog raisers claim that they can, and who are the better judges?

Last year, huge supplies of potatoes were grown by the farmers, allotment holders and backyard gardeners. This year, in all probability, still greater crops of

this useful tuber will be raised. But here are voices here and there questioning whether one cannot have "too much potato"—that the food value of the homely tuber is relatively small, as compared with the parsnip, sea-kale, broccoli or bean.

One sound principle has been announced which comforts the hearts of a great many amateur growers. It has been made a penal offence to hoard supplies, and many a prudent housewife who, without any thought of hoarding, has cannily stored her cupboard with supplies against a still more rainy day, finds that she must unload her shelves. But home-grown produce of the garden is to be exempt from seizure. The director-general of the Food

Production Department makes the following assuring statement:

"Not only is it not proposed to commandeer the produce of allotment holders, but special facilities will be granted to them. That is to say, they will be entitled to retain for their own consumption the whole or any part of their produce, while, on the other hand, they will be offered every encouragement to group their surplus produce as in the case of potatoes, in four-ton lots, so as to obtain the benefit of State purchase, or for the purpose of marketing any other surplus produce."

And just as there is a laudable tendency to give every encouragement to the active farmer, swift punishment falls upon the landowner or tenant who fails to use his land to full advantage. A farmer in Buckinghamshire who has held some 200 acres for over thirty years, failed for some reason to cultivate more than half his land last year. He was fined £10 and £50 costs, and his farm was confiscated. Here is an instance of the growing view, which in recent years has been so widely overlooked, that the land is a national asset, only to be held on the principle that its holders do service for the privilege. That principle will increasingly extend.

If the British farmer will but do his best, the German submarine may do its worst, and, happily, the British farmer knows it.

**BELTING THE TRACTOR**

*Continued from page 4*

resorted to. Then it is necessary to use long crowbars or jacks to move one or the other machine into the belt. If you are using a silo filler, which sits plumb up against the silo to get a straight pipe, it will be necessary to pack over the tractor to get the right results.

Blocking these machines, too, is more difficult. It will be found necessary to drive stakes into the ground to quite a depth to hold them in place to keep the proper tension on the belt. Screw jacks will be found of much convenience between stakes and tractor.

Now that we are all set, we can start up at the proper signal. The friction clutch should be moved in very slowly, and at the same time the tractor should watch the belt very carefully, and also keep an eye on the man who runs the machine end of this rig. He may find something wrong and want to stop in an instant. It will be a pleasure and personal satisfaction to hear the tractor motor pick up this load.

If the belt runs properly—and be sure that it does—the tractor can then receive what attention is necessary. Be ready, however, at any instant to throw out the clutch if a signal from the operator of the other machine is given.

On the rig that I worked with we felt that it was useless for the tractor to stand by the tractor during this time, since it required no attention. We, therefore, drove a stake into the ground some twenty feet back of the tractor, on which we wired a single pulley sheave block. From the friction clutch lever we ran a rope back through this sheave block on the stake, then forward up to the front wheels of the belt machine.

Everybody working about this machine knew that a good yank on this rope would throw out the clutch and let the machine stop. This gave us the tractor's work with the rig, where he could do much helping. Of course, he would go back to the tractor now and then to see how things were moving.

Now just a word about throwing off the belt. When the job is finished the tractor usually throws the belt. He is anxious to back up and get turned about so he can couple up and move to the next place. But don't be in too much of a hurry. First of all the engine friction clutch should be thrown out of engagement when the job is finished. The best plan to follow is to let the belt come to almost a dead stop before throwing it. Even if it stopped absolutely the engine can run ahead a foot or two to release it, which will be better than throwing it, which might cause an accident.

**When Pulley Picks Up Belt**

If the belt is thrown off when the belt machine is still pretty well up to speed there is great danger of the drive pulleys not letting go. In this case it will pick up the belt and start to wind it round itself. In one experience of this sort the shaft on the thresher was bent badly. Another time the belt slipped off the pulley on the silo filler and got wedged between the sharp face of the pulley and the frame of the machine and cut the drive belt—new 8-in. 4-ply stitched canvas—halfway across before the machine could be brought to a stop.

Also it happens in many cases men have had their arms broken by getting them between the belt and the drive pulley of the tractor while throwing the belt.

The plumber boy to the war has gone,

In the army ranks you'll find him;

His soldering iron bravely shone, And his spirits of salts be-hind him.

Dear was the plumber boy to all, Mean was he as a miser.

Oh! let him not in the battle fall Until he has charged the Kaiser.

**INCREASE PRODUCTION**

BY PLANTING

**Steele, Briggs' Famous Seeds**

CATALOGUE ON REQUEST

**STEELE, BRIGGS SEED CO. Limited**  
WINNIPEG, Canada



**DO NOT SCRAP BROKEN CASTINGS**

We make them equal to new at low price. Cylinders, Engine Bases, Gear Wheels, Steam Boilers, in fact any broken or cracked parts, welded and guaranteed by us. Scored or worn cylinders re-bored. Please write for our circular and estimates. We were the first to operate the OXY-ACETYLENE WELDING PROCESS in the West. Established since 1911.

**MANITOBA WELDING & MFG. CO.**  
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# Vast Issues Depend Upon the Welfare of Our Boys

**T**RY to picture yourself in the muddy cold trenches after exciting days and long nights of mortal danger and intense nervous strain. Rushing "whiz-bangs" and screaming "coal boxes" are no respecters of persons. You are hit! But despite shock and pain you still can face the long weary trudge back to dressing station. Weary, overwrought and depressed you are prey to wild imaginings of that other coming ordeal with the surgeon. There are other "walking wounded," too! You must wait, wait, wait. And then—

Up comes a cheery Y.M.C.A. man, the ever present big brother to the soldier, with words of manly encouragement. Close beside the dressing station the good, generous folks at home have enabled him to set up a canteen. He hands you biscuits, and chocolate or coffee.

"In thousands of cases," writes an officer, "it was that first hot cup of coffee that dragged the man back to life and sanity!"

The tremendous helpfulness of the Y.M.C.A. as an aid to the "morale," or fighting spirit, of the soldiers is everywhere praised. No wonder the Germans make every effort to smash the Y.M.C.A. huts out of existence.



Cheer Up, and Thank God for the Y.M.C.A.!

## Y.M.C.A. Red Triangle Fund

\$2,250,000, May 7, 8, 9

Canada Wide Appeal

The Y.M.C.A. is everywhere. You first met the helpful manly Y.M.C.A. worker in camp, then on train and boat, at camp in England and in France, close to the firing line. Often he risks his life to reach you in the trenches. He has won the warmest praise from military authorities, statesmen—the King!

Have you a precious boy at the front? You cannot be "over there" to guide him away from fierce temptations of camp and city. You cannot comfort him in his supreme hour of trial. Your parcels to him are necessarily few. But the Y.M.C.A., thank God, is "over there," going where you cannot go—doing the very things you long to do—doing it for you and for him.

Will you help? This vast organization of helpfulness needs at least \$2,250,000 from Canada for 1918. For your boy's sake be GENEROUS!!

## Brief Survey of Y.M.C.A. Service to Soldiers

Branches in 20 Forestry Camps established last year.

Y.M.C.A. nightly under fire in many places.

300,000 letters a day written in Y.M.C.A. buildings.

Troops furnished with athletic equipment (helps morale of troops).

Entertainments, Bible classes, sing-songs, good night services and personal interviews conducted by Y.M.C.A. workers.

Y.M.C.A. Red Triangle Clubs in Toronto, St. John, Montreal and other cities for returned soldiers and enlisted men.

Y.M.C.A. service extends from Vancouver to the firing line and then back to patients in hospitals until men are discharged.

Y.M.C.A. Secretaries accompany troop trains.

Between 400 and 500 millions of letters and cards written and posted in Y.M.C.A. tents, huts and dugouts since war began.

Splendid service to boys in Canadian Camp hospitals. Regular sing-songs and inspirational addresses with distributions of magazines, fruit, chocolates, gum, books and smokes.

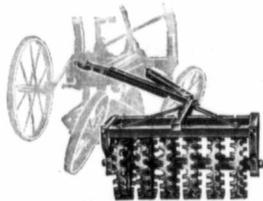
## National Council, Young Men's Christian Association

Headquarters: 120 Bay Street, Toronto

JOHN W. ROSS (Montreal)  
National Chairman of Red Triangle Fund Campaign.

G. A. WARBURTON (Toronto)  
National Director of Red Triangle Fund Campaign.

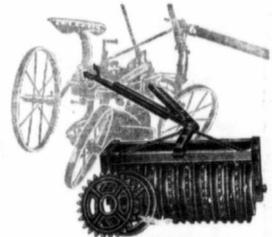
# THE LAST WORD IN TILLAGE EQUIPMENT



AS A SURFACE PACKER



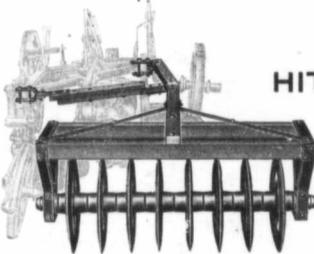
15 foot 4-Section Surface Packer. Sub-Surface Wheels can be supplied for same frame



OR A MULCHER



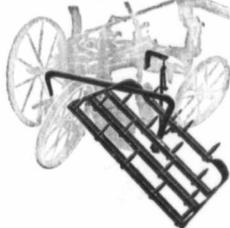
HARROW READY FOR OPERATION



HITCH YOUR  
FORD  
TRACTOR  
TO A  
STAR

This is our Sub-Surface Plow Packer for 3-furrow plow. The hitches are adjustable and will give perfect satisfaction with any make of plow.

OUR PATENT AXLE on all our land-packers reduces draft to the lowest possible minimum, and they are LUBRICATED FOR THE WHOLE SEASON before we ship them.

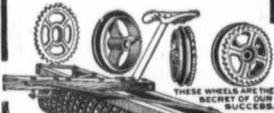


HARROW TILTED FOR HANDLING ON ROAD

WE ARE THE PIONEERS IN THE BUSINESS OF "ATTACHMENTS"

### 3 MACHINES IN 1

A perfect seed bed is as important as to sow or plant. The Western Pulverizer, Packer and Mulcher makes a perfect seed bed and leaves a loose mulch on top to retain the moisture in one operation. It will double profits on crops. Made in Britain, 1 and 2 sections. Sold to you on one year's trial.



We want every farmer and landowner to have our illustrated circular. It describes the machine, its principle and advantages over all others. It gives testimonials from many farmers proving what it will do on wheat, alfalfa and other crops. It contains valuable information on how to prepare the soil for better results. Send for this circular today, whether you want to buy or not.

CHRISTIANSEN IMPLEMENTS LIMITED  
Implement Manufacturers, Winnipeg

## Christiansen Implements Ltd., OWENA STREET Winnipeg

THE dugout measured seven feet by ten, the man measured less, but the spirit of the man was immeasurable. The dugout was just an ordinary dugout; steel sheeting overhead, then sand bags, bricks, and still



### Clean, Even, Deep Furrows—A Snap

As slick a job as the finest tractor would do, and at a fraction of the cost. This attachment, the

#### Ford-a-Tractor

WITH ENCLOSED DRIVE GEARS  
RUNNING IN OIL

can do your farm hauling in a way that satisfies it will pull your spreader, harrow, cultivator, binder or do your road work—yet you can switch back to your pleasure car in twenty minutes. This is something worth knowing about. Guaranteed to do the work of four good horses. Special cooling system. Immediate delivery.

Ask for all particulars of this  
cheapest of all attachments.

AGENTS WANTED

J. D. ADSHEAD COMPANY  
WINNIPEG CALGARY

## The Non-Combatant

By Capt. JOHN McNAB, 2nd Divisional Artillery

more sandbags. It differed from others of its kind only in that it had a canvas sign. Other dugouts too had their sobriquets inscribed, but this was not "Magie Murphy's Home" nor "Uncle Tom's Cabin," nor "Lyddite Shelter," but "Y.M.C.A."

Its position was decidedly pre-

carious. On one side of it was a battery of Canadian Howitzers, on the other side a battery of eighteen pounders. The ground all round was torn up by high explosives; even its sandbags were ripped and torn by shrapnel, and the canvas sign was slashed by shell splinters.



The  
Y.M.C.A.  
A Dug-out  
in France

## CASH FOR YOUR CREAM



Cans  
Supplied  
at Actual  
Cost on  
Application

### CRESCENT CREAMERY COMPANY LIMITED

Operating Centralizing Buttermaking  
Plants at

WINNIPEG BRANDON  
YORKTON KILLARNEY  
DEVLIN CARMAN

Write to the Company at the point to which you wish to ship and they will give you any and all information asked for.

The non-combatant in charge of the dugout had been a minister in peace time, a native of the breezy western plains of Canada. He had joined the ranks as a stretcher bearer, and was later transferred from the banner of the Red Cross to the Banner of the Red Triangle. He was serving as indefatigably in this branch to help men as he had in the other, and the sergeant's stripes indicated that his work was being appreciated.

Once again the Ypres salient was resounding with intense artillery fire. The British regulars had blown up six giant craters in the enemies' lines at St. Eloi, and the Canadians were holding the captured territory. But the ground was held at great cost. Our men were returning wounded, broken and weary. In those days both the man and the dugout were needed. Early and late he toiled over a troublesome gasoline stove to prepare hot cocoa for the wayfarers. A constant stream of heroes came down the road.

At night, working parties crept by. Men who went up to rebuild the parapets and stretch new wire dragged themselves back fatigued and unnerved by their operations in "No Man's Land" under the flare of the star shells. It was often the grey dawn when they returned, but the non-combatant had a hot drink ready when they passed by. There he toiled all alone, serving hundreds of cups of cocoa daily, stoking the stove, washing the mugs, and by his cheery presence and kindly word comforting the passing men.

He stayed there through a furnace of shells whizzing around him in that whole month's battle of St. Eloi, and he was still at his post when the battle of Hooge began, with its still more devastating shell fire. But he was forced to find a new dugout.

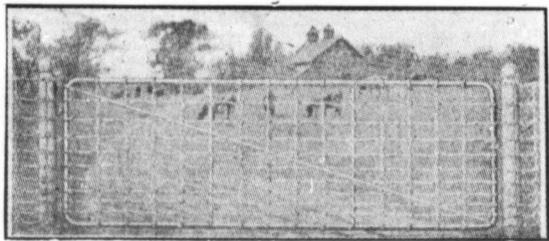
Two or three times pieces of his little shelter were torn by flying fragments; this time the most destructive of all the German shells, a 5.9, got a direct hit. He was buried in the debris, but he escaped. In two days another dugout and a new stock were procured, and a new sign graced the side turned away from the Germans. There he began again to minister to the many.

For three months he thus toiled, unselfishly, ungrudgingly, serving. Although he made many findings the constant change of regiments gave him little opportunity for companionship. The greatest joy that came to him from without was the weekly letter of his invalid mother; this and his daily communion with the Unseen, provided his soul's inner strength. Yet the desolation of the battlefield and the strain of



# WIRE FENCING

**BARB WIRE,  
WOVEN FENCE,  
GATES, STAPLES,  
BALING WIRE,  
STRETCHERS,  
AUGERS, DIG-  
GERS, Etc., Etc.**

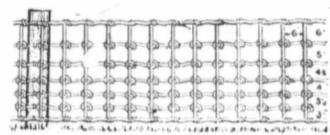


NOTE THESE LOW PRICES

**BARB WIRE:** 2 POINT 4 POINT PER 80 ROD SPOOL F.O.B. WINNIPEG  
5.00 5.15

No. 14 Hay Baling Wire, 50 lb. Coils, 3.75 f.o.b. Winnipeg

Our prices of Woven Fence are just as favorable. Prices are expected to advance soon so buy now.

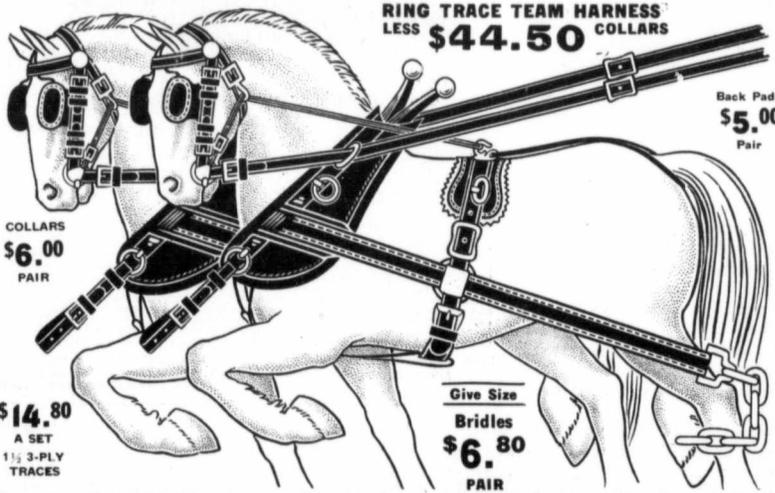


Full Particulars and Delivered Prices on Application

**SASKATCHEWAN GRAIN GROWERS' ASSOCIATION**  
FARMERS' BUILDING : : REGINA

## EVENTUALLY You Will Purchase FASCO HARNESS

Why Not Try It Now on 30 Days' Trial?



**RING TRACE TEAM HARNESS**  
LESS \$44.50 COLLARS

Back Pads \$5.00 Pair

COLLARS \$6.00 PAIR

\$14.80 A SET 1 1/2 3-PLY TRACES

Give Size  
Bridles \$6.80 PAIR

We are so confident that the low price and quality of this harness cannot be equalled under \$55.00 that we offer it to you on a 30 days' trial. Use it and at the expiration of this period if not satisfied your money will be refunded.

If you will read the specifications of this harness and carefully note the way in which it is made up, you will see we are offering you a quality harness at a very low price. We use but the best leather in the making of this harness. Made with 3-ply Ring Trace and trimmed with XC plate trimmings.

Bridles, 34 in., harness leather cup blinds and fronts, box loops, face pieces, rosettes, ring bits and flat side checks. Lines, 1 in., buckles and billets, 21 ft. long. Pads, felt lined, drop terrets and hooks, 1 1/4 in. billets, back strap and crupper. Belly Bands, 1 1/2 in. folded. Traces, 1 1/2 in., 3-ply stitched with 3/8 in. rings and heel chains. Hammes, steel ball, top bolt. Hame Strap, 3/4 in. Pole Strap, 1 1/2 in. Martingales, 1 1/2 in. Collars, short straw, black, split back and rim, kip face.

**FASCO QUALITY IS THE VERY BEST OBTAINABLE**  
All Merchandise Sold Under This Mark Guarantees You Absolute Satisfaction

No. 21 8789 - Price Less Collars at Winnipeg  
Price with Collars at Winnipeg \$49.75  
Delivered Price Less Collars Anywhere \$44.00  
In Manitoba In Sask. In Alberta  
\$45.00 \$45.50 \$46.00

**THE FARMERS' SUPPLY CO. LTD.** 179 Bannatyne Ave. E. Dept. C.T. WINNIPEG, CAN.

his loneliness shook his nerves. Men hate to face danger alone. That is probably one reason why the Germans love massed attacks. Even when our best companies go over the top they are inclined to bunch. Men would rather die together. The Non-Combatant was alone, and the strain was too heavy to withstand.

One morning his face betrayed signs of trouble. The previous night he had "seen things." Noises had disturbed his rest. He jumped up expecting an attack. Then in moments of suspense he thought of an artillery major, who, leaving the guns to go to the observation post, had suddenly disappeared into the unknown. Some suspected that he had been foully murdered, a victim of the wonderful efficient German spy system. The Non-Combatant shuddered, was it now his turn? In a few moments the noise died away and he went back to his blankets.

Once again a noise, this time louder. He waited. This time his mind wandered and passed across the terrible tragedies that lived in his memory. But he was not attacked. Taking the initiative, his disturber fled. The intruders were rats. Rats, the scavengers of the battlefield, almost as pestiferous as the lice and flies, were seeking the sweetmeats in his little tuck-shop. Much relieved he retired—but not to rest. His already high-strung nerves brought forth fresh terrors until the morning. The suspense, anxiety and dangers were beyond a lone man's endurance.

Would he be relieved before his nerves completely gave way? Two days later his officer came through with the news that his service had gained him a commission, and that he would leave the next day at dawn for England. Off to "Blighty" for his new outfit! What a change! A bath and a bed for six days in Old London!

That very night the Germans blew up the mine north of Wytchaete. It was so dark that one could not see a yard ahead. There was an unearthly stillness on the front, that spelt mischief. About midnight the explosion of a mine sent the gun pits quivering. In an instant every gun the foe had was going from "whizz bangs" to "Jack Johnson's." Such unearthly music! The crimson chorus of the devil's orchestra. The reply was staggering, and the Canadians gained superiority of fire. The Non-Combatant got busy in the dugout.

Soon the procession began. Men, wet with blood, dodged the shrapnel to gulp down a hot

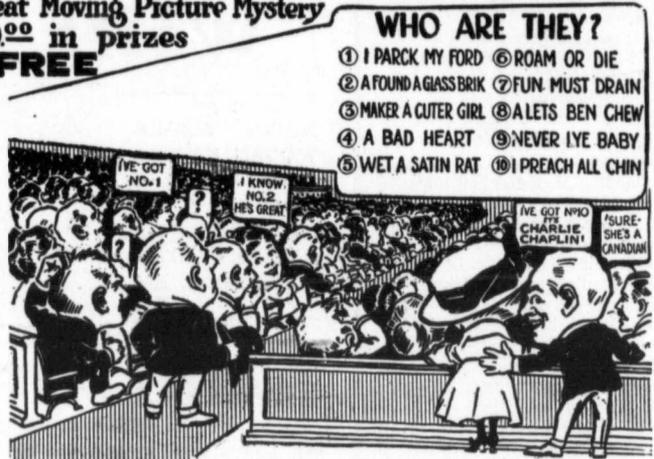
# WIN One of these new 1918 autos! Or their full value in Cash.

Solve this Great Moving Picture Mystery  
Over \$1600.00 in prizes  
To be given FREE

**I**N THIS particular Moving Picture Theatre the names of the famous players who would soon be appearing in the pictures were each night flashed on the screen. On this particular night the operator, wanting to play a little joke on his audience, took the names of the players and so mixed up the letters in each name that they spelt out the funny sentences you see above.

Time and time again this film was flashed on the screen only to be demanded back. Many of the audience are still trying to solve the mysterious names. Can you help them?

In case you are not familiar with the names of the popular moving picture actors and actresses, the list below may help you.



## WHO ARE THEY?

- ① I PARCK MY FORD
- ② A FOUND A GASS BRIK
- ③ MAKER A CUTER GIRL
- ④ A BAD HEART
- ⑤ WET A SATIN RAT
- ⑥ ROAM OR DIE
- ⑦ FUN! MUST DRAIN
- ⑧ A LETS BEN CHEW
- ⑨ NEVER IYE BABY
- ⑩ I PREACH ALL CHIN

These Magnificent Prizes given for the Best, Correct or Nearest Correct Replies!

- 1st Prize, 1918 Chevrolet Touring Car, Value \$750.00;
- 2nd Prize, 1918 Ford Touring Car, Value \$495.00;
- 3rd Prize, \$100.00 Cash;
- 4th Prize, \$75.00;
- 5th Prize, \$50.00;
- 6th Prize, \$25.00;
- 7th Prize, \$20.00;
- 8th Prize, \$15.00;
- 9th Prize, \$10.00;
- 10th Prize, \$10.00;
- 11th Prize, \$10.00;
- 12th Prize, \$10.00;
- 13th Prize, \$5.00;
- 14th Prize, \$5.00;
- 15th Prize, \$5.00;
- 16th Prize, \$5.00;
- 17th Prize, \$5.00;
- 18th Prize, \$5.00;
- 19th Prize, \$3.00;
- 20th Prize, \$3.00;
- 21st Prize, \$3.00;
- 22nd Prize, \$3.00;
- 23rd Prize, \$3.00;
- 24th Prize, \$3.00;
- and 25 Extra Cash Prizes of \$1.00 each.

1st PRIZE  
1918 Chevrolet  
Touring Car, or its  
Price, \$750.00 Cash



2nd PRIZE  
1918 Ford  
Touring Car, or  
its Price, \$495.00

### Names of Some of the Favorite Players

Charlie Chaplin, Hazel Dawn, Francis X. Bushman, Beverly Bayne, Francis Ford, Grace Cunard, Marguerite Clark, Clara Kimball Young, Fannie Ward, Max Linder, Dustin Farnum, Alice Brady, Thea Bara, Wilton Lackaye, Douglas Fairbanks, Blanche Sweet, Julia Sanderson, Marie Doro, Pauline Frederick, Robert Warwick, Anita Stewart, Olga Petrova, Norma Talmage, Lou Tellegen, George Belan, Annette Kellerman, Mary Pickford, Lillian Walker, Mabel Normand, Pearl White.

## This Great Contest Is Absolutely Free of Expense. Send Your Answers To-Day!

This great contest is being conducted by the Continental Publishing Co., Limited, one of the largest and best known publishing houses in Canada. That is your guarantee that the prizes will be awarded with absolute fairness and equanimity to you and every other contestant. Frankly it is intended to further introduce EVERY WOMAN'S WORLD, Canada's Greatest Magazine. You may enter and win the best of the prizes whether you are a subscriber to EVERY WOMAN'S WORLD or not, and, moreover, you will neither be asked nor expected to take the magazine or spend a single penny of your money in order to compete.

