

THE CANADIAN THRESHER FARMER

WILMINGTON, CANADA
MAY 2, 1919

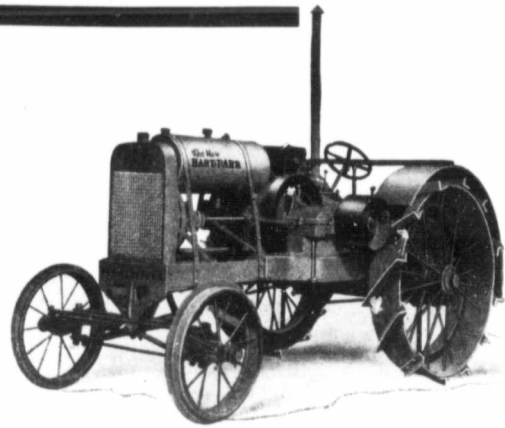
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What is a

3-Plow Tractor?



We hear much to-day of Draw-bar and Brake Horse Power, Cataloged under the terms D.B.H.P. and B.H.P. In themselves they mean very little and are more or less inclined to mislead the farmer. If a Brake Horse Power in one make of tractor meant the same thing in all makes of tractors all would be well. But such is not the case.

At the recent test held by the Ohio State University at Columbus, Ohio, out of 21 tractors competing, 20 of them only showed an average reserve of 3.84 H.P. above their catalog rating, while the Hart-Parr showed a reserve of 7.50 H.P. above its catalog rating, at the same time developing 5 H.P. more than any other 3-Plow tractor entered in the test.

A 3-Plow Tractor Must Pull Three Plows

Soil conditions in Western Canada vary widely both as to locality and as to season of the year. In some localities the draw-bar pull per plow may scarcely reach **500** pounds, while in other localities the pounds pull per plow may go as high as **1500** pounds. It is therefore self-evident that the only tractor that can successfully handle this wide difference in soil conditions is the tractor with the **Reserve Power**—the tractor that is "**there in the pinches.**" Such a tractor is

The New

HART-PARR

Pulls **3-plows**, burns kerosene at all loads as economically as gasoline. Built by the Founders of the Tractor Industry. Delivers its rated Horse Power at all times with a big Reserve when required. Constructed so as to give both durability and ease of operation. Distributed by an Organization who have made a careful study of tractor service.

DESIGNED, BUILT
AND SOLD AS A

3-Plow Tractor

We are Distributors for P & O
Plows and Superior Drills. A full
Line of Repairs Carried in Stock



Hart-Parr Outfit Owned by A. D. Lowen, Morris, Man.

Specifications

Power—Pulls three plows, 20 H.P. on belt. Tested at the last National Plowing Demonstration at Salina, Kansas, developed over 31 H.P. at 732 R.P.M.
Motor—2 cylinder twin, 4 cycle. Valve in head, 730 R.P.M.
Tractor Frame—Cast steel, one piece. No bend, no twist.
Carburetor—New Dray Kerosene slant.
Bearings—S. K. F. and Hyatt.
Speeds—Two forward; one reverse.
Transmission—Selective sliding gear.
Cooling Device—Honeycomb radiator—shaft driven pump and fan.
Lubrication—Fresh oil, force feed.
Weight—5158 lbs.
Price—\$1,395 f.o.b. factory.

Hart-Parr of Canada, Limited

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The "Draft-Horse" Tractor Motor

YOU want a tractor that will do draft horse work. To do that work you must have a "Draft-Horse" type of motor. A tractor motor should be built along the lines of a strong, powerful draft horse—that is exactly what you get in the Avery "Draft-Horse" motor.

The Avery Motor is of the Opposed Type. We selected the opposed type of motor over the twin-cylinder and the four-cylinder automobile type because: its length distributes the weight better between the front and rear wheels; its narrower width makes possible a shorter crankshaft with only two bearings; it runs at a lower speed and hence requires less gears in the transmission, and makes possible a "Direct-Drive" in high, low, reverse or in the belt.

We build the Avery motor with the heaviest crankshaft in any tractor motor, practically unbreakable. Firing pistons and valves in the head, which mean power and economy. Thermo-siphon cooling system and round radiator—no fan, pumps, belts, pulleys, etc.

We invented renewable inner cylinder walls, gasifiers that turn kerosene or distillate into gas and burn it all, adjustable crankshaft boxes that take up the wear in the bearings instantly, and many other exclusive, protected Avery features.

The Avery Perfected Opposed "Draft-Horse" Motor is built especially for heavy-duty traction and belt work. It is made in our own special Motor Factory and only for Avery Tractors.

Write For the New Avery Catalog

telling about Avery Tractors, Motor Cultivators, Plows and Threshers. Also ask for the Avery Free Tractor Correspondence Course and the Avery Special Circular entitled "100 Questions and Answers to Tractor Troubles." See Samples at the Nearest Avery Dealer's.

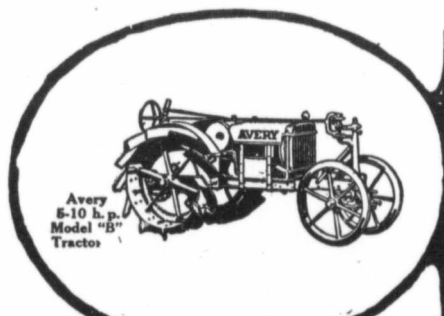
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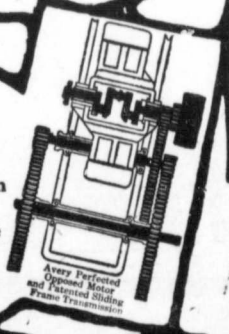
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Tractor for
Every Size Farm
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Five Sizes—the
Same Design.
Standardized



PHELPS Power and Light Plant

"The BEST is always the CHEAPEST"

Pay a Few Dollars More and Get the Right Electric Plant

—one that IS big enough for the job!



THE Phelps Light and Power Plant is being welcomed by farmers all over Canada because it is the best buy on the market. Why?

It is the only electric light and power plant big enough to deliver all the light and power you need. It will last longer than any other plant built; it costs less to run than any other plant; needs less attention; does more work.

It's another case of the old story—the **best is always the cheapest**. Why should you write your check till you have satisfied your-

self? Look at the facts. We selected the Phelps on the recommendation of our consulting engineer—one of the best engineers on the continent. He tested all the electric plants being made to-day. He selected the Phelps because it was designed **right**—built right—and meets every test for dependability.

R. W. Phelps designed this plant—a man who has spent years in designing gas engines and electric generators. It came out on top of the severe tests made by the U.S. Government experts. Thousands of practical farmers are using it to-day.

More Light Makes Your Home A Bright Home

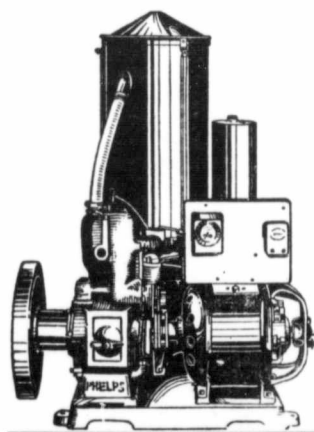
THE ordinary electric light plant sold to farmers is rated at 750 watts. That's not big enough! Ask those who have one installed.

The Phelps Plant actually delivers 1500 watts. Twice the capacity of the ordinary plant! It will give light for 75 standard 20 watt lamps! It is the best plant. Its record proves it. Its simple design and rugged construction proves it. Its performance proves it.

It is a powerful, dependable engine, 3½ horsepower—note that—directly connected to a 1500 watt generator.

DIRECT Power from Engine!

Power is the great thing on the farm. Phelps has power—enough power to run churns, separators, washing machines, etc., by belt power from a



More Power And Cheaper Power Saves Time and Labor

"Power-Pulley." The Phelps is the only plant on the market with this important feature. Charges the battery at the same time, if it needs it. That means the battery is always ready to light the house, barn and yard.

But this **direct** power means more than that. It saves batteries. Instead of lasting only three years, Phelps batteries last ten years! It saves gasoline, oil and wear because it needs to run only half the time other plants must run.

A child can run the Phelps plant—push a button and it starts; stops when battery is charged; open a switch and it goes on running as a power plant, leaving the battery ready for lighting.



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You want to know all about the Phelps before you invest in an electric plant. Let's tell you all we know about electric plants. Let's convince you that the Phelps is the **ONLY** plant big enough, simple enough, dependable enough for your place. Fill in the coupon and mail, To-day.

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Coupon

I would like to look at pictures and literature regarding the Phelps Light and Power Plant.

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Vol. XXIV

WINNIPEG, CANADA, APRIL, 1919

No. 4

THE gas tractor is today Western Canada's third most important agricultural asset. First, most naturally, comes her large area of fertile soil. Second, must come a more diversified system of farming; and third, comes the gas tractor.

No doubt there are those who will disagree with me, but a careful study of the situation must readily convince one that the tractor came at a most opportune time to help the farmer in his farm operations. Western Canada will always be largely a grain raising country, and unless the climatic conditions change beyond the imagination of those of us who are living to-day it must of necessity be devoted largely to small grain. Small grain raising is not really profitable under old conditions and old prices. Just at present with all small grains at prices that a few years ago were never dreamed of grain raising is profitable, provided the farmer can get the maximum of results out of the labor that is expended.

Land, the basic tool with which he works, has not advanced very much in price in the past few years, but labor has gone up. A few years ago it was possible to hire a good man from \$25 to \$30 a month, while to-day \$65, \$70 and \$75 is being paid in a great many many cases. The farmer has reached the point where he has got to regard his farm more and more as a factory, and for the increased price that he has got to pay for labor he must of necessity get more work done in the same

The Tractor in Western Canada

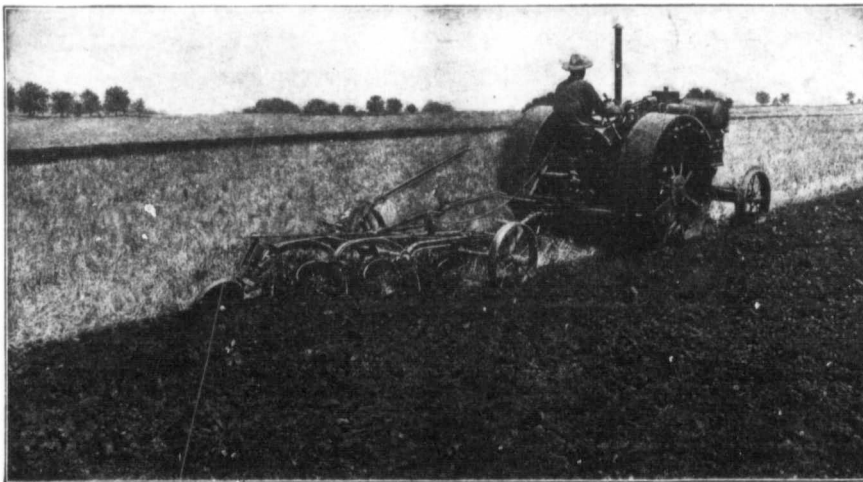
Past, Present and Future

By E. W. HAMILTON

space of time. This is where the tractor comes in.

Now I know there is a farmer who will disagree with me, and he will claim that the tractor is a losing proposition from every

Nobody is going to force the farmer to buy tractors, but the more efficient of our farmers who will study the situation carefully and familiarize themselves with what the tractor is, and what it



A first-class combination of tractor and plow operated by a first-class man on first-class soil

standpoint, but I have only one answer for such a farmer, and that is, that he doesn't know his business. He is either in the position of the man who is convinced before he has given the tractor a fair trial, or his experience has been with that tractor that is a lemon, or that he did not study the conditions so as to adapt his tractor to his farm.

The tractor is not a fad. It is a fact, and it is a stubborn fact that every farmer in Western Canada must sooner or later face, whether he wants to or not.

will do, will so outstrip their more sceptical neighbors in their farm work that the sceptics will be obliged to follow suit or go out of business.

The gas tractor first came into use in Western Canada in 1903, when one gas tractor was sold in Dominion City, Man. As we know the gas tractor to-day, this would hardly be classed as a tractor at all, but a mere attempt to try to apply gas power to the drive wheel. Between 1903 and 1904 six of these machines were put into the province. None of

them were successful. In the fall of 1904, the first Hart-Parr tractor came into Western Canada, and in 1905 a concern at Portage la Prairie took on the agency and sold a number of these machines. In 1906, the International Harvester Company came out in Western Canada with their first machine. There are, however, some conflicting records as regards this, as there is some information to the fact that there were some I.H.C. machines put in in 1905, but these records I have never been able to verify. In 1906, 237 tractors were sold

in Western Canada. In 1907 the sales were 580. In 1908 the sales were around 660. In 1909 there were not quite 600, but in 1910 they went to over 1,500. In 1911 something over 1,700 were sold. In 1912, 3,700; 1913, 4,600; 1914, 4,200; 1915, 4,400, and in 1916 they barely passed the 5,000 mark. In 1917 6,400 machines were sold, and in 1918 approximately 7,300.

There were in use up to the 1st of November, 1918, in Western Canada 19,777 tractors. Of the number sold in 1918 1,115 were Fordsons. The gas tractors in use were divided as follows:

Saskatchewan ...	11,105
Manitoba	3,655
Alberta	5,017

There were up to the first of the year approximately 218,000 farms of 160 acres and over, divided as follows:—

Saskatchewan ...	99,341
Manitoba	67,490
Alberta	51,663

(Cont'd on page 18J)

IT has been suggested that, as the writer has reached the place in his gas engine experience where he is fully convinced he doesn't know a gas engine from a hole on the ground, that he conduct a service department for the benefit of the readers of "The Canadian Thresherman and Farmer."

Service Department

Conducted by G. WHO

All right, fellows, send in your questions.

Q.—The motor in my tractor acts funny. It will run for about

the side of the second one, and, at some time, the third one has struck some extra hard work and the bolts which hold it to the second one have all been strained, allowing it to settle below the other two. After the plow had passed through this hard spot, the first and third plows found a level and raised the second one too high. This trouble can be overcome by replacing all the bolts which hold the third plow, with new ones and putting a piece of heavy angle iron or two pieces of flat iron on edge, across the three beams and clamping it down tight.

Q.—I have a —— 12-25 tractor, and it hasn't been any good to me since I first bought it. It has good compression and plenty of spark and fuel, but it won't run. What's the matter?

A.—Nobody knows. Give us a little more definite information, and we'll try to fix you up. I know your engine and it's a good one.

Q.—Have a —— tractor and



J. J. Rogers (Plenty, Sask.), with Minneapolis tractor breaking sod, June, 1915

You know tractor operators all go through certain stages. Some stop longer in one stage than another, while some go chasing right through pretty fast. At first a fellow don't know anything about a gas engine and wishes he did; then, almost all of a sudden he knows all about them and knows it; next, he knows too much about them and wishes he didn't; then he begins to think he doesn't know very much about them after all and that's when he begins to learn. His past graduate training consists in being sure he doesn't know anything about them—that's me.

In conducting this service department the big idea is to help owners and operators of power farming machinery through these different stages, and, if possible, to answer any questions they may ask as to the practical use and care of their power farming machinery.

We are fully convinced that, if people will come out and ask what they want to know, this department will become very interesting and be a help to practically everybody who reads it.

However, there are a few things about asking questions that it might be a good idea to mention. When you want to know why a tractor won't run, it isn't enough to ask why it won't run. The man whom you are asking about it has to know something about how it acted before it stopped. He wasn't there when it stopped, and it's up to you to tell him all you know about it. Then, your Uncle Dudley here, will try to answer your questions in a safe and sane manner.

an hour and then starts to miss bad, but if I stop for 20 or 25 minutes it will run all right again. The spark seems to be all right and she has good compression. The fuel lines seem to be clear,



A young man of sixty-seven—F. C. Kempfield, Pretty Valley, Sask.—good for another quarter of a century.

but the fuel doesn't run free when the motor stops, although it runs out pretty free when I start up again. It's a —— 10-20 tractor.

A.—Probably the kerosene slopped out through the vent hole in the tank filler cap and you plugged the hole. The vent hole is placed there to allow air to enter the tank and replace the fuel which has been taken out. If the hole is plugged, no air can get in and a vacuum is caused which holds the fuel in the tank. Keep the vent hole clear.

Q.—I have a —— three-bottom plow. The center plow hasn't cleaned or plowed the same depth as the other two since the fall of 1917. The land here is very black, heavy clay.

A.—The trouble is with the make which you have is hung on third plow. The third plow on the

a four-bottom plow. Can't get the plows to clean at all and have tried four different types of bottoms. Can you suggest anything?

A.—You have a choice of almost any speed in your type of tractor. Four plows are an overload, and you have to travel very slowly in order to pull them. Throw off one plow and travel at about $2\frac{3}{4}$ to $2\frac{7}{8}$ miles per hour and the regular general purpose bottom will clean in your land.

"AS GOOD AS 10 HORSES"

Pretty Valley, Sask.
Feb. 8th, 1919.

I HAVE had considerable experience with steam plowing, having owned at one time a 20 horse-power engine and a six-bottom plow, which I found a very cumbersome and expensive rig for plowing. Expense of labor was too heavy; also noting that my neighbors plowing with heavy tractors (whether steam or otherwise) have not been getting as good returns as they should, I have decided that heavy tractor plowing is not profitable, except for the first breaking of the sod.

I am now an old man of sixty-seven years, and have not been able to handle an outfit of horses for some years; but last spring, on hearing such a cry for bread and food for a starving world, the question came to my mind: What can I do to help in this awful crisis? I finally decided I could handle a small tractor; so I purchased from the Food Board one of the "Fordson" tractors put out by them, and a two-bottom Oliver.

This I found a good investment, as I could ride this all day, plowing eight acres a day and drawing one section of harrows, so at night my plowing had one stroke of the harrows which kept the soil from drying out. This I did with less than $2\frac{1}{4}$ gallons of kerosene per acre, and about one gallon of engine oil per day.

These light tractors do not pack the soil and are very cheaply operated. I consider my little plow outfit as good as any ten horses. It will do just as much and do it well. I intend doing a lot more this year.

F. C. Kempfield.



J. A. Maynard (Cluny, Sask.), with his mates—neither of whom had run an engine before they came to work on his farm, but can now handle an engine as they can wind their watches.

Tractor Ratings

Uniformity Necessary--A Proposed Solution

By PROFESSOR J. MACGREGOR SMITH, Saskatchewan University

PRIOR to the introduction of the gasoline or kerosene tractor there was not much confusion about tractor ratings. While steam engines were underrated they were all underrated in about the same proportion. It seems that gas tractors have been in many cases overrated and cannot develop their advertised capacity for actual work on the belt or at the drawbar. In some instances it is due to the fact that tractor companies get the motors from a plant making a specialty of this particular and vital part. Due consideration of the power lost in transmission to the belt or the drawbar being omitted. From the farmers' standpoint it is highly desirable that tractor ratings should be placed on a rational, uniform and national basis which would be accurate and acceptable from coast to coast and not different at every meridian line. The tractor interests would profit by conservative and uniform ratings. The practice of overrating is shortsighted. We emphasize the fact in case there may be doubters that the reliable companies would be glad to fall in line and adopt any policy that could be mutually arranged. A solution for many of our present troubles is offered in the remainder of this discussion.

We will suppose that a practical farmer is in the market for a tractor. He has studied the problem carefully. He has looked through a list of specifications of various tractors in a vain endeavour to decide which one is the right machine for him. We present below several of the specifications he may have selected regarding four makes that may appeal most strongly to him.

Rating	Plows Recommended	Pounds Pull at Drawbar	Speed Miles Per Hour	Drawbar Horsepower
A 10-18	2	900	2 3-4	6 2-5
B 10-18	2	1800	2 1-3	11 1-5
C 10-20	3	1800	2 1-2	12
D 10-20	3	2650	2	14 2-15

The first two in the above list

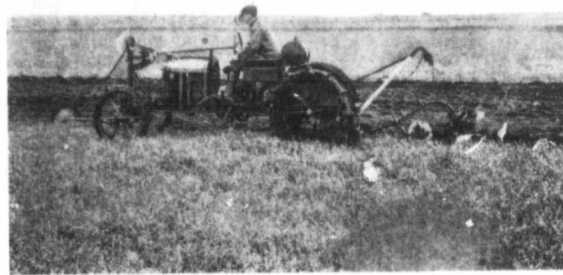
are in a class of 10-18 (meaning 10 horse-power at the drawbar and 18 at the belt), the last two are in a class of 10-20 engines. However, all four are advertised as 10 horse-power machines at the drawbar, and they are all in one class. Let us examine each and from the data given in their respective cases see what can be developed. We know that the drawbar horse-power equals the pull in pounds multiplied by the distance travelled in feet per minute and the product of these two factors divided by 33,000 (the number of foot pounds of work per minute in one horse-power). Stating it briefly, we have:

$$\text{Drawbar Horsepower} = \frac{\text{Pull in pounds} \times \text{Distance in feet per min.}}{33,000 \text{ (one horsepower)}}$$

Take Tractor A in the list and work it out and you will find that:

$$\text{Drawbar Horsepower} = \frac{900 \text{ (Pull in pounds)} \times 242 \text{ (2\frac{3}{4} \text{ miles per hour} = 242 \text{ feet per minute.})}}{33,000 \text{ (one horsepower)}}$$

$$= 6 \text{ 2-5}$$



An "Avery" 5-10 pulling Grand Detour plow

$$\frac{900 \text{ (pull in pounds)} \times 242 \text{ (distance in feet per minute)}}{33,000} = 6 \text{ 3-5}$$

And its rated as 10 drawbar horse-power. We have taken the advertised specifications. Something is wrong.

Now if you will examine B, C

and D in exactly the same way you will find that they respective-



E. L. Williams, Duhamel, with his P & O breaking plow (1 ton, 24-in.)

ly are able to develop 11 1-5, 12 and 14 2-5 drawbar horse-power. In every instance they exceed their rating, and therefore may be reasonably expected to give satisfaction.

If that does not mean chaos and

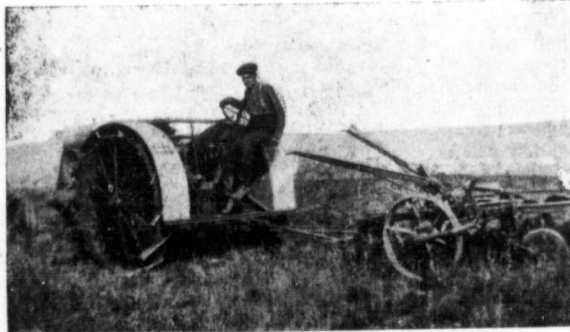
equipment now in the agricultural engineering departments of the agricultural colleges. The law governing the sale of tractors would demand that every type and every make of tractor be tested, and if the results of the test showed that it came up to its rating then a stamp of ap-

proval or guarantee, call it what you like, would be attached to all contracts involving the sale of the said type and size tractor. The plan is simple and would work as follows: The John Jones Company would notify the testing bureau that they wanted their 10-20 tractor tested. A qualified official would go down to the warehouse or car and select any engine at random, noting its serial number. The tractor would then be submitted for trial, and approved or rejected as the case might be. In a test of this kind Tractor A in our list would receive no stamp of approval, and would be placed in a class designating it as a 6 D.B.H.P., and why not? The other three machines B, C, D would pass and go on in the market as approved, government inspected 10-20 tractors. All other sizes would be dealt with in a similar way. Provincial laws would have to be uniform, in fact, there should be one rating for Canada or even North America. A company making an engine that could not come up to the standard would have two roads open to it, the first to improve their machine and the second "To shuffle off this mortal coil." Much more might be written about the tests, but enough has been said for the present, and there seems no reason why the details cannot be arranged to the mutual benefit of all. Something should be done.

You may wonder why we include the manufacturer. They are willing and anxious to cooperate, and one needs go no farther than the record attendances at the instruction school to realize this is true. Every province should provide equipment for testing tractors on the belt and at the drawbar. The majority probably have the necessary

How many plows will the engine pull? You might just as well ask how long will it last? No matter how conscientious we are we cannot answer your question unless we know the soil conditions, etc. The solution in this case is to have the country

Continued on page 18B



N. B. Mack, Veteran, Alta., at home with his Hart-Parr

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April

"Passing the Buck"

1919

OUR GUARANTEE

No advertisement is allowed in our Columns until we are satisfied that the advertiser is absolutely reliable and that any subscriber can safely do business with him. If any subscriber is defrauded, E. H. Heath Co., Ltd., will make good the loss resulting therefrom. If the event takes place within 30 days of date advertisement appeared, and complaint is made to us in writing with proofs, not later than ten days after its occurring, and provided, also, the subscriber in writing to the advertiser, stated that his advertisement was seen in "The Canadian Thresherman and Farmer." Be careful when writing an advertiser to say that you saw the advertisement in "The Canadian Thresherman and Farmer."

THE act of shirking an obligation or unloading a responsibility is commonly referred to as "passing the buck." In moral significance, the operation may carry the weight of anything between the harmless joke and a full-blown crime. It takes at least two to play the game, but the greater the number the more complete is the success in losing the "buck." The "buck" may be literally interpreted as the direct responsibility, credit, or blame for some course of action which has or ought to have been taken. It is, however, to be observed that the passing of the buck takes place only when what has been done is accounted blame-worthy or of an extremely doubtful character. When credit is due, very rarely does it happen that you hear of the passing of the buck.

It is one of the instinctive faculties of human nature that needs next to no inculcating. It "comes in with the milk." A few familiarities taken from daily life will illustrate better than it can be explained:—Half a score of boys are experimenting with what knowledge they have of the game of

baseball. Biff! and the ball makes a bee-line for the best bedroom window of Judge Jellicoe's city residence. Who did it? No human being in sight can bring that "buck" home. The team has melted away "like a guilty spectre at the first dawn of morn." The "buck" has been passed with a point of refinement in its complete success that might well excite the envy of older men.

Years pass and these same rapsallions become what are called "responsible citizens." Some of them have swapped all active interest in baseball for the still more alluring diversion of politics. Anyhow, they are now men, each carrying a definite weight of responsibility which he may not unload on the shoulders of any other man, or body of men. The "citizen" who regularly avails himself of the privileges of citizenship while declining to take his full share in its responsibilities is no citizen. He may be either a sneak, a coward, a traitor, or all of them, but he is no citizen. He is the parasite who believes that when he has dropped in his voting paper in favor of a certain government, his responsibility to his neighbor and society at large ceases.

Wellington warned an audience of his peers that "We put too much faith in institutions and look too little to men." And this "Iron Duke" was a man who was never known to "pass the buck." Had he done so only once during that

frightful ordeal upon a man's fortitude and patience his whole public life reveals, there would have been no Waterloo and what Waterloo meant to the emancipation of the race. But notwithstanding all that has passed since Wellington's day, we are little better off for men in the public service. There is still an incredible poverty of the class of men who count it the very hell of human meanness to "pass the buck;" who, in the face of any fate, will manfully stand up and say: "Yes; the responsibility for this thing rests with me."

Coming specifically to the immediate duty of the hour, does it not strike one that we are making gods of our governments to the neglect of the high privilege of doing the individual little bit that no government squad can deal with? Even if its "mob formation" did not afford the most perfect facilities for "passing the buck," the very circumstance of its swarm of conflicting thought, its disposition to drift, its propensity to "pooh, pooh" prevents it from getting there in time; and then we have riots at Rhyll, a small civil war in Winnipeg, and still worse pending, because of some one "passing the buck" for the admission into Canada of a horde of undesirable, with a special immunity from military service at that most fateful hour in Canada's life—the spring of 1918.

Apart from all "government recognition," what does every individual citizen owe to those men who went overseas, and having done their job magnificently, are now returning to civil life? Did any of these wonderful men "pass the buck" in any of the great crises that confronted them in France and Flanders? We heard an old public servant tell a congregation the other Sabbath evening that every individual of the many hundreds within hearing owed a debt peculiarly his own to those men which he could not discharge except directly to the one man or the greatest number of these men he could personally reach. That was the view of a very decent man whose private and public life is a credit to his community, and it will be the view of every person who has failed to acquire or has ceased to practice the art of "passing the buck." The matter of reinstating the returned soldiers is the most pressing, but it is only one of the many problems in the new social structure in the solution of which the individual's responsibility is inescapable. The cumulative weight of government can do things which the individual cannot accomplish, but the personal touch of the individual has an influence far beyond the reach of any impersonal "government."

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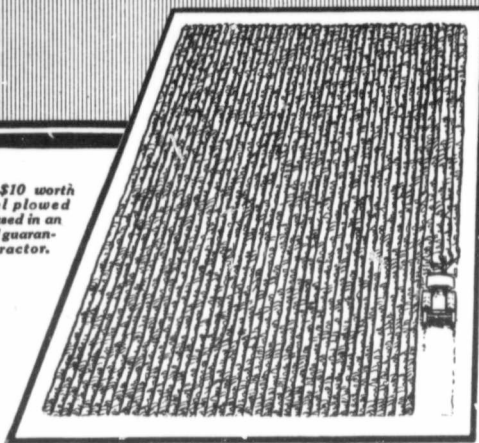
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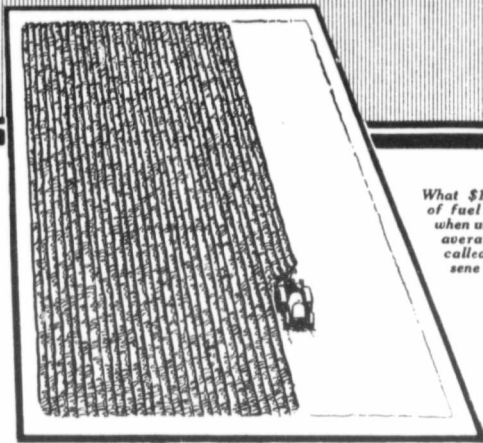
How Much Will \$10⁰⁰ Plow?