**Here's the idea:**  
EVERY WOMAN'S WORLD is so popular everywhere that it now has the vast circulation of over 125,000 copies a month; but our motto is: "EVERY WOMAN'S WORLD in Every Woman's Home." We want more Canadian magazine readers to become acquainted with this famous publication. Therefore, when we acknowledge your entry to this contest and you know your standing for the prizes, we shall send you without cost a copy of the very latest issue and a review of many of the fine features soon to appear. Then, in order to qualify your entry to be sent on for the judging and awarding of the grand prizes, you will be asked to

assist us in carrying on this big introduction plan by showing your copy to just four friends or neighbours who will appreciate this really worthwhile All-Canadian magazine and want it to come to them every month. You will easily fulfill this simple condition in a few minutes of your spare time and we will even send copies for each of your friends if you wish.

**How to send your Solution.**—Use one side of the paper only and put your name and address (stating Mr., Mrs., or Miss) in the upper right-hand corner. If you wish to write anything but your answers, use a separate sheet of paper.

Three independent judges, having no connection whatever with this firm, will award the prizes, and the answer gaining 100 points will take first prize. You will get 10 points for every name solved correctly (No. 10 being excepted as it is practically given); 20 points will be awarded for general neatness, style, spelling, punctuation, etc.; 10 for handwriting, and 40 for fulfilling the condition of the contest. Contestants must agree to abide by the decision of the judges. The contest will close at 5 p.m. May 30th, immediately after which the answers will be judged and the prizes awarded. Address your answers to-day to

Movie Contest Editor, Everywoman's World, Continental Publishing Co., Limited 226 Continental Building, Toronto, Ont.  
SINCE THE ABOVE ANNOUNCEMENT WAS MADE THE PRICE ON THE CHEVROLET CARS HAS BEEN ADVANCED TO \$825, AND ON THE FORD CARS TO \$595

drink. The high explosives were searching like wild beasts in anger for the batteries, and the ground as pock-marked until each shell-hole dipped into the other. One shell, dropping not ten feet from the dugout, churned up the earth; the next went crashing through the steel sheeting. A party left the battery to search for the Non-Combatant.

Clambering through the shell hole, they saw the fruit cans gashed as if by a hundred chisels; the stock scattered and destroyed; the mugs broken; the cocoa overturned; and when they had

thrown the debris aside they found the Non-Combatant with a dark red stream oozing from his head, still smiling, but sleeping his last sleep.

The padre was sent for, and while they waited they prepared a shell hole for the remains. He came as the first streaks of dawn were tinting the sky. Wrapped in a blanket the Non-Combatant was placed in his last dugout. As the padre prayed, the party stood staring into the unknown. Death faces them so frequently that they have no fear of it. They accept

it, not as life's greatest tragedy, but as one of its most dramatic episodes.

Then came his simple sermon, reiterating their thoughts. "Death has severed us from our comrade, but out here face to face with the great realities, we have learned that death is but the portal to a larger life. Aye, it would take more than death to stop Harry; he will 'carry on.'" And as they crossed back to their dugouts, they wondered what ministrations Harry would "carry on" among the angels.

# BUY YOUR PUMPS

Direct from the Manufacturers

## WOOD PUMPS

We carry a full line of wood pumps of all sizes and styles for immediate shipment. Only the best materials are used in the manufacture, and every stick is quarter sawn. We make a thorough inspection of all timber bought for this purpose, and will guarantee that material used is equal to any used in Canada. For general pumping purposes, for wells thirty feet or less where windmill or other power is required we recommend the wood pump as it is as dependable as any, and so far as volume is concerned it has a very large capacity.

In ordering please state diameter of cylinder wanted, and length of pump from platform to extreme bottom of well, or to wherever the wood pump is to be supported, as these become quite heavy when water soaked, and will last longer if supported substantially at the bottom. The pumps are usable up to 40 feet, but we think 30 feet a much safer limit.

**WE CARRY A LINE OF UNDERGROUND FORCE PUMPS FOR ALL PURPOSES**

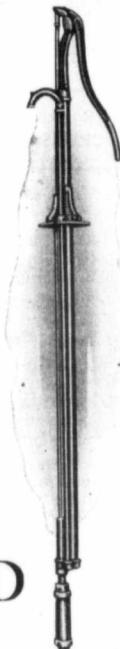
Peters double acting force pumps; pump stands for every purpose. We are the only iron pump manufacturers in Western Canada.

When ordering your pumps, ask your dealer for a "Manitoba," or write us direct.

## MANITOBA ENGINES, LIMITED

BRANDON

MANITOBA



## IRON PUMPS

The illustration at right is only one of our underground force pumps. We manufacture several designs of force pumps for any kind of use where it is desirable to place the stuffing box below the frost line. This pump can be highly recommended. Each pump is fitted with 7-inch, 9-inch and 11-inch strokes, and may be furnished for 1 1/4-inch, 1 1/2-inch or 2-inch pipes. In order to make it possible to use these pumps either for hand or windmill use, we supply it both ways as oft-times pumps are bought for one use, and afterwards are wanted for the other. The flat bar for the windmill attachments interferes in no way for hand pumping, and when connected up with the windmill the handle drops back entirely out of the way.

### BIG TRACTOR SATISFACTION ON A BIG SCALE

*Continued from page 34*

to miss a place he sticks up a flag, then the horse drill comes along, fills up place, picks up flag which is returned to engine drill man; thus we are able to do perfect seeding.

My experience is that large farms cannot afford to farm without tractors, but believe it best to have about one half the power in horses, especially if land is inclined to be hilly, such as ours is.

My plan now is to do more work with horses. By keeping a goodly number of mares and raising colts, one can keep up their horse power and turn off enough horses to keep down expense, but still have enough tractors to do plowing, disking, harvesting and relieve horses of hardest of the work.

We plow our summer fallow about eight inches deep, fall plowing about six inches. We drill in our grain just as deep as we can, using one and three-quarter bushels wheat and three bushels oats per acre. Always harrow after seeding and use packer as much as possible in addition to harrowing. Our land is sandy loam with clay subsoil and it gives excellent results. One should in all cases pur-

chase an engine large enough, so engine will seldom have to pull up to its capacity. An engine is pretty much like a man, horse, or any other animal. If they are driven to the limit all the time they will not last long, while if they can do their work with comparative ease they are always ready, will accomplish more and live much longer.—Very truly yours, Jas. Scillely.

### PIPE JACK OR BRACE

Very often, when engaged in heavy work, a small jack would be very useful and save considerable work if one was at hand. The sketch shows how to make a pipe jack. The materials are found on almost any farm—a short piece of pipe, a pipe cap, a bolt nut and washers.

These jacks are very handy for ditch braces and such work. They will answer for all ordinary lifting; being small in diameter, two or three can be applied at the one part and thus multiply the lifting power.



A Homemade Pipe Jack



## More Acres Under the Plow

Greater acreage must be sown; greater fields of grain must be reaped. Greater efforts upon the part of the farmer and the thresherman is the need of the country.

Canada expects the men on the farm to feed the world. All this requires farm equipment to be in first-class condition.

New machinery must be purchased or the old overhauled. The belting question is an easy one to solve. The answer is

**TRADE SAWYER MARK**  
Registered

Endless Stitched Canvas Thresher Belts  
AND  
Stitched Canvas Belting

Thousands upon thousands of farmers and threshermen will willingly attest to the superior merits of this belting.

**Plewes Limited (Distributors) Winnipeg**



# TIPS from the TRACTIONEER

## OUR TRACTIONEER IS CROSS-EXAMINED

Arran, Sask., Feb. 2, 1918.

Dear Sir:

I HAVE been reading your article in "The Canadian Thresherman and Farmer," and as you ask somebody to say something, I'm going to oblige you. Your scheme is all right, but it does not go far enough. You have a few of the loafers located, but not all. There are hundreds, yes hundreds, of good men practically killing time. Where? Why, back from railway, from fifteen to fifty or more miles, homesteading. They have got from ten to maybe thirty acres of crop. Some have got scrub farms, some have bush farms, with prospects of railway nil. What sort of people are they? A goodly number of them are good farmers. Why are they there? They tried to pay for land close to railway, but on account of low prices, hail, frost, too much machinery, from one or a combination of these causes they failed to make it pay. Some are there to get a homestead to sell, some to get a homestead and wait for a railway, but there they are.

Why should they remain there when they could produce ten times as much grub close to railway? Why should they grub stumps when there is plenty of land without stumps. Of course, it would upset things a little, but

that is what they need. Now my idea of things is that the government has enough on its hands, but take pigs for instance. They are asking people to produce bacon, but it will be a year before they know the result. Now I would say let the government appoint a man in each district, not an old man, but an active man, a man who has been growing bacon for years and knows his job. Give him power to compel farmers who know how to grow bacon.

To ask all to grow pigs will mean there will be a lot of waste, as it requires knowledge and experience to raise bacon, but give a man who knows pigs an order for a certain amount of bacon and put him in khaki, allow him to supply pigs and feed where needed and you could figure on getting bacon. This howl about help—what's the use? There is no relief in sight. If farmers would get down to the fact that this war is not won yet, and that the Germans are confident they will win it, and if the Germans win, how long would they be in training Canadian farmers for German soldiers?

In past wars, every able-bodied man living in the territory they captured has been trained and used to stand the brunt of the next war. Have they changed? Yes, for the worse; civilization has been destroyed before—will it be again? It will be if the farmers in this country don't wake up soon enough. Some farmers seem

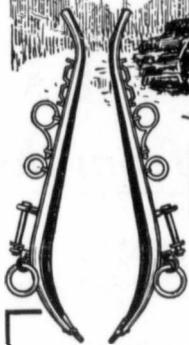


A CHEERFUL LIAR.

Stoker (to "Our Special Correspondent")—"I see the torpedo approachin' us; so without waitin' for any orders I dives overboard, just gives 'im a flick on 'is little rudder, an' off 'e goes to starb'd an' passes us 'armlessly by."



## DREADNAUGHT TWO-PIECE STEEL HAMES



No. 8360  
Two-piece, double strength steel hames. Tested strength 500 lbs., which is equivalent to pulling a load of over 25,000 lbs.

Pulling a "dead weight" load means that a hame will move a load several times over its tested strength. Dreadnaught two-piece double strength steel hames have a pulling capacity 15% greater than any other hames.

**Strongest Construction—Will Not Break**

Overlapping parts reinforce points of greatest strain. Draft studs forged steel; rings electrically welded. Rigidly inspected and mechanically perfect in every detail.

Write for descriptive folder. Dealers write for our proposition and selling help.

McKINNON INDUSTRIES Ltd., Dept. D St. Catharines, Ont. Can.

## U.G.G. Corn Planter

Especially adapted to Western Canadian conditions. A changeable lever enables the driver of this machine to instantly change from two to three or four kernels in a hill as desired while the team is in motion. By simply changing two bolts you can adjust the planter to various widths without disturbing working parts. Disc runners are fitted to U.G.G. planters instead of ordinary runners. Chilled iron bearings are provided with hard oil grease cups. Check heads are made of steel and have four rollers on each. The clutch is roller bearing. All principal parts are of malleable iron. F.O.B. Winnipeg, \$71.35; Regina, \$73.75; Saskatoon, \$74.30; Calgary, \$75.55. See Page 29, 1918 Catalog.

**GUARANTEE**—Every article sold by United Grain Growers Ltd. is guaranteed to give satisfaction. If you are not satisfied with any purchase, your money, including transportation charges, will be returned to you at once.



Winnipeg Regina Saskatoon Calgary

## Cushman Combination Thresher

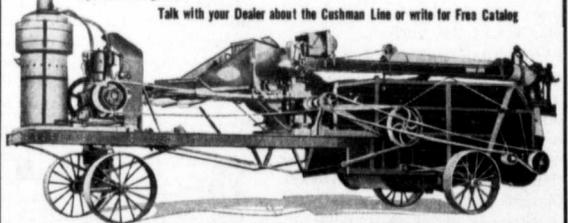
Don't Wait until your grain is damaged in the shock—until hundreds of bushels are shelled out and lost—until the rain and snow cuts down the grade. Your grain is worth too much money to waste.

### JUST WHAT YOU NEED

Here is a Threshing Outfit that you and your neighbor can afford to own—that will do your threshing with from four to seven men—just when you want it. No Waiting—No Worry—No Loss. It carries its own engine on the frame, requiring no horses except for pulling it to position.

4 H.P. with Straw Carrier and Hand Feed; 20 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.

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



**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 Shinn Flat Lightning Conductor.

to think that they have just come into their own, or would if the government would compel someone to do their work; whereas it's only borrowed money, borrowed on the future labor of everybody in Canada, and will have to be repaid with interest.

And farmers should know from past experience who pays Canada's bills. As for machinery, some people seem to think the best way to get new machinery is to destroy what they have, for they don't use it the way it could be used. Nor do they work it as much as it could be worked. The most of our farm machinery will last indefinitely if it is looked after, and the wear taken up. My binder has cut eighteen crops, and still goes perfect, and it has never been in a shed. It cut two thousand five hundred bushels of grain the past season. Nor have I bought many repairs, I've replaced the whippetree iron twice.

My mower I have used for twenty-two years, and it cuts hay yet. The knife heads are not worn much yet, and they are the two I got with the mower. Repairs? Yes, the tongue has broken or rotted several times. Maybe I've not used it well.

I have been keeping from thirty to fifty head of stock. I have sixty-five this year, and before this war is over there will be lots of farmers using what machinery they have instead of buying new.

I quite agree with you about pulling together. I have no tractor, nor suitable land to work it on if I had it, but if I could get suitable land and a tractor I believe I could keep it going twenty-four hours a day if necessary.

I've got help, a wife, a boy 14 years, and a girl of 16, and still we could not be doing the equal of the boys at the front.

Now I've got to stop because I've got some cattle to feed.

How thankful you will be that something stopped him.

Wishing you luck when you start training girls for tractioneers.

Yours truly,  
S. Baker.

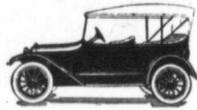
The Tractioneer Replies to Above  
Dear Sir:

**R**EPLYING to yours of February 2nd, an efficiency expert would, no doubt, be very enthusiastic over your plan, for it offers a chance to grow more crop with the present available help, but I don't see how it could very well be carried out without putting the whole country under military law. It would be an enormous undertaking, and one, the results of which are, in my mind, very doubtful.

To take a young man from the land which he has homesteaded



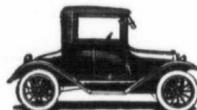
# The Car of the Hour



"490 A" Five Passenger Touring Car \$925



Chevrolet "490 A" Roadster \$810



"490 A" Coupe \$1350



"490 A" Sedan \$1350



Chevrolet Model F, "Baby Grand" Five Passenger Touring Car \$1295



Chevrolet Model F-A/2 "Royal Mail" Roadster \$1295



Chevrolet Eight, Four Passenger Roadster

**WHEN** the Chevrolet Motor Company announced an efficient, graceful, roomy five passenger touring car lower in price than any other electrically equipped car in Canada, thousands of 490 models were immediately sold. For over two years the mammoth Chevrolet production has not kept up with the demand. The Chevrolet 490A has been brought up-to-date and represents today the best value in low priced cars.

Hundreds of Chevrolet owners wanted a larger, more powerful, and more roomy car as good as the Chevrolet 490A. To satisfy this demand we are building the BABY GRAND Touring Car which is a light, powerful, car giving every comfort for discriminating motorists. We believe it represents better value than any other car in its class.

For men who want the ultimate in power, ease of control, speed when necessary, our new Chevrolet EIGHT CYLINDER model is the best buy.

See the Chevrolet line at the nearest Chevrolet dealer.

Buy now as the demand will be great.

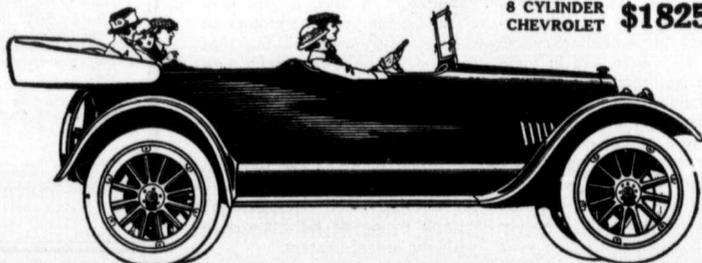
Send for description of model best suited to your needs.

All Prices f. o. b. Oshawa, Ont.

**THE CHEVROLET MOTOR CO. of CANADA, LIMITED**  
OSHAWA, ONT.

Western Parts and Distributing Branch  
REGINA, SASK.

**8 CYLINDER CHEVROLET \$1825**



and put him on to strange land is very apt to make him lose his interest in farming altogether. If he be a single man, the result would probably not be so disastrous but, when a young couple have worked together, to make a home, they don't like to leave it in a hurry.

However, we'll look at the thing from a different angle. We have pretty well shown that, with proper organization and extended use of the tractors already in the country, we can farm all the land which is now under cultivation. This means that if these "outside" men were brought closer to the tracks new land would have to be broken up in order to provide land for him to work.

I don't think there would be much gained by letting the average homestead "go back" while new land was being broken up for the homesteader to work nearer the railroad. Instead of doing this I would rather extend my plan of power organization to cover the problem of getting this grain from "way-back" to the railroad.

However, I'm not a farmer; all I know about the farming is the power end of it, and I still contend that all the land now under cultivation could be successfully cropped this year with less severe measures than those which seem to be coming.

As to what you have to say re the Germans training our farmers to be German soldiers, these ideas are very close to ones that often pass through my mind, but I feel that I must get rid of them, for I can't believe that the Canadian farmer is going to sit down and see Germany win this war, because this same Canadian farmer didn't do all he could.

I can back up your sentiments regarding the use of old machinery, and you'll find that a lot of machinery is being brought out from the fence-corners and put into working shops.

I will be pleased to hear from you again any time.

Yours very truly,  
Doug. R. A. Drummond.

**AS TO KEROSENE**

**T**HE question of burning kerosene successfully still seems to be bothering a great many farmers. Questions along this line have been showered upon the heads of short course lecturers all winter, and in some cases the lecturers have been at a loss for an answer, not because they thought they did not know but because a direct answer would have been a direct knock at some one or other of the popular makes of kerosene tractors. In a case of this kind the only possible solution is to give your



**A "WATSON" Harrow Cart**

Carries the whole burden of the man in the operation of harrowing. He sits and sings or whistles or simply meditates on the fine work his horses are doing. The implement is so light it imposes very little extra draft on the animals, and yet it is strongly built, good for many years' service.

Seat is set high away from the dust. Wheels (36 inches high) have 3in. concave steel tires, which do not collect dirt. Swivel axle design allows cart to turn with harrow.

Removable boxings in wheels.

**WHEN YOU REALIZE WHAT IT SAVES, PRICE IS INCONSIDERABLE**

**WATSON'S PLOW EVENERS**

WORK FOUR HORSES  
ABREAST ON GANG,  
SULKY OR DISC PLOW.

One horse travels in furrow and three on unplowed ground with perfect equalization of draft. We also supply 3, 5 and 6-horse Plow Eveners and 3-horse Wagon Eveners. Made of the very finest seasoned material by experts of long experience on this special work. You cannot buy anything better at any price. Write for our prices of these goods and our complete line of farming equipment.

Watson's Special 4-Horse Gang, Sulky and Disc Plow Evers

*John Watson Mfg. Co.*  
LIMITED  
Chambers and Henry Sts. Winnipeg

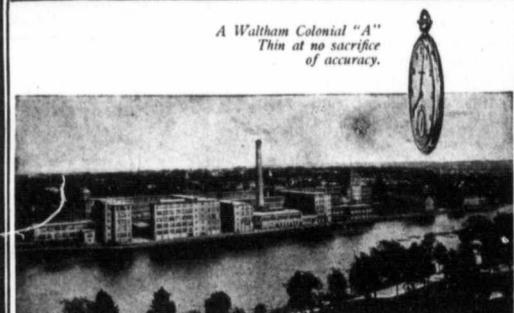
own personal experience and opinion.

If you watch the progress of kerosene burning tractor motors very closely and for a long time you'll see some funny things. For instance, go out into the field and tear down the first fifty high speed kerosene motors you find and come back and tell us how many of them were clean in the combustion chamber. Now, go out and hunt up fifty of the old-time, heavy duty, slow running tractor motors and see what you find there. As a general rule, if your experience is anything like mine, you'll find that the engine which burned kerosene most economically, and burned it all, and left the cylinders clean, giving very little valve trouble, ran at a speed not over 300 r.p.m., had a hit-and-miss governor, cool with oil, had relief exhausts and used as much water as fuel.

On the engine which burned all the kerosene and didn't smoke and got all the power out of the fuel, you didn't find a lot of heaters stuck around on the outside, neither did you find a complicated carburetor, in fact, if you look closely at the kerosene motors on the market to-day you'll find that some of the most successful ones have discarded complicated kerosene carburetors and gone back to the most simple form of the animal.

A great many of the so-called kerosene tractor motors of to-day are nothing more than gasoline motors trying to burn kerosene with the aid of heaters.

*A Waltham Colonial "A"  
Thin at no sacrifice  
of accuracy.*



**WALTHAM**

**B**EFORE the establishment of the Waltham Watch Company in 1854, there was not a single factory in the world where a watch movement was made in its entirety.

The plates were fashioned in one place, the wheels elsewhere, and so forth. All the parts thus made by disconnected and non-standardized methods were finally assembled and cased somewhere else.

But with the advent of the Waltham Watch Company a revolution in watch making took place.

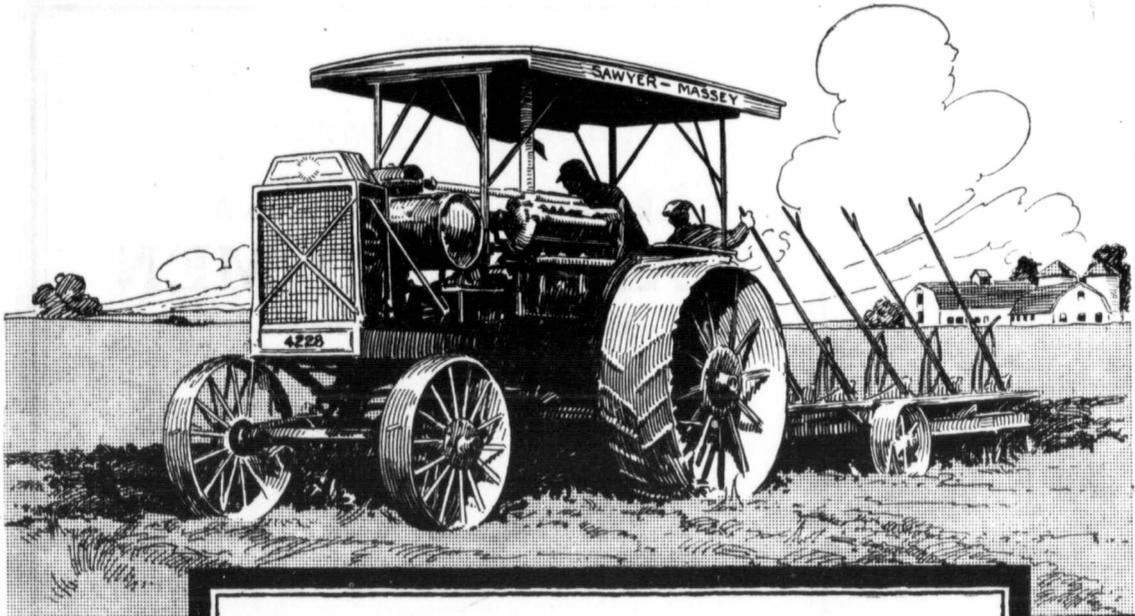
One of the first results of this Company's establishment was to produce better watches at a lower cost than were ever possible before. Watches ceased to be a luxury of the rich and became a convenience that all might possess.

Throughout the past sixty years, every gold medal awarded for watch merit has been awarded to Waltham.

So that there is a meaning full of significance in the name "Waltham" for any person who desires the most dependable timepiece that money can buy.

*"Your Jeweler Will Show You."*

**WALTHAM WATCH COMPANY, LIMITED  
MONTREAL**



## FULL TRACTOR VALUE FOR CAREFUL BUYERS

**T**HE TRACTOR you buy must be *strong* so that it will last for years; it must be *easy to handle* and *economical to operate*; and above all, it must give you *dependable service*.

Strength—in-built ability to stand up under all conditions—is a feature of Sawyer-Massey Gas-Oil Tractors that make their cost-per-year really small.

Ease of operation is the result of simplicity—of standardized design, perfect four-wheel balance and one adjustment carbureter.

Sawyer-Massey vertical 4-cylinder, valve-in-head motors develop unusual power. This power is transmitted direct to *both* traction wheels on which 75% of the tractor weight rests. This assures traction under all conditions.

Sawyer-Massey Air Cleaners remove dust from air fed to carbureter—no foreign matter can get into and injure the cylinders.

Sawyer-Massey Gas-Oil Tractors are built in four sizes: 11-22 H.P., 17-34 H.P., 20-40 H.P., 27-50 H.P. There is a size for your individual need.

The Sawyer-Massey eighty year reputation for quality is behind their tractors. The Sawyer-Massey intimate knowledge of the Canadian farmer's need is in them. Warehouses at the principal agricultural centers assure Sawyer-Massey owners of adequate service.

*Bulletins describing Sawyer-Massey Tractors  
or Grain Separators forwarded on request.*

### SAWYER-MASSEY COMPANY LIMITED

Head Office and Factory: HAMILTON, ONTARIO

Branches and Warehouses:  
WINNIPEG REGINA SASKATOON CALGARY

H. S. BOWDEN, Distributor, Edmonton

*Four Cylinder* Sawyer-Massey Gas-Oil Tractors *Kerosene Burning*

This is just the beginning of the story. If you want more of it write and ask what you want to know. The average tractor operator loses a surprisingly large amount of good information for the simple reason that he won't ask for it.

It is generally understood that in order to win this war we must have more grain, not only for ourselves but for the allied countries in the war zone. We are told from reliable sources that France is producing but 61 per cent of her normal crop and England faces much the same depreciation, and so it is necessary that we Canadians produce far more than ever before to make up this inevitable shortage. Not only have we this shortage to make up but we have to produce and ship enough so that after the losses due to submarine warfare have been considered there will still be enough grain reach these countries to supply the usual demand, and, in addition to this make up, the shortage caused by the falling off of crop producing area as well as to supply food for the thousands of soldiers that have been sent in from other parts of the world.

All this is an often told story, but one which cannot be told too often if each telling will impress it a little more solidly in the mind of every Canadian, and one which must be told and remembered if necessary steps are to be taken to overcome the menace of labor shortage, for nobody is inclined to take serious steps in this or any other direction without first seeing some good reason for so doing.

A very few years ago, not more than three, four, or five, this problem would have been difficult to solve for the gas tractor, although a working success was generally regarded as a substitute and not a very popular substitute for the steam tractor. The small tractor was at that time practically unknown, and the large tractor then in use seemed proficient only when worked on level ground, except when handled by particularly efficient operators and in most cases it was necessary for the operator to be a mechanic in order to make the tractor a paying proposition.

However, manufacturers and inventors appreciated the possibilities of the gas tractor, and by improving its design and increasing its reliability they placed it solidly in the farming industry and made of it what appears to be the only efficient substitute for the men and horses that have been taken from the agricultural field, and as a result of this there are some thousands of gas tractors now in use, the increase in this

number being regulated only by the capacity of the factories making them.

Probably the fact that "big business" and government authorities have recognized the value of gas tractors, and have made extensive use of them will in part explain their sudden rise in popularity. For instance, we learn on reliable authority that an eastern railroad, the Buffalo, Rochester and Pittsburgh, realizing the necessity of boosting the



## Military Service Act

### Important Announcement to All **EXEMPTED MEN** and to the Public Generally

**I**N dealing with the very large number of claims for exemption brought forward for consideration in connection with Class 1 under the Military Service Act, it has occurred, as was inevitable, that as a result of false statements and difficulties put in the way of investigation, some individuals have secured exemption whose proper place is in the Army.

It is not the intention of the Government to allow these men to evade permanently their obligation to bear their part in the military defence of the Country and of the ideals for which we are fighting. To do so would defeat the purpose of the Act, and cause grave injustice to men in the second class necessarily called out to fill their places.

#### Exemptions Granted on False Grounds

It is, therefore, proposed to scrutinize carefully all exemptions granted to date in order to separate those which have been granted on false or insufficient grounds from those that are well founded.

With this object in view the various Registrars under the Military Service Act have been instructed to issue a series of questionnaires to exempted men. These questionnaires must be filled up correctly and returned promptly under penalty of forfeiture of exemption for failure to do so.

#### Exempted Men Who Have Changed Address

It is therefore important in their own interest that all exempted men who have changed their address since their exemption was granted and who have not already notified the Registrar of such change should notify him at once. Under the Regulations it is the duty of exempted men to keep the Registrar advised of any change of address, and failure to receive the questionnaire by reason of neglect of this duty must be treated as equivalent to failure to return the questionnaire after receipt.

#### Citizens Urged to Assist

In many instances information has been furnished by members of the public which has led to the cancellation of exemptions obtained by false or misleading statements. Further co-operation of this character is invited. The Government regard it as the Duty of all loyal citizens, not only to the Country, but to the men at the front, to assist in this way in securing reinforcements on a just and legal basis. Correspondence of this character will be treated as strictly confidential and will receive the fullest investigation.

**CHARLES J. DOHERTY,**  
*Minister of Justice.*

Correspondence should be directed to Registrars under the Military Service Act.  
GEO. A. TOOLE, Esq., Registrar under the Military Service Act, Winnipeg, Manitoba.  
A. L. HAINING, Esq., Registrar under the Military Service Act, Regina, Saskatchewan.  
J. M. CARSON, Esq., Registrar under the Military Service Act, Calgary, Alberta.

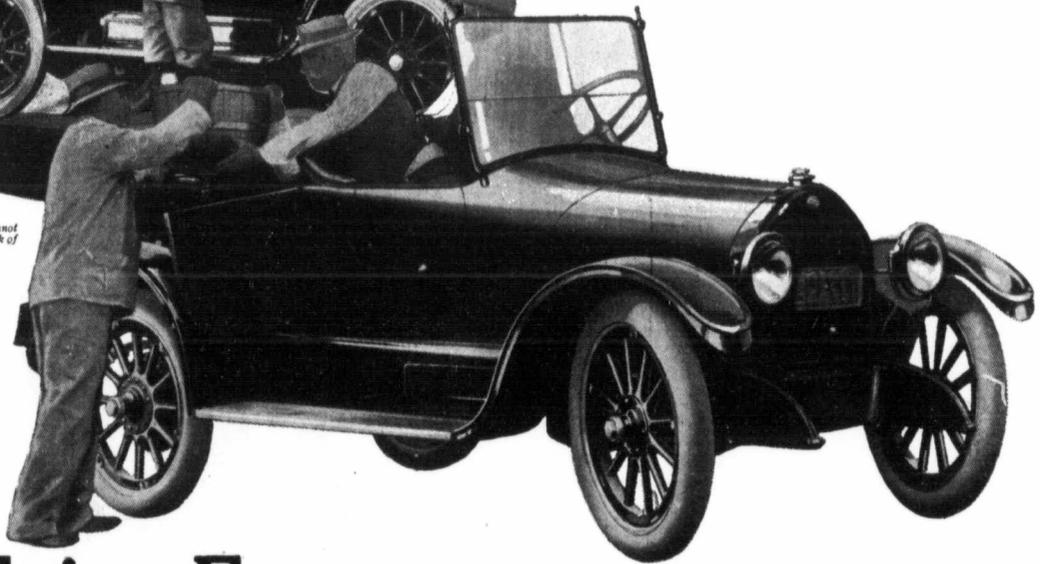
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greater production campaign, bought three small tractors and equipment to be used in assisting farmers along its line with their plowing and harrowing. The company's price for plowing was \$1.50 and for harrowing 75 cents per acre. These prices included the services of a skilled operator, the farmer furnishing the fuel. These prices, of course, would not hold good in Western Canada, in fact, the company made little or no profit from this work, but they were not thinking of profits when they undertook it, their motive being a patriotic one as a means for increasing food production and to encourage farmers along this line to adopt modern methods of farming. The tractors were operated in New York and Pennsylvania, and the convincing part of the undertaking is that thirty farmers along the line of this road have since purchased small tractors. This is only one example of

Off to school in an Overland!



A horse and buggy cannot do a third of the work of one Overland



# Overland

TRADE MARK REG.

## The Thrift Car

Light Four Model 90 Touring Car

Appearance, Performance, Comfort, Service and Price'

## Helping Farmers— To Save Time and Energy and Make Money

That motor cars are absolutely necessary for farmers as business equipment is shown by the fact—

That more than half of the Overland output is taken by farmers.

That the Overland is completely qualified to be fully satisfactory for farmers is proven by the fact—

That more than half of all Overland cars built are taken by farmers.

You need a car and that car should be an Overland.

It is not necessary to pay more than the Overland price—and complete satisfaction cannot be bought for less.

At a low cost and for economical maintenance, Model 90 gives power, prodigious power, from its perfected frugal-with-fuel motor.

It is simple to handle, has narrow turning radius, and easily operating clutch.

It is comfortable, with spacious interior, wide seats, deep upholstery, rear cantilever springs, 106-inch wheelbase, and large tires, non-skid rear.

It has Auto-Lite starting and lighting and vacuum fuel system.

To pay less is to risk the loss of efficiency, comfort, modernized improvements, beauty of design or long-lived service.

Order your Model 90 now.

Sunday is no longer dull for the farmer's family with an Overland



Catalog on request—Address Dept. 1215

Willys-Overland, Limited

Willys-Knight and Overland Motor Cars and Light Commercial Wagons  
Head Office and Works, West Toronto, Ontario  
Branches: Montreal, Que., Winnipeg, Man., Regina, Sask.



the confidence placed in the small tractor, and it might be supported by an account of the organization in the State of Texas of four thousand tractors which worked day and night and did the work more quickly, more efficiently and at less cost than was ever the case before in that state. Another example of big confidence in the small tractor was the buying of thirty small tractors by the Ontario department of agriculture last spring. These tractors and the implements with them were placed in thirty counties and operated under the supervision of a district representative of the department. The farmer paid the operating costs and boarded the operator. The cost of plowing an acre of land varied from 95 cents to \$2.13, according to the condition of the soil and the efficiency of the operator.

The latest piece of confidence in the gas tractor which has come to our notice is contained in the news that the United States food administration are shipping 1,500 tractors to France to increase the crops in that country and to reduce the burden now resting on her old men, women and children. These tractors will not only be of great service to France, but will release tonnage for the Allies by increasing the amount of food produced in France and decreasing the amount of food that must be shipped from here. The food administrator is sending a man to France with these machines to put them into operation. He will organize schools of instruction and assist the French minister of agriculture in every possible way to obtain the greatest efficiency from these machines.

The tractor is beginning to receive its warranted recognition, and while it may seem a long jump from the heavy and lumbering tractor of a very few years ago to the thousands of efficient small tractors that are doing a large share towards making this world a safe abiding place, still to anyone who has followed even remotely the progress of the small tractor it must be evident that, as Lord Northcliffe has stated, the tractor is likely to be the determining means for winning the war.

In open base engines, that is, engines which do not have a closed crank case, or, to be still more explicit, engines in which the crankshaft, connecting rod, and the front of the cylinder are not covered in, a great deal of wear in the cylinder can be eliminated by stopping the engine with the crankshaft in such a position that the piston has come out just far enough to be flush with the face of the cylinder.

If the engine is stopped with

You Can Plow  
Deep In Wet  
Land  
with a

# Nilson

the Tractor with  
the Famous Lever Hitch

THE first duty of a tractor is traction. It may have the strongest motor in the world but if the wheels slip, the tractor is useless.

There are two ways to obtain traction—by weight and by the lever and fulcrum principle.

It was Archimedes who said, "Give me a fulcrum on which to place my lever and with these hands will I lift the world."

This is the principle of the famous lever hitch. Instead of employing a straight line drag from the engine to the plows, the lever hitch carries the pull up over the drive wheels and then down to the plows. The Nilson Patented Lever Hitch gives the drive wheel grip without excess weight. It increases traction when it is most needed. It saves fuel, it prevents slippage. It does not pack the ground.

The lever hitch is patented.

It is found only in the Nilson—the tractor with the famous Waukesha Motor, Hyatt Roller Bearings, Nilson Perflex Radiator, K-W Ignition with impulse starter and Bennett Air Cleaner.

The Nilson comes in two styles, the Junior and the Senior. The Senior pulls four and five plows, the Junior three and four. The Nilson is the recognized five wheel tractor devoting the entire width of the tractor to surface contact. It has proven its efficiency by more than four years successful work.

You cannot afford to make a mistake in the choice of your tractor this year. You need a light, powerful tractor that will work in any sort of soil or weather. You will find it when you have examined the Nilson.



The lever hitch carries the pull of the plows up over the drive wheel. The harder the pull, the harder the wheel grips the ground.

Write today for your free copy of the Nilson catalog

## NILSON TRACTOR COMPANY

2640 Univ. Ave. S. E. Minneapolis, Minn.

Distributing Agencies and Repair Stocks at CALGARY, LETHBRIDGE and REGINA

Arrow Points to Lever Hitch



the crank on the forward dead centre a portion of the piston will project from the cylinder, the oil on it will hold all the dust and sand which comes in contact with it, and when the engine is again started part of this sand and dust will be carried into the cylinder and cause excessive wear of the piston and cylinder walls. If left on the rear dead centre the results would be even worse.

D. R. A. Drummond.

Knicker: Is Jones patriotic?  
Bocker: I'm afraid not; he hasn't more than half-a-dozen ideas to offer the government.

### OIL FILTER



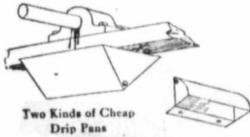
A somewhat unique but no less useful scheme for filtering tract-

or engine and machinery lubricating oil is shown in the drawing above. It consists of an old felt hat and a bucket. The sketch being self explanatory, nothing need be said except that one should use a felt hat with no vent holes in it. If there are holes they must be covered by cutting small pieces out of the rim and sewing over them. The writer assures anyone that the felt will filter lubricating oil perfectly, and those who are not owners of a filter should at once look round for an old felt hat and make one.

It is surprising to know how

much oil can be saved by catching it in drip pans and filtering it for re-use.

The drawing at the bottom of this column represents two types of drip pans made from empty five-gallon paint and gasoline cans. A pair of snips and a soldering iron will make these.



Two Kinds of Cheap Drip Pans

**AUXILIARY POWER OF THE FARM**

**A** LITTLE over a year ago, there came into existence, as a result of the keen interest that was being taken in power farming machinery, the tractor attachment for automobiles, particularly for Ford cars.

This tractor attachment, since that time has been a much discussed subject, and as "the proof of the pudding" is always "in the eating," a great number of the advantages claimed for and the criticisms against this type of machine were misdirected. Now that the machine itself has had a year's work in the field, we are able to speak with some degree of authority.

We refer particularly to the Staude-Mak-A Tractor, as that is practically the only one of the type we are discussing that has been used to any extent in Western Canada. As nearly as we can learn, this little machine is making good. We have seen letters that we would not dare print because they are most extravagant in their claims. Many write they can pull a 14-inch gang plow in any stubble in the West. This is not true, as there are many different kinds of soil in Western Canada. Others write that it can do the work of six horses. It is true this can be done for a little while, but it won't pay in the long run.

The tractor attached to a Ford car will deliver approximately 750 pounds on a draw-bar pull without any appreciable injury to the car. A real mechanic might run this pull up to the thousand pound mark, but this is not safe in the hands of the average farmer. The motor will cool and lubricate itself, and owing to the fact that the strain is taken on a cushion formed by the channel bars and the rear springs of the Ford there is very little strain on the car. As the car has sufficient power to drive almost continually on high, there is very little wear on the transmission. The average car requires from one and a half to two gallons of gasoline per acre,

**En-ar-co**  
NATIONAL MOTOR OIL  
CANADIAN OIL COMPANIES, LTD.

**En-ar-co National Motor Oil For Farm Service**

**SCIENCE** produced this dependable oil for extraordinary service. Time has proved it more economical, more satisfactory for every type of motor.

Where duty demands utmost power—in field, in air or on a the road—there En-ar-co conquers the resisting force of friction and lightens the load.

Used in any tractor or automobile, a new and increased power is quickly developed. Try it now and note the higher compression. Note how it stands up day in and day out, month after month. And note too, its freedom from excessive carbon.

All other En-ar-co Petroleum Products for farm use are of equal high quality. The name En-ar-co identifies the dependable and guarantees quality. For better service, try

*En-ar-co Black Beauty Axle Grease    En-ar-co White Rose Gasoline*  
*En-ar-co Black Star Harness Oil*  
*En-ar-co National Light Oil For Lamps, Stores and Incubators*  
*En-ar-co Motor Grease*

**Canadian Oil Companies, Limited**  
Branch Offices in 38 Cities  
Dept. H4, 2-12 Strachan Ave., Toronto, Canada

**Our Gift to You**

Send the coupon now for an En-ar-co Handy Oil Can. It's FREE.

**Canadian Oil Companies, Limited**  
Dept. H4  
2-12 Strachan Ave.  
Toronto, Ont.

I own.....  
(Give name above)  
automobile or tractor and engine one 3-cent stamp. Send me Handy Oil Can FREE. Please give nearest shipping point in this province and specify prices on the items I have marked. I will be in the market about.....

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. sale grease per year.    I use.....gals. tractor oil per year.

My Name is.....  
Address.....  
County.....    District.....    Section.....  
Postoffice.....    Telephone.....

## Mickelson—King of Gopher Killers

### HOW HE HAS SLAIN MILLIONS

*Anton Mickelson*

**Cash Guarantee**

If you are dissatisfied with results and have followed directions, then write us where bought and amount paid and why dissatisfied. We will then refund price, or if you wish give another package.

Reading like fiction is the story of this country boy who studied chemistry and who applied himself to one branch of poisons so successfully that he perfected a wonderful exterminator for Field Mice, Squirrels and Gophers. Mickelson came to Western Canada a few years ago to clear the Prairies of Gophers. So successful was he that his competitors copied his signature on the packages so he was forced to publish his photograph on each box he manufactured to protect his customers. Demand the real "My Own Gopher Poison" from your dealer.

"MY OWN GOPHER POISON" will be sent prepaid at 75c, \$1.00, \$1.50 per package if you have any trouble getting it.

**Prairie Chemical Co. Can., Ltd.**  
ANTON MICKELSON, Manager.  
**WINNIPEG    CANADA**

This is The Real Package

# Your Last Chance to Get this Automobile Free!

**CONTEST POSITIVELY CLOSES MIDNIGHT MAY 1st**

**NO VOTING! NO CANVASSING! NO SELLING! NO WORK TO DO—IT'S JUST PLAY!**

This fascinating contest makes no demands of vote-getting or subscription-hunting—contestants have only to estimate the correct or nearest correct number of kernels in the bottle of wheat reproduced on this page to win this handsome 1918 Model Ford Touring Car.



**The Bottle contains Two Pounds and Thirteen Ounces of No. 1 Northern Wheat**

The wheat is last year's crop. Marquis, grown in Manitoba, weighing 64 pounds to the bushel.

The wheat was obtained from the Dominion Grain Inspector at Winnipeg. The bottle of wheat now lies in the vault of the Union Trust Company, Winnipeg, where it will remain until the contest closes.

**PREVIOUS WINNERS:**

1916 Contest  
F. B. Snyder, Elkhorn, Manitoba, won a car with an estimate of 47,038 kernels—the actual number of kernels in three and one-quarter pounds of No. 1 Northern Wheat being 47,037.

1916-1917 Contest  
H. Avery, Clearwater, Manitoba, won a car with an estimate of 76,406 kernels; Ed. Sedgwick, Tezorton, Sask., won with 76,402; R. Orr, New Norway, Alta., won with 76,400 kernels. Five pounds and seven ounces of No. 1 Northern Wheat were used on this occasion.



**THIS IS ALL YOU HAVE TO DO**

Simply send a subscription for The Canadian Thresherman and Farmer to the E. H. Heath Co. Limited, now, either new or renewal, as per the following schedule. This entitles you to estimates as explained below.

These estimates may be credited in whatever way you desire, and you may send in as many estimates as you wish in accordance with the schedule below. **REMEMBER EVERY ADDITIONAL ESTIMATE INCREASES YOUR CHANCE TO WIN THE CAR.** Estimate now and increase your chance of winning, because it is the first person who estimates nearest to the number of whole kernels that wins the automobile. Estimates will be accepted as follows:—

- 1 year's subscription at \$1.00 gives you 3 estimates
- 2 years' subscription at \$1.50 gives you 7 estimates
- 3 years' subscription at \$2.00 gives you 11 estimates
- 4 years' subscription at \$2.50 gives you 15 estimates
- 5 years' subscription at \$3.00 gives you 19 estimates
- 6 years' subscription at \$3.50 gives you 23 estimates
- 7 years' subscription at \$4.00 gives you 27 estimates
- 8 years' subscription at \$4.50 gives you 31 estimates
- 9 years' subscription at \$5.00 gives you 35 estimates
- 10 years' subscription at \$5.50 gives you 40 estimates

Easy, isn't it? There's no reason in the world why you may not win if you get busy right now.

**COUPON**

C. T. & F.

E. H. HEATH CO. LIMITED, Winnipeg.

Please find enclosed \$..... for ..... years' subscription for The Canadian Thresherman and Farmer to be sent to

Name .....

Address ..... Prov. ....

My estimates as to the number of whole kernels in 2 lbs. 13 ozs. of No. 1 Northern Wheat are: .....

If more space is required for names and estimates, use a blank sheet and attach securely to this coupon.

according to the load being pulled.

The Staude-Mak-A Tractor is not designed to take the place of a tractor, but it is designed as an auxiliary power to the regular outfit. When we figure this tractor on a percentage of first cost, it works out somewhat as follows: Figuring depreciation over a period of five years at 8 per cent interest, 5 per cent per annum for repairs, and 10c. per mile for rental of the Ford car, the farmer with 150 acres to plow, using two gallons of gas per acre, will find that his per acre cost will not exceed \$2.00 exclusive of his own labor.

At the present time there are about 30,000 Fords in the hands of the farmers of Western Canada. If all of these were equipped with Staude-Mak-A Tractors production could easily be increased to the extent of 150,000 acres per day during the plowing season, and this is a considerable item in these times when we are straining to the limit to feed our armies.

The Staude-Mak-A Tractor is not designed to take the place of the heavy machine, but it is designed to do a certain class of work, and it does it. We simply make this statement on what it has done in the past.

**INDIAN STRATEGY STILL FAVORED**

Wars were once fought by bearded men. That they are not now fought by bearded men is due to the light which Science has been able to throw on the subject of sanitation and to the inventive genius of man, which produced the safety razor, when the old-fashioned type of razor failed to keep pace with the march of civilization.

Soldiers are not permitted to wear beards because they impair their efficiency as soldiers. But even at that soldiers would now be wearing beards, were it not for the invention and subsequent improvement of the safety razor. This for the reason that the old type of flat bed razor cannot stand up under active service conditions. Most men know how difficult it is to keep a keen edge on an old-fashioned razor at the best of times. All soldiers know that it is next to impossible to keep it sharp under the stress of actual war conditions. The mechanically perfect universally known safety razor helps to keep the soldier at the peak of efficiency, and it helps to keep him out of reach of the heavy hand of those who deal with violations of K. R. and O. It is doing its bit.

**THE FIRST LINE OF DEFENCE**

"The Navy"



We are safeguarded from the foe by our Navy and Armies. But the greatest foe of all—famine and starvation, must be fought in the fields of Western Canada. Your part in the great war is to produce food.

You are the "Third Line of Defence"

**No Power on Earth, Can Prevent Hail**

—but, you can protect yourself against financial loss by taking a Hail Insurance Policy with us. Our proved financial strength assures you prompt and full settlement of your hail losses.

**It Costs No More to Insure Early**

Ask for particulars of our policy. Write us today or see our Local Agent

**British Assurance AD-1855 America Company**

HAIL DEPT. WINNIPEG and MOOSE JAW.

**THE SHORT COURSES  
Through the Eyes of the  
Tractioneer**

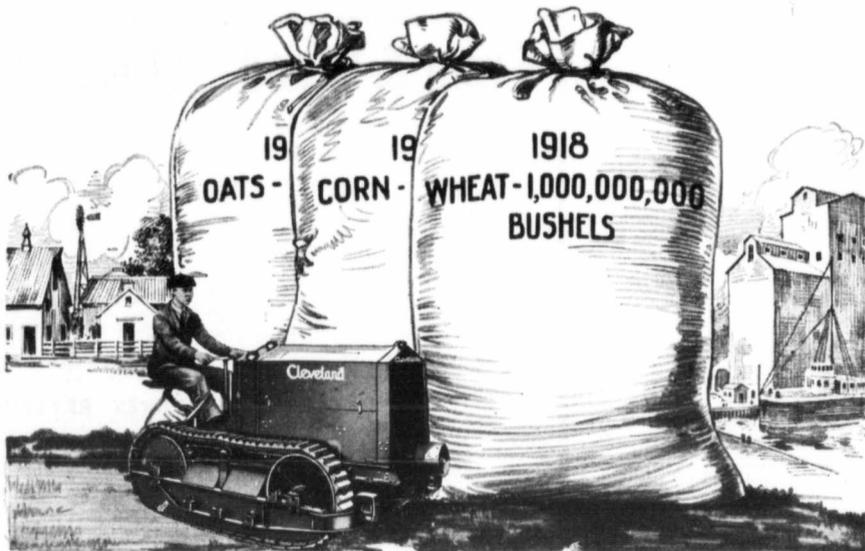
**B**Y the time this issue reaches its readers the Manitoba Agricultural Extension Service short courses will be about finished, and, while I was rather skeptical about them for a while, I'm fully convinced now that it was all money well spent. That is, of course, the gas engine part of the courses. I don't know anything about how the other parts of these courses worked out, for I don't know anything except gas engines, and probably not very much about them. But, taking the courses as a whole, I firmly believe they were all to the many.

However, it wouldn't be me if I didn't find something to kick about, so I'll take a kick at both sides. In the first place, I think the gas engine work could be handled a little better, that is, it could be handled more easily and more systematically with cheaper equipment. The present system is to take out three tractors and four small engines, along with some other small equipment. The idea is all right, but I'd like to see the equipment changed to about seven small engines and three tractor motors without the tractors. Then a lecture could be given in one branch of gas engine work, say, valve timing. Then during the practical period which followed the lecture every member of the class could work on valve timing until it was properly salted away in their heads.

The next day, another branch of the work could be taken up in much the same way, and the last two or three days could be spent in generally disabling the gas babies and having the students play gas doctors with themselves.

The big trouble is that most of the prospective students, or a number of them, don't seem to know just what is good for them and they aren't happy unless they see a chance of getting into a tractor and running around through the snow banks and the tractor acts as a drawing card to coax the students to come and get something that is good for them.

Tractors, as a whole, do not appreciate being chased around through the snow, and the boys who are in them don't learn very much about tractor operation while they are at it. But the tractor motor is a very important affair and should be studied very carefully. This is hard to do when the motor is on the tractor for, very often, if you want to get a tractor motor, you start out by taking off the drive wheels or some other such convenient piece of the tractor



**The Task Before the Dominion's Farmers**

Over a billion bushels of wheat must be produced in Canada and the States this year.