What \$10 worth of fuel plowed when used in an OilPull guaranteed tractor.



22 Acres Plowed

What \$10 worth of fuel plowed when used in an average "so-called" kerosene tractor.



15 Acres Plowed

THE main reason why you buy a tractor is to produce greater crops at a larger profit. And the tractor that will do the work at the least cost is the tractor you want—provided of course that it has the strength and durability to give it long life.

Above we illustrate a comparison of operating costs—based upon actual official public tests. We take as an example an official demonstration in which were entered 29 of the best known tractors. In making the comparison, we, however, have considered only the 23 tractors entered as kerosene burners, eliminating the five gasoline entries, and as a basis have taken the average cost for an acre plowed. On the one hand, the OilPull plowed at a cost of 45 cents per acre—on the other the average cost of the 23 competing kerosene tractors was 66.27 cents per acre.

This gives the OilPull an advantage of almost one-third—or in other words the OilPull proved that it is capable of doing one-third more work for the same fuel cost. And remember that we compare the OilPull with the so-called kerosene tractors only. Compared with gasoline tractors the OilPull will cut fuel costs in half.

On the basis of the \$3.00 saved by the OilPull in plowing 22 acres, you can easily figure the saving in operating costs in the day after day, year after year operation. You can see that the saving in fuel alone will practically pay for the outfit while you: OilPull is still a young machine. We can't say just what the life of an OilPull is because the first ones built ten years ago are still on the job.

Furthermore, what the OilPull has done in these public tests is what it is doing in the hands of owners everywhere. *The OilPull will plow an acre of ground at less cost than any tractor made—bar none.*

And not only has the OilPull proved this economy—its makers give you an absolute *guarantee in writing* that it will burn successfully all grades of kerosene under all conditions, and at all loads to its full rated brake horse power. *The OilPull is the only tractor that carries such a written guarantee.*

Four sizes of the oil burning, oil cooled OilPull can now be had—12-20, 16-30, 20-40 and 30-60 H.P. A post card will bring you the OilPull catalog.

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Light Tractor Experience Survey

On this and following pages will be found the results of a questionnaire that was sent by The Canadian Thresherman and Farmer to a number of gas tractor owners in Manitoba, Saskatchewan and Alberta. We have omitted the names and addresses, likewise the makes of tractors, as the owners in many cases do not care to have their names published.

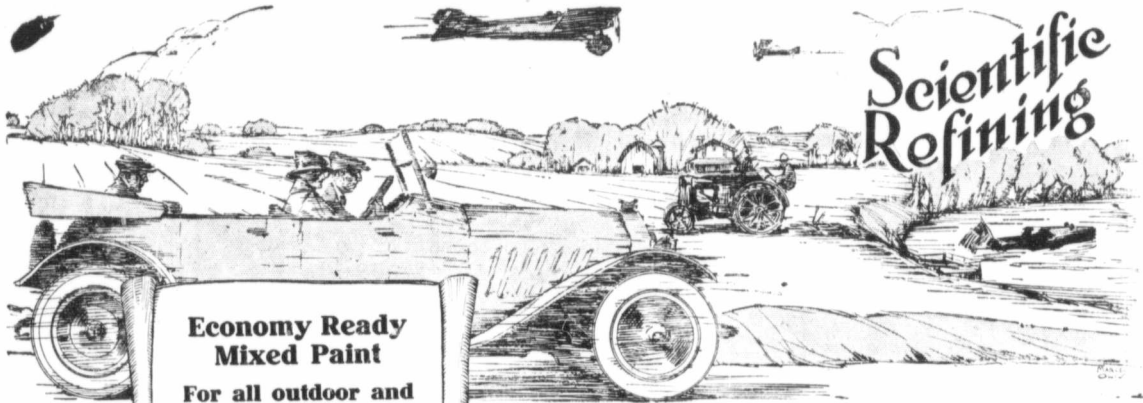
The originals are on file in our office where they can be seen by anyone who so desires.

To the best of our knowledge, this is the first time such a questionnaire has ever been sent out to tractor owners and the results should prove of considerable value to tractor owners.

More detailed information is required regarding the tractor—information that is based upon fact and not theory. This magazine is the only one in Canada that has made any attempt to supply such information; in fact, has led the way as regards this most important farm implement since 1904. The number column has no significance except for our own records.

No.	Size of tractor	Kind of fuel used	No. of plows pulled	Kind of plows used	Acres under cultivation	Acres that can be worked with tractor	Type of soil	Character of land	Uses of tractor	No. of horses and men replaced by tractor	Which is more satisfactory	Which is cheaper to maintain	No. of days in year tractor is kept busy	Troubles	Who operates the tractor?	Amount of repair bill per year	Amount of fuel and lubricating oil used per day	Length in hours of working day	Average life in years of tractor	Size in nos. of farm before tractor profitable	2, 3, 4 wheel or extra-puller	Does tractor pack soil	Is tractor successful in retirement
1	13-30	coal oil	3	mould'd	220	220	black clay	level	plowing, discing, cultivating, moving buildings	8 horses	tractor	tractor	60	clutch is too weak	myself	No.	Coal Oil 18 gal lub oil 1 gal.	12	220	4 whl.	no	yes	
2	10-20	coal oil	3	mould'd	500	475	clay loam and stony	level	plowing, cultivating, harrowing, cutting wood, grinding feed and pulling stones	8 horses 2 men	tractor	tractor	50		self	\$ 1.50	kerosene 23 gal oil 2 gal.	12	10	480	4 whl.	no	yes
3	12-20	coal oil	3	mould'd	350	350	mixed	level	breaking shrub land with 24-in. brush breaker, hulling, crushing, breaking prairie, plowing and belt work	8 horses 1 man	tractor	tractor	150		self	65.00	20 gal. oil 2 gal.	10		4 whl.	not enough to hurt	yes	
4	10-20	kerosene	3	mould'd	300	450	clay	level	plowing, threshing, hauling and crushing	none	tractor	tractor	60		self		20 gal. 1 1/2 gal.	12		320	4 whl.	no	yes
5	10-20	kerosene	2 in brk. 3 in stub	mould'd and disc	185	300	heavy clay loam	rolling	breaking, disc plowing, disc harrowing and moving granaries	12 horses 2 men	tractor	tractor	100		self		20 fuel 1 1/2 oil	10		320	4 whl.	no	yes
6	15-30	coal oil	6	mould'd	200	all	loam	rolling	breaking and stubble plowing only	yes	tractor	horses	30		self			12		320	4 whl.	no	yes
7	10-20	kerosene	3	mould'd	200	300	clay and rocky	rolling	plowing and discing	6 horses	tractor	tractor	40	starting when cold	self		24 fuel 1 1/2 oil	10	5	320	4 whl.	no	yes
8	30-60	kerosene	8	rod	320	all	heavy clay	level	plowing, discing and crushing	30 horses 5 men	tractor	tractor	240	only general	engineer	700.00	125 fuel 8 oil	14	5	320	extra-puller	yes	yes
9	18-30	gasoline	4	mould'd	600		clay loam	rolling	plowing, discing, moving buildings, threshing, grinding feed	yes	tractor	tractor		none	self	100.00	30 fuel			4 whl.	no	yes	
10	10-20	kerosene	2	mould'd	640	600	clay loam and rocky	level	plowing, discing and threshing	1 man 8 horses	tractor	tractor	100	poor fuel	self	20.00	22 gal. oil	10	7	480	4 whl.	no	yes
11	9-18	coal oil	1	mould'd	51	160	clay with some rock	level	breaking, sawing wood, chopping, hauling and grubbing	8 horses	tractor	tractor	75	none	self		14 fuel 1 qt oil	10		160	4 whl.	no	yes
12	11-22	coal oil	2	mould'd	500	600	clay loam	rolling	plowing, threshing, hauling, drilling wells and grinding feed	10 horses 4 men	tractor	tractor	200	none	self		12 fuel 1 qt oil	12		320	4 whl.	no	yes
13	12-20	kerosene	3	mould'd	275	300	heavy black loam, sticky	level	plowing, discing, threshing, crushing	1 man 2 horses	tractor	tractor		very little	self	10.00	20 fuel 1 1/2 oil	14	8	200	4 whl.	yes	yes
14	12-20	kerosene	2	mould'd	340	340	clay and loam	rolling	plowing, discing, cultivating, harrowing, floating	2 men 10 horses	tractor	tractor	100	none of any account	self	25.00	20 fuel 1 oil	12	10	320	4 whl.	no	yes
15	18-35	coal oil	3	rod	800	800	clay loam	level	plowing, threshing and discing, hauling granaries	none	need both	tractor	150	poor cylinder oil	self	70.00	50 fuel 4 oil	20	15	640	4 whl.	no	yes
16	30-60	coal oil	8	rod	800	all	very heavy clay	level	breaking, stubble plowing and threshing	8 men 20 horses	tractor	tractor		very small	engineer	50.00	80 fuel 4 oil	14	10	600	4 whl.	yes	yes
17	10-20	kerosene	3	mould'd	450		clay, rocky and loam	rolling	plowing and cultivating	1 man 4 horses	tractor			lack of knowledge	self	small	24 fuel 1 oil	12		400	4 whl.	no	no
18	12-20	kerosene	3	mould'd	320		sandy loam	rolling	plowing, threshing and chopping	1 man 5 horses	tractor	tractor	65		self	50.00	20 fuel 2 oil	11		540	4 whl.	no	yes
19	11-22	coal oil			640		loam, rocky	rolling	threshing	none	tractor	horse			self								yes
20	10-20	kerosene	3	mould'd	160	all	clay loam	level	stubble plowing, breaking, threshing, stump pulling, crushing grain	none	tractor	tractor			self	10.00	20 fuel 1 oil	11		4 whl.	no	yes	
21	10-20	kerosene	3	mould'd	300	all	clay loam	level	plowing	8 horses				starting when cold	self		25 fuel 2 1/2 oil	12	5	320	4 whl.	very little	yes
22	10-20	kerosene	3		350	300	loam and rocky	level	breaking, grinding and moving granaries	10 horses 1 man	both	horses	75	none of account	self	10.00	18 fuel 1 oil	13	10	640	4 whl.	no	yes
23	10-20	kerosene	3	mould'd	210	235	heavy clay loam	level	plowing, cultivating, threshing, crushing grain, sawing wood and hauling out stones	8 horses 1 man	tractor	tractor	60	inexperience	self	10.00	16 fuel 1 1/2 oil	8		320	4 whl.	very little	yes
24	10-20	kerosene	2		300	300	black loam	level	threshing, plowing, crushing and sawing wood	none	tractor			very little	self	5.75	20 fuel 1 oil	10		4 whl.		yes	
25	13-30	kerosene	3	mould'd	175	250	heavy clay	level	plowing, threshing, crushing, sawing and stump pulling	6 horses	tractor	tractor	270		self		26 fuel 2 oil	12		160	4 whl.	no	yes
26	10-20	gasoline	3	mould'd	230	all	sandy to heavy clay some rock	hilly	plowing, threshing, seeding, discing and harrowing	4 horses	tractor	tractor	70	ignition	self	25.00	12 fuel 1/2 oil	10	5	160	4 whl.	no	yes
27	10-20	kerosene	3	mould'd	120	160	black loam clay subsoil	rolling	breaking, pulling stumps, plowing stubble, threshing, cutting straw	2 men 8 horses	tractor	tractor	160		self	82.00	25 fuel 2 oil	14		160	4 whl.	no	yes
28	30-60	kerosene	6	mould'd and disc	600	600	heavy clay loam	level	plowing and threshing	8 horses	tractor	tractor	60	very little	engineer	190.00	60 fuel 5 oil	14		640	4 whl.	no	yes
29	13-30	kerosene	3	mould'd	270	270	chocolate loam with rock	rolling	plowing and discing		tractor	tractor			self		20 fuel 1 oil	8		200	4 whl.	no	yes
30	10-20	kerosene	2	mould'd	40	40	clay	rolling	plowing, threshing and hauling	2 horses 1 man	tractor	tractor	160		self	10.00	20 fuel 1 1/2 oil	10	6	100	4 whl.	very little	yes
31	14-28	kerosene	4	mould'd	300	700	heavy black loam	rolling	plowing, breaking, threshing, moving, sawing wood and crushing	12 horses	tractor	tractor	55	very little	self		12 fuel 1 oil	12				no	yes
32	10-20	gasoline	3	mould'd	300	300	clay and loam	rolling	plowing, threshing, discing and sawing wood	4 horses 1 man	horses	tractor	65	ignition	self	20.00	18 fuel 1 1/2 oil	10		4 whl.	no	yes	
33	10-20	coal oil	2	mould'd	140	all	clay and rocky	rolling	plowing, discing and threshing	6 horses 2 men	tractor	tractor			self		12 fuel 1 oil	10		100	4 whl.	very little	yes
34	10-20	kerosene	3	mould'd	300	500	loam	level	breaking, discing, cultivating, plowing, threshing	5 horses 1 man	tractor	tractor	200		self	25.00	25 fuel 2 oil	13	5	300	4 whl.	no	yes

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(136)



No.	Size of tractor	Kind of fuel used	No. of plows pulled	Kind of plows used	Acres under cultivation	Acres that can be worked with tractor	Type of soil	Character of land	Uses of tractor	No. of horses and men replaced by tractor	Which is more satisfactory	Which is cheaper to maintain	No. of days in year tractor is kept busy	Tire-ables	Who operates the tractor?	Amount of repair bill per year	Amount of fuel and lubricating oil used per day	Length in hours of working day	Average life in years of tractor	Size in case of farm before tractor profitable	2, 3, 4 wheel or caterpillar best	Does tractor pack soil	Is tractor successful investment
35	10-18	coal oil	2	mould'd	104	300	sandy and clay loam	level	threshing and plowing	8 horses 2 men	tractor	tractor	90	.....	son	.....	10 fuel 1 oil	10	.....	1 whl	very little	yes	
36	25-45	kerosene	8	mould'd	9'0	all	black loam	level	plowing, threshing, road work	10 horses 2 men	tractor	tractor	..	spark plug	self	25.00	55 fuel	12	.....	4 whl	yes	yes	
37	10-20	kerosene	2	mould'd	300	300	heavy loam	rolling	discing, stubble and summer-fallow plowing, breaking, hauling granaries	16 horses 2 men	tractor	tractor	210	little trouble with magneto	self	10.00	18 fuel 2 oil	12	.....	3 whl	no	yes	
38	10-20	kerosene	3	mould'd	360	350	clay	level	discing, plowing, breaking, discing, cultivating, threshing and hauling	10 horses 1 man	tractor	tractor	180	.....	self	5.00	18 fuel 1 1/2 oil	12	10	240	1 whl	not much	yes
39	12-20	kerosene	3	mould'd	625	625	black loam clay subsoil	rolling	plowing, threshing, crushing, moving granaries, cutting feed and sawing wood	7 horses 1 man	tractor	tractor	...	.....	self	...	18 fuel 1 oil	10	.....	3 whl	not much	yes	
40	14-28	kerosene	5	mould'd	500	600	clay with some stone	rolling	plowing	10 horses 2 men	horses	tractor	40 to 50	.....	engineer	.....	28 fuel 3 oil	14	.....	320	4 whl	no	yes
41	10-20	kerosene	2	mould'd	260	all	heavy loam	rolling	breaking, discing and hauling	8 horses 2 men	tractor	tractor	180	.....	self	15.00	15 fuel 1 1/2 oil	12	.....	100	1 whl	no	yes
42	10-20	kerosene	3	mould'd	1040	1080	loam	level	seedling, breaking, summer-fallow, discing, hauling grain	12 horses 2 men	tractor	tractor	210	very little	hired help	.....	20 fuel 2 oil	12	.....	320	4 whl	no	yes
43	10-20	coal oil	2	mould'd	270	400	black loam	rolling	breaking, moving portable granaries	4 horses 1 man	tractor	tractor	...	difficult to get repairs	self	.....	16 fuel 2 oil	10	.....	100	.....	no	yes
44	15-30	kerosene	4	mould'd	500	500	loam	level	discing, plowing and threshing	.....	tractor	tractor	200	Wearing out too fast	self	.....	45 fuel 5 oil	12	5	320	after-tallor	yes	no
45	10-20	kerosene	3	mould'd	240	500	clay and rocky	hilly	breaking summerfallow and threshing	1 man 2 horses	tractor	tractor	...	.....	son	high	15 fuel 2 oil	10	10	640	4 whl	yes	yes
46	25-50	gasoline	5	mould'd	1200	.....	clay	level	breaking, plowing stubble and discing, also moving granaries	.....	tractor	tractor	75	broken crankshaft and platinum points burning out	self	150.00	40 fuel 3 oil	11	.....	.....	yes	yes	
47	10-20	kerosene	3	mould'd	300	250	sandy loam	level	fall plowing	.....	.....	.....	.....	.....	sons	.....	.....	.....	.....	.....	caterpillar	no	yes
48	30-60	gasoline	6	disc	960	960	clay	rolling	breaking summerfallow, discing, seeding and threshing	25 horses 5 men	tractor	tractor	125	weak transmission frame	help	75.00	50 fuel 3 oil	11	.....	320	4 whl	not much	yes
49	10-20	kerosene	2	mould'd	350	.....	sandy loam	rolling	plowing, threshing, discing, harrowing and seeding	4 horses	both	.....	75	.....	self	.....	18 fuel 1 oil	10	.....	320	4 whl	no	yes
50	9-18	kerosene	3	mould'd	200	125	loam	rolling	threshing and plowing	1 man 6 horses	tractor	tractor	210	.....	self	5.00	12 fuel	10	5	200	4 whl	no	yes
51	15-30	kerosene	4	mould'd	400	300	sandy loam	rolling	plowing and threshing	1 man 10 horses	.....	.....	.....	.....	self	.....	.....	10	.....	.....	.....	yes	
52	10-20	kerosene	3	mould'd	630	all	loam with some stones	rolling	moving portable granaries, plowing, harrowing	8 horses	tractor	tractor	210	magneto	self	.....	15 fuel 3 oil	10	.....	.....	1 whl	yes	yes
53	15-30	gasoline and kerosene	3	mould'd	555	all	loam with some clay	level	plowing, threshing, cutting feed, sawing wood, grinding, discing	1 man 8 horses	horses	tractor	60	magneto	son	135.00	18 fuel 2 oil	10	.....	450	4 whl	no	yes
54	11-22	kerosene	3	mould'd	300	all	loam	rolling	plowing, cultivating, crushing grain, sawing wood	1 man 4 horses	both	horses	90	platon rods	engineer	.....	15 fuel 1 1/2 oil	10	.....	290	4 whl	no	yes
55	9-18	gasoline	3	mould'd	210	210	loam	level	plowing, harrowing, seeding, cultivating	none	horses	tractor	...	carbonizing valves, etc.	.....	.....	10 fuel 1 oil	10	.....	240	2 whl	no	no
56	10-20	kerosene	3	mould'd	500	700	clay loam	rolling	plowing, discing, threshing, harrowing and grinding	6 horses 1 man	tractor	tractor	75	.....	self	.....	16 fuel 1 oil	10	.....	.....	4 whl	no	yes
57	10-20	kerosene	3	mould'd	135	all	loam	level	stubble plowing, breaking, threshing, crushing and sawing	none	tractor	tractor	...	.....	.....	.....	20 fuel 1 1/2 oil	10	10	200	4 whl	no	yes
58	10-20	kerosene	3	mould'd	350	300	heavy clay	hilly	plowing, threshing, crushing, hauling, etc.	4 horses 1 man	tractor	tractor	90	oil pump	self	40.00	20 fuel 1 1/2 oil	10	.....	320	4 whl	one furrow	yes
59	10-20	kerosene	3	mould'd	200	200	clay loam rocky	rolling	plowing, discing and moving buildings	2 horses 1 man	tractor	tractor	50	grit suks into cylinders	self	5.00	18 fuel 1 oil	10	12	200	4 whl	no	yes
60	15-30	kerosene	4	mould'd	275	all	clay soil	level	plowing	12 horses 2 men	tractor	tractor	...	.....	.....	.....	30 fuel 4 oil	12	.....	300	4 whl	no	yes
61	15-30	gasoline	.....	.....	325	all	clay loam	rolling	threshing	none	tractor	tractor	20	.....	self	.....	.....	.....	.....	.....	not much	yes	
62	10-20	kerosene	3	mould'd	650	all	heavy black loam	level	plowing, cultivating, breaking harrowing, crushing, sawing, and hauling buildings	.....	tractor	tractor	150	very little	self	.....	20 fuel 1 1/2 oil	12	.....	320	4 whl	no	yes
63	12-25	gasoline	2	mould'd	420	all	heavy clay	rolling	plowing, discing, threshing, and grinding grain	2 horses 1 man	tractor	tractor	80	.....	self	15.00	22 fuel 2 oil	10	7	640	4 whl	not much	yes
64	10-20	kerosene	3	mould'd	300	200	black loam	rolling	plowing, harrowing, threshing, moving buildings	6 horses 1 man	tractor	tractor	...	starting when cold	self	6.00	18 fuel 1 1/2 oil	12	.....	320	4 whl	no	yes
65	10-20	gasoline	.....	.....	300	all	chocolate loam, few rocks	level	threshing and crushing grain	none	horses	horses	...	.....	self	.....	20 fuel	.....	.....	.....	.....	.....
66	15-30	coal oil	4	mould'd	300	all	heavy clay loam	level	plowing, seedling, threshing and hauling	12 horses 3 men	tractor	tractor	...	.....	self	.....	20 fuel	12	.....	160	4 whl	no	yes
67	12-20	kerosene	3	mould'd	200	300	clay loam and some stone	rolling	breaking, plowing stubble, discing, drawing water and pulling stones	12 horses 1 man	tractor	tractor	100	.....	self	40.00	30 fuel 2 oil	18	5	480	4 whl	no	no
68	13-30	kerosene	3	mould'd	320	635	clay loam	level	plowing, discing and harrowing	8 horses 1 man	tractor	tractor	30	keeping connecting rods from knocking	self	40.00	18 fuel 1 1/2 oil	10	10	320	4 whl	not much	yes
69	10-2	kerosene	3	mould'd	325	all	loam	rolling	scrub breaking, plowing, threshing, hauling, grinding feed	6 horses	both	tractor	150	.....	self	.....	15 fuel 2 oil	10	.....	320	4 whl	no	yes
70	15-30	gasoline	6	mould'd	450	400	chocolate loam very rocky	rolling	plowing, breaking and threshing	12 horses 1 man	tractor	tractor	60	.....	engineer	100.00	30 fuel 3 oil	12	.....	320	4 whl	no	yes
71	10-20	kerosene	3	mould'd	300	all	clay loam	level	plowing, breaking, discing and threshing	4 horses 1 man	tractor	tractor	...	spark plug trouble	self	50.00	20 fuel 2 oil	10	.....	320	4 whl	no	yes
72	10-20	coal oil	3	mould'd	550	all	chocolate loam	rolling	plowing, breaking, summer-fallowing, hauling buildings and granaries	10 horses	tractor	tractor	...	.....	self	.....	20 fuel 1 1/2 oil	10	.....	320	4 whl	no	yes
73	12-25	kerosene	3	mould'd	200	200	clay loam	rolling	breaking, discing and plowing	6 horses	horses	horses	40	spark plug trouble	self	200.00	.....	10	5	320	.....	yes	no
74	10-20	coal oil	2	mould'd	300	640	loam	rolling	plowing and discing	10 horses 2 men	tractor	tractor	125	.....	self	.....	15 fuel 3/4 oil	10	.....	640	3 whl	no	yes

PLANT THIS GOOD SEED

EPICURE POTATO



EPICURE

EARLY SECOND-EARLY—Good form, color very light tint of rose, flesh white, robust grower, big cropper, superb quality.

We consider the Epicure Potato to be one of the best varieties we have ever offered to our customers.

We have tested it for several years in the West, and it has proven to be eminently suited to our seasons and soils. We have not had a crop failure in this variety.

The vines are erect, robust and vigorous in growth with white flower. It is a remarkably heavy, reliable yielder and very profitable to grow as a main crop. The tubers are even in size and of good form, the flesh white and of the finest flavor imaginable—in fact, Epicure is almost in a class by itself when quality is considered.

Epicure is an absolutely distinct beautiful appearing Potato of fine texture and will satisfy every grower.

LOT A—"LION" BRAND, selected with the utmost care—practically every tuber perfect—will delight everyone who knows and appreciates a good Potato. Price, bushel \$3.00; 5 bushels \$14.50; 10 lbs. 80c, bags included.

SPRING RYE—It Never Fails

Always sure for pasture or hay. The surest crop known for light and thin soils. May be sown early or late. Matures earlier than barley or any other crop. It makes early and good hay, or it may be matured for grain. Yields well.

GROW SPRING RYE

You will always have something, even in driest seasons, when other crops fail. Price per bushel, \$2.30; bags extra at 50 cents each.

OATS

The wise farmer wants seed of strong vitality—he wants a test of 90 per cent, or over, in six days. Our stocks are all of this class. They start quick and grow even and strong. Worth more than the difference in cost.

LOT E—REGENERATED BANNER—Specially grown, very fine sample, reseeded over our own mills pure and free from all noxious weeds. Our germination test gave 94 per cent in six days. Price, three bushels, \$4.75; 25 bushels, \$38.75; 100 bushels at \$1.50 per bushel. Bags extra at 30 cents each.

LOT A—AMERICAN BANNER REGISTERED, per bag of 100 pounds, \$3.25, bag included.

LOT B—AMERICAN BANNER, grown from Registered Seed. Per bushel, \$1.80; 24 bushels, \$42.00; 100 bushels at \$1.70 per bushel, bags included.

LEADER OATS—Lately introduced as a distinct new variety, and claimed to produce five grains in a spikelet. Appears to be well suited to the West. The grain is of the Banner type. Some good yields have been reported. Price, 1 bushel \$2.00. Bags included.

FLAX

Our stocks are characterized by Purity, Freedom from Weeds and Strong Vitality.

SELECTED COMMON. Price one bushel, \$4.35; ten bushels at \$4.25.

WILT-RESISTANT No. 52. Price, one bushel, \$5.00; ten bushels and over, at \$4.90.

PREMOST FLAX PEDIGREE No. 25. Price, one bushel, \$4.75; ten bushels and over, at \$4.65. Bags extra at 65 cents each.

FODDER CORN

Our northerly-grown stocks are the best for this country. Germination from 90 per cent to 98 per cent in six days.

NORTHWESTERN DENT, per bushel, \$4.00; 5 bushels, \$19.50.

MINNESOTA 13 DENT, per bushel, \$4.00; 5 bushels, \$19.50.

EARLY DENT, per bushel, \$3.50; 5 bushels, \$17.00. Bags extra at 65 cents each.



PHOTO OF GOOD CROP OF FODDER CORN

SWEET CLOVER

Rapidly coming to be recognized not only as one of the most extraordinary fertilizing plants in America, but as the most wonderful pasture plant we have.

Stock when pastured upon Sweet Clover make gains which compare very favorably with those obtained from either Alfalfa or Red Clover.

SWEET CLOVER, WHITE BLOSSOM, 10 lbs., \$3.40; 25 lbs., \$8.25; 100 lbs., \$32.00; (1 lb. 60c postpaid.)

SWEET CLOVER, YELLOW BLOSSOM, 10 lbs., \$3.60; 25 lbs., \$8.75; 100 lbs., \$34.00; (1 lb. 60c postpaid.)

Remit extra for Cotton Bags, 65c each.



SPRING RYE

SPELTZ

Sow 1½ to 2 bushels per acre

Early, hardy, good yielder, excellent feed, sure cropper, suitable for all classes of soil. Price: 2 bushels, \$5.20; 10 bushels and over at \$2.50 per bushel. Bags extra at 60c each.

True English Dwarf Essex Rape

Price, 10 pounds, \$2.30; 25 pounds, \$5.25; 100 pounds, \$20.00; bags included.

ALFALFA

GENUINE GRIMM FROM REGISTERED FIELD, 10 lbs., \$6.00; 25 lbs., \$14.75; 100 lbs., \$58.00.

MONTANA—VERY HARDY, 10 lbs., \$3.60; 25 lbs., \$8.75; 100 lbs., \$34.00.

SELECTED COMMON, 10 lbs., \$3.40; 25 lbs., \$8.25; 100 lbs., \$32.00.

Bags extra at 65c each.

MILLET

A short season crop, may be sown up to July.

SIBERIAN, 20 lbs., \$2.00; 100 lbs., \$9.00.

COMMON, 20 lbs., \$1.65; 100 lbs., \$7.50.

JAPANESE (Billion Dollar Grass), 20 lbs., \$2.20; 100 lbs., \$10.00.

HUNGARIAN, 20 lbs., \$1.75; 100 lbs., \$8.00.

HOG, 20 lbs., \$1.80; 100 lbs., \$8.00.