An enormous increase in the yield of corn and oats is necessary.

Thousands of extra acres must be cultivated. Each individual farmer must produce about one-third more grain than last year.

The task before the Dominion's farmers is stupendous. Intensive methods of every kind must be employed. Machinery must take the place of muscle wherever possible.

In the face of this emergency the Cleveland Tractor becomes an absolute necessity. Its tremendous value to the farmer is emphasized more than ever.

The Cleveland Tractor not only conserves time and labor—it does far cheaper and better work. And by doing better work it makes possible the production of larger and better crops—enabling you to do your part for the government—and make more money for yourself.

The Cleveland Tractor shows the way. It plows 3½ miles an hour—8 to 10 acres a day. It travels on its own tracks like the great "tanks" of Europe. It will go practically anywhere—through ditches, gumbo, sand and gravel. It is steered by the power of its own engine—simply and easily, and will turn completely around in a twelve-foot circle.

It will not pack the soil, will not mire, will not slip

or flounder. It has 600 square inches of traction surface. The track is designed for long service. The sections are constructed to prevent filling or packing with mud, and protection is provided to prevent dirt and mud from falling into the track. The sections are joined with hardened steel pins which have their bearings in hardened steel bushings. The Cleveland weighs less than 3200 pounds. It can be housed in less space than is required for one horse.

The Cleveland develops 12 h.p. at the drawbar for hauling and gives 20 h.p. at the pulley belt—plenty for stationary work of all kinds.

But in spite of its unusual power, the Cleveland is small and can readily be used in orchards and under and among small fruit trees.

Rollin H. White, the famous motor truck engineer, designed the Cleveland Tractor. He has used only the best materials. Gears are protected by dust-proof, dirt-proof cases and are of the same high quality as those of the finest trucks.

Prepare now to produce the enormous crops which we must have—and incidentally make more money for yourself. Get ready now for the great tasks before you. Order your Cleveland Tractor now.

Write to us for complete information and the name of the nearest Cleveland dealer.

**Cleveland Tractor**

WESTERN DISTRIBUTORS:

GUILBAULTS' LIMITED, Winnipeg, Man.

FOUNDRY PRODUCTS LIMITED, Calgary, Alta.

NORMAN COX, Saskatoon, Sask.

**THE CLEVELAND TRACTOR COMPANY, Dept. AZ, Cleveland, Ohio, U. S. A.**

and removing everything from there up to the motor.

From what little experience I have had with tractor manufacturers, they'll go quite a long way in lending machinery for this work. They lend their tractors for this work now, and I'm pretty sure they would be willing to take the motor off a tractor, put it on blocks, and let it go out instead of the whole tractor. Incidentally, they would be saving quite a chunk of money by getting rid of the expense caused by

green hands playing with the tractors in the snow banks.

In addition to this, I'm pretty sure that carburetors and magnetos could be obtained in the same way and a very thorough gas engine course given in two weeks.

Of course, I think it would be quite easy to hit the other extreme, and make the course one which it would be very hard for the average man to get and hold on to.

Then again, these courses which

are a big success, would be a far greater success if every man who attended them made up his mind to get all he could out of them, the instructor doesn't have time to go around and open every student's head with a chisel and hammer and then, after the course is over, weld the heads together again.

That is just my opinion, and a lot of people probably won't agree with it. But then nobody will say anything unless somebody starts it.

**PASTURE FOR HOGS**

(Experimental Farms Note.)

THE feed situation confronting the swine grower during the coming summer is not a bright one. Standard hog-feeds are not likely to be plentiful, with high prices ruling. Shorts and middlings, while fixed as to price, show no likelihood of a surplus. Corn, for some months practically unprocureable, and in any case too high in price to be considered, may be available, but whether in reliably constant quantities remains to be seen. Barley will be high priced also and difficulty available in many localities. Oats, under ruling and probable future prices, should be used only for the milking sow and for weaned and growing pigs. Only in small quantities should this feed enter into the fattening ration. It has been shown that with breeding stock, whether during winter or summer maintenance, cheap home-grown feeds may be largely utilized as an economy, and that from such feeding practice best results may be obtained in health and production. It has been, further, clearly demonstrated that home-grown feeds for summer feeding may economically replace a considerable percentage of meal even at pre-war prices.

The findings at Lacombe would warrant the recommendation of alfalfa for early pasture with a block of rape to supplement green food for hogs when they attain considerable size. Where alfalfa may be successfully grown, the swine grower would be well advised in retaining a small block for swine feeding purposes. Failing alfalfa, clover will give almost equally good results. With neither of the

legumes available, results at Lacombe indicate that a cereal pasture second only to the legumes, is to be obtained by the use of a heavy seeding (3 bushels per acre) of oats and barley, or wheat, oats and barley.

Any one of the pastures above mentioned should be followed by rape seeded early in June, preferably in drills 27 inches apart.

At Lacombe the results of the use of self-feeders versus hand-feeding on pasture, while not sufficiently verified by repeated experiment, would in-

**Frost & Wood—"The Best of All Binders"**

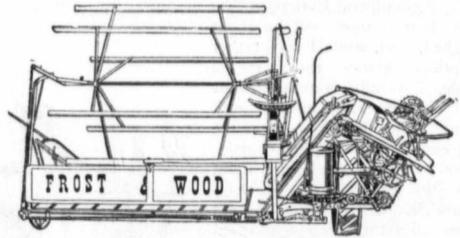
*writes W. A. Taylor, of Strassburg, Sask.*

"I have cut two crops with an 8-ft. Frost & Wood Binder and can confidently state that it has been the best out of many binders that I have used during many years of farming in the West."

**DEPENDABLE AND EFFICIENT**

Frost & Wood Binders combine features that save grain, make the work easier for you and for your horses, and enable you to get the work done in less time.

You don't have to worry and lose time making adjustments to Frost & Wood Binders as each part is thoroughly tested and inspected before it leaves the factory, and all adjustments made by expert mechanics, we know that when a Frost & Wood Binder goes into your field it will work properly and continue to work properly after long service.



**EXCLUSIVE FEATURES—BETTER SERVICE**

**THE REELS**

The wide range of reel positions makes it possible to lay all kinds of grain—long, short, or tangled—even on the platform so as to make a good square well-tied sheaf.

**THE KNOTTER**

Frost & Wood Binders have a simple but sure knotter that requires no adjustments and always gives satisfaction. No complicated parts to cause trouble, all parts are open to view and easily get-at-able.

**THE ELEVATOR**

The force feed elevator handles all quantities and conditions of grain with equal ease. It instantly and auto-

matically adapts itself to any change in the amount of grain to be elevated. It is simple and durable, it handles light or heavy grain equally well. The force feed increases the capacity of the binder insuring a steady feed of grain to the packers.

**LIGHT DRAFT**

The secret for light draft for which Frost & Wood Binders are noted is found in the large number and generous size of roller bearings used at points where weight and wear comes, and the scientific construction that result from over 70 years study of harvest field conditions.

WRITE TO-DAY FOR SPECIAL BOOKLET GIVING FULL DETAILS OR SEE OUR AGENT

**Cockshutt Plow Company, Limited**

WINNIPEG

REGINA

CALGARY

SASKATOON



Speaking for itself: A 12-25 Fairbanks-Morse plowing in stubble



THE  
**MAYTAG**  
COMPANY  
Ltd.



**PAT** said that "all whiskey was GOOD but some was better than others."

His theory does not apply to the Self-Feeder proposition. The reverse is true. Most of the Feeders are not much good when compared with

**The Genuine Maytag Rotary All Steel Ruth which is the best.**

If a new Feeder is needed this year, it is not too early to place the order. We have all sizes in stock now, but cannot tell how it will be later in the season. Our prices are lower this year than you will be expecting.

Our Stock of Drive Belts, Belting, Oils and Greases and all other Thresher Supplies is complete, and as in the past the prices are right.

Send for the Ruth Feeder and Supply Catalogue.

Prices are liable to advance, so be on the safe side and buy now.

**NO INFERIOR OR SECOND GRADES SOLD BY US**



THE  
**MAYTAG**  
Company, Ltd.  
WINNIPEG,  
MAN.



# FARMERS WANTING HELP

must forward application at once to

**J. A. BOWMAN,**

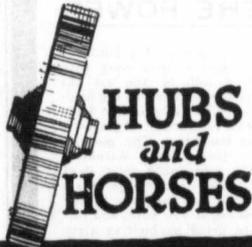
Superintendent of Labor

WINNIPEG

Stating definitely what man is required and for what work.

**CANADA FOOD BOARD**

Per J. D. McGREGOR



The world is short of horses. To get the most out of your team use

## MICA AXLE GREASE

"Use half as much as any other"

The mica flakes fill the pores and crevices in the axle and the grease keeps them there. Mica Grease means fresher horses at the end of the day and longer life for your harness and wagons.

## EUREKA HARNESS OIL

"Lengthens leather life"

Overcomes leather's worst enemies—water and dirt. It makes harness pliable and waterproof, prevents breaking of stitches and imparts that rich black lustre to all dark dressed leather.

Sold in standard sized packages by live dealers everywhere.

**IMPERIAL OIL LIMITED**

BRANCHES IN ALL CITIES



dicating that where hogs are fed to a finish the self-feeding method shows most economical gains. It has been proven where corn is the principal grain used, self-feeding is more economical than hand-feeding. That this is also the case where mixed grains, wheat by-products and feeding concentrates are used, is indicated by the results at Ottawa, Lacombe, Brandon and elsewhere on the Experimental Farms System.

At the Experimental Station at Lethbridge excellent results have been obtained from alfalfa and peas, the hogs being allowed access to both crops at the same time. Here, of course, alfalfa is one of the most dependable crops grown, conditions being in all respects suited to its culture.

While much evidence is, therefore, at hand, to show that alfalfa possibly holds first place as a hog pasture, it must be remembered that in many sections of Canada this crop cannot be grown at all, in many others that it is unreliable in the extreme, and that even under more or less favorable soil and climatic conditions for one reason or another it cannot always be relied upon. For reliability and wide cultural possibilities and from the standpoint of palatability, producing power and resistance to pasturing, red clover should receive emphasis equal to, if not greater than, that given alfalfa.

In conclusion, high priced grain and meat for hogs must be replaced, as far as possible, during the coming summer. Pastures, as discussed, form a home-grown, palatable, easily available food, that is harvested without labor. The self-feeder combines well with pasturing, and for growing and finishing hogs is peculiarly worthy of attention during present labor scarcity.

## PEAS—THE STOCKMAN'S CROP

(Experimental Farms Note.)

THE high price at which peas have sold on the market for the last two years has given a decided impetus to their production. Canadian production in 1917 exceeded the previous year by nearly a million bushels. This is as it should be. The production of peas is lower than that of any of the cereals. Insect pests, diseases and the low price decreased the production of this important legume previous to the war, but since then, due to the rapidly rising price of the last three years, the acreage has been greatly increased, especially in the provinces of Quebec, Saskatchewan and Alberta. When we

# UNQUALIFIED GUARANTEE GIVEN

The U.G.G. guarantee of satisfaction goes with every article you buy from this company. That should mean a lot to you when you find it necessary to order things in a hurry on account of this early spring. We are prepared for your rush orders. We have

GOOD STOCKS IN WAREHOUSES AND SHIPMENTS CAN BE MADE AT ONCE

## Plows

U.G.G. Gangs have special foot lift which raises the plows very high out of the ground. These plows are guaranteed to scour where any other plow will scour. The 2-bottom gang has a 1 1/4-inch colter shank. No. 11 bottoms, 5-16 Q.D. shares, pole and yoke, with 4-horse all-steel tandem hitch. The 12-inch gang weighs 820 lbs. F.O.B. Winnipeg, \$118.00; Regina, \$121.40; Saskatoon, \$122.10; Calgary, \$123.85. The 14-inch gang weighs 833 lbs. F.O.B. Winnipeg, \$119.50; Regina, \$123.00; Saskatoon, \$123.65; Calgary, \$125.50. We have other styles and sizes in stock. Ask for particulars.

## Harrows

Our stock comprises Boss, lever, drag and disc harrows. U.G.G. Boss Harrows have 1 1/4 x 2 1/4 white oak beams, teeth driven in mortised holes and double riveted. Five section Boss, 150 teeth with roller hitch even, four horse. Weight 381 lbs., F.O.B. Winnipeg, \$31.10; Regina, \$32.65; Saskatoon, \$33.00; Calgary, \$33.80. Also comes in two sizes of three sections, see Pages 18 to 21 of 1918 Catalog. For other prices and details.

HARROW CARTS. Practically all steel. 36-inch wheels, weight 96 lbs. Winnipeg, \$13.80; Regina, \$14.15; Saskatoon, \$14.25; Calgary, \$14.50.

## Cultivators

The Forkner—a time and labor saving tool that makes bigger crops. Comes in 3 sizes (with 18, 20, 25, 34 or 47 flexible steel teeth). For use with horses, or light tractors. Built entirely of heavy steel and malleable iron. 18-inch wheels, carry main frame. Cutting width, 7 to 15 feet, with several styles of shovels. Without question the best cultivator on the market. No. 34, with 34 reversible steels, tongue truck, no poles, trees nor yoke. Weight 1,250 lbs., F.O.B. Winnipeg, \$206.75; Regina, \$212.00; Saskatoon, \$213.00; Calgary, \$215.65.

## Manure Spreaders

U.G.G. Spreader has angle steel reach, giving direct draft. Has independent beater control, independent rake, and separate apron control. 70 bushel size. F.O.B. Winnipeg, \$196.80; Regina, \$203.15; Saskatoon, \$204.50; Calgary, \$207.80.

## Wagons

U.G.G. Canadian wagons are made of thoroughly seasoned hardwood, well built and finished. Have rubber shock absorbers front and rear. See 1918 Catalog, pages 83 to 86, for full particulars and sizes.

## Buggies

See Pages 87 to 91 for U.G.G. line. No. V 14, has extra wide seat, bent panel body, four bow top, well finished. U.G.G. guarantee. F.O.B. Winnipeg, \$134.10; Regina, \$137.45; Saskatoon, \$138.00; Calgary, \$138.15.

## Harness

We have a full line of driving, teaming and plow harness on hand at the present time. See our Catalog, or write us for particulars of the style you need.

Besides the few articles listed above, we can supply practically everything you need for your spring and summer work. Our stocks of pumps, well curbing, cream separators, and other dairy supplies, as well as incubators, potato and corn machinery, etc., are in such condition that we can handle your orders with satisfying promptness. Use the coupon for particulars of goods you need.

# UNITED GRAIN GROWERS LTD.

Winnipeg Regina Saskatoon Calgary

## COUPON

United Grain Growers, Ltd.,  
Winnipeg, Regina, Saskatoon, Calgary.

Please send me full particulars of the articles I have checked.

Plows	Manure Spreaders	Cream Separators
Harrows	Wagons	Milk Cans
Harrow Carts	Buggies	Incubators
Cultivator	Harness	Pumps

Name ..... Address .....

consider the numerous ways in which one can utilize this crop either in the seed or on the vine it is surprising that pea growing has not received an even greater impetus than it did last season.

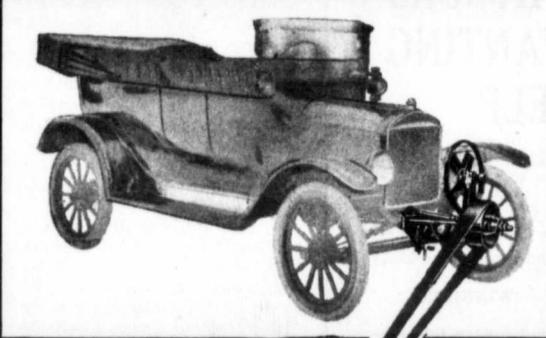
Split peas and whole peas especially in Canada occupy a prominent place in human diet in that delectable food pea soup. Pea meal is a very proteinaceous food excellent for use in a balanced ration for stock feeding purposes, furnishing as it does a low-priced concentrate. Considering the high price of concentrates, the farmer who has a crop of peas, that he can convert into pea meal, is doing much to free himself from danger of exploitation at the hands of feed dealers. Unthreshed peas are of great value for sheep feeding purposes, being an ideal winter roughage for breeding ewes, while they are likewise an excellent feed for young cattle. They can also be successfully grown with oats and ensiled, furnishing where corn cannot be grown one of the most valuable silage foods, or again the same mixture can be cured as hay and fed with profit throughout the winter. As a summer pasture for hogs, they return profitable gains, an acre of peas forming a most valuable adjunct to the summer ration coming in at a time when the young shoats are able to make the best use of this kind of feed.

The successful culture of peas is largely a matter of climate. Being a legume instead of a cereal, they are classed among those crops known as soil improvers. While they do not do their best on light soils particularly during a period of dry weather, yet almost any heavy well drained soil that has not been robbed of its virgin fertility will produce a good crop. The best results are obtained by putting them on sod land which has been plowed the previous autumn and thoroughly top-worked before seeding.

Peas cannot be sown as early as wheat or oats, owing to the tenderness of the young vines which a late spring frost is apt to damage seriously, also the cold and dampness of the seed bed may cause a rotting of the seed. It is impossible to give an exact date when it is desirable to start pea seeding, but this is a general rule that may be followed: If you have sown your wheat on the earliest date possible, the seeding of peas may be commenced from ten to fourteen days afterward. This rule might be modified in certain localities, depending entirely on the local weather conditions.

We would recommend farmers who are in extreme northern districts, and who are desirous of trying out peas, to start in a

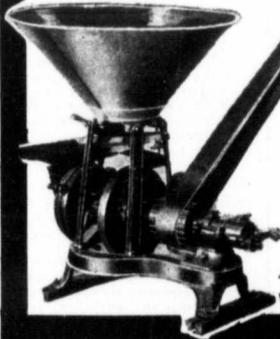
# MAKE YOUR FORD DO YOUR WORK



## THE MCGILL AUTO-POWER ATTACHMENT

**OPERATES** grain grinders, hay presses, wood saws, water pumps, grindstones, cream separators. This new and improved attachment when first installed makes it possible to convert your Ford into a power plant in two minutes, or back to the pleasure car in two minutes. In this new attachment, the casting, which stays on the car, makes an excellent holder for your license number, which, at the same time, nearly hides from view the casting on the car; in this way it does not mar the appearance of your car in any way.

SEE PAGE 467 SPRING AND SUMMER CATALOGUE FOR BELTING



### IT HAS THE POWER

You know the power of a Ford. It is brought home to you every time you climb a hill, or you see the heavy loads the Ford trucks are hauling, and you ask: "Why cannot I use this power on my farm?" Autopower makes this possible. The gasoline engine will pay for the attachment in a short time. Just think of having a portable power plant at your control that you can take to any job with the attachment on, if you wish, and furnish heaps of power to grind as high as sixty bushels of oats per hour; run your ensilage cutter to its fullest capacity; run a wood saw with two notches of gas; run hay presses, pumps. In Western Canada farmers are running 28-inch separators with blowers attached, threshing as high as 600 bushels of wheat in ten hours, or 1,000 bushels of oats in ten hours. The attachment has an auxiliary fan which keeps the engine cool under all conditions. A special clutch pulley makes it possible to start the engine and then pull in the load. The attachment is fully guaranteed; over 1,000 in use and giving entire satisfaction. The attachment pulley is 10 inches in diameter by 4 1/2 inch face. The engine runs at same speed as running on the road, at twenty miles per hour, which is about 1,000 r.p.m. Forty feet of belt should be used.

22FJ1. McGill Autopower Attachment. Shipping **60.00**  
weight about 120 lbs. Price .....

Takes first-class freight rate. Order from Winnipeg  
Grinder and Belting Not Included in Price Quoted

THE T. EATON CO LIMITED

WINNIPEG CANADA

small way. As peas are subject to severe injury from frost both in the late spring and early autumn, it would be poor advice to recommend any farmer who is situated north of the 50th parallel in the eastern provinces, and north of the 53rd parallel in the prairie provinces, to sow a large acreage until he is certain that they will escape late spring and early fall frosts.

The many ways in which one can utilize a few acres of peas with profit should tend to make this one of our most popular crops instead of occupying, as it does, a lower place than any of

the Canadian cereals. There are no cultural difficulties to discourage the farmer while the chief insect pest, the weevil, can always be successfully controlled by the sulphide treatment.

There is a large place for peas in our farming and stock feeding practices, much larger than has been thought by most of our practical agriculturists.

Mildred—"Women don't have so many enemies as men do, do you think?"

Clarence—"Maybe not, but the women seem to get more pleasure out of theirs."—Judge.

### CONTROLLING THE SOW THISTLE

**M**R. LUDVIG PETERSON, a successful farmer living in Kittson County, Minnesota, has solved the sow thistle problem to his own satisfaction. His method of control is worthy of study by others who are seeking means for combating this weed pest.

Mr. Peterson follows a six-year rotation plan on the 320 acres of land that he has under cultivation. His plan of rotation was adopted five years ago, and has been in operation long enough

to produce results. Before this plan of rotation was followed on his farm, summer-fallowing had been practised.

No claim is made by Mr. Peterson that his crop-rotation plan has entirely done away with thistles on his farm. The thistle is there, but not to the extent that it cuts down crop yields or in any way interferes with his plans of crop management. In spite of the dry weather of the past summer, he secured a yield of 33 bushels of wheat per acre. The crop year of 1916 was very poor throughout the valley; but Mr. Peterson's wheat yielded 14 bushels per acre against a neighborhood yield of about four bushels per acre. The 1917 hay crop as a rule was poor for northwestern Minnesota; timothy and clover yielded for 1917 one and a quarter tons per acre on Mr. Peterson's farm. These yields have been secured in the part of the valley that is badly infested with sow thistle. Mr. Peterson expects big yields; if the yield is cut down in any way, other factors than that of sow thistle will be the cause.

His six-year rotation plan is as follows:

- Corn
- Wheat seeded to timothy and clover
- Two years meadow
- One year pasture
- Oats

The fields are equally divided. One-sixth of the 320 acres is in corn each year. The farm is sufficiently fenced so that the annual shifting of the pasture can be done with the least expenditure of time and labor. Fences also make it easy to pasture the wheat and oat stubble and last year with the early frost killing the corn and the corn too green at the time to make good fodder, the fence enabled him to turn stock in the corn field for what feed was there.

Mr. Peterson was a stockman. For five years he has had a silo. Feed raised is fed on the farm. Aside from the benefits derived from having stock on the farm, the fact that stock is kept on Mr. Peterson's farm is a valuable aid to hold the sow thistle in check.

One-sixth of the 320 acres being in corn means 54 acres of the crop each year. This cultivated crop takes the place of summer-fallow. Cultivation will not keep out the sow thistle, as some will escape and produce seed, but the cropping system is so well handled that succeeding crops do not suffer from the thistle. In order that the thistle may be held in check as thoroughly as possible, the corn is gone over once during the season with a hoe. This costs about a dollar per acre.

No preceding crop can so well prepare the ground for wheat as

**Best Farm Shoe on Earth**

## I Built this Shoe for Farm Wear!

I know the requirements of a farm work shoe as well as any man living, because I was brought up on the farm and worked from early morning till late at night just like every other farmer has to do. For that reason I know just what I am saying when I tell you that this is the **BEST FARM SHOE ON EARTH.** It is built especially to meet the requirements of farm life—on the fields—around the barn or in the barn acids. No matter how hard you may be on your shoes, or to what test you may put this shoe, I personally guarantee that it will stand up and give you all the wear you could possibly expect.

**Read this Description--You Never Wore as Good a Shoe**

The uppers are made of heavy tan or black Oil Grain leather of finest quality; the heavy half-double soles are of solid leather, as are also the 3-lifts of heels. The shoe has a solid and substantial leather back-strap, which gives great strength to the whole shoe. The vamp runs right through to the sole with the heavy toe-cap covering, which means double the ordinary shoe strength at the toes. It is strongly made and nicely finished on a wide and roomy last that will give greatest comfort.

**Here are My Prices—Order Direct from this Advertisement, or Send for My Complete Shoe Catalogue**

12H100—Dark Tan, Sizes 6 to 11. Price Post Paid... **\$4.65**    12H101—Black, Sizes 6 to 11. Price Post Paid... **\$4.65**

Remember you are perfectly safe and will save time by ordering direct from this advertisement, because I guarantee the shoe in every particular, and will promptly refund your money if you are not in every way more than satisfied.

**Send for My Big Free Shoe Catalogue**

It tells all about this and hundreds of other high quality shoes for Men, Women, and Children. All the latest styles and varieties of shoes for everybody, and all at prices that mean a big saving to you.

**The Wm. Galloway Co. of Canada**  
15 Princess St., Winnipeg, Man.    Ltd.

Perfect Satisfaction or Your Money Back





## An Aid to Successful Farming

THE successful farmer of to-day is the one who builds *permanent* improvements. The time for makeshifts is past. The farmer recognizes that he is under a great handicap in his efforts to make money, if he has continually to sink profits in temporary repairs.

“What the Farmer Can Do with Concrete”

is an aid to successful farming. Over 100,000 farmers have realized this. Many thousands of these have completely made over their farms, while others have acted on some of its valuable suggestions. Only with concrete for his building material can the farmer have his farm buildings weatherproof, water-tight, vermin-proof, permanent and sanitary.

Our 100-page book contains directions which will enable the farmer to construct all sorts of improvements of Concrete in odd times—with the help of his man. It is written in clear, plain language, and contains many diagrams, which any farmer can understand.

Send for it—it will be mailed free

CANADA CEMENT COMPANY LIMITED

263 HERALD BUILDING    ::    MONTREAL



a cultivated crop. After such a crop a good firm seed-bed can easily be prepared without much labor. Thorough disking and harrowing is all that is required. Wheat on such a field can easily hold its own with the thistle and usually has the best of the thistle.