Send in your name for a copy of our 1919 Seed Catalogue
STEELE, BRIGGS SEED CO. Limited **Winnipeg, Man.**

The Grain-Saving Stacker

Has Been Adopted by These Manufacturers of the Standard Threshing Machines of Canada and United States

The manufacturers of North America's standard threshing machines named below are prepared to furnish machines equipped with the Grain-Saving Wind Stacker. Get the facts about this wonderful improvement which saves *one to three per cent more grain*. Full information will be given you by any in this list, many of whom you will recognize as the manufacturers of the best-known tractors and farm implements. Write any of these for descriptive circular.

List of Manufacturers

Canada

- Robt. Bell Engine & Thresher Co., Ltd., Seaforth, Ont.
- Dominion Thresher Co., Ltd., New Hamburg, Ont.
- Ernst Bros., Ltd., Mt. Forest, Ont.
- John Goodison Thresher Co., Ltd., Sarnia, Ont.
- Hergott Bros., Ltd., Mildmay, Ont.
- McDonald Thresher Co., Ltd., Stratford, Ont.
- Sawyer-Massey Co., Ltd., Hamilton, Ont.
- Stewart Sheaf Loader Co., Ltd., Winni-
- Sussex Mfg. Co., Ltd., Sussex, N. B. peg, Man.
- Waterloo Mfg. Company, Ltd., Waterloo, Ont.

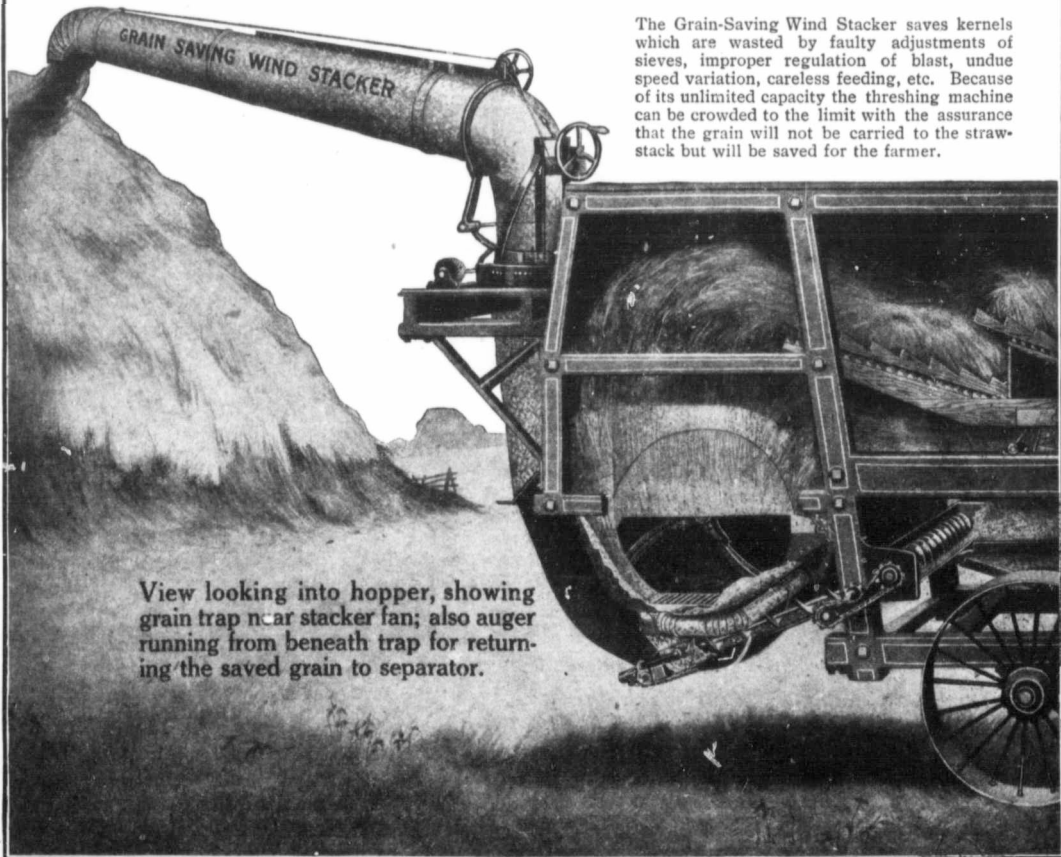
- R. Watt Machine Works, Ridgetown, Ont.
- George White & Sons Co., Ltd., London, Ont.

United States

- Aultman & Taylor Machinery Company, Mansfield, Ohio.
- Avery Company, Peoria, Ill.
- A. D. Baker Company, Swanton, Ohio.
- Banting Manufacturing Co., Toledo, O.
- Batavia Machine Co., Batavia, N. Y.
- Buffalo Pitts Company, Buffalo, N. Y.
- Cape Mfg. Co., Cape Girardeau, Mo.
- J. L. Case Threshing Machine Company, Racine, Wis.
- Clark Machine Co., St. Johnsville, N. Y.
- Ellis-Keystone Agricultural Works, Pottstown, Pa.

- Emerson-Brantingham Co., Rockford, Ill.
- Farmers Independent Thresher Co., Springfield, Ill.
- A. B. Farquhar Co., York, Pa.
- Frick Company, Waynesboro, Pa.
- Harrison Machine Works, Belleville, Ill.
- Huber Mfg. Co., Marion, O.
- Keck-Gonnerman Co., Mt. Vernon, Ind.
- Minneapolis Threshing Machine Co., Hopkins, Minn.
- Port Huron Engine and Thresher Co., Port Huron, Mich.
- The Russell & Company, Massillon, O.
- Russell Wind Stacker Co., Indianapolis, Ind.
- Sawyer-Massey Co., Ltd., (U. S. Agency) Moline, Ill.
- Swayne, Robinson & Co., Richmond, Ind.
- The Westinghouse Co., Schenectady, N. Y.

The Grain-Saving Device Originated with The Indiana Manufacturing Co., Indianapolis, Indiana, Who Also Originated the Wind Stacker



The Grain-Saving Wind Stacker saves kernels which are wasted by faulty adjustments of sieves, improper regulation of blast, undue speed variation, careless feeding, etc. Because of its unlimited capacity the threshing machine can be crowded to the limit with the assurance that the grain will not be carried to the straw-stack but will be saved for the farmer.

View looking into hopper, showing grain trap near stacker fan; also auger running from beneath trap for returning the saved grain to separator.

No.	Size of tractor	Kind of fuel used	No. of plows pulled	Kind of plows used	Acre under corn that can be worked with tractor	Type of soil	Character of land	Uses of tractor	No. of horses and men replaced by tractor	Which is more satisfactory	Which is cheaper to maintain	No. of days in year tractor is kept busy	Troubles	Who operates the tractor	Amount of repair bill per year	Amount gallons fuel and lubricating oil used per day	Length in hours of working day	Average life in years of tractor	Size in w. of farm by which tractor profitable	Is it wheel or caterpillar best	Does tractor pack soil	Is tractor economical investment
160	11-22	kerosene			800	800	black loam	rolling	threshing	none				hired help				320	4			yes
161	20-40	kerosene	5	mould'd	435	800	heavy loam	rolling	plowing, discing and threshing	25 horses 5 men	tractor	tractor	100	self		40 fuel 4 oil	12	8	800	4 whl	not much	yes
162	8-16	kerosene	3	mould'd	240	all	mixed	rolling	plowing and discing	5 horses 2 men	tractor	tractor	45	self	15 00	16 fuel 4 oil	12		100	4 whl	yes	yes
163	15-30	kerosene	5	mould'd	1300	1300	loam	rolling		4 horses 1 man	tractor	tractor	190	self	200 00	35 fuel 2 oil				4 whl	no	no
164	12-20	gasoline	3	mould'd	260	260	clay loam	rolling	plowing, threshing, discing, harrowing	6 horses 1 man	tractor	about even	105	self	100 00	25 fuel 1 oil	10		160	caterpillar		yes
165	12-24	coal oil	3	mould'd	320	all	clay loam	level	threshing, hauling granaries, sawing wood	horses	horses	60	self		24 fuel 1 1/2 oil	6	6	640	4 whl	no	yes	
166	10-20	kerosene	3	mould'd	320		sandy	level	plowing and threshing	8 horses 2 men	tractor	tractor	45	self		15 fuel 1 oil	10		100	4 whl	no	yes
167	10-20	kerosene	3	mould'd	325	all	clay loam	rolling	breaking, plowing and threshing	horses	tractor	tractor	60	self		20 fuel 1 oil	10		300	3 whl	no	yes
168	10-20	kerosene	3	mould'd	850	800	clay loam	rolling	threshing, plowing, hauling and crushing	12 horses 1 man	tractor		100	self	20 00	17 fuel 2 oil	15		060	4 whl	no	yes
169	15-30	coal oil	5		350	all	loam with rocks	rolling	threshing		need both			self								yes
170	30-60	kerosene	8	mould'd	750	all	clay loam	rolling	plowing, threshing, cultivating, crushing, grading and moving buildings		need both		100	self		46 fuel 3 oil	10	10	320	4 whl	not much	yes
171	18-35	kerosene	6	mould'd	620	80	sandy loam	hilly	breaking and threshing	7 horses	tractor	tractor		self	40 00	28 fuel 1 1/2 oil	11		320	4 whl	not much	yes
172	10-20	kerosene	3	mould'd	210	210	black loam	level	plowing, packing and harrowing, hauling and threshing	4 horses	tractor	tractor	60	self	52 00	26 fuel 4 oil	12		320		not much	yes
173	16-36	coal oil	4	mould'd	250	1200	sandy loam	level	plowing and threshing	12 horses 4 men	tractor	tractor	75	self		30 fuel 2 oil	12	5	320	4 whl	no	yes
174	20-40	gasoline	5	mould'd	620	all	loam	rolling	breaking, threshing, grinding and discing	none	need both	horse	100	self	50 00	40 fuel 2 oil	12		320	4 whl	a little	yes
175	10-20	kerosene	3	mould'd	250	560	loam scrubby	level	plowing, harrowing, threshing pulling brush cutter, cutting wood	none	tractor	tractor	90	self		20 fuel 1 1/2 oil	14		320	4 whl	no	
176	10-20	kerosene	3	mould'd	250	400	loam and gambo	rolling	breaking and plowing	8 horses 1 man	tractor	tractor	90	self	3 00	13 fuel 1 oil	10		320	4 whl	no	yes
177	10-20	kerosene	3	mould'd	550	all	black loam	level	plowing and drawing binders	9 horses	tractor	tractor	100	self		22 fuel 1 1/2 oil	9		320	4 whl	very little	yes
178	15-30	kerosene	4	mould'd	380	300	loam	rolling	threshing, plowing, hauling granaries	6 horses	need both	little dil.	60	self		30 fuel 1 1/2 oil	10	12	320	4 whl	very little	yes
179	20-40	kerosene	6	mould'd	515	490	clay loam	rolling	plowing and threshing	4 men 8 horses	tractor	tractor		self		30 fuel 2 oil	10		4 whl		no	yes
180	12-20	kerosene	3	mould'd	400	all	clay loam	level	threshing and plowing	8 horses 2 men	tractor	tractor	60	self		15 fuel	10		320	4 whl	no	yes
181	10-20	kerosene	3	mould'd	130	all	clay	rolling	breaking, plowing, floating, discing, harrowing and grading	12 horses	tractor	tractor	90	self	5 00	10 fuel 1 1/2 oil	12		160	4 whl	very little	yes
182	12-24	kerosene	4	disc	600	500	heavy clay	rolling	plowing, threshing	10 horses 2 men	tractor	tractor	70	son	3 00	16 fuel 1 1/2 oil	10		640	4 whl	no	yes
183	12-20	gasoline	4	disc	960	960	loam	level	plowing, discing, harrowing, moving granaries and grinding feed	4 horses 1 man	tractor	tractor	75	self		16 fuel 3/4 oil	10		320	4 whl	no	yes
184	9-18	kerosene	3	mould'd	275		heavy clay	level	breaking, plowing, crushing and wood sawing	4 horses 1 man	tractor			self		12 fuel 1 oil	12		320	4 whl	no	yes
185	10-20	kerosene	2	mould'd	100	160	light loam	rolling	breaking, discing, seeding, threshing		tractor	tractor		self		15 fuel 1 oil	8	5	160	4 whl	yes	no
186	10-20	kerosene	3	mould'd	1100	all	clay loam	rolling	plowing, discing, grinding and road grading	none	horses	horses	100	self		24 fuel	12	7		caterpillar	packs 1 furrow	yes
187	15-30	kerosene	3	mould'd	550	all	clay	rolling	plowing, discing, dragging and floating		need both	tractor	90	self		20 fuel 2 1/2 oil	10		320	4 whl	no	yes
188	10-20	kerosene	3	mould'd	350	300	black loam	level	plowing, threshing, sawing wood, moving granaries	4 horses	tractor			self		20 fuel 2 oil	12		320		very little	yes
189	10-20	kerosene	4	mould'd	430	all	clay loam	level	plowing, cultivating, hauling binder and threshing	8 horses 2 men	tractor	tractor	90	self		20 fuel 2 oil	10		320	4 whl	no	yes
190	10-20	kerosene	3	mould'd	120	220	clay	level	plowing, cultivating and pulling	7 horses 1 man	tractor	tractor	90	self		14 fuel 1 oil	10		160	4 whl	no	yes
191	15-30	kerosene	5	mould'd	250	250	loam	rolling	plowing, threshing, sawing wood, crushing grain	4 horses	tractor	tractor	50	self		25 fuel 2 oil	10		320	4 whl	no	yes
192	10-20	kerosene	3	mould'd	450	all	black heavy loam	level	cultivating, discing, harrowing and plowing	8 horses 2 men	tractor	tractor	90	self		18 fuel 1 1/2 oil	10		320	4 whl	not much	yes
193	10-20	kerosene	3	mould'd	120		clay and loam	level	breaking, plowing, discing and threshing	6 horses 2 men	tractor	tractor	50	son		20 fuel 2 oil	8		200	4 whl	not much	yes
194	10-20	kerosene	3	mould'd	200		rocky loam	level	breaking, discing, hauling two binders and threshing	8 horses 1 man	tractor	tractor		engineer	6 00	16 fuel 1 1/2 oil	12		80	4 whl	not much	yes
195	10-20	kerosene	3	mould'd	400	200	clay loam	rolling	breaking, plowing and threshing	none	tractor	horse	50	engineer	10 00	20 fuel 4 oil	10	10		4 whl	no	no
196	15-30	kerosene	4	mould'd	400		sandy	level	plowing, discing, breaking, brushing, threshing, road grading	8 horses 2 men	tractor		210	self	10 00	20 fuel 2 oil	15		320	4 whl	no	yes
197	10-18	kerosene	2	mould'd	60	125	sandy loam	hilly	plowing and threshing	4 horses	horse	horse		self		10 fuel 1 oil	10	8	320	4 whl	not much	no
198	10-20	kerosene	3	mould'd	325	all	loam	rolling	breaking, plowing, discing and threshing	8 horses 2 men	tractor	tractor	40	self	10 00	18 fuel 1 1/2 oil	10		320	4 whl	no	yes
199	10-20	kerosene			300	300	black loam	rolling	threshing	none	horse		20	son					160	4 whl	no	yes
200	10-20	kerosene	3	mould'd	600	all	sandy to clay	level	plowing and grinding	none				son					320		not much	
201	10-20	kerosene	3	mould'd	200	195	clay and loam	level	plowing and discing	10 horses 2 men	tractor	tractor	120	self		20 fuel 2 oil	12	5	200	4 whl	no	

Sawyer-Massey Farm Tractors

(CANADIAN BUILT)

Kerosene-Burning Tractors

For 1919 the Sawyer-Massey line will include the following size Kerosene-Burning Tractors: 11-22, 17-34, 20-40 and 25-50. These are standardized tractors of the same general appearance and design. All have four-cylinder kerosene-burning motors, four road wheels with traction drive to both rear wheels, two speeds forward and two reverse, spring mounted radiators with brass tubes, high tension ignition with impulse starter, no batteries. One of the most important features in connection with these Tractors is the almost total absence of vibration. Being four-cylinder, they have practically no more vibration than an automobile, are easy to start, and easy to look after and care for.



Rear-Mounted Steam Tractors

Big, powerful, heavy-duty engines, mounted on Alberta High Pressure Boilers, carrying 175 lbs. pressure, in two sizes, 22-68 and 25-76 horse power. Regular equipment includes jacketed Boiler, Straw-Burning Attachment, Rocker Grates, Duplex Steam Pump, Balanced Valve, Water Columns both side and rear, large Peep Hole at side of boiler for cleaning off ends of flues when burning straw. These engines have exceptionally strong, wide-faced gearing, over-size shafting, cannon bearings, wide, heavy-duty road wheels, semi-enclosed gearing. If you are interested in Steam Power for plowing or threshing, the accomplishing of an immense amount of heavy work at low cost in a short time, fill out the coupon below.

We manufacture Grain Threshers in size ranging from 22-inch to 40-inch cylinders and the only Combination Threshing Outfit sold which has a four-cylinder kerosene-burning motor and six wheels.

Fill out the coupon below for free literature or talk with our Local Agent in your town. Remember, in dealing with Sawyer-Massey Company, Limited, you are doing business with a strictly Canadian firm, established in 1836, and who have earned an enviable reputation for building honest, serviceable goods, and for dealing fairly and squarely with their customers.

Sawyer-Massey Co., Limited

Head Office and Factory, HAMILTON, ONT.

Branch Offices and Warehouses:

WINNIPEG REGINA SASKATOON CALGARY



Read This Letter From An Owner

Canora, Sask., December 7th, 1918.

Sawyer-Massey Co., Ltd.,
Regina, Sask.

Dear Sirs:—Please accept a few words from me regarding your 11-22 Tractor and 22-36 Separator, purchased in 1917.

During the summer time my 11-22 Tractor, that I call my little Jack, was doing good work without any trouble. He drew three 14-inch plows in the stubble field and two 14-inch in the breaking very easily. I plow one acre an hour in the stubble and one-half acre in the breaking. I broke 100 acres in three weeks, using eight barrels of kerosene, five gallons of gas, and one-half barrel of oil and twenty pounds of hard oil. Total cost of \$125.00. Is that cheap?

I threshed seventeen days this fall, lost no time. The farmers are very satisfied with the work done. I threshed 22,000 bus. of oats, and in that seventeen days I threshed 45 hours of wheat.

Yours very truly,
JOHN SHABITS,
Box 191,
CANORA, Sask.

Request for Free Information Coupon (Mail to nearest Sawyer-Massey Branch).

Kindly place my name on your mailing list to receive free 1919 Literature, covering the Machinery which I have marked with an X below.

- 11-22 Kerosene Burning Tractors.
- 17-34 Kerosene Burning Tractors.
- 20-40 and 25-50 Kerosene Burning Tractors.
- Steam Engines.
- Individual Threshers.
- Large Custom Threshers.
- Combination Threshers.
- Road Machinery.

Name

Address

Date

No.	Size of tractor	Kind of fuel used	No. of plows pulled	Kind of plows used	Acres under cultivation	Acres that can be worked with tractor	Type of soil	Character of land	Uses of tractor	No. of horses and men replaced by tractor	Which is more satisfactory	Which is cheaper to maintain	No. of days in year tractor is kept busy	Troubles	Who operates the tractor?	Amount of repair bill per year	Amount gallons fuel and lubricating oil used per day	Length in hours of working day	Average life in years	Size in no. of farm horses, tractor, profitable 2, 3, 4 wheel or caterpillar best	Does tractor pack soil	Is tractor successful investment
202	10-20	kerosene	3	mould'b'd	375	375	loam	rolling		8 horses 2 men	tractor	tractor	120		self	15 fuel 1 oil	12		320	4 whl	no	yes
203	10-20	kerosene			200		loam	level	threshing	4 horses 2 men	tractor	tractor	200	valve no good	self	29 fuel 2 oil			200	4 whl	no	yes
204	10-20	kerosene	3	mould'b'd	250	400	mixed	level	plowing, crushing and pulling young trees	8 horses 1 man	tractor			spark plug	self	5.00 20 fuel 1 oil	12		200	4 whl	no	yes
205	10-20	kerosene	3	mould'b'd	85	85	sandy loam	rolling		6 horses	tractor	tractor	90		self	16 fuel 1 1/2 oil	9		160	4 whl	no	
206	20-40	kerosene	6	mould'b'd	900	850	sandy loam	rolling	threshing, plowing, road grading, grinding and moving buildings	15 horses 3 men	tractor	tractor	70		self	25.00 30 fuel 2 oil	11	10	320	4 whl	no	yes
207	10-30	kerosene	3	mould'b'd	470	350	loam and gumbo	level	plowing, threshing, pulling buildings and cutting wood	6 horses 1 man	tractor	tractor	50	valves not timed right	self	6.00 40 fuel 1 1/2 oil	10		250	4 whl	a little	yes
208	15-30	kerosene	2	mould'b'd	510	650	heavy gumbo	rolling	plowing, disking		tractor	tractor			self	35.00 20 fuel 2 oil	10	10	320	4 whl	a little	yes
209	10-20	kerosene	2	mould'b'd	700	700	loam	rolling	plowing, disking, harrowing, threshing and grinding	10 horses 1 man	tractor	tractor	160		self	3.00 19 fuel 1 1/2 oil	12		320	4 whl	no	yes
210	12-25	gasoline	3	mould'b'd	780	780	clay	level	plowing, disking, threshing and chopping feed	8 horses 1 man	tractor	tractor	90		self	25.00 23 fuel 3 oil	10		320	caterpillar	yes	yes
211	10-20	kerosene	3	mould'b'd	250	320	loam	rolling	plowing, breaking, pulling stumps, disking and threshing	8 horses 2 men	tractor	tractor	210		son	18 fuel 1 1/2 oil	12			4 whl	no	yes
212	10-20	kerosene	2	mould'b'd	100	280	gumbo	rolling	plowing, disking and hauling	10 horses 1 man	tractor	tractor	180		engineer	30.00			320	4 whl	no	yes
213	10-20	kerosene	3	mould'b'd	160	350	gumbo	level	plowing, disking, pulling brush, threshing	12 horses 2 men	tractor	tractor	90		engineer	50.00 18 fuel 1 1/2 oil	12				no	yes

TRACTOR RATINGS

Continued from page 7

charted according to the different kinds of soils. A 14-in. plow may require a pull of 200 or 1600 pounds, depending upon the soil conditions. Plowing matches are held at many different places

and they offer an opportunity for testing the pull required by the plows. County agents could take the question into account in their rural survey work; it can be done. Then we would know when a man writes in from a certain district that since the average drawbar pull in breaking in that district is 700 pounds that he could with any 10 D.B.H.P. tractor in the list above except the first handle 2 14-in. plows with reasonable hope of success. There certainly would be fewer misses than we have under the present system.

The remarks of a recent writer on the tractor situation in the United States are very good. "There is no such thing as a best tractor any more than there is the best breed of hogs, or the best breed of cattle or the best breed of dogs. The reason is perfectly obvious when one stops to ponder. If there were such things as a standard soil, a standard climate, a standard topography, and a standard type of operator, then we might be able to develop a standard best kind of tractor. Moreover, one man takes a certain make of machine and does well. He is pleased with his results. Another man buys exactly the same make of machine, works it on a similar farm and makes a flat failure. Where should the blame or credit be applied to the man or to the machine. In the case of failure we may blame the machine, but if we do then we should also credit the success to the machine. Obviously, however, both the success and the failure were due to a combination of man and tractor. One may take his choice, but the evidence piles up that

some men never fit into a machine combination."

In conclusion, let us say that the scrub tractor should follow the scrub bull or the scrub stallion out of the country. They have been tested and turned down by an examining board because they did not come up to the approved standard. Therefore, let us have all makes that are offered for sale tested and approved.

Let us buy from reliable companies who are in a position to render expert and repair services and whose tractors have proved their ability to do what is claimed for them. We look forward to such a step being taken as we have outlined, and feel sure that it would be a long step in the right direction. It would be the means of avoiding many disputes, and there would be more satisfied owners, although we have a large number at the present time. Plowing is "the peak load in our agricultural work," and we need good machinery to carry this load.

Mike got a job moving some kegs of powder, and, to the alarm of his foreman, was discovered smoking at his work.

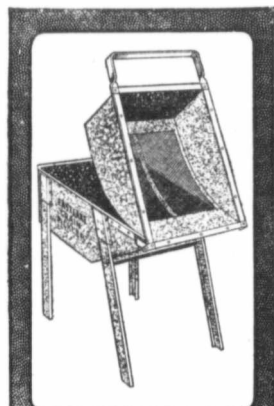
"Je-ru-salem!" exclaimed the foreman. "Do you know what happened when a man smoked at his job some years ago? There was an explosion that blew up a dozen men."

"That couldn't happen here," returned Mike calmly.

"Why not?"

"'Cause there's only you and me," was the reply.

Love him and keep him for thy friend, who, when all go away, will not forsake thee, nor suffer thee to perish at the last.—Thomas A. Kempis.



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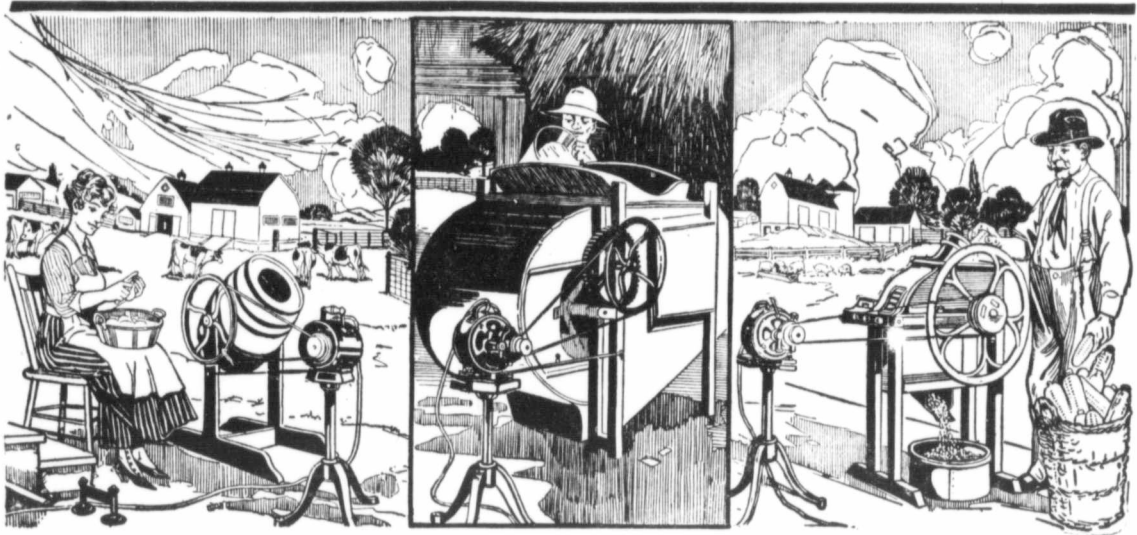
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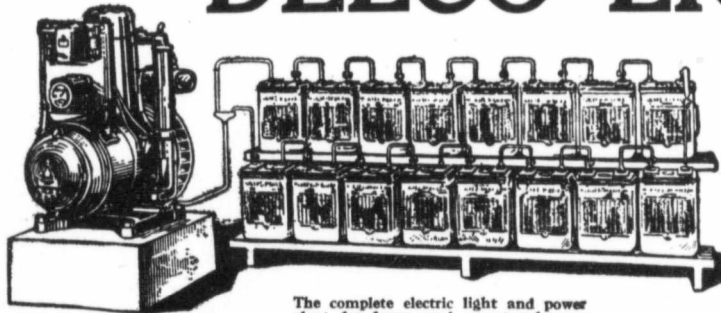
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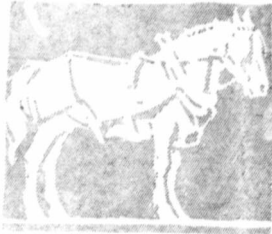
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The complete electric light and power plant for farms and country homes.

Bruce L. Robinson, Calgary
Breen Motor Co., Winnipeg



Tractor for Deep Plowing

Neither Flies Nor Weather Reduce Efficiency

TWO 1,500-pound horses can pull a 14-inch plow turning a furrow five inches deep.

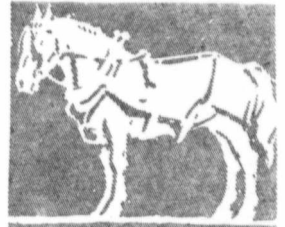
The actual draft of the plow is about 310 pounds when plowing five inches deep.

One-tenth of his weight is about all the horse can pull at steady work.

FIVE 1,400-pound horses will be required to pull a 14-inch plow eight inches deep.

The actual draft of the plow turning a furrow eight inches deep is 700 pounds.

Lack of power is principal reason for not plowing early and deep.



THE question of whether the tractor or the horse is the most economical is much discussed. It is a question where you can take figures and statistics and prove either side of the question. The problem is too broad and covers too many different conditions and types of farming to be answered in a general way. It must be left entirely for each individual farmer to decide for himself. He is the best judge as to whether or not his farm and surrounding conditions will insure the practicability of a tractor or not.