The two years of hay and one of pasture prevent any sow thistle on that part of the farm from seeding. These three years tend to kill out any weeds that may have gotten a foothold in the previous two years of corn and wheat. The pasture is broken up in late summer; breaking at this time hurts the sow thistle roots. Oats the sixth year following pasture is the cleanest of any of the crops.

A careful study of this rotation system will show many commendable features, but it has been sufficient to set forth its value as a method for sow thistle control. It is well worth remembering that this rotation plan was put in practice after several years of summer-fallowing. To adopt a rotation plan with a badly infested sow thistle farm would result in disappointment for the farmer. Some headway must be made against this weed before a rotation can be used effectively. Summer-fallowing paves the way by entirely eradicating the pest. A cultivated crop will not eradicate the weed, cultivation only holding the thistle in check after its control has previously been made possible by summer-fallow methods. To have such a large area in a cultivated crop as Mr. Peterson has each year is at present beyond the practice of the average Red River Valley farmer. It must be admitted that, when this much of each farm is a cultivated crop each year, farming conditions throughout the valley will be on a better paying basis, as it will naturally mean increased crop yields and more live stock per farm. This latter condition is sadly needed on valley farms. Where the cropping plan cannot use as large an area of cultivated crops, a part of the farm each year must be summer-fallowed, if the thistle is to be kept under control.

Mr. Peterson was asked to give his reason for changing from summer-fallow, as formerly practised by him, to his method of crop rotation and cultivated crops. His first and best reason is that he cannot afford to have land that is not producing some crop. He has shown to his own satisfaction that the present method produces larger returns. The good corn year of 1914 well illustrates this point. That year the corn field of 54 acres produced enough to fill his 150-ton silo, and 1,800 bushels of well matured Minnesota No. 13 corn, also the

additional feed of fodder. Under the old system of summer-fallowing this particular field would have given no returns. The next year, 1915, over 30 bushels per acre of wheat was raised on this same field.

The soil in the neighborhood of Mr. Peterson's farm is of the lighter sandy type of Red River Valley soils. To summer-fallow such oil will cause a loss by drifting. This loss by drifting, Mr. Peterson figures, offsets many of the advantages of summer-fallowing that otherwise might be expected on soil of the heavier type.

To make summer-fallowing effective, the surface must be cultivated often enough to prevent the starting of any new growth. Many times when the summer-fallow field should be gone over, the teams may have to be in the hay field; haying followed closely by harvest will also keep the teams busy. At the critical time when the summer-fallow field should be cultivated, the teams are busy at other farm work. The result is that the thistle gets a good start, many produce seed, and the benefits expected from summer-fallowing are not realized.

The fact that there are farmers in the Red River Valley who are controlling the sow thistle and making a success in their farming operations should lend encouragement to those who are seeking means for its control. There is no farm management problem that is not subject to a solution. The same means of solution are not applicable for all farms. Adjusting conditions for the best practice on any farm requires a study of the methods of farming that are in operation on a well-organized farm. This often requires a modification of the exact line of methods that are best on one farm in order to make the same practice of management feasible on another farm. These different features in farms are many and varied, such as location of the farm, soil type and soil fertility, size of the farming business, the major line of work, equipment in buildings, live stock, machinery, etc. These differences in a large measure often apply to neighboring farms. The broad underlying principles of farming must be applied to all farms. The reason one man succeeds in farming and another fails is often the difference between modifying farming principles for the best management of the farm and the failure to study and apply the particular needs to the farm.

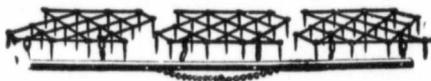
Knicker: What is the most needed grain crop?

Bocker: Grains of sense.

# Standard Farm Implements

Goods of Quality that you need now. We save you money.

**Channel Steel Diamond Harrow, only \$4.25 per section**



Made of channel steel; a very popular Harrow. Teeth are 9-16 inch square, threaded and nutted on top, and are removable; are standard length, guaranteed. As good a harrow of its kind as you can buy; each section has 20 teeth. Drawbars furnished with all harrows except the one-section; the 6-section has 4-horse drawbar, which is fitted with sheave pulley and roller equalizer. Sections are connected with short stay chains.

No. 35307—20-Tooth One-section Steel Harrow;	52 lbs.	Price .....	\$ 4.25
No. 35308—60-Tooth Three-section Steel Harrow;	155 lbs.	Price .....	15.00
No. 35309—80-Tooth Four-section Steel Harrow;	220 lbs.	Price .....	19.50
No. 35310—100-Tooth Five-section Steel Harrow;	300 lbs.	Price .....	25.00
No. 35311—120-Tooth Six-section Steel Harrow;	400 lbs.	Price .....	31.00

## VICTOR SMALL GARDEN IMPLEMENTS

SAVE LABOR AND INCREASE PRODUCTION

**Steel Cultivator \$12.50**  
Compound Lever Expander



Complete With 2 Wheels

A high quality garden cultivator. Solid and rigid in construction. Has horse hoos, lever wheel, rear wheel depth regulator and outside handle braces. Lever wheel and rear wheel depth regu-

lator enables operator to control the working depth of teeth. This enables the cultivator to run steadily and relieve the operator from strain of holding cultivator from running too deep. Teeth can be raised entirely out of ground for moving from one field to another. Lever expander widens or narrows width of cultivator to suit different widths of rows. A most complete and serviceable tool, and warranted to be satisfactory in use.

No. 351—Shipping weight, about 90 lbs. Price, complete .. **\$12.50**

No. 352—Victor Cultivator, same as 351, except it has not the rear wheel depth regulator and lever. Complete, with five 3-inch hoos and short lullers. The cheapest high grade lever cultivator on the market.

Our price only .....

**\$9.75**

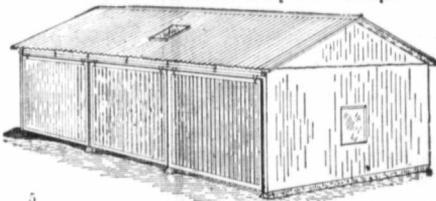
Our Spring and Summer Catalog Lists. Other Good Values. If you have not received copy a post card brings it. We Guarantee to Ship Above Goods Promptly.

**G. S. JUDSON CO. LTD** Logan and Sherbrooke Sts. **WINNIPEG, Man.**

Sellers of High Grade Farm Supplies Direct to the Farmer

## Safety First on the Farm

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



Manufactured in various sizes and styles suitable for farm conveniences.

Write for booklet and prices to—

**THE METAL SHINGLE & SIDING CO., LTD.**  
SASKATOON WINNIPEG CALGARY

### INOCULATION FOR ALFALFA

When alfalfa is seeded for the first time inoculation must be provided in order to secure the best results. One of the best ways to inoculate is to use soil from a field growing alfalfa successfully and spreading it at the rate of 100 to 200 pounds per acre and harrowing or discing it in. It is a good plan to apply this soil before sowing the alfalfa.

The inoculation can also be secured from cultures that are applied to the seed. These do not always work, but they are convenient.

**FOR SALE—20-50 Avery Gas Tractor,** equipped with extension rims and in best of condition. Also six-furrow Cockshutt Plow. A. L. Bates, 496 Teller St., Winnipeg.

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

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

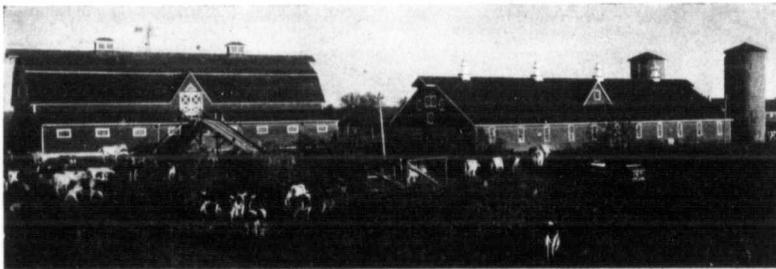


# Pure Air fed to Live Stock

is the most certain safeguard on earth against disease, and the common complaints (often fatal) which affect live stock, most frequently the well-bred and valuable animals rather than the scrub cattle and ordinary farm-chunks.

EPIDEMICS SIMPLY CANNOT FIND ANYTHING TO FEED ON IN A CLEAN ATMOSPHERE, AND WE GUARANTEE TO PROVIDE YOUR LIVE STOCK IN THEIR BARN—SUMMER AND WINTER—WITH AS PURE AN ATMOSPHERE AS THEY FIND AROUND THE STRAW-STACK IN THE OPEN. THE COST OF THIS IS SO COMPARATIVELY SMALL IT IS OUT OF ALL PROPORTION TO THE ENORMOUS RISK COVERED—THE SAVING IN FEED—AND MARKET VALUE OF THE STOCK.

The man who owns this splendid Herd of Holsteins acknowledges he made a splendid investment when he equipped his barn with a constant and perfect system of circulating pure air. The animals are in residence.



Do you realize that the only way to fight the WHITE PLAGUE — whether it is in your household or in your live-stock possessions is by means of PURE AIR? Vitiating atmosphere is the one hot-bed and feeding-ground of all kinds of contagious disease.

SPLENDID QUARTERS FOR SPLendid ANIMALS  
AND THEY COST LITTLE MORE THAN A FOUL AIR PRISON

## The Townsley-Made-in-Canada-System

will not only SAVE you from disease and death in your herd, but it will PAY YOU in increased product with top prices for first quality.

To obtain expert advice free and the fullest details with cost in your own particular case—without any obligation whatever on your part—send us a rough but accurately measured sketch of your barn interior, and we will send you a carefully drawn plan with specifications—FREE, remember. When you write tell us how your barns and home buildings are safeguarded from ELECTRIC STORMS. We can give you the surest guarantee on earth against loss from lightning.

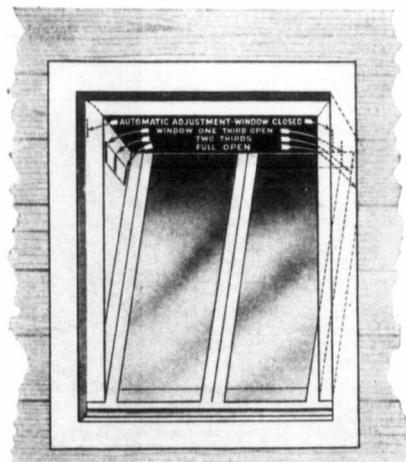


The Townsley System of Pure Copper Cable Protection is the most complete "Cover" against Lightning known to Science and the Insurance Companies.

## Canadian Lightning Arrester and Electrical Co., Ltd.

1205 ROSSER AVENUE

BRANDON, MAN.



THE "TOWNSLEY" PERFECT BARN WINDOW

Gives perfect ventilation without creating a direct draught upon the animals. Tilts open at top like a transom and gives abundance of light all the time. Has four distinct positions—one closed and three open—at different angles. As the window opens inward it acts as a deflection for the current of incoming air—throws it upward and away from the animals in the barn. In that fact lies its particular advantage as a barn window. Illustration shows the Townsley ventilating window fully opened. It is held in any desired position by a strong, hardy galvanized latch and the amount of air admitted can be adjusted to exactly suit requirements. Nothing like it on the market—costs little and IT LASTS.

# OUR WOMEN FOLK

CONDUCTED BY  
PEARL RICHMOND HAMILTON



### Our Day

"This is the woman's day!  
Now, in her splendid hour,  
Turning from trifles away,  
And mounting her throne of power.  
Let at the country's need,  
From every hamlet and hall  
She has come with her splendid deed,  
Ready for every call.  
She is winning and doing, and still  
In larger ways and complete,  
Sending the spur of her own high will  
To every heart she may meet.  
This is the woman's day!  
And she has not failed nor wined,  
Nor loitered nor dawdled upon the way.  
Nor growled, nor murmured, nor  
minced.  
The woman—the queenly part  
Of all that is fine and free,  
Giving the best in her golden heart  
For her land, for you, and for me!"

### Helps By the Way

"One great value of thinking about others is that we get a rest from thinking about ourselves, which is the chief cause of personal unhappiness."

"When you know God your world will be beautiful."

"The language of love is more often silence than speech. What is most deeply felt is least easily told."

"To recognize that higher self, which is truly made in the image and likeness of God, is to be always at your best. 'Nothing can resist the will of one who knows what is true and will what is good.'"

"For flowers that bloom about our feet,  
For tender grass, so fresh and sweet,  
For song of bird and hum of bee,  
For all things fair we hear or see,  
Father in heaven, we thank Thee!"

"All reforms and all mental healing must result from changing the minds when the mind is changed, the man is changed."

"Faith is the force that moves mountains. It is the very pith and marrow of achievement. It is and has ever been the miracle-worker of the ages; it is the connecting link between God and man. And we may have it if we will."

"Dear, we must share if we would keep  
All blessings from above;  
Ceasing to give we cease to have—  
Such is the law of love."

"Remember there is no greater everyday virtue than cheerfulness. We are refreshed by the presence of cheerful people. Let us not forget to confer that pleasure upon others. An ounce of cheerfulness is worth a pound of sadness to serve God with."

"The grandeur of strength is in silence  
In the power of quiet will;  
To turn from life's turmoil and worry,  
To know, and to work, and 'be still.'"

"There are nettles everywhere, but smooth, green grasses are more common still. The blue of heaven is larger than the cloud."

"Before beginning and without an end,  
As space eternal and as surety sure,  
Is fixed a power divine which moves to god—  
Only its laws endure."

### Home Economics

Kindly send all reports and papers before the fifteenth of each month.

A prize of two dollars was offered in the February number for the letter containing the most helpful influence of the convention to a delegate. The prize is awarded to the delegate from Souris—Mrs. G. A. Poyner. I am sure every member of the H.E.S. will be pleased to know that the most helpful influence to the writer of this letter was a woman's personality—our president—Mrs. Dayton. This is the letter:

Dear Mrs. Hamilton:—In regard to your offer of a prize for the most helpful influence of the convention, I feel that it was the personality of Mrs. Dayton. I had never been there before so every

### A Splendid Example

Miami, March 5, 1918.

Dear Mrs. Hamilton:—I see by the last Thresherman that a request is made for reports from our H.E.S. meetings and work; am sorry that we have not attended to this very regular during the past year, but our new directors are anxious to have the work published in our official organ, The Thresherman, so we will endeavor to turn over a new leaf. Our society is taking up patriotic work at every meeting this year and that is one reason we expect to have something worth while to report. Our first meeting in the new year was held on February 10th. After the business was disposed of we served a Queen Mary's tea, in aid of the prisoners of war fund. We have had a great number of

### Rural Conservation

Dear Mrs. Hamilton:—There was a pertinent remark in one of our daily papers re the women representatives summoned to Ottawa to the conference on Food Resources. It said: "Whether these women would represent the rural district, or whether a rural representative would be sent, it was not known." We also see reports of conservation from the cities, but I have never seen a report from any rural district, nor of what the rural population of any province is doing. Does it mean the rural housewife is to be left out of all these organizations, and conferences and reports, or am I ignorant of the subject? If the rural population is to do so much to provide for the allies, are they to be left out on the conserving of food?

If there were more campaigning and organization and unifying of the rural forces, there would be great supplies liberated for the allies. It is in the country where food (seed, bacon and flour) is so abundant and so near at hand, and where also country appetites demand these things as the bulk of their bill of fare. But mobilization of the country forces is most difficult to accomplish on account of the way the country housewife is situated. She has much to contend with in realizing the need across the sea—her environment isolates her—surrounded by wide spaces of producing land, she is prevented the common contagion of community life. Tied down by exacting duties that demand the constant exercise of both her mental and physical powers, she is not free either to study the methods of providing for outside needs, or to change her method of providing for her family. And would not the plenty that has come to farmers since the war began have a tendency to afflict the womankind with "future degeneracy of the heart," so that she is unable to feel the need of sharing her plenty with suffering ones. Also we fear the "anaemic" villages (as Alison Craig says) do not furnish the medium they might of linking themselves and their rural sisters to the great movements that are bettering the world.

Perhaps the greatest obstacle to systematic conservation in rural homes is the husband and family. A husband's instinct when anything is "going to be scarce" is to "lay in" a supply. The very word "husband" infers this. It is his nature, he can't help it. This is where a woman may literally "fight" for her country. A man is a creature of habit. Nothing but the M.S.A. or his wife can change his habit of eating. This is where the wife plays a responsible part in the war. It is, we hope, the husbands who are responsible for the storing and hoarding of one, two and three years' supplies of flour, in family store-houses, from end to end of our dominion. What elevator from coast to coast would contain the flour hoarded in this way. As the housewife goes to her store-room, she must see, painted on every sack, a wan face beseeching for bread—or, perchance crouching, a lean khaki-clad form with tense face, waiting to do or die for liberty.

And so with all these obstacles to a proper conception of food conservation we here such remarks while canvassing pledge cards: "There's nothing wasted around this house," as if we could feed the allies on what usually goes in the garbage can, or out to the dogs. Another woman wanted to sign a pledge card, and her husband had laid in a year's supply of flour, though she protested. Another man told his wife not to sign anything that would cut out the neat. Another woman, after a "sharp engagement" at the dinner table, had insisted on cutting in half the usual winter's supply of beef. But what was her mortification, when after giving a strenuous talk on conserva-



RESURGAMI

Who of us can write the epic of the women of France in their great hour of testing? Beaten down for a while, Phoenix-like, from the smoking homesteads the tricolor rises again, and the women are spreading it to the breeze over regained France.

one was new to me, but what interested me more than anything else was the way our President considered the different opinions. Never by word or look did she express anything but respect for every one there. She had most remarkable power of self control. One cannot help but love a woman like that. Even if we do not agree with different opinions we need first to control ourselves, and love every one. Mrs. Dayton's absolute self-control and her unselfish interest in every one at the convention taught me a lesson I shall never forget and it has made me determine to be more generous minded toward others.

Sincerely,  
Joan Poyner.

very instructive talks on food conservation but we always seem to go on afterwards in the same old way. Strange as it may seem, yet the explanation of this may be in the fact that we fear criticism more than sacrifice. However our members went bravely forward and decorated the room with flags, shields, etc., wrote out a card like the enclosed one for each table, and served tea with bread and butter. Both the congratulatory remarks on the example set and the \$20 realized were sufficient reward for our work.

Queen Mary has requested that only tea and plain bread and butter be served at Royal Household Teas.

L. Seip, Sec., H.E.S.

tion at a meeting, her husband next day, rolled half a barrel of pork into the house. She dreamed of spoilt meat in the cellar and of swimming around in the ocean brine, looking for hams for several nights.

And so it moves us to suggest a stricter tab be kept on country consumption. We were amazed on asking two local flour dealers re sales of flour for this season, to find they were greatly increased over last season. Why can't the dealers in flour and meat be compelled to send in monthly statements of sales, and they could be made into reports for each municipality. It might create municipal competition where the national call would fail. Would it not be possible to prevent a retailer from letting out more than three month's supplies of war commodities to one family. And lastly I would plead for the woman herself. This conservation is such a training of the sympathetic and generous qualities of our nature, as well as a training in personal thrift. It is the universality of this training that is going to make Canada great and powerful, both now and after the war, that will help us to rebound from the shock of war unbroken—that will rebuild our country along natural lines, that will rear up a race of sturdy, sane, humane democratic Canadians.

**Rural Housewife.**

(I am sure the above letter will call forth other letters. This woman worked hard through cold weather in her campaign for conservation and in her letter to me personally she had much discouragement.—P.R.H.)

**Hamiota**

Report of the Eighth Annual Convention By L. Venables of Hamiota.

(We are glad to publish this report from the delegate's point of view.)

Held in Winnipeg, February 19 to 23. All the sessions being held in the banquet hall of the Royal Alexandra Hotel.

The Convention was opened with prayer by the Rev. Chas. R. Flanders of Broadway Methodist church, followed by an address of welcome by Lady Atkins.

It seemed to be the general consensus of opinion that this the 1918 Annual Convention of H.E.S. and Agricultural Societies were the best annual gathering that these organizations have ever held. There were present a goodly number of the old "stand-bys" who from the beginning have given these organizations their loyal support. There were in addition a large number of new faces—I might say young faces, present.

The papers and addresses were of the very highest order, and the business session was the best ever held.

The Extension Department in co-operation with the Department of Agriculture and the various societies had planned a week full of inspiration, enthusiasm and instruction resulting from demonstrations, lectures, discussions and conferences.

The speakers at every session having been chosen on account of their wide knowledge and experience of the subjects which were discussed, as it is being recognized that delegates to the conventions carry back with them ideas which will be valuable in furthering the interests of rural and community life.

As on previous occasions the social side of the convention was emphasized. The delegates over 300 in number, very gladly accepted the cordial invitation of Lady Atkins to a reception at Government House. After listening to music provided by Mrs. Billings' orchestra and partaking of a dainty cup of tea the delegates were shown through the conservatory, where a breath of blooms and palms made one forget that it was below zero weather outside. Sir James presented Mrs. Margaret Moxley, of Killarney, Man., the military medal won by her son at the front, which had been recently received at military headquarters.

A very pleasant innovation this year was the get-together banquet held in the banquet hall of the Royal Alexandra Hotel, where over 500 delegates enjoyed a war-time menu dinner, after which speeches by Sir James Atkins, Premier Norris, Hon. Van Winkler and others were listened to with much interest. The most successful and enjoyable gathering closed with three cheers for the nation's gallant fighters and singing the national anthem.

Mrs. McPherson gave a personal invitation to the convention to visit the I.O.D.E. Convalescent Home. Invitations

*"The Kitchen must help as well as the workshop and the trenches"*  
Lloyd George



*The thrifty housewife saves in all her baking by using*  
**PURITY FLOUR**  
Government Standard

70

were extended to visit Red Cross headquarters in the Keechawden Building, the Khaki Club and the Tuxedo Convalescent Home.

While no sessions were held at the M.A.C. this year H.E.S. delegates were invited to visit the college on Friday. Mrs. Watt, of Birtle, in her reply to the address of welcome expressed regret that we were unable to have all our members attend the conventions. It was announced that one society had ten representatives. We were pleased to have

four from Hamiota. Over 300 delegates in all having registered.

Wednesday afternoon was given over entirely to business. Mrs. H. W. Dayton, of Virden, was unanimously elected Pro. President. Mrs. McBeath was elected to the advisory board to represent the Eastern district. Mrs. McIntyre, of Dauphin, the Northern and Mrs. D. Watt, of Birtle, the Central district. Judging from discussion, the Dowry Bill for women of Manitoba was the most interesting to the convention. S. E.

Clement, member for Brandon, after reading the bill which he had introduced to the law amendments committee said: "while it is not a perfect law by any means, but an earnest good will designed to correct some of the glaring wrongs, to give a fair measure of justice, and to form a basis of law that will call forth the best consideration of the most thoughtful people, and that will result inadequately protecting the interests of our married women." At the conclusion a lively discussion followed, after answering many

# Patmore's Reliable Seeds, Trees, Shrubs and Plants

Write To-day for  
**Our New 1918 Catalogue**

The Great Emergency Crop  
in War Time. Grow More  
and More Potatoes

THE OLDEST NURSERY AND SEED  
GROWING BUSINESS IN THE WEST

ESTABLISHED 1883

Profusely illustrated and cultural directions in which we list all the hardiest and best varieties of Vegetable and Flower Seeds, Fruits, Trees, Shrubs, Grasses, Fodders and Seed Potatoes.

WE HAVE GROWING IN OUR NURSERY AND OFFER FOR SALE THE FOLLOWING:

- 100,000 Lilac, 1-3 ft.
- 500,000 Caragana, 1-3 ft.
- 210,000 Native Maple, 1-10 ft.
- 5,000 Ontario Maple, 3-6 ft.
- 40,000 Native Ash, 1-6 ft.
- 10,000 Russian and other Poplar, in all sizes.
- 25,000 Russian Golden Willow, in all sizes.
- 15,000 Russian Laurel, in all sizes.
- 5,000 Crab Apple and Plum Trees, and a large stock of all hardy fruits, ornamental shrubs, plants, etc.

## HARDY EVERBEARING STRAWBERRY PLANTS

which produce large berries from June to October

We are Special Agents for Messrs. Sutton & Sons, of Reading, England. We list in our catalogue the hardiest varieties of their world-famed Seeds in sealed packets.

## Make a Bigger and Better Garden this Year

Procure seeds of known quality. We test our seeds in our greenhouses before packing. Our thirty-five years' testing and growing seeds here in the West has given us an unequalled experience that is behind everything we sell.

## 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.

## IT IS AN URGENT NECESSITY AT THE PRESENT TIME TO

**GROW your own Vegetables for Summer use.**  
**GROW your own Vegetables for Winter canning.**  
GROW especially lots of PEAS, BEANS and EARLY POTATOES. They are ready in June or July, and can be used all the year round.  
**VEGETABLE growing offers every opportunity to reduce the high cost of living.**

Insure against possible want. Potatoes will release wheat and oats for export, and are a valuable aid in fattening hogs



SEED POTATOES will be very scarce this spring. It will pay YOU to get new seed. Send us your order early. We have several thousand bushels of the best varieties. Bovee, Early Ohio, Six Weeks, Delaware, etc.

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

Write for Our Catalogue

It is important this year that you secure your supply of Garden and Field Seeds early, for it is possible that you may not be able to get them in the spring, owing to the shortage of all seeds.

- COLLECTION No. 1**—Contains 22 varieties Reliable Vegetable Seeds in packets and ounces; seeds for a complete garden for..... \$1.25 prepaid
  - COLLECTION No. 2**—15 packets of Reliable Flower Seeds for..... 50c. prepaid
  - COLLECTION No. 3**—Permanent Old-fashioned Garden Collection of Seeds of 30 Varieties of Perennials, which live through our winters..... 75c. postpaid
  - COLLECTION No. 6**—12 Rooted Plants of Geraniums, Begonias, etc..... \$1.00 prepaid
  - COLLECTION No. 30-4** Novelty Plants of Orange, Lemon, etc..... \$1.00 postpaid
  - COLLECTION No. 35**—100 Seedlings Cottonwood, Maple, Ash or Caragana..... \$1.00 postpaid
  - COLLECTION No. 36**—300 Russian Willow and Poplar Cuttings..... \$1.00 postpaid
- FOR \$10.00 CASH WITH ORDER we will send prepaid to any address the following:  
 50 Currant Bushes, best varieties.  
 100 Raspberry Plants, best varieties.  
 15 Plum and Fruit Trees, young and thrifty, 2 to 3 ft. high.  
 15 Hubbard Plants, or 25 Strawberry Plants.

### ALL OF THE ABOVE FOR \$10.00.

SEED CORN	8 bus. or over
Minnesota Yellow Dent. Per bushel.....	\$5.00
White Dent. Per bushel.....	4.50
Leaming. Per bushel.....	5.00
Red Cob, Fodder. Per bushel.....	4.50
GRASSES and FODDER	Per 100 lbs.
Kaffir Corn.....	\$12.00
Millet.....	7.00
Rape Seed.....	18.00
Western Rye Grass.....	15.00
Permanent Pasture Grass, cheapest and best value.....	22.00
Field Peas.....	12.00
Alfalfa (Northern Growth).....	25.00
Brome Grass Seed.....	25.00
GARDEN SEEDS	Per lb.
Onion Seed, Australian Brown.....	\$3.50
Onion Seed, Red Weatherfield.....	2.50
Onion Seed, Yellow Danvers.....	2.50
Carrot Seed.....	2.25
Beet Seed.....	2.10
Peas, Beans and Garden seeds for special prices for quantities.	
Early Potatoes. Per bushel.....	2.50

questions. At the request of Mr. Clement a committee from the convention was appointed to meet the law amendment's committee, with the result that recommendations for improvement of the Dower law were asked for.

A resolution which was passed without a dissenting voice was submitted by the Portage society, calling upon the extension department, parents and school teachers to use their utmost influence to put a stop to the demoralizing practice of allowing school children to exhibit work, which was known not to have been done by themselves.

At the close of Tuesday evening's session Mrs. Jean Muldrew of the Food Controller's office, Ottawa, announced from a wire just received that drastic laws to stop all willful waste were being passed by the government.

A resolution was passed that we cooperate with the Local Council in requesting the government for the appointment of women jurors, women police officers, which would make it impossible for a repetition of such a trial as the Goodridge trial.

Another resolution passed that a move be started to bring about the federation of organizations of all the Provinces such as the Woman's Institute, Home Makers' Club, Home Economics, and all such organizations from coast to coast to be under one name as it is felt such a national organization would be one of the strongest in the Dominion.

It was decided to affiliate with the National Council of Women. Affiliation fee \$10.00 suggested to be raised by a collection.

Another resolution approved and which will be presented to the government asking for re-organization of the rural territory of the Province into consolidated school districts to prevent over reaching, as it was explained that large consolidated districts have been found to maintain themselves, leaving small strips of land which cannot support a rural school nor benefit from consolidation.

The convention pledged itself to follow the Food Controller's wishes in the matter

of food conservation and do all in its power to use substitutes for beef, bacon and wheat and to do its utmost to induce others to do likewise.

The motion to change the time of convention to the summer time was defeated. It was decided to print and distribute minutes of the Annual Convention among H.E.S. and to give all possible help through the columns of The Canadian Thresherman.

A vote of thanks was given Lady Aikins for her cordial invitation to a reception at the Government House.

An established feature of the convention is a joint session with the Horticultural society. As the H.E.S. have proved of valuable assistance to this department over half the membership being H.E.S. members.

Too much praise cannot be given the

Extension Department with Mr. S. T. Newton as superintendent, as undoubtedly the burden of arrangement of programme, also attending to details of convention, which are essentially necessary for a successful convention falls heaviest on him. We were afforded the privilege of listening to speakers of Dominion-wide knowledge, such as Mrs. Jean Muldrew, of Ottawa, W. T. Macoun, Dominion Horticulturist, J. Lochie Wilson, Supt. Ontario Agricultural Societies, also Cora E. Hind, of Winnipeg.

J. C. Waugh of the Manitoba branch Red Cross spoke in place of Mrs. H. P. Plumpre, secretary Canadian Red Cross. Mrs. J. H. R. Bond, President Woman's Auxiliary Red Cross, who presented statistics for three months of last year and three months of this year which showed that the number of garments made, also

money raised had practically doubled this year. Miss Warnock gave an account of work done by the St. John's Ambulance Association and made an appeal to continue the supply of socks and shirts which were badly needed.

Mrs. Duncan who has personally worked in the rooms of the Canadian field's comforts commission, Shorncliffe, which received all hales sent forward by the St. John's Ambulance, assured the meeting of the faithful and unremittant service performed by those in charge and that if ever a parcel went astray it was not due to neglect on their part.

We also had the pleasure of listening to Miss DeLury's Home Makers' Club, Saskatchewan, W. A. Weston, Secretary Children's Aid, Winnipeg. Mrs. Dumbrell, of Charleswood, gave a practical paper on gardening. Mrs. Howe, of Manitou, "What Canada Demands of Her Women," Mr. A. P. Stevenson, of Morden, "Roses and Hardy Annuals," George Batho, Secretary of the Horticultural Society, Prof. Brodriek an illustrated address on "Culture of Bulbs and Tuberous Rooted Plants."

Pte. McDonald gave a very touching account of his escape as a prisoner from Germany. Also several other speakers.

Mrs. Dayton in her address expressed herself very strongly on the food problem and said: "I wish I had a tongue of fire to press home the seriousness of it," and urged H.E.S. to take the lead in declaring their stand on this matter. Mrs. Muldrew, also Miss Hind gave us an address each presented in so forceful a manner, urging each delegate to act as a missionary to place their own home on a war basis as far as food conservation and do their utmost to urge individual responsibility in their own home district.

We were pleased to hear that Mrs. Dayton had been appointed Vice-President in the National Council of Women, and has been called to Ottawa by the government to discuss problems, which are of national importance. We might well be proud of her as our Provincial President.

L. Venables, Sec.-Treas.  
Hamiota, H.E.S.



THE TERROR OF IT

Great Grandmamma (ferociously to the family circle): "When I think of all the trouble that that Kaiser has brought into Europe, I could box his ears!"

# Fight with Food

**A Call to the Whole Dominion for the Utmost Effort to Produce Food for our Soldiers and Allies**



**O**UR ALLIES are desperately short of food. In the midst of plenty ourselves we must face the stern reality of England on shorter rations than she has been for over a hundred years, and France with only three days' food reserve. Even from their present small supplies they are saving Italy from collapse through hunger.

Since shipping must be concentrated on the shortest routes, Canada and the United States must continue to be practically the only source of supply.

Canada must provide wheat and meat in increasing quantities to meet a situation that imperils the issues of the war.

Men who can be spared for work on the farms must serve in this way. Those who are obliged to remain in the city or town can at least raise vegetables in their gardens or on vacant lots.

Every effort will be made to see that labor is forthcoming to harvest the maximum crops that farmers can produce.

An increased spring acreage in wheat and other grain is vitally needed.

Stock raisers are asked to provide the greatest possible production of meat, especially pork.

Starvation is threatening our Allies. Everyone in Canada must fight by doing his or her utmost to produce and to conserve food.

## CANADA FOOD BOARD

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 Chairman and Director  
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*Jas. D. McLaughlin*  
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 Agricultural Labor

Mother's Corner

Notice. Baby Picture Contest

Western Canada may well be proud of the beautiful children that smile their way into the great parental hearts of her men and women. The climate and environment are such that produce sturdy bodies and keen mental inheritance. The editor of this department believes that our women would be greatly helped if we conduct in this corner a baby photo contest for six months.

To the mother who sends us a photo of the best developed child with a description of her care of the child, will be awarded a prize of twenty-five dollars. A prize of ten dollars will be awarded to the second and five to the third. The contest will begin this month and close October first. The weight and measurements of the child must be sent with the description.

We shall have for judges three women who are well experienced in the knowledge of child welfare. Their names will be announced at the close of the contest. The letters on the care of the children, will be published each month as well as some of the photographs of the children.

We feel that this contest will arouse great interest, among the mothers and much valuable experience on the care of children will be gleaned for our less experienced mothers. Let us try in every possible way to emphasize the value of the care of the nation's greatest asset—the little children.

The age limit in the contest is four years. Send all communications to Pearl Richmond Hamilton, 983 Grosvenor Ave., Winnipeg.

Our Sundays

Our little children look forward eagerly to Sunday, for we have a little Sunday school of our own at home. The two little girls listen to Bible stories and they in turn tell their favorite stories and then we sing the favorite hymns. Sometimes they invite a little friend in. It really is a beautiful hour.

Then they have their Sunday games. Attractive games that are kept on the top shelf are taken down for Sundays only. Sunday is a happy day for them. I trust the memory of it will influence their lives always.

Many a mother is like a candle, lighting the whole house but consuming herself.

Wars leave scars, but an unrighteous peace is an open wound.

The little common things of life—

- A kindly word, a little trust,
- A friendly smile amid the strife
- That crushes souls into the dust.
- A flower for some tired eyes,
- Or music for a weary heart—
- "Just little things"—not any size—
- But ah, the sweetness they impart!

—Edith McKay

Because

By Anna B. Bryant

Because He loves the children so,  
God gave them mothers, just to be  
His holy ministers below,  
To fit them for eternity.

Because all mothers are His care,  
God lends the helplessness and grace  
Of childish hands to lead them where  
Their angels always see His face.

Baby's Rights

It is a fact often commented upon, that as a rule the babies of poor people are not nearly so nervous as the babies of the well-to-do. This is because the poor mother is too busy to spend time entertaining or playing with the child. Well meaning people often take rattles or bright-colored noisy toys of some sort and shake them close to baby's eyes in their efforts to amuse him. Now baby's vision is weak and his optic-nerves are very sensitive, so this is even worse for him than it would be for an adult. Just stop and think for a moment how it would hurt your own eyes to have some bright colored object waved rapidly close to them. Baby tries hard to see what you are doing, but he can't quite follow such quick motions, all of which is bad both for his eye and his

nervous system. Ticking his feet to see him writhe and laugh, or tossing him up in the air are both extremely injurious. Cases have been known where even adults have gone into convulsions when they have been tickled violently. Baby laughs when he is tickled, because he cannot help himself, but he does not enjoy it at all. Likewise before you toss him up in play, you should remember that his bones are very soft, his nerves very sensitive, his eyesight bad, and his brain undeveloped, and then consider whether such violent motion will do him any particular good. When you have thought a moment, I am certain you will agree with me that you are taking a very selfish risk when you do such things. Baby is not a plaything, but a human being, even though a very young and immature one. And he is even more nervous than you are yourself. How would you like to be suddenly tossed in the air or jabbed in the ribs by somebody who was five or six times as big as you are? Love baby all you want to, but don't spoil him, and don't make a plaything of him.

A Child's Earnings

Some persons seem to fear that earning money will make a boy or a girl avaricious. There is no reason for such an apprehension. Teach a child how to spend wisely and the joy of generosity and he will get more happiness out of giving from money earned himself than he could ever get if that money had been presented to him without any effort on his part. It is the child who never has money, or to whom it is doled out reluctantly, that is more apt to become avaricious or mean, rather than the one who learns that work gets a fair reward, and is given freedom





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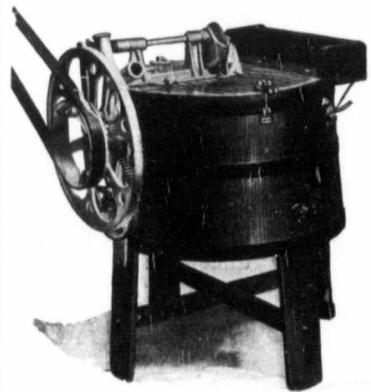
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to spend what he earns, even if tact and guidance are employed in steering him into wiser expenditures and more saving habits than his own untrammelled fancy might suggest.

Don't let the money they earn come too easily. That is, don't pay all their losses and let them take all the profits. If a boy is raising chickens be perfectly fair with him. See that he pays the incidental expenses, the feed bill, etc., and that his profit is real profit. Help him judiciously; lend him money if it seems wise, but make him realize the responsibility of managing his job in a businesslike manner.

**The Woman's Forum**

**The Last Reserves**

(From The Woman Citizen—the official organ of the National American Woman Suffrage Association)

Those who treat as a mere war emergency measure the Ottawa Congress of women, lately called to consult with the war cabinet, will miss something deep down and significant. Its truest meaning came out in the words of Sir George E. Foster in his speech at the final session on March 2d. This is the strongest call yet heard from any man in any country for the co-operation of women with men in political life. It is not a surface expression of the country's need of its womanhood for running tractors and knitting socks. It is an acceptance of Mrs. Nellie McClung's phrase that women are needed in government for its very existence. "You must call upon the women to help," said Mrs. McClung. "They are the last reserves. We can't call the angels down."

And Sir George also sees women not only as the last reserves, but as a sure prop to that ideal democracy for which western nations are giving their life-blood.

"Consider yourselves no longer as the government is concerned. Don't form yourselves into a compact mass as womanhood. You are now diffused throughout the whole mass and are working from within," said Sir George to the women of Canada.

He went on to speak of men and women as "equal parts of the body politic," and added that he would hate to see women adopt the shibboleths and practices of the old parties. He called upon them for help in rooting out "that old and poisonous method of patronage."

In response to vigorous applause at this expression, he continued earnestly: "You'll not do it by clapping your hands. I tell you it's rooted deep down. It has been so long in our country and become so widespread that it will require all the energy women have, added to our determination, to entirely scotch it."

It was a complete surrender to the fact that the "problems of Canada are the problems of its women" as well as of its men.

**A Prayer by Billy Sunday**

"And, say, Jesus, while you're blessing our navy, if a German submarine sticks its snaky head above the water and I tries to get one of our ships, bless and help the

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fellow that sights our gun. Help him to sight her right—tell him when to pull the trigger—then good night!"

**To Teach Cooking to College Girls**

According to a recent news report from Washington, "the girl students in six hundred American colleges are going to knead dough instead of nubile fudge. Cooking classes for women students are being started in all colleges and universities throughout the country. A total enrollment of 100,000 women is expected. Model outlines of these courses have been mailed by the food administration to all colleges with women students."

"Thousands of bushels of wheat and other foodstuffs will be saved by this campaign, it is estimated."

"These new experts in cooking will be widely employed as high school teachers. High school girls will be taught conservation measures, with the view of carrying new methods into their homes. Even graded schools will be reached ultimately by the plan now being adopted."

**Rights**

We have no intellectual right to be ignorant when information lies at our hand, and we have no spiritual right to be weary when great moral issues are at stake.

**Care for Mothers**

"Better care for mothers, with Government aid to local authorities and agencies, has been part of Great Britain's war program; she achieved for 1916 her lowest infant mortality rate. The Government of New Zealand, whose infant mortality rate is scarcely half that of the United States, has for several years afforded to New Zealand mothers care at childbirth.

This is the most vital need in Western Canada—the care of mothers through childbirth. Let us as women work rapidly and earnestly for this urgent right of our Western mothers.

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**Primary Marriages**

The "secondary wife" with her "narrow gold wedding ring," recently advocated by a German writer; the leaflet, "Empty Cradles; Soldier's Duty," distributed in millions in the German trenches, urging the soldiers to become "secondary" fathers for the sake of the fatherland, have become notorious throughout the world. Meanwhile the allies have not had to resort to such devices, nor has the "strong-minded woman," whom the war has developed, shunned matrimony. Far from it; she has become father and mother; she has become wife and "provider" at once. In England she has married in numbers never reached before. In 1915 the marriage rate in the United Kingdom, according to figures just published, was 19.4, or almost 3 per cent higher than the highest rate previously attained. Having married, the British woman has sent her husband to the front and taken his place in industry, to the number of a million and a quarter, at home.—From *The Woman's Century*.

**What the Ballot Means to Women**

"We want to purify politics," Mrs. Catt has said, "not by inaugurating a cut-and-dried legislative program or by sending suffrage leaders to high political positions, but by instilling in the average voter, especially in the average woman, the highest possible sense of political responsibility. We shall not aim to influence a single woman's vote. But we shall aim to make the vote of every woman the clearest and most conscientious expression of her own convictions that it can possibly be. "We want every woman to look upon the ballot as a holy thing, a right, a duty and a responsibility. We want her to understand how harmful it is to her and to society when such a sacred privilege is bartered away or prostituted to any ignoble end."

**Women as Engineers**

Engineering has so far been the profession in which women have made least headway. But since the war they have gone ahead abroad, replacing men in this as well as the humbler pursuits; even in Italy, where two women recently won degrees as civil engineers in the Technical Institute at Rome.

Dr. Mary Crawford has been appointed superintendent of medical inspection in the Winnipeg schools at a salary of \$3000 a year. She has an assistant.

Mrs. H. M. Speechley and Mrs. Vere Brown are launching the women's part of the Red Cross campaign for the \$600,000 fund. Mrs. Speechley is doing splendid work as president of the Winnipeg Red Cross and she is so well known in the province that she will be a great help to the provincial executive of the Red Cross.

"God has put it into the hearts of women to organize for many causes. Twenty-six nations are allied in the National Council of Women—and so they are not unprepared for calling into the ranks of organized womanhood those not already enlisted."

"It is God's providence that women have been unconsciously preparing themselves to meet the great issues that face them.

"For God, for Home, for Honor" of Womanhood, for Love and Opportunity for Childhood shall be the clarion call which will unite the motherhood of the world."—From *Child Welfare*.

**Making an Old Thing Useful**

My oven had a tendency to burn on the bottom until a friend told me to cut a piece of old wire screen just the size of my oven, and trenches keep it in place. Since then I have had no further trouble. The cost was nil as I cut the screen from a discarded door.—M. B.

To make a dustless mop, take stockings that are worn beyond further use, even by refooting, cut in strips and oil slightly. Old stockings, too, make the best kind of dust cloths when oiled. Cut off the worn feet, cut the leg from top to bottom, and whip four of the opened legs together—or more, if you want a larger cloth. This plan saves the buying of dust-cloths, by utilizing material that would otherwise be of no service, and one can put the money thus saved into thrift-stamps.

Soak your new lamp-wicks in vinegar and let dry before using them, also put a teaspoonful of salt in the oil. A much clearer light will be produced, and there will be no smoke from it. These suggestions may be old to many, but I recently gave them to a friend who was so delighted with them that I resolved to "pass them on" to others who might not know of them.

Let me say to the homemaker who asked a remedy for appendicitis that there is nothing better than pure olive oil. I suffered from this dread trouble, and a friend told me to take olive oil whenever I felt an attack coming on. I did so, a tablespoonful at a time, and relief came in a very short while. The last attack was more than a year ago, and a very light one. It is recommended to take a teaspoonful of the oil after each meal for three months, but I did not do this regularly, because olive oil is a flesh-builder and I did not want to become stout.

**The Economy of Time**

From the *Youth's Companion*

The first chapter in the book of home-making might well be headed *How to Save Time*. Time-saving is the most important of the economies, for upon it depends the saving of expense, health, patience, and all the other indispensables. When the hours allotted to household tasks are misused or wasted, one of two things must inevitably happen: either the work will be botched or it will encroach on the time reserved for other duties and for rest and recreation. It is astonishing how much time can be wasted unconsciously in the course of one morning's work and in how many different ways; but the housekeeper who will figure it out will find that by saving a half hour a day she will add two weeks of daylight to her working year.

Some ways in which the housework time is wasted:

- (1) By not having a regular programme of work.
- (2) By poor planning and lack of system.
- (3) By uncertainty about what is to be accomplished, so that many minutes are lost in hesitating and debating.
- (4) By lack of forethought, which necessitates an extra number of steps and an unnecessary repetition of movements in general.
- (5) By pottering and dillydallying—stopping to look out the window, to talk, to read or to play—instead of concentrating once for all upon the work in hand.
- (6) By mistakes made through carelessness. Every blunder means just so much time spent in repairing damages.
- (7) By doing superfluous things and thus making the day's work more complex than it need be.
- (8) By neglecting to use labor-saving devices that are easily available.

"I won't wash my face!" said Dolly, defiantly.  
 "Naughty, naughty!" reproved grandmother. "When I was a little girl I always washed my face."  
 "Yes, and now look at it!"

New Dentist (in Frozen Dog): Will you take gas?  
 Bronco Bill: Will it hurt much if I don't?  
 New Dentist: It will.  
 Bronco Bill: Then, stranger, for your sake I reckon I'd better take it.



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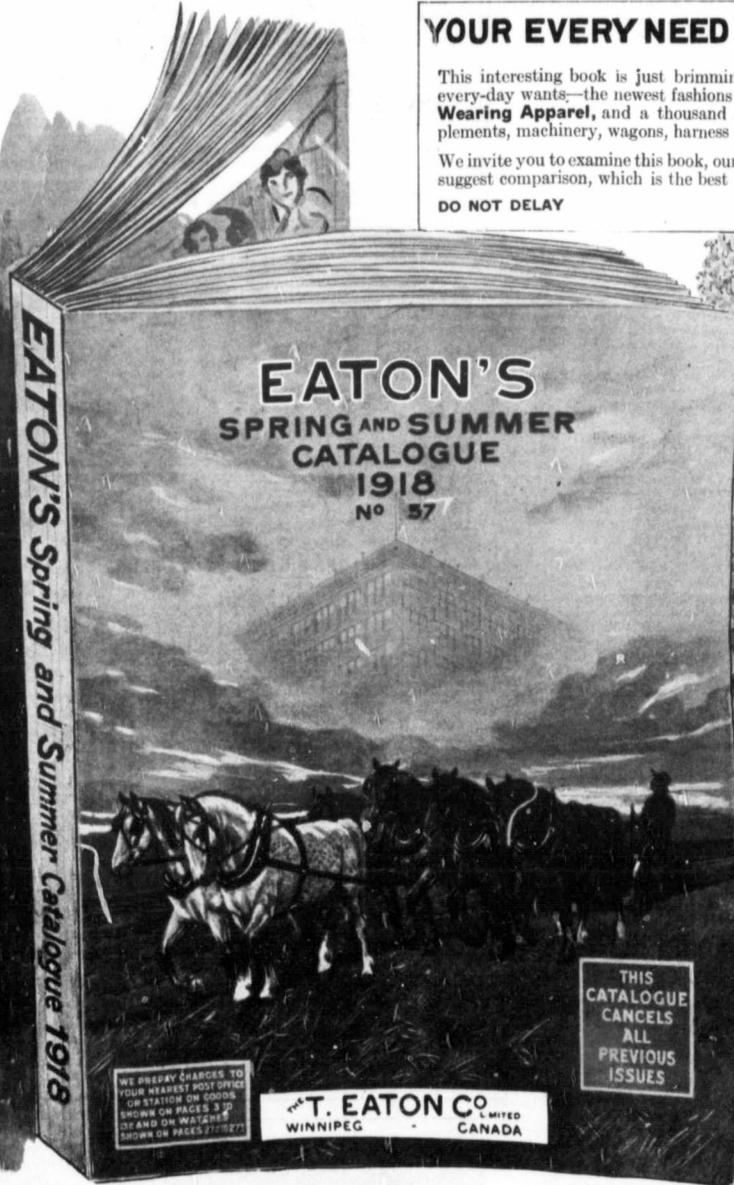
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# Education for Women

By ESTHER THOMPSON

**WE** are privileged in being able to publish the following article, which is really an address delivered to the faculty and student body of Manitoba Agricultural College, by Miss Thompson, and which gained her the gold medal in the oratorical contest.

From more than one source we had heard of the exceptional merits of the address and of the wonderful grasp of the subject obtained by so young a lady. On perusing the manuscript, we felt at once that the very high opinion of our friends was fully justified.

The common sense views of this young educationalist can hardly be criticized by any thoughtful person in these days, especially when all circumstances point to the urgency of conserving the home life.

We can see a great future for Miss Thompson. She has undoubted talent, and her extreme modesty will not prove any barrier to her progress. On the contrary, it will secure her friends and a hearing where the finest talents evaporate into thin air when they are accompanied by the unfortunate handicap of self-consciousness.

Miss Thompson is a Norwegian by birth, coming to this country from Christiania eleven years ago, a circumstance which makes her attainments in this country all the more wonderful.

She has the honor of being the first community worker in Canada. Her efforts in this capacity around White-mouth have met with great success, and in her recent appointment by the Manitoba Department of Agriculture to a still more important field, we wish her all the success and happiness in her work she so richly deserves.



MISS ESTHER THOMPSON

**N**O part of the history of education is so obscure as that of girls. This obscurity is itself suggestive that little is known. Prior to the Victorian era, we know nothing about the education of girls. They were trained in the homes by the mothers. Victor Hugo was right when he described the nineteenth century as the woman's century, for, with the beginning of Queen Victoria's reign there was a marked improvement. The need of education for women was recognized; private schools for girls were opened, and, later, seminaries and colleges for women were established. This movement made rapid progress, and to-day all British universities, with the exception of Cambridge and Oxford, are conferring degrees on women.

The opening of Mount Holyoke Seminary in 1837 marks the beginning of higher education for the American woman. After its inception, seminaries and academies for girls were quickly established. Some of the American universities were open to women as early as 1886, while many have been co-educational from the start. To-day, only four American universities, including Harvard, refuse to recognize women's rights to graduate. With these few exceptions,

it may be said that throughout the whole range of education, from the elementary school to the highest university course, girls have been put on an equality with men, enjoying equal freedom in the choice of subjects of study.