The one thing that is evident is that the average farm is underpowered. It has been shown by careful tests that it requires approximately 310 pounds pull to draw a 14-inch plow five inches deep. The normal working pull for a horse is about one-tenth his weight. It would thus take a team weighing about 3,000 pounds to draw a 14-inch plow five inches deep. To increase the depth to eight inches requires a pull of 700 pounds. This would take five horses weighing 1,400 pounds each. Of course, a horse can pull for a short time an amount equal to about one-half his weight, but he cannot stand up all day long and pull more than about one-tenth of his weight. The figures given are for average soil. The draft may vary all the way from three pounds per square inch of the cross section of the furrow in sandy soil, to twenty pounds in gumbo. To till the land as it should be tilled requires power, and plenty of it. And there are times during the year when extra power is necessary to carry the "peak load." How to supply this extra power most economically and under unfavorable as well as favorable conditions, is the question that confronts every farmer. Horses, no doubt, are thoroughly dependable for furnishing power for the "peak load" provided there are enough of them. But are they the most economical when it is necessary to keep several extra horses a whole year just for the rush season, or

in other words to carry the "peak load"?

In figuring the cost of keeping horses a good many things must be taken into consideration besides the cost of feed. The feed bill is the large bill, but by no means the only bill. There are other items such as the interest on the money invested in the horse, veterinary bills, depreciation, shelter, harness, shoeing, labor necessary to take care of the horse. For instance, according to government investigations the time required to take care of one horse for one year amounts to 170 hours. This includes the time spent in feeding, grooming, harnessing, hitching up and unhitching, cleaning out the barns and hauling out the manure.

In figuring the cost of keeping horses one of the items of interest is that it requires considerable land to raise the feed necessary. It is estimated that the average farm in the United States contains 138.11 acres, of which 75.3 acres is improved land. Twenty acres of this land is necessary to furnish the feed for the four horses, which is the average number kept on the average farm. This feed, no doubt, could be fed to other live stock which would return better profits, providing the power needed could be supplied more economically in some other way.

The question then arises, is the tractor the best means for supplying the extra power necessary for carrying the "peak load"? It

is difficult also to give definite figures on the cost of owning and operating a tractor. The main items of expense to be taken into consideration are: interest on the money invested in the tractor, depreciation, fuel, cylinder oil, and repairs. The tractor may go dead but can be revived by proper treatment, but if the horse goes dead all his efficiency ceases.

The chief advantages of the tractor for farm work, in the opinion of the operators, are (1) its ability to do the heavy work and do it rapidly, thus covering the desired acreage within the proper season; (2) the saving of man labor, and the consequent doing away with some hired help; (3) the ability to plow to a good depth, especially in hot weather.

There is no discounting the statement that better tillage means better crops. Covering the desired acreage within the proper season and the ability to plow at a good depth in hot weather, is of the greatest importance in crop production. This is brought out in a most striking manner by an experiment that is being carried on by Kansas Experiment Station, and which has been running since 1911.

The table given below is the average for a period of five years from 1911 to 1915:

Time of Plowing	Depth of Plowing	Yield
July 15	7 ins.	25.38 bus.
August 15	7 ins.	22.11 bus.
September 15	7 ins.	16.82 bus.
July 15	3 ins.	19.27 bus.

September 15...3 ins. 15.5 bus.
Disked, not plowed 9.18 bus.

The experiment shows for the extremely dry year of 1913 the following:

Time of Plowing	Depth of Plowing	Yield
July 15	7 ins.	34.95 bus.
August 15	7 ins.	28.80 bus.
September 15	7 ins.	17.55 bus.
July 15	3 ins.	21.57 bus.
September 15	3 ins.	16.39 bus.
Disked, not plowed		9.39 bus.

This is the best argument for deep plowing and plowing at the right time that can be given. Moisture is not the only important factor in the raising of crops. The liberation of nitrates and other plant food is a decidedly important factor. The table given above for the dry year of 1913 is proof enough for this statement.

Take for example the figures of the first table of plowing 7 ins. deep July 15 and compare with plowing three inches deep Sept. 15. In the first case the average yield for five years was 15.5 bus. an acre. A difference of 9.88 bus. an acre. Suppose you were raising 100 acres of wheat that would bring \$1 a bushel, the difference in dollars and cents would be \$988. You will agree that it pays to plow early and plow deep.

But it is true that conditions sometimes will not permit plowing as early as July 15 and plowing seven inches deep. It may be too hot and dry. The horses could not stand such heavy work as deep plowing would be, after the rush of work with other crops such as corn cultivation, wheat harvesting, and others. Here is where the tractor proves itself useful. It could be run night and day. Neither flies nor heat can reduce its efficiency.

Lack of power is the chief reason for not plowing early and deep on the average farm. This is almost invariably the reason on the farm where the principal crop is wheat. Through proper planning and rearrangement of farm methods, many are using the tractor to supply the power deficiency during the season, of the year when much heavy work must be done.

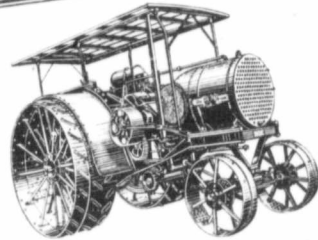
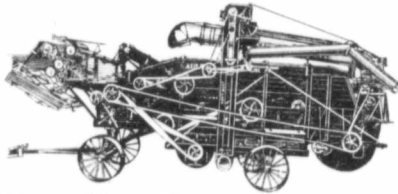


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4 SIZES**

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**In the lead for fifty four years—
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For years—54 in all—Aultman-Taylor has been a leader in the designing and building of high-grade power farming machinery. During all these years, the basic principle of the Aultman-Taylor organization has been to build good power farming machinery BETTER. It was on this principle that Cornelius Aultman and his associates more than half a century ago laid the foundation for a business which has since grown to immense proportions and is to-day a recognized leader in the production of the better kind of power farming machinery.

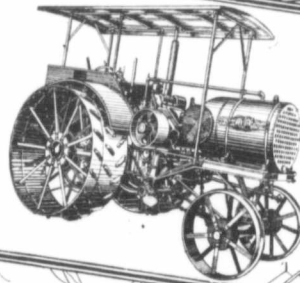
When the demand came for the tractor more than ten years ago, our friends and customers turned to us and said:—"Build us a real tractor. You know what we want. Build it up to the usual Aultman-Taylor standards and it is sure to be a winner." These friends and customers knew from past experience and dealings that if Aultman-Taylor built a tractor, it would out-perform any other just as Aultman-Taylor threshers, steam engines and other power farming machinery have out-classed all others in performance.

It took Aultman-Taylor to build the only really successful large tractor. This tractor set new standards in performance—in design. It was a leader from its very inception and its popularity has grown each succeeding year until to-day it has no competition.

Aultman-Taylor tractors are built in three sizes—all are built up to Aultman-Taylor standards which mean betterments and refinements in construction, which other manufacturers deem unnecessary, but which make Aultman-Taylor tractors BETTER tractors.

Aultman-Taylor New Century Threshers are built in four sizes. These machines differ in size only, there being no variation in the quality. The 23 x 36 size is an ideal thresher for use with the small gas tractor. It is not a "Junior" or a "Baby" thresher, which means a sacrifice in construction.

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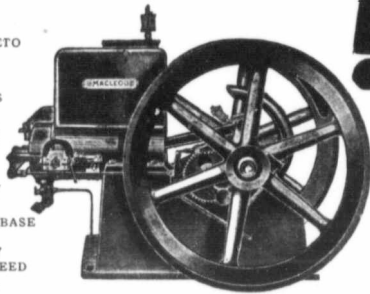
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FOR CLEANING GRAIN—PUMPING WATER—WASHING—CHURNING—SEPARATING—GRINDING—FOR LINE SHAFT, ETC.

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Some Fundamental Principles of Tractor Ignition

THE PRIMARY BATTERY

By C. C. HERMANN

A THOROUGH knowledge of ignition principles is essential to every one who comes in contact with the tractor, whether it is the farmer who operates, the dealer who sells, the demonstrator who demonstrates, or the manufacturer who pro-

duces the machine. Many troubles that are still encountered, notwithstanding modern improvements, arise from the slight knowledge of this important phase of tractor design on the part of the dealer, which in many cases reverts back to the demonstrator and manufacturer.

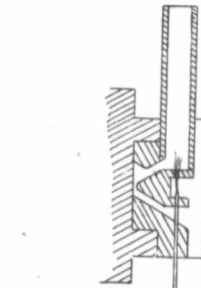


Fig. 1. Naked Flame Ignition

duction of the machine. Many troubles that are still encountered, notwithstanding modern improvements, arise from the slight knowledge of this important phase of tractor design on the part of the dealer, which in many cases reverts back to the demonstrator and manufacturer.

Various means have been employed from time to time, to ignite the charge of combustible mixture within the cylinder of the internal combustion engine. As early as 1860, we are informed by authority, Lenoir brought out his gas engine, in which the charge was ignited by an electric spark when the piston had completed about one-half of its stroke, the

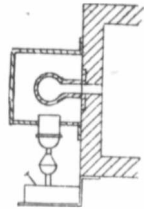
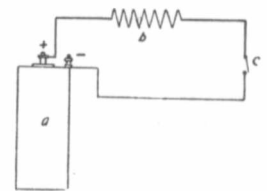


Fig. 3. Hot Bulb Ignition

blown out by the wind. This system of ignition is illustrated in Fig. 1. In these two early designs are seen the forward movement of the principles of using gas as a means of power and a retrogression in the principles of ignition.

From the naked flame method of igniting the charge, practice turned to what was known as a hot tube. This method, shown in



4. Where Current Has Continuous Path a, dry cell; b, coil; c, switch

Fig. 2, consisted in a tube closed at one end and screwed into the cylinder. The tube was kept heated by means of a flame and this ignited the charge. The next system given a trial was the hot ball shown in Fig. 3, which consists in the heating of a round hollow projection on the cylinder head.

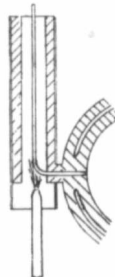


Fig. 2. Hot Tube Ignition Where flame heats a thin tube, which ignites the charge

With the Diesel type of engine was introduced the method of igniting the charge by means of

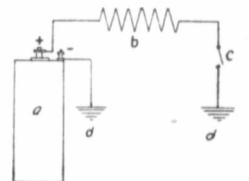


Fig. 5. Illustrating Grounded Circuit a, dry cell; b, coil; c, switch; d, ground

expansion of the burned gases then acting on the piston for the remainder of the stroke. The engine was double-acting and did not compress the mixture. In 1866 Dr. Otto brought out an internal combustion engine that compressed the mixture of gas

and air and ignited the charge under compression by means of a gas jet. Considerable difficulty was experienced with the gas flame by reason of its often being

compression. In this type the mixture was compressed to from 250 to 500 lb. per sq. in., and the fuel ignited under pressure by the

heat generated during compression.

Close regulation of the charge and its ignition was only made possible by returning to and vastly improving the electrical ignition system of earlier times.

In order to appreciate the value of a controlled means of igniting the charge of combustible mix-



Fig. 6. Form of Magnet Used in Magneto. Magnetic Lines of Force Indicated

ture within the cylinder, it may be well to review some of the exacting requirements of an ignition apparatus.

In the first place the heat derived from the burning of the charge, which ranges from 1800 to 3800 deg. Fah., often heats the cylinder walls and piston beyond the point that a homogeneous mixture can be hoped for, despite the fact that circulated water is ever present to carry off the heat. This intense heat has a dissociating effect which tends towards stratification of the mixture.

A second point of consideration is the pressure existing within the cylinder. The mixture is compressed from atmospheric pressure to from 60 to 90 lb. per sq. in., requiring a spark of such intensity that it will ignite the charge in the least possible time. Take for consideration a four-stroke engine running at 900 r.p.m. and using electric spark plug ignition. Such an engine makes one revolution in 1-15 of a second. If the charge is ignited 20 deg. ahead of dead center, 1-18 of a revolution would be allowed to ignite the charge, or 1-270 of a second. This means that the spark must jump the spark gap of the spark plug, ig-

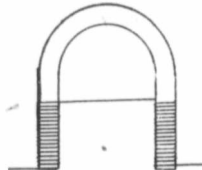


Fig. 7. Simple Form of Electro-Magnet. Typifying General Principle

nite the charge, and burn the gas, all in a very small portion of a second. The after burning must of necessity be of very short duration.

A third consideration is the kind of fuel used in the engine. Gasoline may be used that will

test anywhere from 62 to 70 deg. Baumé. Where a system may readily ignite a gas testing 70, the same system may be called upon to ignite a gas that will test as low as 60 and not get out of commission.

From the foregoing it is apparent that a fat spark or a shower of sparks must be available if any degree of success is to be attained. Since the success of modern ignition is due to the application of the laws of electricity, this phase of the subject will be here dealt with in detail.

Electricity as applied to ignition is known as dynamic electricity or electricity that flows through a substance or over its surface in the form of a current. Dynamic electricity may be divided into two classes, namely, direct current, or an electric current that flows continuously in one direction and alternating current, or an electric current that does not flow continuously in one direction, but alternates many times each second, flowing first in one direction and then in the opposite.

Volt, the Unit of Force

Just as a stone cannot be moved from one place to another without force being applied, neither

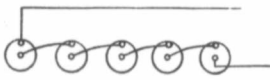


Fig. 8. Cells Connected in Series

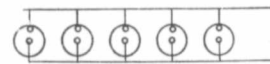


Fig. 9. Cells Connected in Parallel

can electricity be moved from one place to another without some force to do the moving. This force in electrical terms is called electro-motive-force, and the unit of this force is the volt. The volt in turn helps us to define the unit of current or ampere, which is the current flowing over a conductor in one second with an electro-motive-force of one volt, the resistance of the conductor being one ohm.

In order that electricity may move from one place to another, a circuit must be provided. A circuit may be completed by causing its conducting elements to form a path from the source of current back to the same point, or it may be completed by means of a ground. Fig. 4 shows a circuit where the conducting elements form a continuous path for the current, in which *a* is a dry cell, *l* a coil and *c* a switch. When *c* is closed, a current flows presumably from the positive or + terminal of the dry cell over the conductor to the negative or - terminal of the cell. When *c* is open, no current is flowing. Fig. 5 shows a circuit when the re-

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Splendid for pasture. Valuable grain crop. Ripens earlier than Wheat. Makes excellent fodder. Seldom fails even under most adverse conditions.

3218—Spring	Per bushel	
	Brandon	\$2.30
	Calgary	\$2.60
3219—Winter		
	Brandon	2.56
	Calgary	2.70

Prices are for 10-bushel lots. For smaller quantities add 5c per bushel. Bags 50c each.

BARLEY

Sixty-day or Success (Beardless)

	Per bushel	
	Brandon	\$2.05
	Calgary	2.30
	Brandon	1.75
	Calgary	1.95
White Hulless, per 50 lbs.		2.00
Barley, Six Rowed—A good general crop stock. Sacks		
25 cents each	1.60	1.65

Prices are for ten bushels or more. For lesser quantities add 5 cents per bushel.

SPELTZ

	Per bushel	
	Brandon	\$4.50
	Calgary	4.85

FIELD PEAS

	Per bushel	
	Brandon	\$4.50
	Calgary	\$4.90
Golden Vine	5.50	5.65
Canadian Beauty	5.40	5.65
Prussian Blue	5.80	6.15
Black-Eye Marrowfat	5.80	6.15
White Marrowfat	5.80	6.15

Prices quoted are for five bushels or more. For lesser quantities add 10c per bushel. Bags 50c each.

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FLAX

The pioneer crop. Particularly well adapted for new breaking. Pre-eminently THE late-seeding crop; can be seeded up to first week in June. Our stocks are excellent. Cotton bags 50c each.

	Per bushel	
	Brandon	\$4.30
	Calgary	\$4.75
Common or Russian	4.65	5.10

Prices quoted are for ten bushels or more. For lesser quantities add 10c per bushel.

FODDER CORN

	Per bushel	
	Brandon	\$3.40
	Calgary	\$3.95
Leaming Dent	3.90	4.45
Northwest Dent		
Minn. 13 Dent		
Longfellow Flint		
North Dakota Flint		

Prices quoted are for five bushels or more. For lesser quantities add 10c per bushel. Bags 50c each.

SEED OATS

The demand has been heavy. We have stocks ranging in price from \$1.19 to \$3.00 per bus.

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BROME

	Per 100 lbs.	
	Brandon	\$30.00
	Calgary	\$31.00
Brome and Western Rye Grass Mixed	29.00	30.00

WESTERN RYE

	Per 100 lbs.	
	Brandon	\$26.50
	Calgary	\$27.50

TIMOTHY

	Per 100 lbs.	
	Brandon	\$18.00
	Calgary	\$19.00
Gold Standard	15.00	17.00
Gilt Edge		

MILLET

A LEADING FORAGE PLANT

	Per 100 lbs.	
	Brandon	\$7.50
	Calgary	\$8.50
Common. An Excellent Stock. Big Demand	7.50	8.50
Hog. Canser than the Common	9.00	10.00
Golden. Early and of good quality		

Cotton bags 50c each

SWEET CLOVER (White Blossom)

	Per 100 lbs.	
	Brandon	\$35.00
	Calgary	\$36.00
Gold Standard. Excellent quality	31.50	32.50
Gilt Edge		

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Only by sowing sound reliable seeds can a profitable return be expected.

MCKENZIE SEEDS—THEY MUST BE GOOD

have won an enviable reputation for their high germination and generally superior quality of the crops they produce.

IT PAYS TO BUY THE BEST

A. E. MCKENZIE CO. Ltd.

BRANDON, Man. CALGARY, Alta.

The Best Seeds for Farm and Garden

turn is made by way of the ground. When *c* is closed, the current is flowing from the positive terminal of the cell *a* through the coil *b*, switch *c* through the ground *d* to the negative terminal of the cell *a*.

Thus far the electricity referred to pre-supposes a source of current. A glass rod rubbed with a piece of dry silk cloth will attract small bits of paper, and this is a manifestation of electricity. Magnets, either natural or artificial, will attract pins and pieces of steel, and when suspended by a string they will assume one direction, namely, a north and south direction, and resist change. Mag-

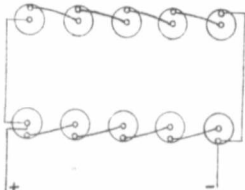


Fig. 10—Series of Connection in Multiple

nets have, therefore, two poles, a north or positive pole and a south or negative pole. Generally magnets are made in the form of a horseshoe, and a small bar called an armature is placed across their poles so that they will retain their strength. It is generally accepted that the direction of the magnetic lines of force are from the north pole of the magnet to the south pole.

Fig. 6 shows the form of magnet usually found in magnetos of ignition systems, with its magnetic lines of force indicated by the dotted lines and their direction indicated by the arrows. As shown in the illustration, the magnetic field is much stronger in the space between the poles than in any other place outside the magnet.

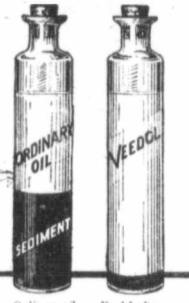
Direct-Current Systems Use Generator

Ignition systems using direct current electricity employ a generator to produce the current. Such generators employ in their design electromagnets. An electromagnet is composed of a soft iron core wrapped around by a wire. As long as current flows in the wire, the core has magnetic qualities. In Fig. 7 is shown a simple form of electro-magnet typifying the principles made use of in direct current generators. In Fig. 7 is a soft iron core bent in the shape of a U, one end being a north pole and the other a south pole. The wire is so coiled about the poles that the current will flow around them in opposite directions.

Primary batteries formed an important part of early ignition systems and are, in some instances, still used. A study, therefore, of tractor ignition



Don't let inferior oil stop your tractor



Ordinary oil after use showing sediment formed after 50 hours of running. Veedol after use showing no sediment after 50 hours of running.



Give special care to your truck

The farm truck makes money for the farmer just so long as it runs at minimum cost for repairs and layups. Geared low, the truck engine develops heat less only than that of the tractor.

Inferior oil that breaks down under heat and forms sediment is responsible for almost every difficulty with the truck engine.

Veedol, the lubricant that resists heat, reduces sediment form 1 by 86%.

Because it resists heat, Veedol reduces evaporation 25% to 50%. This means great economy per mile and per gallon as well as protection against ordinary engine troubles.

NINETY per cent of the engine troubles of a tractor are preventable. With proper care and attention there need be no stops or layups for repairs during the months when your tractor is in continuous service.

At harvest or ploughing time your machine may be worth several hundred dollars a day. If it stops, you not only lose its service but pay repair bills in addition.

Inferior oil is the cause of 90% of tractor engine trouble. Excessive dilution of the oil supply by fuel; loose bearings; overheating; excessive carbon deposits; knocking—all are directly traceable to poor oil.

Solving tractor problems

The special problem of tractor lubrication arises from the fact that a tractor runs at full engine speed for hours at a time. Tremendous heat is developed.

Under this intense heat ordinary oil breaks down very rapidly, forming large quantities of sediment which has no lubricating value.

How Veedol, the lubricant that resists heat, prevents the formation of sediment is shown by the two bottles illustrated above.

Veedol is used and approved and recommended by leading tractor manufacturers, and carried in stock and sold by their agents throughout

the United States and Canada. In the official tests at the tractor demonstration at Salina, July 23rd and 24th, 1918, Veedol Special Heavy was used by all the leading tractor manufacturers. It was proven that Veedol Special Heavy was superior to other oils for the automobile type of tractor, as on examination it was found that the crankcase contained a lower percentage of kerosene contamination. Its kerosene content was 25% less than the average tests of the other makes of ordinary tractor oil.

Veedol Special Heavy is recommended particularly by Fordson and International Harvester Company dealers.

Buy Veedol today

Your dealer has Veedol in stock or can get it for you. If he cannot supply you, write us for the name of the nearest Veedol dealer. Enclose for a copy of the 100-page Veedol book describing internal combustion engines. This book will save you many dollars and help you keep your gasoline engines running at minimum cost.

TIDE WATER OIL COMPANY

Veedol Department
654 Bowling Green Building, New York
Branches or distributors in all principal cities of the United States and Canada



would be incomplete without due reference to wet and dry cell primary batteries. In the primary battery is found the fundamental principles upon which the electro-chemical generation of a current depends, that is, if a metal plate be placed in a liquid there is a difference of electrical condition produced between them, causing the metal to take either a lower or higher potential than the liquid depending upon the nature of the metal and the liquid. Now, if two plates of different metals are placed in one electrolytic liquid there is a difference of state produced between them, so that if they are connected by an outside wire a current of electricity will traverse the wire.

In the wet cell the electrolytic liquid is diluted sulphuric acid and the plates are copper and zinc. When the two plates are connected together and the current commences to flow, the sul-

phuric acid acts on the surface of the zinc plate and forms sulphate of zinc. While the zinc is being dissolved to form zinc sulphate, hydrogen gas is being liberated from the sulphuric acid. Much of this hydrogen collects on the copper plate in a thin film covering it and reducing its effective surface, also tending to produce a current in the opposite direction. This condition is called polarization of the cell, which may be rectified by stirring up of the electrolytic, thus assisting the hydrogen bubbles to detach themselves from the copper plate and make their way to the atmosphere. The wet cell is not adaptable to the conditions existing in an automobile or tractor because of the liability of spilling the electrolyte; therefore, the dry cell was introduced.

Composition of Dry Cell

The dry cell is very similar in principle to the wet cell just ex-

plained. The dry cell cannot, as is the case with a wet cell, be depolarized, but must be replaced from time to time by a new cell. Instead of the copper electrode, as used in the wet cell, a carbon rod is used, which is the positive terminal of the dry cell. The electrolyte is enclosed in a zinc cup, which also forms the negative terminal of the cell. The top of the cell is closed with pitch to prevent leakage and evaporation of the electrolyte. The whole is then placed within a paper box to prevent the zincs of adjacent cells from coming into contact when several cells are connected together to form a battery. The average voltage of a dry cell when new is one and one-half volts, and should show from 20 to 25 amperes when tested with an ammeter.

As previously inferred, a number of dry cells are connected to

Continued on page 50A

STINSON

Tractor Made for the West at
Medicine Hat, Alberta

Sold at the same price the American Farmer pays

Why the STINSON?

After visiting and studying all Tractors in the United States for six months we picked the Stinson to manufacture because we consider it the best value and best construction for Western Canada

What Users Say

Stinson Tractor Co., Drayton, N.D.
Superior, Wis.

Gentlemen:
Wish to say in regard to the Stinson Tractor that I purchased this season, that it certainly is a good one. It is better than any tractor in this neighborhood that I know of. The only trouble we have ever had was a little spark trouble, and we soon found it.

Have plowed over 200 acres this fall and in a very short time, at a speed of about 4 miles per hour. Am using three plows, but the tractor no doubt will handle more, but this soil is very heavy, being black gumbo, and it is hard to make plows scour.

I used from 2 to 2½ gallons of fuel to the acre, depending on the depth of the plowing.

My fourteen-year-old son has operated the tractor most of the time, and he thinks it the best machine I could have bought for the money. We particularly like the speed.

Have told my opinion as near as I can of your tractor, but if there is anything more I can do for you I shall be pleased to have you advise me.

Yours very truly,
(Signed) John Lindquist,
R.F.D. No. 1, Drayton, N.D.

Stinson Tractor Co., Billings, Mont.
Superior, Wis.

Gentlemen:
I have been using your Stinson tractor this fall discing and pulling a set of three bottoms.

I wish to say that I am very much pleased with this tractor, for the following reasons:

First—It has plenty of surplus power.

Second—It is the only tractor as far as I know that is a genuinely dust-proof proposition, all the gears are running in oil and thoroughly protected.

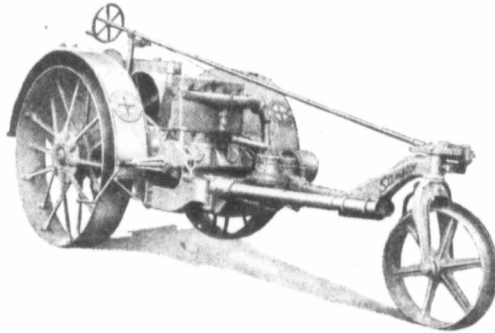
Third—The carburetor device which draws the air used by the carburetor through water, insures a perfectly dust-proof carburetor.

Fourth—And a very important feature about this tractor is its great speed. I have been able to go from two to three times the speed in the fields that the best team of horses are able to travel, and in a day's work this is especially an important feature.

Yours very truly,
(Signed) A. C. Allen.
(Mr. Allen's tractor is equipped with a 4-in. x 6-in. motor. Our regular equipment is now 4½ in. x 6 in.)

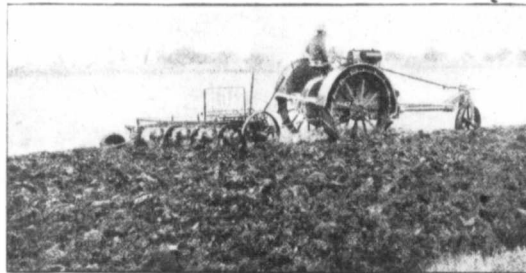
Agents Wanted

Manitoba and Alberta is mostly open territory to-day. Write us for information. Splendid Service guaranteed.



ABOVE is shown the 18-36 Stinson—a real Tractor without any freak ideas. See column at right for some features of construction.

BELOW is shown the Stinson pulling four fourteen-inch plows in heavy, black soil at three miles an hour—the morning after a three-inch rainfall. The Stinson stays on the job.



Some Stinson Facts

Motor is 36 H.P., 4-cyl., valve-in-head. Power enough to properly drive a 28-in. separator.

It works better on KEROSENE than on gasoline, because it's a KEROSENE motor.

Draw-bar pull is 3000 lbs. at 3 miles per hour.

Pulling 3 14-in. plows, this means 12.7 acres in 10 hours.

Pulling 4 14-in. plows, this means 16.26 acres in 10 hours.

Weight, 6350 lbs.; 85 per cent on drive wheels.

2 drive wheels, 12 in. wide, 60 in. high.

16 angle lugs 18 in. long, 3 in. deep on each wheel.

No side draft, no bevel gears, direct drive to belt pulley.

The best tractor in the world with working parts poorly protected from dust can only be a partial success. The Rainstorm cleaner supplies the motor with clean, moist air, washed through water. It is non-adjustable and trouble-proof. ALL gears, including final drive, are enclosed, running in oil; governor enclosed, running in oil.

Catalog Free

It costs nothing to get a Catalog and see for yourself why the Stinson Tractor excels—Write us to-day

Territory Open

Saskatchewan is being handled by the Saskatchewan Grain Growers Association, Limited, Regina. Write or wire re open territory in Manitoba and Alberta.

MARTIN & PHILLIPS

SOLE MANUFACTURERS AND DISTRIBUTORS FOR CANADA

Medicine Hat, Alberta

"THE TRACTOR CENTRE OF CANADA"

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THE TRACTOR IN WESTERN CANADA, PAST, PRESENT AND FUTURE

(Continued from page 5)

In Saskatchewan there was up to November 1st, 1918, 8.94 farms per tractor. In other words, for every farm of 160 acres and over owning a tractor there were 7.94 farms that did not own one. In Manitoba there were 18.40 farms per tractor, and in Alberta 10.29 farms per tractor.

The value of the farm tractors in operation in Western Canada at the close of 1918 was approximately 26,000,000, and it is safe to assume that between five and six million dollars will be expended this year.

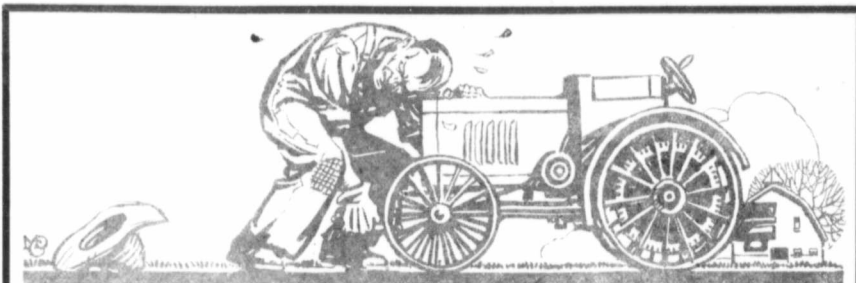
I simply quote these figures to show that the tractor has had a steady growth. This, despite the fact that it was going through a process of evolution, and was naturally subjected to a lot of experiments from which both the farmer and the manufacturer suffered.

The future should see easier sailing. The units that go to make up the tractor have become more nearly standardized, and consequently more reliable. The engineer has come to know what classes of material are best suited for certain parts. Certain designs have through experience proven to be most suitable for tractor work, and while the end has yet by no means been reached, it is safe to say that we have arrived at a working basis, and the future will largely be a matter of refinement.

In his issue will be found the result of a questionnaire sent out by this magazine to a large number of tractor owners, and any farmer who studies carefully the data given can come to but one conclusion, and that is that the tractor is working out successfully. The farmer is coming to know the tractor, and to appreciate it. He is coming to realize that it is a machine to be used and not abused, and he is further coming to realize that he cannot have too much mechanical knowledge to handle a tractor successfully.

The tractor began in Western Canada. It spread to the border states just south of the line, and to-day it is found from the Gulf to the northern limits of land cultivation, and from the Atlantic to the Pacific wherever farming operations are carried on, outside of the garden plots, and even here tractors have been designed and successfully operated in garden cultivation.

Regard it as prophecy if you will, but accept it if you please as a statement to be carefully watched, that sooner or later every farm will have its tractor.



IS YOUR _____ TRACTOR HARD TO START?

Hitch It To The

"NORTH STAR"

LONG LIVED—POSITIVE AND QUICK IN ACTION
ALWAYS GIVES HOT SPARK

The Merits of North Star Products

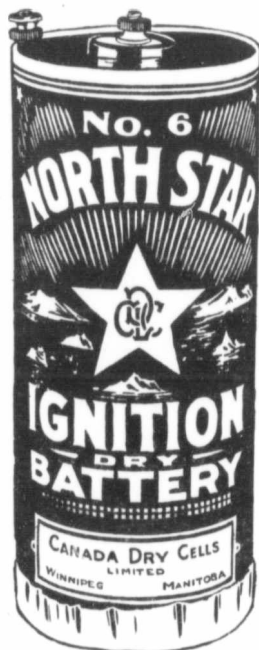
are widely known in Western Canada as Western Batteries for Western needs. If it's a "North Star," the farmer knows it's good and a safe battery to buy.

NO TROUBLE STARTING THAT TRACTOR

when you use a "NORTH STAR MULTIPLE." They do the trick. Made in compact easily handled form, with a convenient handle for carrying. Just connect two wires to the Binding Posts and the battery is then ready to operate. NO LOOSE CONNECTIONS.

Equally good for
STATIONARY ENGINES

If your Dealer or Hardware Man cannot supply you, write us direct.



Canada Dry Cells, Limited Winnipeg, Man.

THE COMING FARM POWER

Alexander, Man., Feb. 3, 1919.

WITH reference to the style of tractor I use, I might say as follows: It is a Heider tractor, manufactured by the Rock Island Plow Co., and handled for Manitoba and Western Canada by the Waterloo Mfg. Co., Portage la Prairie. The belt power is 20 h.p.; draw-bar, 12 h.p.; Waukesha motor; 4-cylinder, 4½-in.-bore, 6¾-in. stroke. Dixie magneto and Kingston carburetor. The tractor weighs 6,000 lbs., and the power is transmitted from the motor by the Heider special friction transmission.

The work done was plowing and threshing. In plowing, I used a 14-in. Rock Island three-furrow plow, equipped with their C.T.X. bottoms.

In the spring I plowed from four to five inches deep, the same as for fall plowing; but in summer-fallowing about six and a half inches. The summer-fallow was very hard, being pastured off with stock. In this I used about 1¼ gallons of kerosene, averaging an acre per hour. I have no account of the lubricating oil used per acre; but I can say it is not at all hard on oil.

For threshing I run a 24x36 Waterloo separator complete, and had surplus power at all times, averaging from 600 to 700 bushels of wheat per day. The fuel and oil were much the same as used while plowing. The amount of threshing per day depends a great deal on the crop to thresh. Upon the men feeding the machine depends a lot so as to

have the separator handling its capacity at all times.

To my mind, the tractor is the coming farm power. While I don't think it will entirely replace horses, yet it will have the foremost place for all the heavy work, such as plowing. They will also be used for hauling, pulling packers, etc., so that no farmer will need to tie up his money in a machine to merely get power for operating a grain separator.

I will be pleased at any time to answer any questions referring to tractor work.

Yours truly, C. E. McEvoy.

Our anger and impatience often prove much more mischievous than the things about which we are angry or impatient.—Marcus Aurelius.

Its Flexibility of Power

St. Norbert, Man.
Feb. 18, 1919.

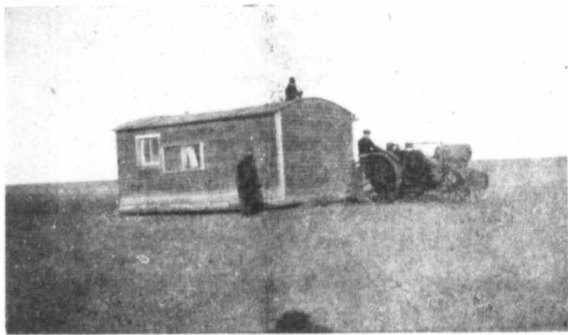
IT was late in the spring when we had our tractor—a Heider 12-20 with a 3-bottom, 14-in. Rock Island plow. The Waterloo people, of Portage la Prairie, shipped the outfit to Winnipeg, where we took charge of it, and drove it by road 12 miles to the farm. It was seeding time then and, being anxious to rush the work, we immediately started in on a 40-acre piece of backset, without waiting for the expert to come and put the machine "on the go." We first hitched the engine on an 8-foot disc harrow with a six-section drag harrow, hooked tandem 3 by 3, and ran this outfit all over that field ahead of the horse drill. Notwithstanding the quality of work performed we did not feel quite satisfied with the results, the ground being deeply plowed and still wet; the engine

der normal load and figure the actual cost of fuel under average conditions. In this piece of land, which was a mile long, we averaged little over 10 acres a day, and our total expenses were as follows:

10 gallons gasoline at 37c.....	\$ 3.70
135 gallons kerosene at 21½c.....	28.92
13 gallons cyl. oil at 70c.....	9.10
1 gallon differential oil at 22c.....	0.22
2 lbs. cup grease at 12½c.....	0.25
	\$42.19

This brings us to a cost per acre of a fraction over sixty cents. This work, of course, not including the time of the operator, depreciation on the machine and interest on the investment.

We plowed later, 6 inches deep, in tough gumbo land, growing willows, and also backsetted some of the same land, where we discarded one plow and travelled at a higher speed. This, however, proved to be at a higher cost per



W. G. McLaughlin, Chinook, Alta., hauling a 14x22 shack (to be used as a temporary school)—a trip of 1½ miles

acre in every case. Although a heavy and was packing the ground visibly.

After the seeding was through we thought we would give the engine its trial on plowing. We had close at hand a strip of low prairie about a mile and a half long, part of which had been tampered with by the plow a couple of years previous. We, therefore, set on plowing, going one way, turning sod, and backsetting when coming the other way. Although we were only plowing slightly over five inches deep, we found out that the engine was taxed to its limit, pulling the 3-bottoms in the sod, while on the other hand it travelled with apparent ease, plowing six inches in the backset. We were averaging at that around 7 acres a day at an average cost of 80 cents for fuel and oil.

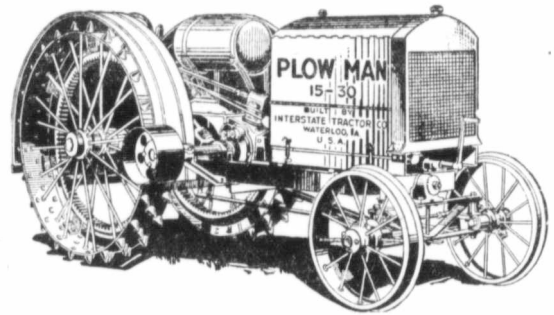
We then proceeded on another lap of prairie that had once been seeded to Timothy, and here is where we had the first opportunity of working the engine un-

der normal load and figure the actual cost of fuel under average conditions. In this piece of land, which was a mile long, we averaged little over 10 acres a day, and our total expenses were as follows:

This brings us to a cost per acre of a fraction over sixty cents. This work, of course, not including the time of the operator, depreciation on the machine and interest on the investment.

We plowed later, 6 inches deep, in tough gumbo land, growing willows, and also backsetted some of the same land, where we discarded one plow and travelled at a higher speed. This, however, proved to be at a higher cost per

acre in every case. Although a heavy and was packing the ground visibly.



Praise Follows the PLOW MAN Wherever it is Used

Actual use on the farm is the ultimate test of any tractor; there, the final verdict is given. It is by its active service record that PLOW MAN claims for superiority are justified.

Pioneer and Masterpiece of All-Standard Construction

The PLOW MAN pioneered in and perfected the principles of standardized construction for light tractors. Its standard parts all have continent-wide reputation for reliability and efficiency. They are the factors which have placed the PLOW MAN in a class by itself for reserve power, fuel economy, low cost of repairs and long life.

It is a sure one-man outfit that you can operate with ease, all controls being near to your hand. It burns kerosene for fuel.

From plowing, discing, seeding, right through to harvest, it will stand up and give reliable service in all work required in the field, and will handle all stationary belt work with ease the year 'round.

Combines the Best Features of Tractor, Automobile and Truck Engineering

Note these All-Standard Features of the PLOW MAN

"Buda" 4-Cylinder Motor, Foote Transmission, Hyatt Roller Bearings, Perflex Radiator, Bennett Producer Carburetor, Dixie High Tension Magneto with Impulse Starter, Pivotal Front Axle, Automobile Type Control, French & Hecht Wheels.

Everything built up to the top mark of quality.

You Can Farm More Profitably with the PLOW MAN

Get more out of your land with less labor and at less expense. Make up your mind, to order in time for spring delivery.

Write for literature and full information. Names of farmers in Manitoba and Saskatchewan, satisfied users of the PLOW MAN, sent on request. You can write to them for first hand information as to its sturdy construction, exceptional reserve power, easy operation and all 'round reliability under every condition of farm work.

WRITE US TO-DAY

Western Tractor Company, Limited

509 McCALLUM & HILL BLDG.

REGINA, SASK.

DISTRIBUTORS FOR SASKATCHEWAN AND SOUTHERN ALBERTA

The Northern Implement Co., Ltd.

33 WATER STREET

WINNIPEG, MAN.

DISTRIBUTORS FOR MANITOBA

a day in good yielding grain. I have no figures on hand by which I can accurately estimate the daily cash in threshing, but I know the engine would consume more kerosene, more cylinder oil and more water than it would use in plowing, and I will add right here that with us we started experiencing trouble only when threshing, and this evidently because we had to run the motor at a higher rate of speed than that for plowing.

I figure the yearly repairs on the engine would amount to about \$10 with the average operator, and less with a first-class engineer. We ran the tractor ourselves without any previous experience. We must admit, however, that this particular engine is a master in simplicity and use of operation, and the beauty of it is the flexibility of power delivered by the friction drive, thereby eliminating many little breakdowns that might otherwise happen.

As to the number of horses the engine displaces, we believe it is a poor policy to run an engine on wet ground in the spring, therefore we need horses for surface cultivation, and we personally look to the tractor for relieving the horses of the hardest work only, such as plowing and discing, and do the threshing. With the lighter work to do and the hauling, the required horses can, with ordinary care, be kept economically and in good condition all the year around.

Hoping to have set plainly the little of experience we had, we are,

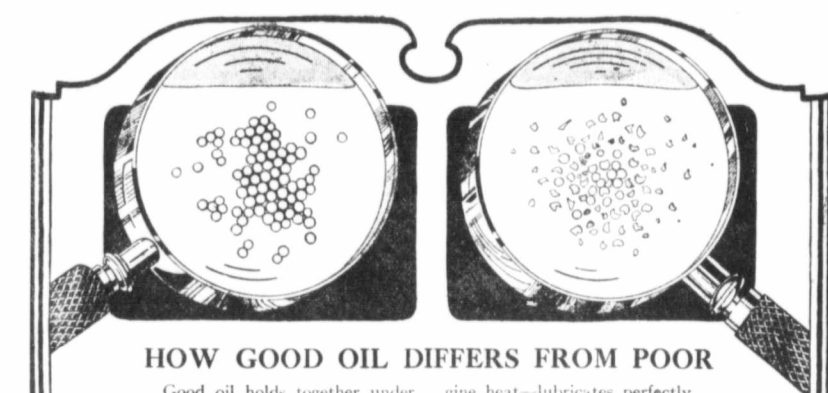
Yours truly,
Dunfort Bros.

NO PREVIOUS EXPERIENCE AND NOT A CENT FOR REPAIRS

Chinook, Alta., Feb. 7, 1919.

I N April, 1918, I bought a 10-20 h.p. Titan tractor and a 3-bottom Little Genius P&O engine plow with breaker bottoms. The first piece of work I did after bringing home my tractor was 30 acres of spring plowing for oats. This was stubble plowing (back-setting), but the breaker bottoms worked splendidly.

After this, on account of the shortage of help, I had to leave the tractor idle and attend to some building which had not been completed before seeding. It was about May 24th before I got started breaking on a half-section which I had bought a mile from the section where I live. This is where I found the tractor of great advantage as I travelled to and from work in a car, and so lost very little time as compared to what I would have lost with horses.



HOW GOOD OIL DIFFERS FROM POOR

Good oil holds together under severe pressure and varying temperature. Its particles resist wear. Poor oil soon breaks down, separates, gums and lets down the bars to friction, wear and resulting breakdown.

Good oil burns cleanly, expels the carbon with the exhaust. Poor oil leaves carbon in cylinders, on piston heads and spark plugs. Good oil seals in power—poor oil lets power escape.

Use good oil in your tractor, truck or automobile. Polarine is more than good oil—it's the oil. Holds its body under en-

gine heat—lubricates perfectly, burns up clean, seals in all the power.

In three grades—Imperial Polarine, Imperial Polarine Heavy and Imperial Polarine A. For motors that require an unusually heavy lubricant. In one-half, one and four-gallon sealed cans and steel half barrels and barrels. Imperial Polarine for sale by good dealers everywhere. Ask your nearest Imperial Oil Man which lubricant is best for your purpose. He knows what oil to give any type of engine for the work it does.

Ask for instructive book on Automobile Lubrication.

Polarine

FRICION REDUCING MOTOR OIL

IMPERIAL OIL LIMITED
Power · Heat · Light · Lubrication
Branches in all Cities



I started in breaking with three bottoms, which worked very well for a while; but as the season became very dry I took off one bottom and continued breaking with two until I had about 80 acres broken. By this time nearly all breaking outfits (both horses and tractors) had quit on account of dry weather. I put my tractor to help the outfit of horses finish the summerfallow on the home section, in which work I dragged a section of drag behind the plows. In this work the tractor went along on high when we had eight horses on a 12-in. gang working in the same field.

When this was finished the tractor was again left idle until rain came shortly before harvest. Then we did about 40 acres custom plowing. In all, I plowed about 200 acres and could have done a great deal more had the land been in a condition to plow.

Our soil is a chocolate loam with a very hard subsoil and with spots of very stiff gumbo. The land is also somewhat rolling, but this did not bother the little tractor very much, especially when the third plow was taken off. In breaking I plowed from 4 inches to four and a half inches deep, and in summerfallow about 7 inches. In the breaking especially we did very nice work.

I could plow about three-quarters of an acre per hour, and the cost for fuel and lubricating oil amounted to about 80 cents per acre, which is much less than it would have cost to feed horses to do the same work with feed prices as they were the past season.

I have found the tractor very useful in hauling grain bins, and I also hauled a 14-ft. x 22-ft. shack (double boarded and lined) a distance of 1½ miles on skids. This

put the Titan to the test, but it pulled it that distance.

I have not done any belt work with my engine as yet, but intend to get a small separator this season to thresh my own crop. I think the price of the machine can soon be saved in this way.

Quite a number of these light tractors are in use in this community and some of them have been used quite successfully in running separators.

I had no experience whatever with a tractor before I bought the Titan, but so far it has given me no trouble, and I haven't had to pay out a cent for repairs.

Hoping this bit of experience, told in a somewhat rambling way, may be of use to you.

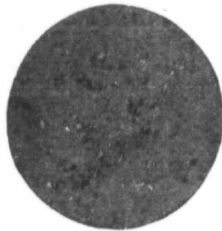
Yours very truly,
W. A. McLaughlin.



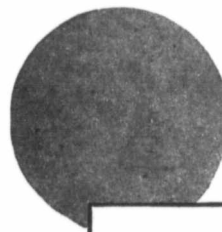


Powerful Holt Caterpillar Tractor on which Madison-Kipp fresh oil systems are standard equipment.

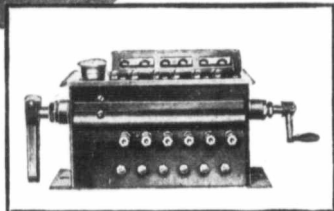
Tractor Fuel and Fresh Oil



Drop of oil from a crank case, as seen through the microscope. Note the punctures. Photograph by Crowder and Klapka.



Drop of fresh oil as seen through the microscope. Note the unbroken smoothness. Photograph by Crowder and Klapka.



Six Feed Madison-Kipp Lubricator

Tractors equipped with Madison-Kipp Fresh Oil Lubricators give you more horsepower per gallon.

They prevent the leakage of gas past the piston-rings.

They do it by providing the fresh oil needed for a real oil-seal between the piston rings and the cylinder wall.

A thin film of fresh oil—a thousandth of an inch thick—is enough.

No amount of used oil is enough, because used oil does not form a perfect film.

The microscope plainly shows why.

Used oil is full of dirt and worn-out oil equivalent to holes in the film.

Only in fresh oil is the film whole and tough.

Madison-Kipp Lubricators feed only fresh oil.

The tough film formed by it

often saves as much as several gallons of fuel in a single working day.

Almost as important is the 10% to 40% saving of oil that their drop by drop feeding effects.

Protect Yourself

There are only two kinds of lubricating systems; those using oil over and over again, and those using fresh oil only.

The first kind is described by many names—such as circulating, force-pump, splash, crank case system and the like—but they all mean that the oil is used over and over.

The fresh-oil kind is commonly described in specifications by naming Madison-Kipp Lubricators.

Kipp-Equipt tractors cost you no more and are worth much more.

They need less repair, less oil, less fuel; they deliver more power and last longer.

Madison-Kipp Corporation, Madison, Wisconsin

Madison-Kipp Lubricators

FRESH OIL SYSTEMS

Teach the Children to Save

Habits are acquired early in life. Children, who are taught the value of money and the habit of saving, grow up into good business men and capable women.



The easiest way to teach children to save, is to start a Savings Account for each child (\$1.00 each is sufficient). After a child has saved another dollar to make an additional deposit, he or she will have a better appreciation of just what a dollar stands for, and how much work and self-denial it represents.

THE MERCHANTS BANK

Head Office: Montreal. OF CANADA Established 1864.
 With its 25 Branches in Manitoba, 34 Branches in Saskatchewan, 65 Branches in Alberta, 8 Branches in British Columbia, 107 Branches in Ontario, 34 Branches in Quebec, 1 Branch in New Brunswick and 2 Branches in Nova Scotia, serves Rural Canada most effectively.
 WRITE OR CALL AT NEAREST BRANCH

Stories of the Men who have "Done It"

SMALL TRACTOR STILL A LONG WAY TO GO

Jan. 25th, 1919.
 MY outfit is a 10-20 Titan purchased last spring; also a John Deere 3-furrow plow. I started work with it about the first week in May. I

be harrowed twice and was in good shape to drill.

I used the engine all through seeding and was able to get in a great deal more than if I had to rely on the horses and hired help.

Before starting to plow they summerfallowed. I thought I



A MAN

W. E. Peto, of Emerson (who used his "Iron Horse" Night and Day

was plowing for oats, and after making a few adjustments I got along fine. The ground was still a little sticky underneath and I found that after the wheel passed over the ground the second time it seemed to pack it so that I was afraid the grain would not stick unless we got rain, so I put over drive-wheel in furrow and adjusted the steering device to work ahead of the front wheel, which also ran in furrow.

would try and make it a little more comfortable to work in the hot weather, so I put on extension on the mud guards to cover up the angle lugs, and I also put a hood on made out of four bits of angle iron, some tar paper and 1/2-inch lumber.

This made a very light and cheap canopy, but it certainly did the trick as I could work in the very hottest day and not feel the heat as much as riding a horse



AND HIS WIFE

Taking part with her husband on the day shift

This arrangement worked fine, and did not pack the land, and I would go from one end of the field to the other without touching anything. I was plowing about five inches deep and pulling a 6-foot section of Acme harrows behind. This did a very good job, as part of land would

I also pulled a 12-ft. I.H.C. cultivator, which did very good work. During harvest and threshing the engine stood idle as I had enough horses to do the cutting, and a steam engine to do the threshing, except when I was cutting 40 acres of Early barley and 50 acres of rye.



Haywoods' Combined Hill and Drill Seeder
 A splendid up-to-date Seed Drill for all kinds of Garden Seed; has adjustable handles, opening plow, covering flns, 18-inch wheel and markers; a great time and labor saver. \$15.00



Man-weight Single and Double Wheel Hoe, Cultivator, Plow and Rake
 It hoes, cultivates and ridges growing crops, weeds, opens furrows, breaks up the soil, etc. The work is made easy as the body assists. Has 18-inch arch. \$15.00

We also offer a combination of the above two machines for \$22.50; also other tools of this make; also Planet Jr. Tools.

FREE:—Our valuable 112-page catalogue of Seeds, Plants, Bulbs, Implements and Poultry Supplies. Write for it to-day.

John A. Bruce & Co., Limited
 HAMILTON Established 1850 ONTARIO

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Shinn-Flat and Shinn's Cash Bond
 Shinn-Flat prevents Lightning Losses
 It enables the electricity in the building to gradually pass from the heavily charged ground into the atmosphere above the building—relieving the strain on the building caused by the attraction of the electricity in the cloud above, and removing the conditions that cause the Lightning Stroke.
 Shinn's Cash Bond is issued by a large Bonding Company to the owner of every building protected by Shinn-Flat, guaranteeing that Lightning will not strike. This is the only company that covers the work of its representatives by a Cash Bond.
 Shinn-Flat is the only Lightning Conductor made in the form of a flat cable, which eminent electrical authorities all say is more efficient. It has 36 per cent more conducting surface for electricity than any round cable containing the same amount of material. Write for free booklet on Lightning, Cause and Control.

SHINN MFG. CO. OF CANADA, LIMITED Shinn-Flat
 PROF. WM. H. DAY sec. and manager GUELPH, ONTARIO Made in Canada
 Western Representatives
CUSHMAN MOTOR WORKS OF CANADA, LIMITED WINNIPEG, MAN.

WANTED — PERSONS TO GROW MUSHROOMS for us at home; from \$15 per week upwards can be made by using waste space in Cellars, Yards, Gardens, etc. (start now); illustrated booklet sent free. Address Montreal Supply Company, Montreal.

FOR SALE—One 22 H.P. Cross Compound Reeves Engine and one 4x86 Reeves Separator. Both in good shape. An up-to-date outfit for threshing and plowing. Apply Young Bros., Wainwright, Alta.

WANTED to hear from owner of good farm for sale. State cash price, full particulars. D. F. Bush, Minneapolis, Minn.

WANTED—Man experienced with farming in Western Canada, and capable of position as manager of large farm. E. G. Dollenmeyer, Bricecrest, Sask.

FOR SALE—4-cyl. 60 H.P. gasoline engine, \$1,500, and complete 25 H.P. steam engine, 36x60 separator in good condition, \$1,800, half cash, balance to suit. William Drewes, Botha, Alta.

I followed the binder with the engine and plow, and a 3-furrow horse gang, and stooked it in the plowing. This, I consider, was nearly as good as a summerfallow for killing weeds.

I was late in getting started at the fall plowing as I did a lot of threshing, so I decided to run the engine night and day. I took the cook car and the young fellow who I had firing on the steam engine. We stayed right in the field and worked 20 hours a day; 4 hours on and 4 off.

This, I found, a very good way to operate a tractor in the rush season, as it is easy on the operators, and we could average 20 acres a day; so I got most of my plowing done.

I also ran a 12-in. crusher with high bagger and put the chop up in the loft of the horse barn. Last spring I broke up some brush land and I pulled a 24-in. brush breaker. Of course, I had to go in low gear, but I found it much handier than the steam engine for that job. Altogether, I used 40 barrels of kerosene and about 3 barrels of lubricating oil. I figured it took about 2 gallons of kerosene per acre for plowing.

In regard to repairs, it has not cost me much this year, as my engine was new in the spring. I am going to overhaul it this winter and, as far as I can see, it should be good for a few years yet. I think the small tractor has come to stay, but it has a long way to go yet before it can take the place altogether of the faithful old horse; both have their places in this part anyway.

Yours truly,
M. E. Peto.

EVERY FARM OVER 160 ACRES NEEDS A TRACTOR

Irricana, Alta., Jan. 30, 1919.

I WILL give you the best information I can as to my tractor and its work. I have a 10-20 Titan tractor. I plow, disc, float, harrow, move bins, grind feed, and any heavy work around the farm is done with the tractor. I plowed day and night, from 20th of April, 1918, till 10th of June, 1919. We had no engine trouble at all; it didn't get time to cool off except on Sundays. Our reply trouble was dodging mud holes at night.

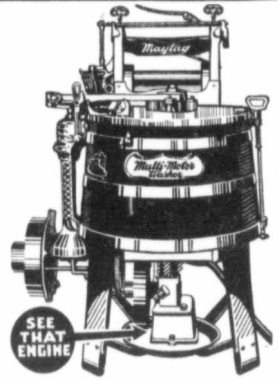
We used just common kerosene lanterns for light, one in front and one behind to see the plows. And we couldn't see far enough ahead to keep out of the bad places. A good light system would have paid for itself. Of course, we used a steering device, and I'll say right here that I wouldn't try to run a one-man outfit without one. We aimed to have the tractor going 22 hours per day.

There's a
Maytag Washer
For Every Farm Home

Thousands of rural and suburban homes are using the MAYTAG Washer to-day, effecting big saving of time and labor. The MAYTAG takes the hardship and drudgery out of washday; it handles the finest fabrics and laces as well as heavy woollens or overalls.

If You Have an Electric Lighting Plant You Should Have a MAYTAG Electric or a MAYTAG Belt Power Washer

Get full value from your lighting plant, make it do the heavy work. Let us send you full particulars of what the MAYTAG will do to lessen work in your home.



Maytag Electric Washer

No uncovered gears, wheels, or cogs to catch your fingers or clothing. One operating handle controls both washer and wringer—starts, stops, or reverses as desired.

Equipped with ball-bearing casters so it can be easily moved from place to place by any child.

Washer is warranted free from defective workmanship and material. There is no cumbersome machinery on the lid to lift when opening. A single operating handle automatically locks or unlocks the lid. Dolly will not snap or tear the clothes.

Maytag Belt Power Washer

The same simple and rugged construction which has gained world-wide reputation for the Maytag Electric and the Multi-motor Washers. Specially designed for the farm or country home where separate power is available, as it is provided with a drive wheel for belt connection.

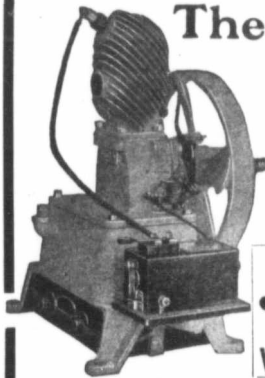
If you have a gasoline engine, electric motor, or any other power generating device on your place, this is the washer you need—it will end all the trouble, drudgery and worry of washday in your home.

Write us to-day for full details of the Maytag Washer that will best suit your requirements.

Maytag Multi-Motor Washer

It's the same efficient washer and wringer as the Maytag Power and Electric Washers with the addition of a wonderfully powerful, light, and compact half-horse power motor, mounted right on the frame of the washer beneath the tub.

The advantage of this washer is that it makes the housewife independent of the men-folks. Washday won't interfere with the work of the gasoline engine that is used for other chores. With a MAYTAG Washer—equipped with the simple, powerful, practical Multi-Motor, she has her own power plant—a good faithful servant that is always ready and willing to do any hard task she requires of it.



The **Maytag One-Horse Gasoline Engine**

This is not only the lightest and simplest Gasoline Engine on the market, but at the same time the most powerful

For pumping, running fanning mill, cream separator and other light work, it has no equal. No trouble to pick it up and carry it from place to place.