Let us consider briefly the courses of study available for girls. When the need of education for women was first felt, there were no trained women to take the initiative in organizing and arranging suitable courses for them. As a consequence, the lines of study already open to, and followed by men were copied, without either reorganization or readjustment to the needs of women. For example, the curricula of the British and American universities, were neither altered nor revised when the women were admitted.

This precedent women have continued to follow, with the result that to-day we have women doctors, lawyers, judges, professors, mechanics, and even ministers. Women are found in every department of life doing what was formerly done by men only. The teaching profession illustrates what has resulted and is likely to result from this. Less than half a century ago all teachers were men. Then a few women entered the profession; more and more followed, crowding out the men. To-day there are few men teaching in our public schools, and those few doing it only as a means to an end.

Perhaps it is the case that in this duplication of men's work no harm has been done except in so far as it has influenced women to turn away from the home. It is a fact that women are being educated out of the home and away from their own true work. Men and women are different; their functions are different; their natures are different. How, then, can the courses planned for men train women efficiently for their sphere?

The idea that they can is absurd. Our university education has taught women to see the size of men's work and the littleness of their own; to despise and rather look down on the work of the home; to consider the home a sphere too narrow for a woman's fullest development; to value a "career" more than home, husband and children. In short, women have been taught to do men's work and now they are drifting, drifting away from the home. Why? Because university education has placed wifehood, and motherhood on too low an economic, social and moral plane.

The questions naturally come to our mind—is it natural, is it necessary, is it in the best interests of mankind that women follow the courses planned for men? Most decidedly, No! There is a woman's sphere. It is well worth while, it is well worthy of a woman's best effort, and of her most intensive study. The woman's "Ever-old" and "Ever-new" sphere is the home.

Nature meant woman to be a home-builder, a mother, and a paterfamilias, deep in her heart the desire for home, husband and children. The instinct for race preservation is the strongest human instinct. Woman's greatest service to humanity can be rendered in the home, but no place else. University education ignores woman's true function. What does the average university course—medicine, arts, science or law—teach women about home-building, motherhood and child culture? Nothing! Less than nothing, for the trend of our higher education is directly away from these.

I am willing to grant, from an intellectual point of view, that our higher education has enriched the lives of many women. It has given them a broader vision of life. On the other hand it is bankrupting our national womanhood. The courses planned for men are not suited to women. They do not develop woman's maternal instincts. They fail to train woman for her mission in life. Let me repeat, university education is taking the woman out of the home.

The home is the one institution that must be maintained at all costs, for on the homes the foundation of our national



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life is laid, and without them our civilization cannot last. The woman is the home-builder, and to her we must look for the preservation of this institution. An education for home-making, or the study of a home economics course, is the only factor that can re-establish woman in her true sphere.

I may seem to be arguing that woman should maintain an inferior position. That is not the case. Let man and woman be equals. There is no natural law stating that one should be the master, the other the slave. Let woman have the full rights of citizenship, but, let them be considered a means to an end, and not ends in themselves. By re-establishing women in the home I do not mean confining them to the four walls of the kitchen.

The scope of the home has undergone a profound change; it has evolved; it has grown. The woman's sphere now extends beyond the front gate. It is now necessary that women take an active part in the control of all public matters relating to the well-being of the family. In taking such an interest in good legislation, a woman will not be leaving her home or usurping man's prerogative—the franchise. Rather she will be protecting her home and helping man—her helpmeet—in managing it most effectively. Thus we see that the responsibility of being a home-maker has increased.

The fact that a woman is a woman is no longer an adequate qualification for her task. She must have a full education. An education for home-making, or the study of a Home Economics Course is ideal for women, for it is the only course training women for their true work. All through it runs the idea of woman's high function as a wife, as a mother, as a home-builder. Thus a girl is led to take as her ideal, the home; to realize the immense responsibility involved, and to feel the need of training. As a result of such a training, a girl begins to consider her making a privilege, a sacred obligation, and to accept the duties of wife and mother as the greatest and most wonderful service a woman can render to mankind.

The training for home-making is essentially the course which every woman needs. It leads woman to make as her ideal, home-building. However, it is neither necessary nor advisable that woman's right to follow other courses of study be taken away. Rather encourage her to pursue any course in which she is interested. When woman has once received the idea of her high function, the study of any other course will greatly enrich her life and further prepare her for her life's work.

Let us once for all banish from our minds the ideas that the educated woman's place is outside the home; that home-building is the work of the un-schooled; that instinct is sufficient guide and instructor for this work. The woman, as a true wife and mother, assumes the greatest human responsibility. No other is equally great nor equally high. A real man's wife must be something more than his housekeeper and the mother of his children. She must be his companion—one who understands him and can enter into his life, giving sympathy and inspiration. Does this not call for education? It is not sufficient that the mother care for the physical needs of her child; it is equally important that the spiritual, moral and intellectual needs be provided for. The real mother is the child's confidential friend, and first and greatest teacher. Does this not call for education? The woman, as a home-builder, demands the broadest education our civilization can offer.

To conclude: Our university education is unsuited to women. It has failed to train them for home-making; it has educated them away from the home because it has placed wifehood, motherhood and home-building on too low an economic, social and intellectual plane. The newer education—the training for home-making—will re-establish women in their true sphere, the home. This is the ideal education for women, and is primarily the course every woman needs.

He: Do you study economics?  
She: Yes.  
He: Do you want protection?  
She: Oh, Gerald, this is so sudden.

**WHAT WOMEN CAN DO IN PRACTICAL GARDENING**  
By Mrs. DUMBRILL

At this time when labor is so scarce and the farmers are asked to produce all the grain and pork they can, something has to be neglected, and it is usually the garden that comes last in importance. By the time they are through seeding, it is too late to put in some varieties of seeds. Then is the time it falls to the lot of a great many of our women folk to sow and plant the garden, if it is done at all.

For some it is very hard work but it need not be if time is taken to plan ahead. Before the time for gardening comes, a good plan is to have a diagram of your garden and mark out just where you want your vegetables. Such as onions, parsnips, etc.; and how many rows you want. In this way you will save yourself a deal of time and worry. I wonder how many have a seed drill and wheel hoe, or how many know what a wonderful little machine it is. You can put on the hopper and sow all the seed in a day if necessary.

But I would take the onions and parsnips first, for they should be in the ground as soon as the soil is fit to get on. Then at an interval of a week or ten days, the carrots and such hardy seeds can be sown. All of the small seeds can be sown with the machine. But such seeds as corn, peas and beans can be sown by hand.

After all the seed has been sown, the hopper can be taken off and stored away, the pair of hoes attached to the machine which only takes a few minutes, and you are then ready to go astride the young plants. It is really wonderful the amount of space you can cover in a short time, and without so much back-ache as in the old ways of bending over a hoe. It makes a very neat job too.

I would advise having all the vegetables in long rows of about 50 feet in length, if space will permit, by so doing it is an economy of time and labor. There are also two pairs of cultivator teeth which are easily adjusted to cultivate between the rows. The only really hard work is the thinning out and even it can be made a little easier by wearing the new overall suits now commonly used. They are very comfortable, and do not hamper the movements as do the long skirts, which bend the young plants, to say nothing of the washing they save, which is an item not to be overlooked these days. Be sure while you are about it to put in a few extra rows of peas, beans and corn also extra tomatoes for canning.

Take the time to figure where you want the corn, peas, beans, then the lower growing vegetables. Give the rows enough space, that you may go between comfortably.

Almost all vegetables can be sown 12 to 15 inches apart, but such as the corn, unless the patch be small, I would advise getting the man of the house to use the horse cultivator at the same time he was running through the potatoes.

I would not bother with the potatoes, let the men folk look after that part of the crop, it will be enough if you raise a nice garden of small vegetables. Some may say: but how am I going to look after so many vegetables when I have my family to look after? Surely one can spare one or two hours a day, and if you do not go at it with a rush, it will surprise you how much you can accomplish in so short a time, and if well done there is very little hardship next time.

To those who cannot afford a wheel hoe, sowing with a bottle is a good plan. A quill is put through a cork which is fitted into the neck of the bottle, the seed is sown through the quill. This is quite a common method but if it is the usual thing for a woman to attend the garden, then I say she is justified in getting a machine, for it pays for itself in a short time. It is not necessary for me to give cultural directions, for all know that they need cultivating, weeding and thinning.

The only advice I can give is when to put out your tender plants. Tomatoes should not be trusted to the open ground until June 1st at the earliest, but the 10th would be safer; other plants the same time unless it is the celery and cabbage family, which can be put out earlier, providing they have been well hardened off.

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**GIEGER WELDING WORKS, SASKATOON**

To have early tomatoes, take a few plants and drive a stake four or five feet long beside each one, and tie the plant to this stake, keeping the laterals nipped out. This helps to put more strength into the fruit and allows the sun to get at them. Twenty-five to fifty plants will be sufficient for a good sized family, and allow enough for canning and pickles.

I think every one has their own favorite varieties of vegetables, so it is not necessary for me to mention the ones we use. To make your garden more attractive and encourage you to go amongst the vegetables, try a row of sweet peas across the garden; if you cannot afford the named varieties, use the mixed. In another part of the garden put asters or any favorite flower, and cultivate the same as the vegetables. You will find you will have far more than you need for yourself, and many a bouquet you will have to give to the sick, or to a friend.

Don't forget the herbs. These are easily taken care of, gather on a fine day, trim off all the roots, shake them well to loosen any dirt and hang over a line in a large, airy room. When well dried rub off the leaves from the stems; run through a food chopper and bottle. This method gives a very attractive green color, besides always being ready for use.

It is not generally known that carrot-away seed can be grown here, and seed saved for flavoring cakes, and since fruits are so high, even these seeds have gone up. One person was telling me she paid 35 cents for a quarter pound, which before the war cost her 5 cents. We can raise our own supply from 5 cents worth of seed.

We can also raise our own sugar beets, the genuine sugar beet. It is said that it is easy to make jam with them, using them instead of sugar. A very good table syrup can also be made from them.

Another thing we as women can do is to raise our own supply of army beans. So many are needed for our boys, and I believe the supply is very low. Our garden beans can be used for winter if well ripened, and are just as nice only the color is against them.

It is our duty to raise all the garden seeds we can, so I would advise selecting a few of the finest vegetables that have come through in good condition, and plant them, give them good care and carefully save the seed. We have in this way saved our parsnip seed, and find that it has tested out well. Onion seed can be raised, also carrot, and as these seeds are all going up in price something has to be done. Then the satisfaction of having some reliable seed is something—S.D.

**SOMETHING ABOUT CHICKS**

With the advent of a little sunshine, our thoughts fly to spring, and with it the desire to be pottering around looking after the biddies and wee chicks. If these are hatched by incubator, the first thing is to see that the machine is in good working order and thoroughly disinfected, if used the previous season. The machine will need to be run a few days before setting the eggs, to see if everything is running all right. See that the wick is good, or replace with a new one, and only use the best oil to be had.

Use only well shaped and uniform sized eggs, and if possible not over 10 days old for a good hatch.

Keep a record of number of eggs set and the temperature the machine has registered during the hatch, and the number of chicks hatched; it will help you wonderfully another time. See that you set eggs only from strong, vigorous stock. Then if the machine works well, you should have a large percentage of strong chicks.

If you raise chicks by the natural method see that the setting hens are away from the layers, and be sure that your sitters are comfortable; keep a strict watch out for mites, for these pests are brought into buildings by birds. I shall never forget my horror when I first discovered that we had them.

The weather that year was very hot, but I had never seen mites before, and I had carefully looked after my sitters, as I thought, so I could not understand why my sitters would leave the nest and spend my high priced eggs, but one day I saw a sitter who was looking pretty

sick. I lifted her off the nest and was no time having those mites crawling up my arms.

I lost no time spraying and using insect powder on the sitter, which soon recovered. You may be sure I keep a sharp look-out for mites now. While collecting enough eggs to load the machine, keep the eggs at about 60 to 65 degrees, and never wash eggs before hatching.

Now is the time for hatching early chicks and giving them every chance to mature before winter, if you want winter eggs. Given every attention, the growing of poultry brings quick and usually profitable returns.

There is a good demand for well dressed and well conditioned poultry, and it is also our patriotic duty to produce all the fowls we can. I am well aware that feeds are very high, but even so you can make a fair profit. Last season I came out with \$150.00 profit on fifty hens, after paying for all the feed. This was made from the sale of dressed poultry and winter eggs.

We have a very good winter laying strain, but I do not suppose they would be any better than any other breed if they were not well cared for and given as near spring conditions as possible.

There is no really hard work in connection with poultry raising, but a constant watch is necessary and attention to the warmth of the chick; chilling often stunts a chick if they ever recover.

It may interest some to know how I raise my incubator chicks. I have no brooder, but I put them in a box in an empty room in the house. I then put a charcoal brick in the stove and when well alight, I put it into the foot warmer. When the first fumes have evaporated, I put the warmer into the box with a flannel or old undervest around it; you should see the wee fellows brace themselves against it. The warmer stays warm for 12 hours.

But to make sure that everything is all right, I get up once during the night. In this way I raised three machine hatches last season at the cost of \$1.00 for bricks (charcoal). On the floor of the room I spread heavy paper, and on this quite a lot of soil and sand. I also had some sods handy. You should have seen how happy they were, ever busy and scratching the soil around and hunting for food.

I give them some chopped meat three times a week, but not a great deal. They have all the milk and fresh water, also cracked wheat, plenty of grit and chick-sized bone and charcoal. How they did grow! In four weeks they were out-doors in a colony house, and only had heat when I thought they needed it. Of course it is necessary to keep their quarters perfectly clean, but that is easily done if plenty of dry soil is available and a little cresol used every time keeps their quarters sweet. Butter milk, sour milk and curds are all very good for them, they grow quite fast on the sour milk. I prefer it to sweet milk, it seems to ward off bowel trouble.

The drinking vessels need to be cleaned quite often, as the chicks soon soil the vessels. I prefer the brooder chicks to the hen-raised chicks. I find taking one thing with the other that they are not so much trouble as with hens. They are not troubled with vermin to start out with, and then rounding up the hens in the evening and shutting each one up in her coop is a nuisance.—S.D.

**Curing Wings and Breasts**

If the skins are dry, soak them slightly warm water till they are as soft as when they were removed. It is not necessary to wet the plumage much; rub the water well into the skin.

Clean the skin thoroughly, removing all pieces of flesh and fat. Spread out smooth and rub well with a mixture of three parts fine salt, one part powdered alum and one-half part arsenic. Mix well and rub it into all wrinkles and out to the edges of the skin.

For the wings, a little more arsenic may be added; and if the flesh is quite thick, split it on the underside and rub the mixture in well.

Plumage also may be well cured by using arsenic soap made as follows: One pound of white soap, one pound of powdered arsenic, two and a half ounces of camphor, three ounces of subcarbonate of potash and four ounces of alcohol. Melt the soap, add the potash and then the arsenic.

**Fires Break Out**

and thieves break in. Don't risk the first, or invite the second, by keeping money in the house.

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She is right! She doesn't want you to take such chances. Strychnine is dangerous stuff to handle. She ought not to let you mix it anywhere on the farm.

She would very well go a step farther and insist that you use poison you can depend upon to kill the gophers. She would save you big losses, if she could induce you to use Kill-Em-Quick, the poison that is guaranteed to kill the gophers.

Mother wouldn't use a baking powder that might or might not raise her biscuits. No sir! She doesn't want to take all that trouble of making them and then have them turn out no good and be wasted. She doesn't take chances.

Why should you?

Why should you go to all the trouble of mixing strychnine and then very likely have the gophers turn up their noses at it? Isn't it better sense to use a poison that they always eat and that always kills? A poison that is guaranteed with a money-back guarantee printed on every package?

Hundreds of Growers' Associations and Municipalities buy Kill-Em-Quick year after year, because they know we wouldn't agree to pay back the money if it were likely to fail. The Manitoba Agricultural College says it is the "most effective gopher killer." The Dominion analysis shows it to be the strongest, most concentrated gopher poison sold in Canada.

Per gopher killed it is far cheaper than any other. Cheaper in first cost. Cheaper in the amount of grain used. Cheaper in that it is better protection to the crop. Why waste time, money and grain and take a chance on a ruined crop when you can use Kill-Em-Quick for a cent an acre and be absolutely sure, gophers will not injure your crop?

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Dissolve the camphor in the alcohol and add. Boil down till the liquid is as thick as molasses. Put it in a glass jar. It will keep this way indefinitely. When needed mix a small amount with water till the liquid is about as thick as buttermilk. Apply this to the flesh side with a brush three or four times. Skins should be well cured in a week or ten days. If the skins smell they may be washed in warm water with a few drops of ammonia.—R.S.N.

#### On Sugar Beets

Charleswood, March 27, 1918.  
The Editor Canadian Thresherman and Farmer—

Dear Sir: Such a number of requests are coming in for more particulars about the sugar beets and the method of preparing them! The method now used and until more experiments have been made is as follows:

The genuine sugar beet is the best used on account of its sugar content. The name of this beet is the "Waneyichen." I believe they have been trying them at the Agricultural College, and will no doubt give us particulars when they have made their experiments; in the meantime this is our method:

Scrub the beet, then parboil, skin the beet. Run through a food chopper and put from one-half to two-thirds of the pulp with whatever fruit you are using; no sugar at all. Boil until it becomes thick like jam; keep stirring lest it scorch.

When thick enough you put it in sealers and seal up tight while hot, the same way you do when canning. This will not keep indefinitely when open like jam but is sweet and capital to use for all ordinary purposes.

Yours sincerely,  
Selina Dumbrell.

### Recipes

#### Cottage Cheese

The U.S. Food Administrator told the people there that if the skim milk left from the making of butter in the U.S. were made into cottage cheese it would produce 1,024,497,936 pounds of protein or about 50,000 pounds more than the protein in all the beef consumed in the U.S. in a year. Cottage cheese has a wonderful food value. The American Woman's magazine has this to say regarding cottage cheese and also gives these recipes in the April number of the magazine:

"Every pound of cottage cheese eaten,

then, will release at least a pound of meat for shipment to the soldiers and our Allies, and the Food Administration is extremely anxious that we create a big demand for cottage cheese, and more cottage cheese, and still more cottage cheese, for if a sufficient and persistent demand is created for the cottage cheese, it will eventually be produced; and this rests with the women of the country. It is hoped that on the farms it will be made and distributed to the nearest towns or through the creameries.

"There are two simple rules, either of which may be followed in cooking with sour milk; one is to use one-fourth level teaspoonful of soda to each cupful sour milk and to use in addition one level teaspoonful of baking-powder to each cupful (level) of flour called for in the recipe. This is enough soda to neutralize the milk, and the baking-powder will raise the dough. The other rule is to use one-half level teaspoonful of soda to each cupful of sour milk, and to omit the baking-powder altogether. Take your choice. Some prefer one, some the other; personally I prefer the lesser amount of soda and the addition of the baking-powder.

#### Cottage Cheese

Put sour milk into a pan and heat it slowly until the whey separates from the milk. Then put all in a strainer and let it strain for an hour. When the whey is all out sweeten the thick part of the milk left and season it with salt and nutmeg. It can be made into little round balls if one wishes it to be served alone. The little round balls in leaves of lettuce make an attractive dish.

For the following recipes use the cottage cheese as it is after straining—without the seasoning.

#### Delicious Cottage Cheese Cake

Sift together twice two level cupfuls flour (part barley-flour may be used), two teaspoonfuls baking-powder, one-half teaspoonful salt, two tablespoonfuls sugar, one-fourth teaspoonful cinnamon. Work in one and one-half tablespoonfuls fat, then add one cupful milk. Spread in a greased shallow pan, and over the top put this mixture: Beat one egg until light; add one-fourth cup of sugar, half pound cottage cheese, and half a teaspoonful of cinnamon and one-fourth teaspoonful cloves. Bake in a hot oven about half an hour.

#### Cottage Cheese Patty-Cakes

Have patty-pans lined with paste. Fill with the following filling: Beat three eggs, add one-half cupful milk or buttermilk and pour over one-half cupful fine dry bread crumbs. Stir in one-fourth cupful sugar and one-fourth cupful honey, one cupful cottage cheese, one-half cupful raisins and the grated rind and juice of half a lemon and one-half teaspoonful cinnamon. Bake in a quick oven to a delicate brown.

#### Cottage Cheese Custard

(No meat should be served at the same meal.) Beat three eggs thoroughly, add one pint of milk or buttermilk, one pound of cottage cheese, quarter teaspoonful salt, one teaspoonful cinnamon, one-half cupful brown sugar and one cupful stoned dates or raisins. Turn into a well oiled baking-dish and bake until set. Serve hot or cold with top milk or cream. This is attractive decorated with the dates and sliced banana.

#### Cottage Cheese and Rice

(A meat substitute.) Mix one pound of cottage cheese with two cupfuls cooked rice, one-quarter cupful grated cheese, one minced green pepper and a little minced onion or chives. Add salt to taste, one beaten egg and a cupful of milk or buttermilk. Sprinkle the top with grated cheese or oiled crumbs, and bake about twenty minutes.

#### Cottage Cheese with Creamed Asparagus

Prepare hot buttered toast. Moisten cottage cheese with hot top milk or cream and spread over the toast generously. Cream sufficient asparagus, season well, and pour boiling-hot over the cheese.

#### Cottage Cheese with Shrimp

Mix together one pound of cottage cheese, one cupful of finely chopped cabbage and a can of shrimps, or a few fresh shrimps. Season with salt and white pepper. Add a few chopped chives or a little grated onion, and a dozen stuffed olives. Mix well with mayonnaise diluted well with cream. Serve on lettuce, decorated with sliced olives and shrimp.

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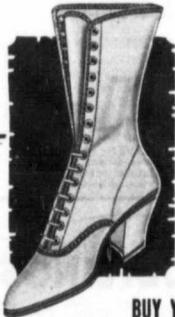
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Our catalogue is showing a very full range of canvas shoes for men, women and children.

The above cut shows a particularly popular shoe for women. It is high cut, made of canvas and has rubber sole and covered heel; also flexible leather top. It is very cool and exceedingly comfortable, and is a big seller for the warm weather.

It comes in sizes 2½ to 7 and our price per pair is charged paid ..... \$2.50

Our catalogue also shows full ranges of other kinds of footwear, in every instance our prices represent big value.

THE S. H. BORBRIDGE CO.  
WINNIPEG CANADA

**Thresherman's Wagon Tank**

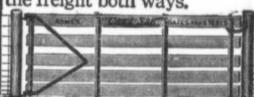


Capacity 315 Imperial Gallons.  
 Price **\$75.00**  
 Specially constructed for oil. **\$85.00**  
**WE PAY THE FREIGHT**  
**Freeland Steel Tank Co.**  
 HALBRITE, Sask.

**"Cant-Sag" Gates**

**At Home-Made Gate Prices**  
 Send for our latest catalog—  
 pick out the gates you want  
**TRY THEM FREE 30 Days**

If pleased, keep them. If not,  
 send them back and we'll pay  
 the freight both ways.



**Last Three Times As Long**  
 as iron, gas pipe, and wire gates, and costs even  
 less than home made all-wood gates. They cost  
 less, rust, warp or twist. Made with 1 1/2 inch boards,  
 double bolted between 8 angle steel uprights. No  
 wood joints to collect moisture and rot. No nails  
 to gather rust or pull out.

**Guaranteed Five Years**  
 We'll furnish you complete gates ready to hang or  
 just the Gate Posts, hinges, bolts, etc.—everything  
 but the boards. You can put up your own Cant-Sag  
 Gates if you wish and save money. Postal orders  
 free catalog. Write for it today.

**RADFORD-WRIGHT COMPANY, Ltd., Winnipeg, Can.**

**"Cant-Sag" Gates**

**Myers Pumps**



**HAND, WINDMILL, POWER**  
 Are noted for their excellent  
 pumping qualities  
 and long service. They  
 are built in a modern  
 pump factory and are  
 sold by good dealers  
 everywhere.

If you cannot  
 supply you, and  
 you want the  
 Best Pump on  
 Earth, write us.  
 Attractive book-  
 lets on request.

Myers Pumps  
 are sold by  
 leading dealers  
 and jobbers  
 throughout  
 Canada.

**F. E. MYERS & BRO. ASHLAND, OHIO.**

**Got Gophers?**  
**Kill-Em Quick**

For further information see  
 the Kill-em-Quick Gopher  
 Poison advertisement on  
 page 28

**FOALINE**  
**PREVENTS**  
**NAVEL DISEASE & JOINT ILL**

Guaranteed Effective  
 Or Money Refunded

TREATMENT MUST BE GIVEN TO THE  
 MARE FOR SIXTY DAYS BEFORE  
 SHE FOALS

Price Only \$3.00 per Bottle

**Foaline Laboratory of Canada**  
 1118 Portage Ave., WINNIPEG

**MUSIC ON THE FARM**

If those who were interested in farm life development would bring music in the home "as a necessity," to the farmer, so that every home would be furnished with its phonograph or piano or, in the absence of any tutored development, a player piano, so that those farm homes that have for so many years lacked this entertainment, would have it and develop it at its best, a different air would prevail. Instead of the solemn and sombre atmosphere of night after hard day's toil with such limited diversion as cannot help but exist where there is no music, I cannot conceive of such a home not being materially benefited, ties made stronger, and life itself more interesting and entertaining, where properly selected programmes were enjoyed at frequent intervals, with an occasional get-together of the young men and young women to enjoy the rhythmic entertainment of the dance, as used to be enjoyed in the old days of the waltz and minuet, and when history goes to show us, young men were not leaving the farms in the same proportion as they are to-day.

All of us should appreciate and endeavor to establish thrift, but this like everything else can be overdone, as well as underdone. We cannot deprive young and old of everything but food and clothing and expect to maintain the development of cheerful will to see the present situation through and to meet still more serious things to come, and the spirit necessary to carry us through our present struggle. What then at less expense and of more lasting qualities can be recommended than the present day form of home music?