We furnish the engine, which is an air-cooled, two-cycle; a set of sealed batteries, a coil, a tin of Maytag special lubricating oil, everything ready to operate for the special price of..... **\$5500**

The Maytag Company Limited
WINNIPEG MANITOBA



Six Canadian Agricultural Colleges and fourteen Government Experiment Stations are successfully using EMPIRE MILKING MACHINES. Is this not sufficient evidence that the EMPIRE is beneficial to the most highly bred cows as well as profitable to every dairyman milking eight or more cows?

Send for the Empire Catalog

The Empire Cream Separator Company of Canada, Limited
MONTREAL & TORONTO
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Western Canada Distributors
140 Princess Street, Winnipeg

EMPIRE MILKING MACHINES

MUSKRATS 100,000 WANTED

We are now paying the following prices:-

	Ex. Lge.	Lge.	Med.	Small
SPRING MUSKRATS	\$2.00	\$1.50	\$1.00	\$0.50
WINTER MUSKRATS	\$1.50	\$1.00	\$0.60	\$0.35
FALL MUSKRATS	\$1.00	\$0.75	\$0.40	\$0.25

British Raw Fur Co. 185 King St. E. TORONTO, Can.

Is not Twelve Times the Contents of this issue Worth the Subscriber's price for a year of the Canadian Thresherman and Farmer—\$1.50—or \$2.00 for two years?



Make your Ford Transportation even more Economical.

Nearly a million Ford owners have found that maintenance and tire costs are reduced approximately 30 per cent and a large saving is made in fuel by the

For FORD Cars



For FORD Trucks

Shock Absorber

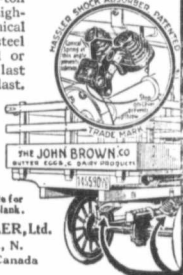
The Hassler Guarantee: "Absolute satisfaction or your money back"

They protect riders from disagreeable shocks and jolts—you have such greatly increased comfort that your Ford car or truck rides and drives as well as the highest priced heavy models. They make the car safer, preventing sidesway at high speeds. The same shocks that disturb the passengers, also rack, strain and wear out the car. Hasslers prevent squeaks, rattles and deterioration. They make a Ford car or a Ford one-ton truck last longer and give it a higher resale value. The spiral, conical springs of chrome-vanadium steel compress on either upward or downward movements. They last and make the car or truck last.

10-Day Trial Offer

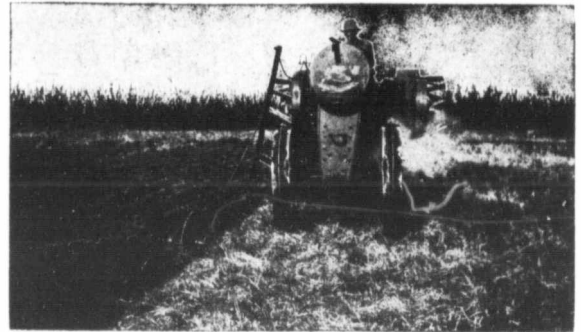
Don't ride without Hasslers because someone tries to discourage you. They are a quality product—worth their price. The Hassler dealer in your vicinity will put them on for 10 days' trial. Your money refunded if you say so. Write for name of dealer and Trial Blank.

ROBERT H. HASSLER, Ltd.
111 Sherman Ave., N.
Hamilton, Ontario, Canada



A CHAMPION FOR THE TRACTOR

Elrose, Sask., Feb. 4, 1919. I ARRIVED in Canada in 1910; started on a homestead with one thousand bucks and lots of faith in the future. In 1911 tractors appeared in our locality, but no success was noticeable to



ANOTHER MAN
J. T. Prickett, of Irricana, Alta.

I can do more and better breaking when plowing three bottoms in low, and it's easier on the outfit. Last spring I pulled two 16-16 double discs on breaking, running on high. Also pulled one 16-16 double disc and a heavy float behind.

I moved bins 14 x 16 with roof on through stubble fields. I moved a small house for a neighbor this summer; house, 14 x 16, shingle roof, and on skids. Moved 2½ miles over graded roads and irrigation ditches. I can jump out and move two or three bins with the engine while I would be getting horses harnessed for the job.

Every farm of over 160 acres needs a tractor; the larger the farm the larger tractor is needed. I am sending photographs of outfit. No. 1 is my wife and son

the owners, rather the opposite. I was wanting a tractor, but I could not see the advantage until in the fall of 1916 when I bought my first outfit and started threshing and made good.

In 1917 I started breaking, and broke my own land and also for my neighbors, making good money and doing first-class work. In 1918 in the spring I bought another outfit—same size (30-60). That outfit alone broke last year from the first of May until the first of October 2,000 acres at \$6 and \$6.50 per acre; the other one, my old outfit, doing nearly as good.

I have not as yet done much stubble plowing, but when it is dry I can plow 9 or 10 ins. deep. When I am starting out to plow in the spring I hire the best en-



WITHOUT "ENCUMBRANCES"
Mrs. Prickett and the Chick cheer the toiler at lunch time

running the outfit, breaking prairie while I ate dinner and supper. No. 2 is myself breaking. No. 3 is the same. We plowed 150 acres and broke 150 acres for crop last spring, besides a lot of discing and other work.

Yours truly,
J. T. Prickett.

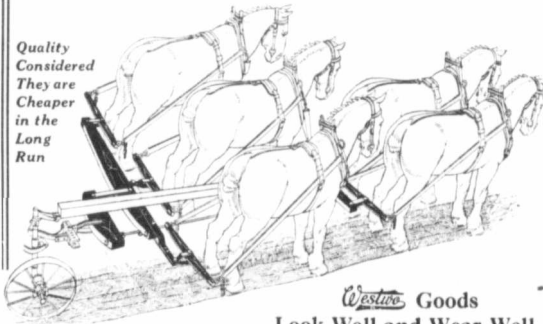
gineers I can get and pay so much per acre, paying a good wage.

I find this is a very good way, as the men are more willing to work, and in that way I also get the machinery looked after in the very best way, as it is to the engineer's interest to keep everything in tip-top shape.

The Name **Westwo** Guarantees Satisfaction

Both your dealer and the manufacturers stand back of every product—ready to replace any **Westwo** product that shows defect.

Quality Considered They are Cheaper in the Long Run



Westwo Goods
Look Well and Wear Well

Because they are made from the finest selected woods by skilled workmen with most modern machinery—painted red and varnished in natural colors. Insist on this guarantee in any wood goods you buy.

If Your Dealer Cannot Supply
You Write Us Direct

WEST-WOODS LIMITED - Winnipeg

As I am doing custom work I have to plan according to the wants of my customers. Some prefer 3 inches deep in breaking; others 7 inches; but, as a rule, I find 4½ inches the ideal depth for this locality.

Now, in order to plow 4½ inches deep it takes 6 1500-lb. horses to pull one plow and one man to handle them. My tractor pulls 8 plows, 2 men to handle, and I can do fully as good breaking with the tractor as with the horses.

So I consider the tractor has a great advantage over the horses. As to packing the soil, it is, in my opinion, not to any disadvantage as the injury will not take place before a heavy tractor is put to do cultivating work.

My advice is to keep the tractor at the land after your plowing is done; if the tractor is properly handled it is a very useful implement to the farmer as well as a first-class investment.

As to the amount of plowing done, it is very hard to give an estimate, but an outfit properly looked after should plow 20 acres per day. My record is 164 acres in one week, breaking 7 inches deep, but an average of 400 acres per month is very high. There are very few tractioneers who can get up to those figures.

I find that it cost me about one dollar per acre for fuel and 18c for lubricating purposes. Last year \$2.50 per acre covered all the cost of breaking.

As I have not used my engines for other work than plowing and threshing I cannot give any information, but as I have been watching my neighbors trying most everything, I have come to the conclusion to keep away from everything the heavy tractor cannot perform with success.

My engine is a Rumely 30-60 OilPull, a very hard engine to beat, as it has more reserve power than any tractor of its size built. This engine is first-class for pulling separators, as it develops very steady power. I have threshed 44 days without one hour's engine trouble.

Yours truly,
Carl Sylven.

A GOOD, ALL ROUND EXPERIENCE

Choritz, Man., Jan. 31, 1919.

IN regard to your inquiry as to our experience in tractor farming, I wish to say that we operate a 10-20 Big Bull tractor which my father purchased in June, 1916. We have used it in plowing, discing, threshing, road grading and other light work. In plowing we use a J. I. Case Enicar plow with 2 14-inch bottoms, plowing 5 inches deep, about 2/3 acres an hour, or 6 to 7 acres in 10 hours.

Flexible Power

POWER that takes hold with a steady, irresistible pull, that never jerks your machinery, and that flows smoothly from engine to load

—power that makes plows dig deep and turn over the toughest sun-baked soil hour after hour

—and power that can be throttled down to a mere creeping gait. That's the

Heider

The Real All-Purpose Tractor
12-20 and 9-16 H.P.

Here's the power you want for all around farm work. Power that always fits the load, and that means longer life for your engine, with the utmost economy of fuel.

Let Heider owners tell you about it. George Lukus of Addingham, Man., says: "The Model C 12-20 Heider Tractor and No. 12 CTX 14-inch tractor plow I purchased from you late in the fall, I had only a few weeks in which to plow 165 acres. I ran the Heider night and day and never lost a minute's time. It has not cost me a cent for repairs. The motor works perfectly on kerosene. The friction drive is the most perfect power transmission with absolutely no slippage and no danger of expensive breakdown."

Another owner, F. A. Harvey, Saskatoon, Sask., writes: "I gave my Heider Tractor and Rock Island Plow a thorough test last year and I believe the combination is the best one-man plowing outfit sold in Canada today."

Seven Speeds—forward or reverse with one lever, and without changing gears. The Heider is backed by 10 years of successful field service in the hands of owners. It has made good in every kind of farm work.

Waterloo Mfg. Co., Limited

REGINA, SASKATOON, PORTAGE LA PRAIRIE

A. T. DAVIDSON

328 William Avenue
WINNIPEG



BURNS KEROSENE OR GASOLENE



Model C 12-20 H.P.
The popular model Heider for the average size farm.



Model D 9-16 H.P.

with Rock Island No. 9 plow attached. The time and work saved in plowing. Your hands operate 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, and plows all the field. Soil with or without plow attached.



Use Rock Island Plows

and get the best results behind your tractor. The famous Rock Island "CTX" Bottoms turn the furrow slices clear over—prevent air spaces from stopping the moisture. Front furrow wheel life, 2, 3 or 4 "CTX" Bottoms.

HIDES

Farmers and Beef Ring Secretaries

WE ARE WANTING

HIDES

Write for prices, it will pay you

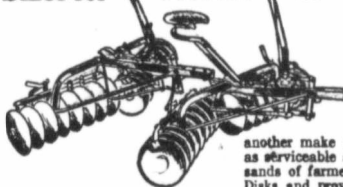
THE WHEAT CITY TANNERY
Brandon, Man.

Reference, Bank of Commerce

PATENT YOUR INVENTIONS

Send direct to Ottawa, for free patentability report and booklet "Patent Protection - Clients' patents advertised in the "Patent Review." **PATENT Harold C. Shipman & Co. ATTORNEYS CENTRAL CHAMBERS, OTTAWA, CANADA.**

Sizes for Horses or Tractors



Use the Bissell Double Disk Harrows. They have great capacity for cultivating, and have made a record for working the soil better than other Disks—in fact, you won't be able to find

another make of Disk Harrow nearly as serviceable as the Bissell. Thousands of farmers have tested Bissell Disks and proved them to have the

"knack" for doing the best work. They are simple in design, durable and Built for Business. Write Dept. L for Booklet. Man'td exclusively by—

T. E. BISSELL COMPANY, Ltd., Elora, Ontario

"Since the fire we have more than doubled our Factory capacity, and will hereafter endeavor to furnish Bissell Disk Harrows to our many customers far and near who prefer Bissell Disks to any other style."

Sold by all

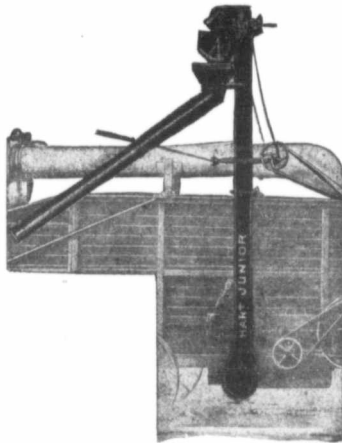
JOHN DEERE COMPANY DEALERS IN WESTERN CANADA

THE HART LINE

Hart Machines backed by thirty years of satisfactory service, embrace all the latest and best improvements in Automatic Registers and Self-Feeder and are recognized as standard by the discriminating and far-sighted manufacturers and users of threshing machinery.

THE WORLD'S LARGEST THRESHING MACHINE MANUFACTURERS USE AND RECOMMEND HART PRODUCTS

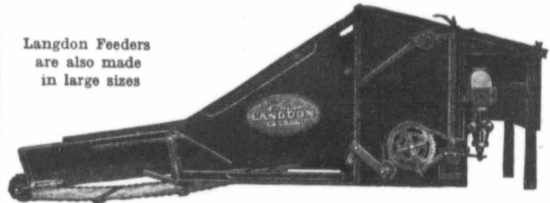
While the Junior Registers and Self-Feeder are recommended for Junior Threshers, the big Hart Line embraces dozens of styles and sizes of Registers and Feeders for the larger separators.



HART JUNIOR AUTOMATIC REGISTER
With 14-ft. Elevator
Also furnished as a low-down machine with conveyor, for Eastern trade.

AN AUTOMATIC REGISTER AND SELF-FEEDER FOR EVERY SIZE SEPARATOR, LARGE OR SMALL

Langdon Feeders are also made in large sizes



LANGDON JUNIOR SELF-FEEDER

CATALOG IS NOW READY

Hart Grain Weigher Co., Peoria, Illinois

Makers of Hart, Peoria, Hart Belt and Bucket, Simplex, Perfection and Hart Junior Automatic Registers; Loaders and Baggers; Langdon Ideal and Langdon Junior Self-Feeder; Hart Wing Feeders and Hart-Brown Wing Carriers.



J. S. Rempel, Chorlitz, Man., making good on heavy soil

As our soil is very heavy it takes about 3 gallons of kerosene and $\frac{1}{8}$ gallon of cylinder oil to plow an acre. With kerosene at 22 cents a gallon and lubricating oil at 65 cents the cost per acre plowed is about 75 cents. I double discing we used two 6-ft. disc harrows, one outthrow and one inthrow, working 18 acres in 10 hours at a cost of 20 cents per acre.

In threshing we have used it on our 20 x 36-inch Case separator with all attachments. We averaged about 700 bushels a day with fuel and oil amounting to about \$6 a day. The separator is easy running and does excellent work. It keeps four stook teams

busy; one man attends to both engine and separator.

We also did some road grading with a six-horse grader, which seemed to be just the right size for the engine. We made 21 miles with 15 gallons of kerosene in 7 hours, which is about $\frac{2}{3}$ gallon per mile.

In feed grinding we have run a 7-inch plate grinder which, at 40 bushels of barley per hour, was only play for the engine. Cost of fuel was about $\frac{1}{2}$ ¢ per bushel.

We have not had any experience in pulling binders, but think it would do good work as it is very short turning and travels about 3 miles per hour.

I do not think the tractor will

take the place of horses entirely as it cannot be used for spring work, such as seeding and discing, on account of the soil being too soft in spring.

Yours truly,

Peter P. Rempel.

AN ASSET WORTH HAVING

Plenty, Sask., Jan. 27, 1919.

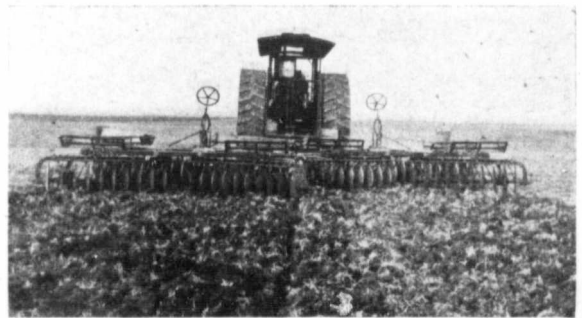
IN reply to your letter about use of tractor, I might say that in fall of 1912 we purchased a four-cylinder tractor from the Minneapolis Threshing Machine Co. (25 horse-power on draw-bar and 50 on belt).

We have used this engine seven seasons for threshing and find that it gives a good, steady flow

of power; just as steady as steam. We are pulling a 36 x 56 Minneapolis separator, which is a little too large. We use about 45 gallons of gasoline and $2\frac{1}{2}$ gallons of polarine for a day's threshing of about 1800 bushels of wheat; about one pail of water per day is all we use.

We have broken about 800 acres of prairie with engine, plowing about $4\frac{1}{2}$ inches deep. This kind of work will use about three gallons of gasoline an acre and about three gallons of polarine per ten-hour day. We pull five 14-in. rod bottoms in breaking.

We have also plowed about 1400 acres of stubble ground, always pulling six bottoms, plowing all the way from three to six



J. J. Rogers, Plenty, Sask.

inches deep, plowing 1 1/2 acres per hour.

We use about the same amount of gasoline as breaking, as wheels will always slip a little on soft ground. We have also double disc'd about 4000 acres with I.H.C. double engine, discs weighing 2400 lbs. each, and each ten feet wide. Can disc about 50 acres per day, using about 55 gallons of gasoline per day and about three gallons of polarine. We find engine a great slave for this kind of work. We always use engine for moving granaries and anything that it will pull.

Might also state that all the original gears are still on engine, although some of them are getting quite thin. I have had quite a number of breaks on machine; most of them when we had a high-priced engineer running. We think that an engine is an asset worth having on a farm as it will always help to catch up with the work when the horses get behind; and most engines now will give service if the man behind will but give them a show.

Just one word to the wise: Always try and run your own engine.

Yours truly, J. J. Rogers.

There is no royal road to anything. One thing at a time, all things in succession. That which grows fast, withers as rapidly; that which grows slow, endures. —J. G. Holland.

When we look into the long avenue of the future and see the good there is for each one of us to do, we realize after all what a beautiful thing it is to work, and to live and be happy.



At Tractor demonstrations everywhere you see Gargoyle Mobiloils.

Why? Because manufacturers in field service tests have time and again proved their superior lubricating efficiency.

If you own a tractor there are two points worth remembering:—

1. Be sure you get the correct grade of Gargoyle Mobiloils. Your Instruction Book probably specifies it. You will find it listed in the Chart on the right. Note down the grade opposite the name, year and model of your tractor. Then make sure that you get it. The grade "A" "B" "BB" etc., is always plainly marked on the container—

underneath the name "Gargoyle Mobiloil."

2. As the average tractor consumes at least 1 1/2 barrels of oil a year, you can save money by buying by the barrel, half-barrel, or 15, 30 or 55 gallon steel drum. In that way you get a lower price per gallon. But we also advise

buying a 5-gallon scaled can of the correct grade of Gargoyle Mobiloils for your tractor.

The reason is this:—

You will want to carry an extra "fill" of oil while at work. When your 5-gallon can of Gargoyle Mobiloils is empty, refill it from the barrel. Screw on the cap. This will keep out the dust. And the oil can't spill.



A grade for each type of motor

FOR PASSENGER CARS

The passenger car has entered the farmer's life as a business as well as a pleasure vehicle. Its lubrication is as important as the lubrication of your tractor.

Write for booklet "Correct Lubrication," containing complete Gargoyle Mobiloils Charts of Recommendations for all automobiles, tractors, motorboat and motorcycle engines. There is also a complete discussion of automobile problems and troubles.

IMPERIAL OIL LIMITED

Manufacturers and Marketers of Polarine Motor Oils and Greases Marketers of Gargoyle Mobiloils in Canada BRANCHES THROUGHOUT CANADA

CORRECT TRACTOR LUBRICATION

Explanation:—The four grades of Gargoyle Mobiloil for tractor lubrication, purified to remove free carbon, are: Gargoyle Mobiloil "A" Gargoyle Mobiloil "BB" Gargoyle Mobiloil "B" Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the tractor indicates the grade of Gargoyle Mobiloil that should be used. For example A means Gargoyle Mobiloil "A", Arc means Gargoyle Mobiloil Arctic, etc.

Table with columns for Tractors, 1918, 1917, 1916, 1915. Lists various tractor models and their corresponding oil grades.



DID HIS BIT

Old Scot: "Ay, miss, they've a' done their bit. There's Wullie, he was in Mes'pitamia, Tam was a mine sweeper, an' wee Jock, he's just seven past."

Lady Visitor: "But Jock can't have joined up?"

Old Scot: "O, No! But he earned aichteen-pence a week sleepin' wi' an auld wife that was feared o' the Zeppelins."

Hides Wool Fur

If you want quickest returns and most money for your

FURS, HIDES, WOOL, Etc.

Ship them to

FRANK MASSIN

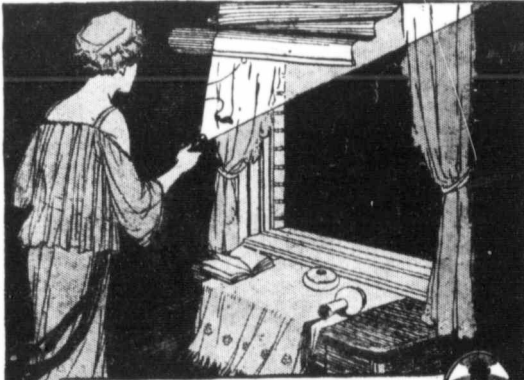
BRANDON - MANITOBA

Write for Prices and Shipping Tags

Advertisement for FURS AND HIDES TO McMILLAN FUR & WOOL CO. with address and shipping information.

Advertisement for DON'T SCRAP YOUR BREAKAGES featuring HUB WELDING COMPANY, 253 SHERBROOKE STREET, WINNIPEG.

Advertisement for Dr. Thomas' Eclectic Oil, Relieves all Pain in Man or Beast, 25 Cent Bottles at all Dealers, featuring an illustration of a horse.



EVERY WOMAN NEEDS THIS LIGHT

Scores of times a Reliable Tubular Flashlight is needed night and day. No more useful article exists for any home. Handy, instant light that can't blow out, explode or set fires. Does away with the danger of lighting matches.

Reliable Tubular Flashlights and Searchlights are made of metal handsomely enamelled in colors. The Reliable line also includes all standard types of fibre and metal flashlights.

Use Reliable Ignition Batteries for your motor car, for your door bell or telephone.

They are "Lively and Lasting."

All Reliable Products are made in Canada. For sale by dealers everywhere.

DOMINION BATTERY COMPANY LIMITED
Toronto, Canada



RELIABLE
TRADE MARK
Canadian Products

"Lively and Lasting"

LANDS WANTED



FOR... SOLDIER SETTLERS

POWERS have been granted to the Soldier Settlement Board of Canada by Order in Council of the 11th of February, 1919, to purchase land to be re-sold to qualified returned soldiers who desire to make farming their permanent vocation.

To assist soldiers in settling in any suitable district in which they may wish to locate, the Soldier Settlement Board desires to have filed in each of their Provincial Offices a select list of farm lands available for purchase in each district of the Western Provinces, with full description and lowest cash prices of the same. Purchases by the Board will be paid for in cash.

The public are informed that this land is for purchase by returned soldiers, and must be of good agricultural quality, and reasonable price, making possible the success of the soldier as a farmer. It should be within seven miles of a railway, open, free from weeds, water supply assured, and of moderate price. In giving particulars, mention nearest market and school. In comparison with the vast supply of vacant lands, the number of farms immediately required will be very limited. Owners, therefore, will kindly assist the Board by offering for the present only land which fills the above requirements.

No commission will be charged or paid. No offers to sell will be binding on the person offering, unless a sale is effected, and no obligation will be on the Board to accept any offer.

If application from a returned soldier be received for the purchase of land, an inspection and valuation of such land may be made by the Board, as soon as free from snow. If approved, negotiations may be entered into for the purchase and sale thereof. An approved list is desired for each suitable district throughout Canada.

All communications concerning land in the Western Provinces should be addressed to the Provincial Supervisor of the Soldier Settlement Board for the province in which the land offered for sale is situated, a list of whom is given below:—

BRITISH COLUMBIA:

Major M. V. McGuire, Pemberton Bldg., Victoria.

SASKATCHEWAN:

Lieut. S. F. Dunlop, McCallum Hill Bldg., Regina.

ALBERTA:

Major F. W. Fane, Post Office Bldg., Edmonton.

MANITOBA:

Mr. D. W. Campbell, Post Office Bldg., Winn peg.

SOLDIER SETTLEMENT BOARD, Canada.

Some little things which owners overlook are frequent causes of tractor trouble

By C. V. HULL

A SERVICE man was asked about the purchase of a second-hand tractor. Naturally he found this a hard question to answer easily. In the first place he advised the questioner not to pay much for the rig. This was mighty good advice, because it takes an exceptionally clever man to tell much about a second-hand tractor until he can test it out thoroughly. He also warned the man to look for heavy wear and broken parts.

Most important of all, he suggested, that the second-hand tractor be of a standard and comparatively recent model so that repairs could be obtained. This was especially good advice, because there are too many experimental and half-assembled machines on the market, which do not do good work and which will soon be out-of-date, so that it will be hard to get repairs. The dealer should also give these matters careful attention before he buys or trades for a second-hand engine. No dealer can afford to load up a customer with a worn out engine for which it may be impossible to get repairs.

No Cylinder Rings

A tractor would not pull as it should. The owner had several ideas while the hired man insisted that the pistons were in bad order. The owner would not believe him and refused to pull out the pistons. Finally the tractor pulled so poorly that a service man was sent for. When this man came he listened to the farmer and to the hired man. Then he did the same thing with the pistons. As the flywheel was turned around he easily caught the sound of compression, leaking past the pistons. The pistons were taken out at once. One was short two rings, and the other lacked three out of five. The

service man ordered new rings at once. These were put on and the tractor worked out on a light load, after which it pulled a full load easily. In going over the tractor, the service man found several pieces of the broken rings in the crankcase. Had the owner been careful enough in his search he could have found them and saved the service man some time.

This is a typical service case. Many and many times a service man must look after such a deal as this. Generally speaking, the owner should pay the dealer for such a trip because of poor piston rings, and the greenest operator can tell if the compression leaks badly. Because compression leaks so seriously affect power, the dealer should teach his customers the importance of this matter.

Why Tractor Was Stalled

An owner hired a good man to run his tractor during the season. Late in the fall, after the man had gone, the owner wished to move his tractor. As far as he could remember, he did all the operator had done in preparation. When started, the tractor ran well until he tried to cross a small ditch. There the tractor engine stopped and he could not start it again. He knew it would be unwise to leave the tractor in the ditch all winter and so sent for a service man. This man discovered that the spark plugs were filled with dirty oil, and on further investigation he found that the crankcase was too full of oil. Though the tractor ran well on level ground, the case contained so much oil that the oil ran over the baffle plates and caused an excess of oil in the two front cylinders on the down grade into the ditch. Then when the tractor started up the grade, the two rear cylinders got it, and the motor just "naturally died."



Wm. S. Giffen of Lethbridge is never short of efficient help when any of his women folk are around.

Turn Your New Deere Gang into a Tractor Plow

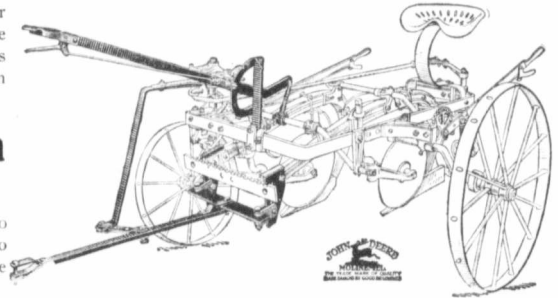
The economical outfit—the New Deere Gang Plow with tractor hitch. Besides the many advantages of the plow itself, with the hitch you have a plow that can be used with a tractor as well as with horses. No matter which power you use, you will get thorough plowing results because this New Deere gang and the

John Deere Tractor Hitch

Gives You Maximum Use of Your Horse Gang

Many years of leadership have proved the New Deere gang to be absolutely the right plow—no improvements are necessary to the plow—so we supplemented its usefulness by adding the hitch feature.

You can purchase this tractor hitch separately or with the New Deere gang. If you have the gang it is only necessary to remove a part or two in order to attach the hitch. If you have a small tractor you will find the cost shows quite a saving over the regular tractor outfit, and besides you have the advantage of being able to use it with horses when necessary. Ask for folder.



New Deere Sulky Plow
With John Deere Quick Detachable Share

The same build and make as the New Deere gang mentioned above. Practically steel construction throughout. High wheels, wide tires, in many widths of cuts. A standard plow that should be included in every farm equipment. Get the Sulky folder.

150-TOOTH OAK WOOD HARROW
A Strictly High-Grade Harrow Throughout

All oak construction, long hard steel dagger teeth, painted. Comes also in 78-tooth and 102-tooth sizes. Get the facts on these and the eveners to go with them.

There are many implements that you may need this spring—Seeders, Spreaders, Disc-Harrows, etc. The John Deere Line stands far in the lead, and is backed by years and years of actual work in the fields. See the John Deere dealer—or write us for folders.

John Deere Plow Company, Limited
Winnipeg Regina Saskatoon Calgary Edmonton Lethbridge

It seems foolish to call a service man for a case of too much oil. However, it is quite likely that a great many service men's trips are made more from a lack of oil than because of an excess of it. The dealer will find that it pays well to get it into the customers' heads that good lubrication is half the battle in tractor operation. Nothing else has so much to do with long life and profitable results as does the careful and systematic but not wasteful oiling of the machine.