One does not have to minimize or exaggerate present conditions. They are all too clearly defined, but serious, sad or bad as they are, the average Canadian can and will take a sensible, moderate view of things, and take what comfort can be had from his food, his home, his clothes and his music, instead of wearing sackcloth and preaching calamity. If there ever was a time when every man and woman should meet their tasks, trials and sorrows, as optimistically, determinedly and cheerfully as possible, it is now. Our many tasks, however, cannot be accomplished under the strain of oppression, depression, gloom or fear, and there is nothing will keep these distressing forces from a home, a country or a nation like "concord of sweet sounds," surely we must recognize music as an essential.

Take music from our national institutions, our camps, our churches or our homes and Canada would be a sorry place indeed. Instead, therefore, let us feel what our country needs in this time of stress and crisis is more music and let it be music of the best type.

To fill the need in many cases, requires some little outlay, more sometimes than many of us feel can be spared, but fortunately this condition is met by nearly all of the suppliers of musical instruments, in this country, by a convenient system of payment.

The advantages in purchasing permanent requirements (and musical instruments can well be termed permanent requirements) on the deferred payment plan, are both numerous and highly beneficial, and when properly done, good practice.

It is followed by all civilization, by governments, including federal, provincial, county and city, by our greatest business organizations and leading business men.

**ROYAL YEAST CAKES**

MADE IN CANADA

Bread is the cheapest food known. Home bread baking reduces the high cost of living by lessening the amount of expensive meats required to supply the necessary nourishment to the body.

REFUSE SUBSTITUTES.

**E.W. GILLET COMPANY LIMITED**  
 WINNIPEG TORONTO OYNT MONTREAL



**Cottage-Cheese and Date Sandwiches**  
 Cut dates into small pieces and mix with double the quantity of cottage cheese. Sweeten slightly, moisten with a little cream, add a very little pimento and spread between slices of bread, one side buttered and the other side spread thick with mayonnaise.

**You'll Always be Glad you Purchased This New Edison Amberola**

The added hours of pleasure and entertainment in your home will be more than worth the small investment required.

**\$7.00 CASH**

Sends this beautiful instrument to you complete

With Ten Selections

The very music you like best. You choose your own records from our catalogue.

**Why Buy an Unknown**  
 and inferior make of instrument when you can purchase an Edison on these terms?

The balance of \$49.50 you can pay off at \$5.00 monthly, or quarterly. Half-yearly or fall payments can be arranged with larger deposits. We guarantee satisfaction and the safe delivery of your instrument at the same price paid anywhere in Canada.

**USE THIS COUPON**

Gentlemen—You might send me your New Edison Amberola Catalogue and detailed particulars regarding other styles, etc., as advertised in The Canadian Thresherman and Farmer

Name.....  
 Address.....

**WINNIPEG PIANO CO** 333 PORTAGE AVE., WINNIPEG.

DIRECT FACTORY REPRESENTATIVES  
 STEINWAY, GERHARD HEITZMAN, NORDHEIMER, CHICKERING, HAINES, BELL, BRIDLOCK-MANNING, SCHERTY, CANADA AND LESAGE PIANOS, EDISON, COLUMBIA, EUPHONOLIAN AND PHONOIA PHONOGRAPHS.

**PEDLAR'S PERFECT METAL CEILINGS AND WALLS**



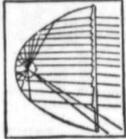
KITCHEN wall coverings, to be truly sanitary, should be easily cleanable. And what could be more suitable for this purpose than metal? Pedlar's Perfect Metal Ceilings and Walls, besides being artistic, fireproof and durable, can be cleaned quickly and easily with soap and water any number of times without the slightest risk of damage.

Pedlar's Ceilings and Walls are made in a large variety of handsome designs, suitable for every room in the house. The pattern illustrated is our Louis XIV. Panel No. 2101.

Write for Ceiling Booklet 'C.T.'

**THE PEDLAR PEOPLE LIMITED**  
 (ESTABLISHED 1861)  
 80 Lombard St., Winnipeg, Man.  
 Executive Offices and Factories: Oshawa, Ont.  
 Branches: Regina, Moose Jaw, Calgary, Edmonton, Vancouver.

**FARMER BEWARE!**  
You must have a proper law abiding Headlight



**A Better Light for Motorists**

The above diagram shows how the New Osgood Lens throws all the light outward and downward—74% more light on the road compared with a plain lens—91% more road light compared with a ground lens.

Beam always below waist-height. No glare. No need for dimming. Sold at ordinary lens prices.

**THE NEW OSGOOD LENS**

GRAVATH LONG DISTANCE TYPE  
Sold by

ANY FIRST CLASS DEALER DISTRIBUTORS

Winnipeg Paint & Glass Co., Winnipeg  
Canadian Osgood Lens Co. Calgary  
Edmonton, Vancouver Write to-day

**There's a Reason**

We would be glad to send you our booklets, prices and particulars of any of the undermentioned goods, if you will kindly place an X against any you are interested in. We know we can sell you these Articles at a less price and give you better quality, and at the same time give you more money for your HIDES and FURS than any house in Canada.

- Harness, Halters and Leather
- Ladies' Hudson Seal and Muskrat Coats
- Tanning Hides and Furs for Robes, Coats, Rugs, or Lace Leather
- Mounting all kinds of Game Heads and Birds
- Prices of Hides and Raw Furs

**Wheat City Tannery**

Tanners and Manufacturers  
BRANDON, MAN.

**NEW PATENT YOUR IDEAS INVENTIONS**

Get the patent by manufacturers and our "Reference Guide" the "Inventor's" and "Inventor's" for free return, if patentability. Patents secured on our fees returned.

HAROLD C. SHIPMAN & CO. Patent Attys.  
Central Chambers, OTTAWA, CANADA

FOR SALE—One 8-16 Mogul Kerosene Tractor in good condition, self steering device, extra lugs. Run one season, plowed 125 acres. Value \$1,100; will sell cheap. Write H. Barrows, Glen Ewen, Sask.

**Our Young Folks**

**"After 'Im"**

All day long a Tommy lay groaning and writhing in the shell harrowed muck and mud that had been the German trenches at Festubert. He was suffering agonies, but worst of all he was assailed by a consuming thirst. "Water!" he cried, "water, water!" But there were hundreds of other writhing and groaning figures about him. A big Teuton lay almost at his feet. Through parched lips, between moans and groans, he, too, called weakly.

Hour after hour they cried pitifully for help—for water, and when the battle had swept far beyond them, came an English stretcher bearer. Tommy saw him, and called pleadingly. The Red Cross man drew forth his canteen. The water sloshed and gurgled about in it temptingly. He unscrewed the top and held it before the dry blood-caked lips of Tommy. Eagerly he reached for it. But as he did he heard again the feeble cries of the Hun. He looked up and saw the wolfish stare of the suffering Teuton fastened on the canteen of cool water. Tommy, in spite of his own suffering, could not bear to witness the Boche's anguish, and with a feeble gasp he pushed the canteen away and said thickly "after 'im" as he motioned toward the wounded German.—From The Boy Scout's Magazine.

**Where He Was At**

A certain British soldier's letter, according to Punch, runs thus:

"I am sorry I cannot tell you where I am, because I am not allowed to say. But I venture to state that I am not where I was, but where I was before I left here to go where I have just come from."

**LATE MAILING TO OUR SUBSCRIBERS**

We crave the indulgence of any subscribers who have reason to complain of the late date at which this magazine reaches them. War conditions (augmented lately by the enormous shipments of liquor prior to final closing up) has so dislocated the Express Companies that what used to take days to reach us now takes weeks. We are doing our utmost under the circumstances, but it has been impossible of late to expedite matters—all of which have been quite beyond our control. We hope and believe that in the near future our transportation facilities will get back to normal.



First Munitioneer: "My old man's won this medal. Don't it make ye jealous!"  
Second ditto (with great hauteur): "Not Me! My Bill went out to Kill Germans—not collecting Souveners."



**BLUE RIBBON TEA**

Poor tea adds to life's troubles—

**BLUE RIBBON TEA**

to life's joys

**Let us Bring Back to Mother**

- the bloom of her cheeks
- her sunny disposition
- her sound constitution

Get a case to-day of

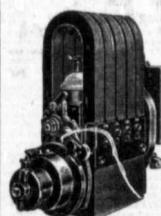


and watch tired Nature reassert herself. It nourishes and refreshes the body, sharpens the appetite and helps to build bone and brawn. Commence to-day to make Mother feel better by getting her this non-intoxicating food beverage. Don't put off the good deed until to-morrow.

Order from your grocer, druggist, confectioner, or direct from

**E. L. DREWRY, LIMITED**  
Sole Manufacturers - WINNIPEG, MAN.

"On Everybody's Lips"



**The Famous K.W. & SWISS HIGH TENSION MAGNETOS IN STOCK**

We Repair all makes Magnetos and Coils. Work Guaranteed. Factory Service. Prompt Dispatch. Official Service Station.

**Acme Magneto Works, 278 FORT ST., WINNIPEG**

## COMBINGS!

LADIES—We make your combings into switches, any quantity, for **\$3.00** 15c Postage.

Satisfaction Guaranteed.

New Hair added to Combings from \$2.00 worth up if desired.

**Elite Hairdressing Parlors**  
301 Birks Building  
WINNIPEG



### Best for Baby

After many years' use by parents of all classes, in Royal Nurseries and humble homes, Savory and Moore's Food has the reputation of being a thoroughly reliable food for infants.

- The experience of parents, nurses, and medical men all goes to show that babies do thrive remarkably well on this famous food, that its use prevents infant ailments, and that it builds up a strong constitution, so important in later life. You may therefore bring up baby on Savory & Moore's Food with the assurance that you are doing the best you can for your child.

**MOTHER'S GUIDE FREE**

Savory & Moore's little book, "The Baby," is full of useful information on Infant Management, and contains hints on Feeding, Teething, the Toilet, Infant Ailments, and many other subjects. It is just what a young mother needs, and will prove invaluable in the home. A Free Copy may be obtained on application to Savory and Moore, P.O. Box 1601, Montreal.

**SAVORY & MOORE'S FOOD**  
Of all Druggists and Stores

## Deafness

Perfect hearing is now being restored in every condition of deafness or defective hearing. Deafness cured by the use of Wilson Ear Drums. Deafness, Relaxed or Stumped Ears, Ringing, Buzzing, Whistling, Hoarseness, and Hearing Sounds, Interrupted, Wholly or Partially Destroyed, Deafness, Discharge from Ears, etc.

**Wilson Common-Sense Ear Drums**

"Little Wireless Phones for the Ears" require no medicine but effectively replace what is defective in the natural ear drums. They are simple devices which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable. Write today for our free book FREE book on DEAFNESS, giving you full particulars and testimonials.

WILSON EAR DRUM CO., Incorporated  
876 Glenhurst Ave. LOUISVILLE, KY.

**TRADE MARKS AND DESIGNS**

Write for booklet, circulars, terms, etc.

**FETERSTONBAUGH & CO.**

FRED. A. FETERSTONBAUGH, F. C. M. E.  
GERALD S. ROXBOROUGH, F. A. S. C.

10-37 Canada Life Bldg WINNIPEG

thrown out as worthless. He "happened" to know that a large coal operating company spent \$30,000 or so a year for "mine rollers," hardwood rollers six to eight inches in diameter over which steel cables travel in the mines. Now the veneer plant sells its "useless" cores to the mine company and both concerns are considerably in pocket. This is only one of many such "good turns" he has done.

### What the Face Told

Two young girls in the parlor of a celebrated photographer, says an exchange, were waiting, somewhat impatiently, their turn for a sitting. They had consulted the mirror and each other, had straightened every lock and ornament, had skilfully brushed the abundant hair into its most becoming waves and tendrils, yet still they were obliged to wait. When the studio door was finally opened and two middle-aged ladies emerged, the eyes of the girls ran swiftly over the face and figure of the one who had evidently been before the camera.

"Dear me! All this time wasted on her?" whispered one pair of rosy lips. "When I get to be as old and as homely as that, I'll not bother with having pictures taken, I can tell you."

But the artist was even then expressing to a friend his satisfaction with his sitter. "I like to take that kind of a picture—a face that is full of character," he said. "That patient steadfastness in the eyes, the strong lines about the mouth will come out finely. Pretty faces are plentifully cared for—they mean nothing except that care and time have not yet touched them—but strong, sweet faces have to be chiseled out, year by year, by some workman within."

So the careless young girl is even now deciding what her face of the future shall be, and somewhere, whether she chooses or not, it will be plainly pictured.—From The Girls' Companion.

### Prize Letters

The prize this month is awarded to Margaret Kohler, Watson, Sask.

Mae McInroy's recipes are practical and are pressed to have them. How many of our girls can cook?

Let us have scores of letters from boys and girls. We can make this department the best in the magazine if our boys and girls will write about their experiences.

First, we want all the news we can get of the boys' and girls' clubs. Why you are beating a long way the clubs men and women have. The work you did last year was marvelous. This year you are going to raise enough cattle and hogs and grain and vegetables to keep the country in food.

We want letters telling all about your experiences. Tell us just how you cultivated your garden and how you raised those chickens and pigs and calves and horses. For the best letter from a boy we will give a prize of two dollars and we will give the same prize for the best letter from a girl.

If our girls will send recipes they will make our department interesting. Send us kodak pictures. Let us surprise our readers with the best department in the magazine.

Wishing every boy and girl reader good luck. I am, sincerely, Cousin Doris. (Send all letters to Pearl Richmond Hamilton, 983 Grosvenor Ave., Winnipeg.)

March 6th, 1918.

Dear Cousin Doris:—I am a reader of Our Young Folks' department, and thought I would send you a few lines to say that I enjoy it very much. I am two years old, and I am five feet and two inches in height.

We have had a lot of cold weather this winter with plenty snow, and the last few days have been quite stormy. We don't feel the storms so much where we are and there is quite a bit of bush around here.

Last summer I had a garden of my own, at home, and at school each one of us scholars had a small garden to take care of. At home I had potatoes planted, and at school I had peas, carrots, onions, beets, parsnips, lettuce and radishes.

At first a man came and plowed the garden and dragged it. And then I took the rake and raked the big pieces of soil off. Then I made the drills for the seeds. Then after it was all planted I had to water it because it did not rain for some time.

Well I am afraid my letter is getting kind of long, so I think I will close for this time. Hoping to hear my letter in print.

Margaret Kohler, Watson, Sask.  
March 10th, 1918.

Dear Cousin Doris:—I am sending you a few recipes.

### Oatmeal Cookies

Two cups of oatmeal, one cup of flour, one cup of butter, one-half cup of sour milk, one-half cup of sugar, one cup of chopped dates, one teaspoon of baking-powder, use flour to roll out.

### Buttermilk Cookies

One cup of sugar, one cup of lard, three eggs, one cup of buttermilk, seasoned with ground nutmeg, flour, mix stiff enough to roll.

Age 10 Mae McInroy, Gadsby, Alta.

### Experience Extracts

#### Use for a Discarded Magazine

An old magazine slowly heated in the oven makes an admirable substitute for a hot water bottle as it holds the heat twice as long, and can be placed directly under the back of the patient, with no fear of dire results.—B.S.

### A Cucumber Hint

If one nasturtium seed is placed in each hill of cucumbers that are planted early, it will keep the bugs away. A farmer told me he had tried this for years and never had a bug trouble his early cucumbers.—B. M.

**ALL GIVEN TO GIRLS**

**FREE FAIRY PALACE DOLL HOUSE, 3 BEAUTIFUL DOLL SETS, RING AND "PRINCESS PAU" DOLL**

Just think girls! We will give you all these great 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 Set, consisting of wash tub, wash board, wringer, iron stand, big clothes basket, clothes line and a little case full of dolly clothes pegs; then you get a five-piece baking set, consisting of hot/cool rack, rolling pin, potato masher, mixing bowl and hatch; the beautiful baby doll carried on a gold and silver ring set with beautiful sparkling stones. Last but not least, every girl can get the lovely big "Princess Pau" crocheted doll—over 18 inch in high. It's a "made-in-Canada" beauty, with unbreakable head, and she is dressed completely from head to foot, real shoes, underwear, dress and hat.

GIRLS—Write to-day as if we will send you FREE a big simple package of Fairy Berries, the lovely new Cream Candy Coated Treats. Address THE FAIRY BERRY COMPANY, DEPT. E. 3 TORONTO, ONT. 128

### Make More Dairy Profits With a Better Separator

THE Viking Cream Separator costs you less but gives you more for your money. It has greater capacity than any other separator of equal rating. It skims to a mere trace. The Viking is easy running and simple to clean, strong and durable. Write today for the Free Separator Book.

**Swedish Separator Company**  
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Model—Capacity 800 lbs. Per 24, 4, 8 or 2.

**VIKING CREAM SEPARATOR**

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### MAKE YOUR OWN LAGER BEER

At home—no special equipment—from our pure and popular

#### Hop-Malt Beer Extract

Conforming to Temperance Act

This is a Food Beer, more delicious, nourishing and better than any malt beverage you can buy in bottles. Drink all you want of it. Easy to make. The drink that "choers but does not inebriate." Rich, creamy foam, natural color, snap and sparkle. Your friends will confirm your opinion—"The best I ever tasted."

Large can, makes 7 gals. . . . . \$1.75  
Small can, makes 3 gals. . . . . \$1.25  
Sample can, makes 1 gal. . . . . 50c

Send money order or postal note. Prepaid throughout Canada. Agents wanted everywhere.

**HOP-MALT COMPANY, LTD.,**  
Dept. P-1, 95 King St. West  
Hamilton, Canada

Saves Time  
Saves Work  
Saves Money  
Does the Work

## Burn off that Stubble!

Lightning Stubble Burner

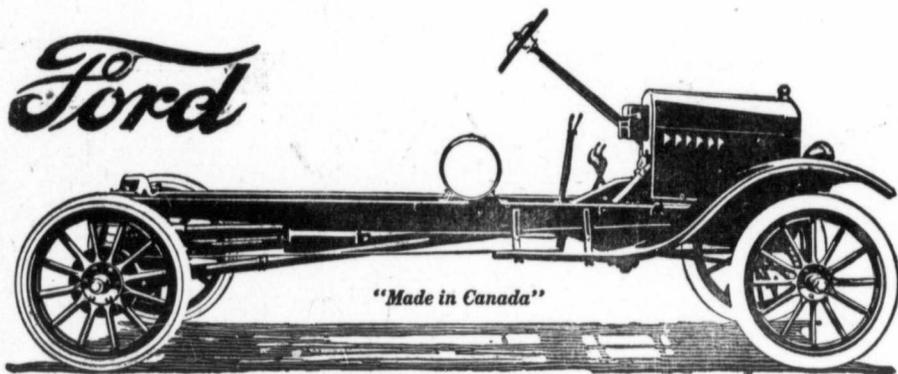
WRITE TO THE MAKERS

**The Gladstone Lyon Co.**  
Winnipeg, Calgary

**STOCK FARM CENTRAL ALBERTA**  
1,280 acres, with open range adjoining; 140 head of choice range cows, 20 horses, 175 hogs and farm equipment; feed and seed. Will sell with or without live stock and machinery. For price, terms and full information, address owner, R. J. DALEY, Edmonton, Alta.

**ONE FOUR-FURROW PLOW, 14in. bottom;** practically new; manufactured by Deere Plow Co. Also 15-30 Gasport Tractor, two-cycle engine; good powerful machine. \$400.00 cash for lot; F.O.B. Burlington Junction, Ont. Behanbreck Orchards, 808 Lumsden Building, Toronto, Ontario.

**FOR SALE—Aultman Taylor 30-60 Tractor,** kerosene burning and first class condition. Will be sold worth the money, but for cash only. Address Tractor E, Box 3164, Winnipeg, Canada.



## A Truck for the Farmer

FARM equipment which will effect a time and labor-saving, and therefore a money-saving, must be carefully considered by every good farmer now-a-days.

The farm wagon, which for years was the most useful of all farm equipment, is now being replaced on the best farms by a sturdy, dependable motor truck. The truck will haul any farm product—fruit, grain, vegetables, stock, fertilizer, or wood—around the farm, or to the town or city many miles distant, in half the time, and at a much lower cost.

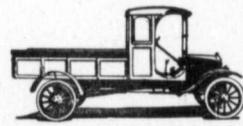
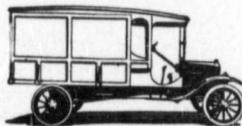
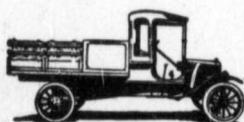
The Ford One-Ton truck is a rapid, economical and very serviceable means of transport. One of these on your farm will save you weeks of time in a single season and will enable you to pass through a crisis of labor shortage with less difficulty.

The Ford truck is supplied as a chassis only. This permits you to select any of the many body styles especially designed for the Ford truck and already on the market. Thus you can mount the one which suits your individual requirements.

**Price \$750 f.o.b. Ford, Ont.**

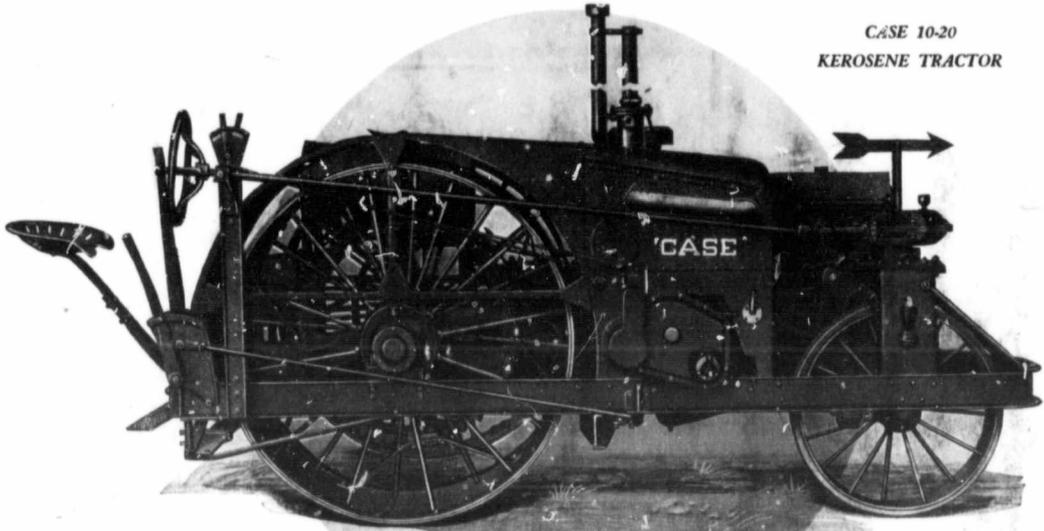
*See any Ford Dealer in Canada, or write for a catalog*

**Ford Motor Company of Canada, Limited**  
**Ford, Ontario**



*Three of the many body styles that may be mounted on the Ford truck chassis*

CASE 10-20  
KEROSENE TRACTOR



## To Increase Crops Use A Case Tractor

During these critical times in our national life, we need more food. Crop production should be increased to the maximum. With the supply of farm labor greatly decreased, the only possible course left is the tractor. With constantly increasing prices of gasoline and then only a very limited supply, the wise farmer will purchase a Case 10-20 Kerosene Tractor.



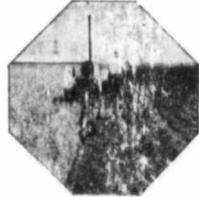
Case 10-20 Discing



Case 10-20 Harvesting



Case 10-20 Filling Silo



Case 10-20 Plowing

The motor of the 10-20 is a four cylinder vertical valve-in-head Case motor cast en-bloc, 4x6", 900 R. P. M. It successfully and efficiently operates on kerosene. Three wheel type with two drivers, a bull wheel 22" wide and a 10" auxiliary clutched in driver. Weights only 5080 lbs. All wheels travel on unplowed ground when plowing. Will not pack the ground. Rated at 10 horsepower on drawbar, tested and actually delivers 14.7 horsepower. Pulls 3 bottom 14" plows without side draft. Drives 20x36" Case thresher

fully equipped.

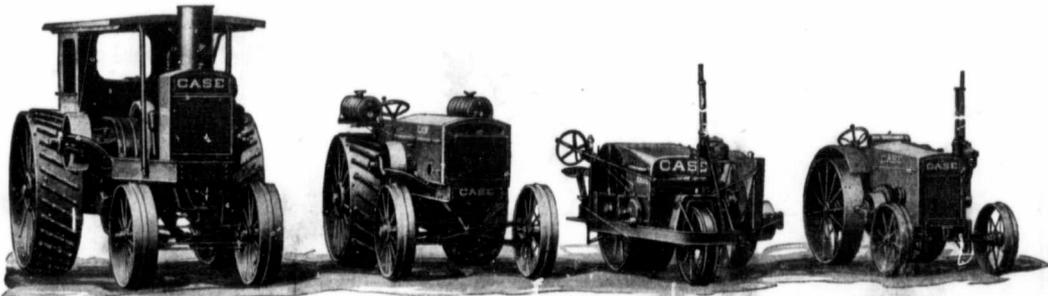
Also adapted for discing, silo filling, harvesting, feed grinding, hay baling, lime pulverizing, wood sawing and many other jobs. A practical all'round tractor for the average farm.

Besides the 10-20, we offer three other sizes of Case kerosene tractors, namely, a 9-18, 12-25 and 20-40. We furnish detailed literature free upon request. Learn all about Case tractors before you buy.

J. I. CASE T. M. COMPANY, Inc.

896 LIBERTY ST.

RACINE, WIS.



CASE BUILDS A SIZE FOR EVERY FARM