Frozen up

A tractor was being used after crimping fall weather set in. At night the operator cut off the radiator, or cooling tank, and drained the cylinders as usual. Next morning when he started the cylinders became very hot. Without stopping to look, he hitched up and drove to town for a service man. The service man found the water in tank and connections frozen, but not enough to crack anything. So he got a piece of hose and connected to the suction side of the circulatory pump. He put the other end of the hose in the top of the cooling tank and started. In this way he pumped water from the top of the tank through the cylinder jackets back to the tank. The circulation of hot water soon thawed the shell of ice in the tank and allowed connections to be made as usual.

Of course, this plan is out of the question where a radiator and thermo-syphon circulation are used. In such a case water should be drained from every corner and crevice. In fact, the wise dealer will not tell any customer that the tractor can be used in cold weather without some trouble and inconvenience. More than that, he has a right to expect a customer to pay for a freeze-up trip.

Once Upon a Time

Once upon a time a certain man purchased a tractor from a branch house salesman. As was usual, a service man spent a week with the new owner. When the service man left, the owner started out to make a record. He did it, too, but not as he expected. In a short time the gears began to howl. After a few days of that record the owner called for a service man. The one who had started the tractor came again and found that the owner had broken all records for wear and tear. The heavy rear axle bearings had not been greased since the service man left the rig. As a result, gears were badly out of mesh. New bearings, etc., were ordered and put in place after considerable work. In order to put in the new bearings it was necessary to jack up the rear end of the tractor to make the frame clear of the rear axle bolts. This was no easy job

Happy Farmer Tractor

Guaranteed Drawbar Pull 2000 lbs.

12-24 H.P. Pulls 3 Plows



Read what one of the hundreds of satisfied owners has to say of the "Happy Farmer"

Rathwell, Man., Feb. 17, 1919. Gasoline Engine and Tractor Company, 104 Princess St., Winnipeg.

Dear Sirs: Regarding the "Happy Farmer" Tractor I purchased last April. It has given entire satisfaction at plowing and threshing. I ran a 22-40 separator threshing wheat, oats, barley and flax and had no trouble in any way. It burns kerosene perfectly, have seen no signs of carbon. I plowed as long as two days on less than one tea cup of water. It uses about one and a half gallons kerosene per acre.

It is the simplest and most get-at-able tractor I have seen. Yours truly, Walter Fritchard.

Write us NOW for full information and prices

Gasoline Engine and Tractor Company, Ltd.
WINNIPEG, MAN.

There's Solid Comfort in each GWG Garment



Demand
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*"They wear longer
because they're
made stronger"*

The Great Western
Garment Co. Ltd.
EDMONTON - ALTA.

Guarantee

Every garment bearing the G. W. G. Label is guaranteed to give full satisfaction to the wearer in fit, workmanship and quality, and to obtain this satisfaction should the garment prove defective, simply satisfy the merchant from whom purchased; he is authorized by us to replace it.

on soft ground without much equipment to work with. While I don't know a thing about it, I suppose that owner felt that the tractor company should pay all expenses. Like as not he even asked for damage on account of lost time. However, I have no idea that the company allowed any claim. Beyond question, a dealer would be very foolish indeed if he did not collect in such a case as this. Lack of proper lubrication is one thing for which the dealer cannot be held responsible. Fortunately, later tractors are to some extent equipped with roller and ball bearings, which do not require quite the attention the plain ones do.

Frozen Fast

A service man was sent to start a tractor which had been standing out during very severe weather. Every part of it was chilled through and through. Besides, the pistons were stuck. So the service man decided to warm up the engine with a blow torch. The cylinders were vertical and had portholes near the lower end. The flames of the torch were shot into these ports to warm up the cylinders. However, the engine was so very cold that the vapor condensed on the cylinder walls, froze there and held the pistons tighter than before. It finally became necessary to pull the tractor under cover where it was warmer. The situation would have been an awkward one but for the nearness of another tractor which could be easily started. In order to prevent such a condition as this, every reader should instruct his customers to house their tractors. At best it is an unpleasant job to start up and use a tractor on a real cold day. Every user should also be instructed to use oil suitable for winter.

Cold-Weather Starting

Once in a while a tractor must be started in cold weather. One service man told me his plan. If the pistons are stuck with cold lubricating oil he cuts the oil by putting in some kerosene. Then he heats spark plugs, air intake pipe and carburetor bowl. In some cases he also warms the can

of gasoline which he uses for priming. If he can find nothing better he makes a ball of cloth, fastens on a wire handle and soaks the ball with gasoline. He prefers a blow torch, though, for he can then direct the flame to suit. The dealer must be quite certain that his service men and customers know just how to heat up the motor parts before advising such a plan. It is well to get the engine men to use high test gasoline for priming, for quite often an engine can be started with high test without heating. However, no wise dealer will sell a tractor with a guarantee that it will start easily in cold weather. This is a physical impossibility, because fuel does not vaporize at low temperature.

Ice in Carburetor

A service man was called to help an operator in cold weather. The operator could not keep the tractor going because ice formed in the air spaces of the carburetor. The service man arranged a pipe so that hot air was drawn from the exhaust pipes. This ended the trouble, of course. This trouble is not apt to occur with the later makes of tractors, because most of them have some pre-heating device. But if it does become necessary to put on some heating device, the service men must be careful not to get too much hot air. One can tell best by the operation of the tractor. The wise dealer who sells in Canada and northern States will be sure that his tractors are provided with heaters and protected from cold.

Cold Oil

A service man tried to start a tractor on a very cold day. He was unable to do so alone. Finally he called a man to help him and the two of them tried it. The trouble was due to thick, cold lubricating oil and snug-fitting pistons. This thick oil made the pistons move so hard that the engine could not be turned fast enough to get good compression. The men finally put in some kerosene, which cut the oil and made it possible to turn the flywheel rapidly enough to get the engine



Labor-savers, with 200 acres to their credit. The outfit and help-mates of J. W. Corden, Miami.

OXY-ACETYLENE WELDING APPARATUS and SUPPLIES

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

Nothing too large or too small

GIEGER WELDING WORKS, SASKATOON

started. Of course, they heated the plugs, etc., as usual.

When the service men, who have travelled about considerably, as these men had, have trouble, the dealer should watch for it, too. It is a good plan to carry suitable winter oils for tractor use and so keep tractor owners coming for supplies.

Moving in Snow

A service man had to move the tractor through rather deep snow. So he put heavy chains about the driver rims so that they made a tire or tread. Then he fastened a big heavy bracket to the frame, on either side of which he ran the chains. By this plan the chains were pulled away from the driver and the snow cleaned off so that the chain tread was always clean. Perhaps heavy spools or pulleys would have been better, but at any rate the tractor was moved. I have heard of putting log chain crossways of the driver, like auto chains, but think this man had a better plan. Surely any dealer would be justified in charging the customer a good price for such ingenious service as this.

**SUN LIFE
TOTAL ASSURANCES
\$340,000,000**

IT IS evident from the report published elsewhere in this issue that the Sun Life Assurance Co. not only closed the best year in its history, but easily maintained its lead over other Canadian companies.

The figures show that the big Montreal company made new high records in volume of business transacted, in its total assurances in force, in income received, in total assets, and in net surplus.

The amount of new policies paid for amounted to \$51,591,000, while the total assurance in force now stands at \$340,900,000, a gain of nearly \$29,000,000 during the year. This large gain furnishes ample evidence of the careful methods employed by the company to obtain only the best business and to conserve it when secured. The total income received during the year was in excess of \$21,651,000, while total assets now amount to \$97,620,000, a gain of nearly seven and a half million dollars. The undivided net surplus over all liabilities and capital stock exceeds \$8,000,000, showing that ample provision has been made for safety.

No Vegetarian

Coogan, the Customer—There's as much nourishment in a pint av peanuts as in two pounds av thot steak.

Grogan, the Butcher — But there's no gravy, an' nothin' for th' cat, an' no hash the next day!



J. I. CASE

Tractor Plows

The J. I. Case Tractor Plow is one example of J. I. Case skill and resourcefulness.

With this tractor plow, better and faster plowing is possible at less fuel, labor and repair expense.

We have eliminated costly "drag" from tractor plowing.

See the local J. I. Case dealer. If you don't know his name write

The J. I. Case tractor plow rides on its three wheels like any wheeled vehicle. It does not drag like a stone boat.

A simple power lift easily raises or lowers plow bottom. This plow enters and leaves the ground point first like a walking plow.

NOTICE—The Supreme Court of Wisconsin has decided that our plows are the "ORIGINAL CASE PLOWS" and that we are entitled to the exclusive use of the word CASE on all plows and tillage implements, and in all catalogues and advertisements of same.
Any notice by another concern regarding CASE plows is given because of this Supreme Court order that our rights and the rights of the public may be protected.

J. I. CASE PLOW WORKS, RACINE, WISCONSIN, U.S.A.
DEALERS EVERYWHERE IN CANADA

Distributors for Canada
THE CANADIAN FAIRBANKS-MORSE COMPANY, LIMITED, Winnipeg, Calgary, Saskatoon
HAPPY FARMER COMPANY, Winnipeg
MINNEAPOLIS THRESHING MACHINE COMPANY, Winnipeg, Regina



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Traversing every province in Canada's Dominion and directly serving the great ocean ports of
HALIFAX, ST. JOHN, QUEBEC, MONTREAL, VANCOUVER, VICTORIA
Passenger - Freight - Express - Telegraph

48 VESSELS

Now under Construction for the Atlantic, Pacific and Great Lakes Service

With these ships in commission and working in conjunction with the vast railway system, CANADA'S products of FIELD, FOREST, MINES and INDUSTRIES will find ready markets in the ports of the world.

CANADIAN NATIONAL RAILWAYS

The Modern Farm Tractor

By W. S. GIFFEN, Lethbridge



Both Make Electricity:— the Power Station Dynamo and the Fiery little Columbias

THE big dynamo whirling in the power station makes electricity for the big jobs—to light the city; to run the factory full of machines; to propel the street cars.

The fiery little Columbia standing quietly behind the scenes makes electricity for all the little jobs—to ring bells and buzz buzzers; to make telephones talk; to run toys for the little folks; to ignite farm engines, autos, trucks, tractors, and motorboats.

THE DRY BATTERY

THE world is so used to having the Columbia Dry Battery always at its beck and call, the little red fellow's work is accepted as a matter of course.

Yet he is really one of the great marvels of the age—marvelous for what he does—marvelous for his power—marvelous for his long life.

Columbia Dry Batteries are appropriately called "The handy-men of the world."

THE STORAGE BATTERY

THE Columbia Storage Battery is backed up with a definite guarantee that makes certain for the purchaser the actual performance to which his original purchase entitles him.

And if his battery should fail to live up to its guarantee, he is entitled to thorough repairs or another battery without additional cost.

Columbia Storage Battery Service is all around you—it will be well worth your while to drop in and let them show you how they will save you annoyance and expense.

Columbia Storage and Dry Batteries

Canada B-10

AS the war is over and we have time to take our breath after our strenuous efforts at greater production, it may be of interest to some if the experiences of the past couple of years were briefly put on paper. Men are heard here and there contending, some in favor of horsepower, and others for tractor power.

While horses were high, oats scarce, and hay also, it would seem that the tractor would have the advantage, as the fuel it consumed could not be used as food during the shortage now, though we find kerosene going up and oats coming down, while horses are a drag on the market, and the only market for many is the butcher at 5c a pound, the pendulum swings first to one side, then to the other.

Well, the tractor became the rage we all know, and every now and again some new company would produce the acme of perfection, so-called, until the makes of tractors are legion. In the spring of 1918 I purchased my first tractor. It was built by a firm of high repute and long experience, and I think it will live up to the expectations I had when I ordered it.

The agent sent an engineer out to my farm with it one afternoon in April, and we tried it out on a piece of level prairie. It worked very nicely, and I proceeded to learn how to handle it myself. I did not break much prairie, as I wanted to double disc a lot of stubble that had just grown one crop since fallowing, so I went out and bought a new engine disc.

I hitched a 3-section harrow behind and went to work. It would pull all this on high gear, though the traction wheels slipped in the loose soil a lot and reduced the mileage travelled. At first I had trouble starting in the mornings as I did not notice that the dust was preventing the little sliding trips from falling out to accel-

ate the armature in the magneto in starting.

When I dropped a little gasoline on those it would start easily. In this engine the oil is forced down to drop on the crank shaft and connecting rods, and does not depend on the splash in the crank case. One day the rods got knocking, and as I did not know how to make adjustments properly went to the city and brought out the company's repair man, who remedied the trouble. We turned on more oil and did not have any trouble there for a long time.

It seems a common trouble with tractors to get connecting rod bearings loose. There ought to be close attention given to keep them tight. I take out a shim on the top and one on the bottom, and tighten it up. If I can't crank her, I take the cap off again and put in two thinner shims of tin. This usually takes up the slack properly.

On another day, a little later, the tractor seemed to become out of order and would only pull with one cylinder. After studying quite a while and losing valuable time, I found one of the lock nuts on intake valve stem loose, and the tapped rod was not opening and shutting it properly. I didn't understand how they should be, but I changed it until I had it as nearly like the one on the other cylinder as I could judge. That remedied that difficulty.

I then thought I was learning to be an engineer at last. Another day one of the wings of the radiator fan cracked and chafed the radiator, so that I had to have it fixed as well as a new fan. The company furnished me with a new and better cast steel fan, which has worked ever since. One bearing a double-row S.K.F. ball bearing on the fan shaft burnt out one day and I lost a lot of time trying to patch it up, but had to have a new shaft and bearing in the end.



Best ANTI-FRICTION
BABBITTS
ON THE MARKET

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.

HOYT'S FROST KING Babbitt is especially designed for threshers, separators and stationary engines of all classes.

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

<p>Nickel Genuine</p> <p>Less than 25 lbs. \$1.25 per lb.</p> <p>30 lb. box 1.10 per lb.</p> <p>56 lb. box 90c per lb.</p>	<p>Frost King</p> <p>Less than 30 lbs.40 per lb.</p> <p>30 lb. box37 per lb.</p> <p>60 lb. box35 per lb.</p>
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Delivered to your nearest express or post office station.

Hoyt Metal Co.
EASTERN AVE. and
LEWIS STREET
Toronto

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



W. S. Giffen with his New Hart-Parr.

The oil hole was found insufficiently opened to admit the oil. Later on the set screw that holds the brass bushing around the cross head pin came out, and the result was the bushing started to cut out the eye of the connecting rod instead of oscillating on the cross head pin. This necessitated a new connecting rod, bushing and pin; but the company made it all good. They also gave me a new set of cylinders free as they expected the old one might be scored. This is about all the trouble I had, but a thoroughly attentive experienced man, instead of a novice, could have avoided most of these so-called troubles.

My engine is a twin-cylinder motor, sliding gear transmission, direct drive, and her final drive is the internal gear. It will operate perfectly with the device, the New Dray kerosene shunt, under any variable load, as long as that shunt does not get fouled with dirt and carbon. It cools splendidly, and is a pleasure to steer; in fact, it runs in the furrow all the time when plowing.

It has great reserve power for hard places. She will break prairie, three furrows, four inches deep, on high gear three miles an hour, if it is wet enough, and will, I judge, use 2½ to 3 gallons of kerosene an acre, and a quart of Mobil B.B. in the oil box, exclusive of grease and hand-oiled places. About a pint of gasoline will start it when cool, and none is needed if you only stop a minute or so.

I have had no experience yet at any other work than I have spoken of and can give you no data. My engine, I consider, pulls at out what 10 good horses would. A few outstanding lessons I have learned is to listen for different sounds than usual; that is the first warning of trouble, and if detected then often can be easily fixed.

Be positive it gets enough oil everywhere to do. Use high-grade oil and don't change for some other kind if your engine runs well. The chances are the next kind won't do at all. Watch for nuts getting loose all the time and

fix them. Use only clean water in your radiator. Rather underload than overload. Try and keep the engine clean. Railroads demand that theirs be kept clean.

W. S. Giffen,
Lethbridge.

It Might Have Been

A noted Sunday school worker, living in Kansas, was once asked to talk to the children on the subject of temperance. He is very earnest in the cause and wears a bit of blue ribbon as a badge of his principles. Rising before the school, he pointed to his bit of blue ribbon and said, "Now, can any of you children give me a reason why I am not a drunkard?" There was no reply for a moment; then a childish voice piped out, "Cause this is a prohibition town."



"Ye darn fool, ye oughta know better than to pick him. His father killed thirty Germans."

Splendid Record Achieved during 1918

THE year 1918 was for the business of life assurance a year of supreme achievement. Owing to the combined effect of the war and the influenza epidemic, death claims were unusually high. The payment of these claims enabled the Companies to render an unprecedented measure of public service, and to fulfill to a more noteworthy degree than ever previously the beneficent purpose for which they were founded.

The record achieved during 1918 by the Sun Life of Canada was one of particularly striking success. For the first time in the Company's history new assurances paid for exceeded Fifty Million Dollars. The growth in size, strength and prosperity accentuates the Company's position as not merely the leader among Canadian Life offices, but one of the great insurance corporations of the world.

The Company's financial power is emphasized by its large Assets, Income and Surplus. During the year \$7,460,000 was added to the Assets, which at December 31st, had reached the huge total of \$97,620,000. The income is now \$21,651,000, while the undivided Surplus is \$8,027,000.

THE RESULTS FOR 1918

ASSETS		
Assets as at 31st December, 1918		\$97,620,378.55
Increase over 1917		7,460,304.61
INCOME		
Cash Income from Premiums, Interest, Rents, etc., in 1918		21,651,099.09
Increase over 1917		2,362,102.01
PROFITS PAID OR ALLOTTED		
Profits Paid or Allotted to Policyholders in 1918		1,546,607.16
SURPLUS		
Total Surplus 31st December, 1918, over all liabilities and capital (According to the Company's Standard which is more severe than that laid down by the Insurance Act.)		8,027,378.55
TOTAL PAYMENTS TO POLICYHOLDERS		
Death Claims, Matured Endowments, Profits, etc. during, 1918		9,768,564.28
Payments to Policyholders since organization		78,862,881.15
ASSURANCES ISSUED DURING 1918		
Assurances issued and paid for in cash during 1918		51,591,392.04
Increase over 1917		3,779,824.56
BUSINESS IN FORCE		
Life Assurance in force 31st December, 1918		240,899,656.12
Increase over 1917		28,938,710.43

THE COMPANY'S GROWTH

YEARS	INCOME	ASSETS	LIFE ASSURANCES IN FORCE
1872	\$ 48,210.77	\$ 96,461.95	\$ 1,064,350.00
1883	274,865.50	785,940.10	6,779,566.00
1893	1,240,483.12	4,061,776.90	27,799,757.00
1903	3,866,139.50	15,569,174.48	75,681,189.00
1913	13,996,401.64	58,726,347.32	292,263,996.00
1918	21,651,099.09	97,620,378.55	340,899,656.00

SUN LIFE ASSURANCE COMPANY OF CANADA



1871

HEAD OFFICE MONTREAL
T. B. MACAULAY, President

1919

When writing Advertisers please mention *The Canadian Thresherman and Farmer.*

Saves Harness and Hubs

Imperial Eureka Harness Oil

Sinks into leather. Keeps it pliable and strong. Free from acid. Convenient sizes.

Imperial Eureka Harness Oiler

Saves time, oil and work. A worth while convenience for every barn.

Imperial Mica Axle Grease

The powdered mica fills the surface pores of axle and hub. Makes them smooth as glass. The grease is all lubricant. Saves wear on hub and axle. Makes hauling easier on harness and horses. Sold in sizes from 1 lb. to barrels.



At Dealers Everywhere

IMPERIAL OIL LIMITED
Power - Heat - Light - Lubrication
Branches in all Cities

Steady Power—Dependable for Threshing

The old reliable steam engine has never been equalled in power for threshing. It is steady, which is always necessary to insure good results. It's the power that most people know how to operate. Its troubles are easily discovered and remedied. If it gets weak, it does not stop dead.

Almost anything that can burn can be used for fuel.

The NICHOLS-SHEPARD STEAM ENGINE represents the best that can be produced in steam engine construction. It is durable and has lots of power. It is easily handled. Almost anyone can keep it running.

Buy a Nichols-Shepard Steam Traction Engine, and a Red River Special Separator. You know then that you will get

the biggest jobs and the longest runs. There will be no waiting because of breakdowns. You can thresh and make money when conditions are so bad that other outfits have to stand idle.

It saves the farmers' time and grain. Sooner or later you will have to buy a Red River Special outfit. Buy it this year, because it will mean more money in your pocket.

It Saves the Farmers' Thresh Bill

NICHOLS & SHEPARD COMPANY

(In Continuous Business since 1848)

Builders Exclusively of RED RIVER SPECIAL THRESHERS, Wind Stackers, Feeders, Steam and Oil-Gas Traction Engines

Battle Creek - Michigan

Branch Houses:—REGINA, Saskatchewan

H. P. NORTON COMPANY, CALGARY, Alberta

WINNIPEG, Manitoba

IN order to reap the largest and most profitable crops, it is not only necessary to maintain the fertility and tilth of the soil, by the use of a judicious rotation and the addition of sufficient manure or fertilizers, but care must be taken to sow thoroughly clean seed derived from varieties best adapted to the soil and climatic conditions of each farm. The following deals with the choice varieties and presents conclusions drawn from the tests which have been conducted on the various Dominion Experimental Farms and Stations for many years.

The Best Varieties of Grain

By CHAS. E. SAUNDERS, B.A., Ph.D., Dominion Cerealist

As a rule it is not advisable for farmers to experiment with new sorts which are recommended by the vendors only; but those grain growers who have a special liking for experimental work will find the testing of new kinds a very interesting, though expensive occupation. For most people, it is better to leave to government institutions all preliminary experi-

ments, and not to grow on their own farms any varieties that have not already been shown to be good. There will always be plenty of scope, among recommended sorts, for very interesting comparative trials, which may be made with little or no loss of either time or money.

It is not the policy of the Dominion Experimental Farms to

advise the cultivation of new varieties of grain until they have been carefully tested in, at least, some parts of Canada, though, of course, it is impossible to withhold new sorts from the public long enough to try them in all sections of our great country. Furthermore, new varieties, whether originated at Ottawa or elsewhere, are not recommended unless they have shown some point of superiority over the older and better known sorts. Novelty ought to be recognized as a disadvantage unless accompanied by some definite and significant gain.



One small corner of the Illimitable Grain Garden of Canada.

Belt Right is Belt Might

Our one concern in life is: "What is the Right Thing to do?" Carrying this into every detail of our business of manufacturing belting, we decide as we would on any point of morals, viz: that there is only one thing we may do, and that is to see that there is not the slightest compromise with a "weak link." Every ounce of material is of the best and every minute of skilled labor is conscientiously employed in the production of the



LION BRAND
Rubber Belt
 and the
YELLOW FELLOW
ENDLESS THRESHER BELT



They are unbeaten in the field of grain production

and are 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

In order that grain growers may be able to make an intelligent choice among the varieties recommended, brief descriptions of them are here given. Other very good sorts, almost or quite equal in value to some of those which are recommended, could have been added to this list, but it is manifestly undesirable to mention the names of all unnecessarily large number of varieties.

It should be explained that all those varieties to which Ottawa numbers are attached are new cross-bred sorts or selections produced by the Dominion Cerealist at the Central Experimental Farm, Ottawa.

Spring Wheat Red Fife Group—Late Ripening Varieties

Red Fife—Formerly the standard variety of Canada. Beardless, straw rather long and fairly stiff, kernels red and usually hard. Gives a good yield under a variety of conditions, but is too late in ripening for the greater part of Canada. This wheat is in the highest class for milling and bread-making. The selected strain grown on the Dominion Experimental Farms, Red Fife Ottawa 17, is exceptionally pure, but not otherwise materially different from the ordinary stock.

White Fife—Practically identical with Red Fife, but has yellowish instead of reddish bran.

The popular ideas about the superior adaptability of White Fife to certain special field conditions are incorrect, as are also those about its inferiority to Red Fife for bread-making. This variety should not be sown unless the farmer can secure an extra high price for a "white" wheat. As a rule "red" wheats sell better in Canada.

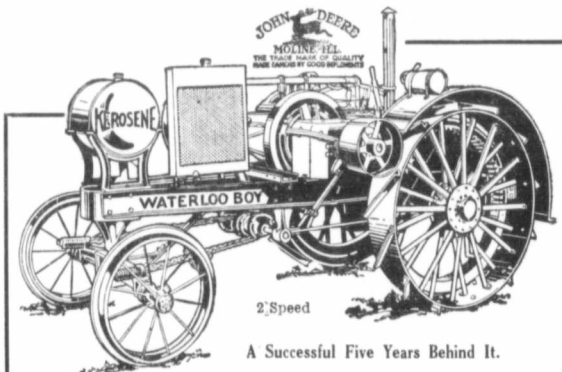
White Russian—Ordinary, commercial White Russian ripens with Red Fife, though some selected strains ripen earlier. White Russian differs from Red Fife chiefly in having longer heads, and larger and softer kernels, which produce flour of poor bread-making quality, though very suitable for biscuits and pastry. This variety often gives excellent crops, especially on light soils in Eastern Canada. It suffers very badly from rust in some sections.

Marquis Group—Early Ripening Varieties

The wheats in this group are extremely productive, surpassing those in the Red Fife group, and maturing usually from 3 to 12 days earlier.

Marquis Ottawa 15—The leading wheat of Canada; straw stiff and rather short, heads beardless, grain does not readily shell out before cutting, and is, of course, a little harder to thresh than other

(Cont'd on page 44)



A Successful Five Years Behind It.

Waterloo Boy ORIGINAL KEROSENE TRACTOR

A three-plow tractor that is economical and practical. It burns kerosene perfectly with no waste of lubricating oil. Has a powerful two cylinder engine with big bore and long stroke, furnishing ample power of 12 H.P. at draw bar and 25 H.P. at the belt. Eleven Hyatt Roller Bearings—at principal points. Easy to get at and operate. No expert necessary. Every part is built for years of service. You can depend upon the Waterloo Boy in all farm power work. Use its satisfactory power on all your belt machines as well as its pulling power.

Get the facts. See the John Deere Dealer or write for the Waterloo Boy folder tonight.

John Deere Plow Co. Limited

Winnipeg Regina Saskatoon Calgary Edmonton Lethbridge



A Great Welcome

ALL over the country the announcement of the 15-27 kerosene tractor was received with intense interest. Throughout the industry, men have expressed their admiration for this superior machine.

No tractor is finer. And we know of no equal. Farmers who judge carefully, realize that they cannot afford to make any decision until they have studied this new Case offer.

The range of power provides for handling either 3 or four plows according to field conditions. In fields where plowing is difficult, tough or baked soil, grades, etc., this tractor pulls 3 plows easily.

Where conditions are favorable, this tractor can pull 4 plows.

With reasonably good footing this tractor delivers a normal pull of 3000 pounds at the draw-bar. Its reserve power makes it possible to attain 3600 pounds pull or over.

Under variable soil and field conditions, the operator may take advantage of the two-speed transmission, using low speed (2½ miles per hour) for hard pulls and high speed (3½ miles per hour) for normal pulls.

While rated at 15 h.p. on the draw-bar this Case 15-27 can deliver fully 20% more. While rated at 27 h.p. on the belt, it can deliver 20% more.

As has been our consistent policy for 77 years, we give Case

tractors a conservative rating, allowing sufficient reserve for emergencies.

Your field conditions will determine whether you should pull 3 or 4 plows or whether you should pull 3 plows on high or low gear.

When you become an owner of this Case 15-27 you can depend, first—upon our conservative rating and, secondly—that it will accomplish what it has been built to do.

Our illustrated and descriptive booklet describes this and other Case kerosene tractors completely. Write for a copy to-day.

J. I. Case Threshing Machine Company, Inc., (Founded 1842) 1796 Erie Street, Racine, Wis., U. S. A.





A Super Tractor

AS you study the specifications of the Case 15-27 kerosene tractor which we will gladly send upon request you will realize that here is a tractor such as no one has ever built before.

You will be impressed with the fact that we have built continuous service and long life right into the tractor, avoiding all short-sighted cheapening. You will note the modern practical engineering ideas. For instance, the main frame is a one-piece casting constituting a dust-proof housing for rear axle, bull-pinion shaft, transmission and crank case. This construction assures permanent alignment of bearings, shaft or gears. Dozens of similar betterments are included.

As you come to know this Case 15-27, you will appreciate its accessibility. You will note the removable covers for gear housing and the motor, which allow you to get at all parts quickly. No dismantling is necessary.

Your further study of this tractor will divulge the finest materials in its construction. For example, all traction gears are cut steel, hardened, no rough castings. All gears are fully enclosed and run in oil.

For belt work this 15-27 delivers a steady flow of power. It has a 4-cylinder valve-in-head motor, governor controlled. You can be assured of uniform speed which is so necessary for threshing and similar jobs.

The belt pulley is mounted on the crank shaft and is fitted

with clutch and brake, both operated by the same lever. It is easy to "line up" this tractor with belt driven machine. To become better acquainted with this better tractor, we encourage people to make comparisons because it always shows up Case superiorities.

The line of Case Kerosene Tractors is fully described in a new booklet we have just prepared which includes illustrations and all details. Write for a copy of this booklet to-day.

J. I. Case Threshing Machine Company, Inc., (Founded 1842) 1796 Erie Street, Racine, Wis., U. S. A.



Still Advancing!



We are in no way connected with the great act of "demobilization." There has been no "armistice" between us and the industrial life of Western Canada. We are still advancing, but with whole batteries of "Magnet" Cream Separators in lieu of machine guns. Our munition plant is busy night and day in turning out bullets of butter. We issue no casualty lists because "there ain't none." Every man and woman who serves with us is a better man and woman from the day they know the

"MAGNET" Cream Separator—

the greatest labor-saving and food-conserving machine ever introduced into Dairy Farming and they will give it you.

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 "misyery" by buying the up-to-date "Magnet" Cream Separator.

"Facts are chieft that winna ding, and canna be disputed."

The Petrie Mfg. Co. Ltd.

Head Office and Factory: Hamilton, Ont.

WINNIPEG, CALGARY, REGINA, VANCOUVER, MONTREAL,
ST. JOHN, EDMONTON, LETHBRIDGE



Some Farm Management Problems

Address delivered by A. H. BENTON, Professor of Farm Management and Rural Economics (M.A.C.), to the Convention of Agricultural Societies, Winnipeg.

(Continued from page 36, March issue)

The raising of live stock requires more and better fences, and particularly so if the smaller animals, such as sheep and hogs, are kept. The question of pasture also arises. Some favor the permanent pastures, and others the rotated pastures. The solution of this question usually rests on the presence of land unsuited for cultivation. To the person interested in live stock the question always presents itself as to the advisability of purchasing pure bred or grade stock. If cattle are being raised there is always the question of dairy cattle versus beef cattle. On large farms beef cattle will be the prevailing type, without question, but on the smaller farms it appears that there is a trend towards the keeping of more dairy cattle, even though at the present time the price of milk is lower than it should be in proportion to the cost of feed and labor.

It should be borne in mind that the profits in live stock come largely from two sources. First, the use of bulk and cheap feeds that otherwise would bring no return at all. Consequently, any return from this source is likely to be a profit. A pound of beef secured through the feeding of straw is practically the same value as a pound secured through the use of high-priced feeds. The second source is that of making use of labor which would otherwise be unemployed. This labor

men who have slack times between seeding and harvest, and during the winter; the young people who supply a great deal of labor without extra cost that adds greatly to the family income. The keeping of live stock, however, complicates the labor problem, as it takes a high-class labor, a class that must be dependable and constant. Work on live stock has some advantages as to the laboring men, since it affords continuous employment. It is interesting to note at this point that some farms in the grain growing sections object to keeping live stock. Live stock farming districts usually are the most prosperous. The live stock industry affords an opportunity of securing a premium for the products that is scarcely possible in grain growing. Grain competes on a world-market, whereas good live stock is sold on its individual merits. To be successful with live stock, men must have experience, particularly in the dairy industry, and at the present time this is one of the real needs of the province. The final solution of the labor problem on the farm will, undoubtedly, be that owners will put up small houses and hire men with families, who will remain there the year through. This is the tendency now in many parts of the United States, and even in Minnesota, where conditions of two kinds: the able-bodied

Thoroughbred!

it pays to buy thoroughbred cattle—and
if pays to buy thoroughbred clothes—

OVERALLS, WORK SHIRTS etc of

Stifel's Indigo Cloth

Standard for over 75 years.



Are every inch thoroughbred. Firm, strongly woven cloth, that resists wear and weather. Color that lasts as long as the cloth.

You can tell the genuine STIFEL'S INDIGO by this little mark  stamped on the back of the cloth inside the REGISTERED garment.

Look for it—and you'll never be disappointed in the wear of your working clothes—for it's the CLOTH in the garment that gives the wear.

Cloth Manufactured by

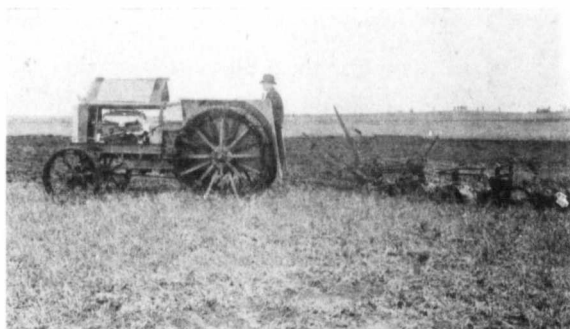
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Gold Shapley & Muir 12-24 with 3 Cockshutt Plows.

tions are similar to those of Southern Manitoba.

Efficient direction of the men is most necessary, and data available indicates that one of the weakest spots in farm organization is usually in handling the labor problem. Statistics from some investigations in Minnesota show that the average man on the farm works a little more than nine hours for every working day of the year, and the boys a little more than three hours. Another important problem in connection with labor is that of farm machinery, since it is a labor-saving device. The tractor question is the most vital of any of these at the present time. It is the consensus of opinion that more men, up to the present time, have lost money in buying tractors than have made money by their use. There are at least two reasons for this. First, that the tractors have not been well built, and that men capable of operating them have not been available. Second, that very few horses have been displaced, consequently the cost of production has been increased unduly.

The organization of farms along the lines indicated brings up another problem, which is frequently the limiting one; that is, the capital problem, or the obtaining of sufficient capital to put into operation a plan which is deemed the proper one. Increasing land values require higher net returns, above direct crop production expenses. Diminishing yields, on the other hand, have made these larger net returns increasingly difficult. The farmer thus is being forced between two ever-increasing forces, the true strength of which will not be realized until grain prices fall back to their normal level. More live stock also means that more capital will be needed if the proper transition is to be made from grain to diversified farming. To meet this problem there are two institutions available to the farmers of Manitoba that are worthy of mention.

1. The Manitoba Farm Loan Association, which has loaned more than one million dollars at a satisfactory rate of interest, and

for long terms, whereby the farmer will be able to realize on his borrowings before returning payment.

2. The Rural Credit Society's Act, which provides short term loans for the purchasing of seed, the breaking of land, the acquiring of live stock and other purposes, through which an income will be realized and the debts incurred rapidly paid off.

The topics thus far discussed have dealt with the production side of the problem, but it is evident that before the farmer is through he must market what he has produced.

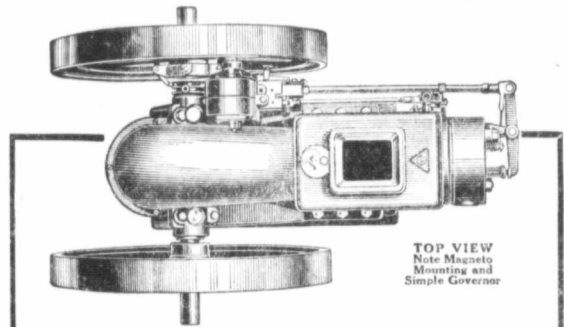
The marketing problem is an immense problem, with which the most capable men of the world have been wrestling during the past few years, but from the broad point of view it is not a farm management problem. Farm management deals with individual farmers and individual farms. From this angle there are one or two suggestions that may well be included. For the individual farmer co-operative marketing offers great possibilities. The Grain Growers' Association has recognized this, and has been of wonderful service to the farmers to secure a higher price for what they have raised, and in general there is, at present, little opportunity for criticism of grain marketing.

With the development of diversified farming, and the increased amount of live stock being put on the market, the live stock marketing problem comes to the forefront. There will immediately arise in the mind some of the criticisms and attacks being made on some of the packers and their methods. This is another social or state problem, and not one which the individual farmer can in any wise solve, but he still has the same opportunity to use co-operative methods in placing his live stock on the central market.

In the States of Minnesota and Wisconsin, where co-operation has developed quite extensively, no other kind of a co-operative marketing organization has developed so rapidly, and with such satisfaction to the farmers, as the



The "White All-Work" 13-27 pulling 4 Rock Island Plows.



TOP VIEW
Note Magneto
Mounting and
Simple Governor

Compare ALPHA with any other Engine

It is much more carefully made—you can see that at once—every part is carefully machined to fit. That means long life.

You will also note the unusual simplicity of the ALPHA—any boy can quickly learn to operate it. Simple construction insures the remarkable reliability for which the ALPHA is famous.

If you don't get a chance to see an Alpha at a neighbor's or a dealer's, send to nearest office for and study the *Gas Engine Book*, and learn how a first-class engine is made—you'll enjoy reading it.



The De Laval Company, Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole manufacturers in Canada of the famous De Laval Cream Separators and Ideal Green Feed Silos. Alpha Gas Engines, Alpha Churns and Butterworkers. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER



DISCING WITH A HUBER LIGHT FOUR

Canadian Farmers Praise It

The Huber Light Four has Made Good in Canada

IT IS light enough to travel on plowed ground without packing but has power enough to pull three bottoms in stubble. Its lightness makes it very economical. It is used successfully with kerosene. Does all kinds of field work; runs a light thrasher, and does other belt work, pulls scrub cutters and brush breakers in clearing new land—and stands up under the roughest usage.

R. E. Drennan, Canora, Sask., pulled three plows and a section of harrow in stubble land, and cleared 50 acres of new land with the Huber. "I have no repair bill—, and the little tractor is as good as new", he says.

I. S. Engin, Hanna, Alta., pulls three plows in gumbo and burnouts. Hauls three wagons loaded with five tons long distances over rough grazing leases.

W. F. Ens, Winkler, Man., pulls four 14-inch plows in stubble, three in very heavy land.

Logan McCann, Walpole, Sask., found it so simple his son learned to run it perfectly in a day although he had never handled an engine before.

If you are interested in tractor economy, lightness, power and simplicity be sure to write now for the booklet "Doing the Impossible".

The Huber Manufacturing Company

BRANDON, MANITOBA

Dealers wanted where we are not represented

Factories at Marion, Ohio Established 40 Years

Manufacturers of the Huber Junior Thrasher

Weight 5,000 pounds; pulls three 14" bottom plows; 12 h. p. delivered to the drawbar; 25 h. p. at the belt; Waukesha, four-cylinder motor; Perfection Radiator; Hyatt Roller Bearings; burnus gasoline, kerosene or distillate; center draft; two speeds, 2 1/2 and 4 miles per hour.

MR. FARMER



Put the K.O. (Knock-out) on Work Glove Trouble

And see that your next glove purchase calls for a pair of the famous "Two-Dollar Knock-out Glove", they are worth the price and more beside as they comprise Fit, Wear and Comfort.

EVERY PAIR GUARANTEED

They Wear Longer Because They Are Made Stronger

SOLD AT ALL GOOD STORES THROUGHOUT CANADA



**Northland Knitting Company, Limited
WINNIPEG**

MANUFACTURERS OF MEN'S, WOMEN'S AND CHILDREN'S SWEATERS, MITTS AND GLOVES AND MOCCASINS



No Peace Terms Possible

THE yearly work of the gopher is intolerable. It must be War! War! until he is exterminated.

You will find no better weapon with which to fight this pest than Gophercide—which is strychnine, shorn of its bitter taste, and made eighty times more soluble than ordinary strychnine—requiring no vinegar or acids—just warm water.

Gophercide

gets the gophers every time—and gets them quickly. Dissolve a package of Gophercide in half a gallon of warm water and in this, soak a gallon of wheat—and you have sufficient to kill about 400 gophers. Absolutely certain death—does not deteriorate with time or weather—and the gopher likes it.

Get Gophercide to-day—from your druggist or our nearest branch.

NATIONAL DRUG AND CHEMICAL CO. OF CANADA, LIMITED
Montreal, Winnipeg, Regina, Saskatoon, Calgary, Edmonton,
Nelson, Vancouver, Victoria, and Eastern Branches.

co-operative live stock shipping associations. The reason for this is two-fold:

1. They have been able to see definitely the saving that can be made by employing one of their number to act as a manager, and take charge of the ordering of cars to ship all the stock and the distribution of the returns, after the expenses save been paid.

2. No subscription of capital is required, since no buildings or other equipment are necessary; the only requirements are that the people agree to ship together and hire someone to take charge of the shipping. In Minnesota in 1914 there were 115 local shipping associations that shipped over six million dollars worth of live stock, with an average saving of approximately one thousand dollar per association.

The question may well be asked, "What is being done, or what can be done to aid in solving some of the farm management problems, that is, problems of the individual farmer and his farm?" In answer to this, it may be definitely stated that one of the most fruitful fields for giving aid along this line is to investigate actual methods of farm production and operation being used in various localities by the farmers, and to secure from them a statement of their expenses and receipts. From these statistics it will be found that some are succeeding and others are failing, and by finding out what the farmers who succeed do different to those who do not succeed, we have a basis for making suggestions for profitable types of farming for the locality investigated. It must be recognized at all times that the factors which determine profitable farming in one locality may not apply to another, where conditions are different. This form of investigation, known as the Farm Management Survey, has been of immeasurable value in the United States, where work of this character is being carried on from the Atlantic to the Pacific Coast, and from Minnesota to the Mexican border. The theory of this work is fundamentally sound, since conclusions are drawn from actual facts, being from real farmers operating their own farms, and not from theoretical statistics worked out on experimental farms. Experimental farms are indispensable to the development of agriculture, but not along the line of farm management.

The second line of effort is that known as studies in cost production, whereby definite and exact data is secured from farmers for the purpose of determining the cost of producing different crops and kinds of live stock, and the relative profitableness of them.

If price fixing is to continue,

cost of production is one of the factors necessary for proper understanding of the problems that arise, and it can be secured only through careful investigation by experienced men. It cannot be secured in any one year, since an average must be secured. The results of a single year would not be dependable as representing average conditions.

In the United States, where both farm management survey work and cost of productions studies have been carried on by the various colleges and experimental stations for a number of years, it is the consensus of opinion that these two lines of work are essential, and must be carried on in conjunction, if the best results are to be obtained as a basis for bringing farming to a more business-like and well-ordered industry.

PEAS AS A PROFITABLE CROP FOR THE PRAIRIES

(Experimental Farms Note)

THE advantages of growing field peas by the dry land farmer on the prairies have never been given the consideration that the possibilities warrant. That satisfactory yields can be obtained when they are sown on summerfallow has been established beyond peradventure by the results at the Dominion Experimental Station at Lethbridge, where the average yield for the past eleven years has been 27 bus. per acre. The cash value of the crop is particularly high at the present time, and is apt to remain so for some time owing to the demand for seed. The high feed value of peas, especially when fed along with other grains, such as barley or oats, is so well known and appreciated by stockmen that no special mention of the fact is required. Being a legume, it enriches the soil rather than being a drain on it. This is an important consideration for the dry land farmer who, on account of the necessity of his having to summerfallow his land at least once in three years, is compelled to stick to annual crops to a greater extent than is his brother farmer in districts where the rainfall is greater. Grain following peas will always yield much heavier than grain following grain.

On account of the bulky nature of the vines there is sometimes inconvenience met with after harvest due to them being blown about by the wind. This difficulty may be overcome by either allowing the peas to become fully ripe and then cut and thresh the same day or else stacking as soon after cutting as circumstances will permit. They are cut with the mower

with a pea harvesting attachment fastened to the cutting bar.

The seed should be sown about the same time as wheat at the rate of two to two and a half bushels per acre, depending on the size of the pea. When being sown for the first time on a farm it is well to inoculate. This is not absolutely necessary, but at the Lethbridge Station it has been found that inoculation increases the yield by fifty per cent. This can be done either by scattering soil obtained from a field on which peas have previously been grown over the field to be planted at the rate of about 200 pounds per acre, or by obtaining a prepared culture with which to treat the seed itself. This culture can be obtained gratis by applying to the Dominion Botanist, Central Experimental Farm, Ottawa. Any of the standard varieties will do well, but Arthur or Mackay are recommended on account of their earliness. Prussian Blue has proved to be a good yielder, but is a little late.

THE BEST VARIETIES OF GRAIN

FOR many years the Dominion Experimental Farms and Stations have been conducting tests in the various provinces to determine the best varieties of cereal crops for cultivation in Canada. In Circular No. 16 issued by the Cereal Division, and distributed by the Publications Branch of the Department of Agriculture at Ottawa, the merits of the leading varieties are discussed and such information given as will be a guide to farmers in selecting the varieties to sow this spring. After a general discussion of the varieties the best kinds are arranged approximately in the order of merit for the different parts of Canada. Wheats are divided into six classes. Following are the leading varieties in each class: Fall wheat, Dawson's Golden Chaff; spring wheat, late ripening, Red Fife; early ripening, Marquis; very early, Ruby; extremely early, Prelude; Durum, Kubanka. These several early sorts are recommended for northern areas. In oats the Banner is placed first; six-rowed barley, Manchurian; two-row barley, Duckbill; hooded barley, Success and Champion; hullless, Guy Mayle; Emmer and Spelt, common emmer is named as the best sort. Arthur is placed at the head of varieties of peas. Navy, a pure white bean of medium size, is highly recommended, and Novelty is the name of the best flax for seed, while Longstem is considered best for fibre. Rye buckwheat is the best sort so far decided.

STANDARD WHEATS FOR THE PRAIRIES

(Experimental Farms Note)

IN the prairie provinces high baking strength and earliness are essential in any variety of wheat. Canadian wheats command a place in the markets of the world on account of the high baking strength that they possess, while earliness is the farmer's protection against loss by frost, and enables him to produce grain having a sound, plump berry and of a uniform quality.

Now, there are being grown over the prairies varieties that are unsuitable as wheats for export. Being low in baking strength, poor in color and shape of kernels, these varieties are a menace to our reputation for hard spring wheat. The most of these have been brought in by speculators or else have been introduced by men who see a strange head in their field of wheat and immediately are possessed with the idea that they have found a new and wonderful variety. No disparagement is intended by this remark to the work of those men who have carefully selected and produced varieties of value; it refers only to the hasty introduction by some enthusiast of a kind of wheat which has not been tested out and of which neither he nor anyone else has any certain knowledge. For the introduction of unknown sorts of wheat, the grain grower is as much to blame as the speculator. Instead of procuring varieties of proven merit, he is anxious to try something new that will surpass in yield any variety known. Too often these much-lauded varieties are absolutely inferior sorts, and their propagation threatens the reputation that we now hold for our wheat, a reputation that we cannot afford to lose, especially at this critical time of trade readjustment.

The ideal wheat is a hard, red wheat of high baking strength, maturing sufficiently early to escape frost, and giving the highest possible yield in conformity with these other requirements. The varieties Marquis, Early Red Fife, Pioneer, Ruby and Prelude are wheats that have been introduced by the Experimental Farms to meet the varied conditions of the prairies. These wheats all conform to the above standard, and their adoption according to their adaptability for local conditions would do more than anything else to reduce the annual injury from frost and maintain the quality of our wheats on which our place in the markets of the world depends.

Teacher—"Johnny Smith, how did you get that black eye?"
Johnny—"Please, miss, I sprained it doin' sums."



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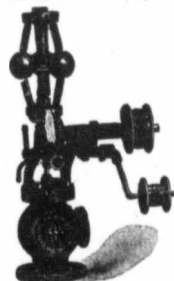
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Harness and Collars

An Irrigated Farm

IN SUNNY SOUTHERN ALBERTA

SOME 1918 EXPERIENCES WITH IRRIGATION

Laurity Selgeusen, of Standard, Alberta, irrigated 70 acres of wheat and oats. His irrigated wheat yielded 15 bushels an acre more than that which was not irrigated. His oats 50 bushels more.

W. Smith, broke 34 acres raw prairie land in the spring near Brooks, Alberta. This he seeded to wheat and irrigated. His crop averaged nearly forty bushels to the acre.

V. C. Chapman, of Rockyford, Alberta, had an average of forty bushels an acre of No. 1 wheat from 46 acres of irrigated land. Part of his land irrigated earlier yielded more than 150 bushels an acre.

M. C. Hanson, of Baintree, threshed 1250 bushels No. 1 wheat from 35 acres of irrigated land, an average of more than 36 bushels to the acre.

F. J. Meech, who is farming 80 acres near Lethbridge, harvested 1500 bushels of wheat, 250 bushels of oats, 6 tons of oat hay, 25 tons of potatoes and from an acre set aside for a garden sold \$75 worth of vegetables besides growing sufficient for his own family's needs for the year.

H. B. Ramer, who settled at Durbess, in 1917, on a quarter section, harvested 1900 bushels of wheat, 700 bushels of oats and 550 bushels of potatoes. This crop was worth \$4,360. In addition he grew water-melons, cantaloupes, tomatoes, sweet corn in his garden.

C. A. Waltemath, of Gem, harvested a crop of 55 bushels to the acre of oats which were not seeded until June 5th.

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The large crops of wheat, oats, barley, alfalfa and various other fodder crops obtainable every year enable a maximum number of cattle, sheep, hogs or poultry to be supported on these farms. Beets, potatoes, tomatoes, all kinds of vegetables, and garden produce including cantaloupes, citrons, pumpkins, squash, raspberries, strawberries, successfully grown. Land only \$50 an acre, including water rights. Easy terms. One-tenth cash and twenty years to pay balance. \$2,000 loan for buildings, fencing and well. A chance to become independent.

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THE NEW LORDS OF HEIGHT

Man's Highest Climb in the Sky—Six Miles Up—An Australian and a Canadian Assails Heaven's Gates and Return

BRITISH sportsmen will feel a glow of pride at the achievement of the world's record for altitude by Captain Lang, R.A.F., and Lieutenant Blowes, in a British biplane with a British-designed and British-built engine.

"The air climbers have now not only beaten the mountain climbers, but also in their frosty flight they have risen into thinner air than is pierced by the spire of Mt. Everest," says the "Daily Mail."

The Pluck of this Air Feat

"The pluck of this air feat was magnificent; the pilot knew that if he lost consciousness from lack of oxygen or the withering cold his life was forfeit; but still, although suffering, he soared upwards to his record of nearly six miles, and but for engine stoppage he would have risen even higher.

"It would seem, from the physical experiences of these two gallant airmen, that six miles is near the limit to which man will ever ascend unless new devices are found for cold protection, and oxygenisation.

The Spires of the World

"The dream of Jules Verne of a trip to the moon will remain a dream, and even the mountaineers will have to dismiss their speculations as to whether Mt. Everest (29,022 ft.) will ever be climbed. The airmen had to withstand only diminished atmospheric pressure and cold, and even that they were able to relieve with oxygen and warming apparatus. Climbers attempting the highest mountains could not carry such apparatus; they would

have intense and prolonged muscular exertion; they would have to spend several nights in tents above 20,000 ft.; for several days they would have to subsist on a minimum of nutrition, because coolies or porters could not be taken very high. When the nerve strain of the technical difficulties of the climb is likewise taken into account, it does not seem likely that the spires of the world will ever be climbed. The new lord of height is the airman."

Six Miles Up

The world's altitude record of 30,500 ft. (nearly six miles) in 66 minutes, 15 seconds, made on January 2, and achieved by Capt. Andrew Lang, R.A.F., and Lt. Blowes, on a British-built and British-engined biplane, near Ipswich, was made with a D.H.9, the machine being fitted with the Napier Lion engine, of 450 h.p. The D.H.9 was designed and used for bombing the German Rhine towns in daylight, the machine being very fast and carrying big weights. When carrying full military load and passengers it attains a speed of 140 miles per hour at 10,000 ft.

The Two Men

Captain Lang had made two previous attacks on the altitude record, which had been held by America. He is well known in Australian motor circles, and in 1910 drove a motor car across Northern Australia for his Government in an exploring expedition. Lieutenant Blowes is an experienced pilot, who in France brought down several Hun planes. He comes from Mitchell, in Ontario, Canada.

Through a fault in the oxygen apparatus Lieutenant Blowes collapsed, and at 28,000 ft. the heating apparatus began to work erratically. The machine was brought to a stop through lack of petrol pump pressure, owing to



Artist (to Tommy, home on leave, acting as model for picture to be entitled "Going over the Top"): "Ah, dinna ken what it is. It doesna seem realistic enough. Have we forgotten anything?"

Tommy: "Don't think so, guv'nor, unless it be the tot of rum yer didn't serve aht."

rarefaction of the air. Luckily Captain Lang was able to descend slowly, and at 20,000 feet Lt. Blowes recovered consciousness.

The two airmen have suffered badly from frost on hands and face. The younger, Lt. Blowes—who is only 19, and has been in the Air Force one and a half years—has serious injuries to his hands, which are very painful. Captain Lang, who has been flying since 1915, is very keen on experimental work, and while delighted with his performance, regards it as little more than part of an ordinary day's work.

Busy Up on High

"I have," said Captain Lang, 'far more instruments to pay attention to than the observer' (to whom he paid warm tribute for his pluck under a terribly trying ordeal). 'I have to make the most minute observations at every thousand feet, and these are recorded on a board strapped to my right leg. I have also to note down how the temperature changes, the speed at which the machine is climbing, the revolutions, water temperature in the engine, oil temperature, petrol pressure, and gallons of petrol consumed per hour, and occasionally to look over the side to note our bearings.'

"This flight, Captain Lang said, had been contemplated for some time, and to prepare for it he and his colleague had remained strict teetotallers and had never indulged in a smoke for weeks. The machine they used was a De Havilland bombing machine, fitted with a 450 h.p. Napier engine. They started at half-past eleven a.m. in a gale of wind.

Several Degrees of Frost

"Both men were specially clad for the occasion, and the need for this is indicated by the fact that when the machine reached an altitude of 30,500 ft. they encountered about 70 degrees of frost.

"During the first 8,000 ft. the machine tossed about like a leaf," said Captain Lang, 'but afterwards we settled down to far more comfortable flying. Generally we climb by taking big sweeping circles, but we were blown out of our course, and when we were nearly six miles up we were about 25 miles out at sea, off Yarmouth.'

"Asked what were the prevailing conditions at that height, Captain Lang said the sun was shining brightly, and, although it was a little hazy, he could see ships far away out at sea, and occasionally glimpses of the Thames.

Eye Trouble

"At 2,000 ft. I had to take off my goggles owing to the oxygen frosting on the glass. Thereupon my left eye watered and

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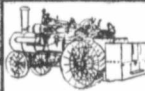
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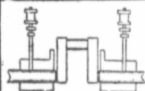


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froze, and was soon as big as a plum. For the next 10,000 ft. I was flying with only one eye. After the first 8,000 ft. flying became gradually better, but at 20,000 ft. the cable in the revolution counter unfortunately broke. Being unable to take the records of the revolution counter I took the atmospheric temperatures, and it was lucky that I did so, for Lieutenant Blowes had, unknown to me, collapsed through the breakage of the tube which was supplying him with oxygen from one of the two cylinders specially fitted for the flight.'

"Captain Lang said it was most fortunate he was able to continue Lieutenant Blowes' work and take the atmospheric temperatures. Without them the test would have been worthless.

Most fortunately, Lt. Blowes regained consciousness when the plane came down to 20,000 feet altitude.

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Gophers will steal you blind—if you let 'em

This Increases Crops

Nothing in the world is so sure to increase the crop as to kill the gophers that prey upon it. These pests cost farmers from one to five bushels an acre. Kill them and market the grain. You can't sell the gophers.

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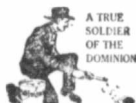
Protect your crop. Use Kill-Em-Quick. It is easy to use. The Manitoba Agricultural College says it is best, after testing all gopher poisons. The analysis of the Dominion shows this to be the strongest gopher poison sold in Canada.



Gophers love its sweet taste, and its odor attracts them. They invariably pick it up; when they do they're dead gophers.

We take the risk. If Kill-Em-Quick fails to do what we say, we will return your money without a protest. 40 acre size box, 100 acre size \$1.20, at dealers or postpaid upon receipt of price.

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A TRUE SOLICITOR OF THE DOMINION
Every farmer who continually poisons Gophers Spring, Summer and Fall serves his country well for he increases crops.

Developing a New Clover Seed District

THE experience of farmers in the United States shows that in the production of many kinds of seed, those in the West seem to have a great advantage over their brothers in the East. The drier atmosphere of the western states is productive not only of a better quality of seed, but also of larger yields than are obtainable under

conditions of seed are being grown with increasing success in more northerly latitudes every year, which, on account of their superior hardiness, have taken a foremost place on the market. It is in this capacity to grow seed of a high grade that the Prairie Provinces of Western Canada possess one of their greatest assets.



Field of Alfalfa Clover at Tilley, Alta.

the more humid conditions of the East. A given area of clover, for instance, will yield twice to three times as much seed in Idaho as the same area will produce in one of the Eastern States.

The same thing is true as regards Canada. Of course, the farther north we go, we find a different variety of plants from those grown farther south. We also find a number of the same plants, and in the production of seed for these plants, a more vigorous and better sample is secured the farther north it is grown. This assertion is borne

During the last three years Mr. Don H. Bark, chief of the Irrigation Investigation Division of the Department of Natural Resources of the Canadian Pacific Railway, has been conducting a number of experiments in the growing of clover seed in Southern Alberta, and has met with surprising success. Before coming to Alberta in 1915, Mr. Bark was for several years connected with various irrigation enterprises in Idaho, where he had seen the production of clover seed grow from nothing to an industry bringing a revenue of millions of dollars annually. It is no wonder then, that after having

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Alfalfa Clover at Carseland, Alberta.

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out by the hardy strains of wheat, oats, barley, flax, timothy and other seeds Western Canada produces. As the northerly limit within which certain seeds can be grown is gradually extending, it follows that a number of new va-

lived and been prominently identified with the agricultural interests of the Idaho seed growing district during this important period, he should be interested in investigating the adaptability of other districts for the industry.

His experienced eye noticed that the clover growing on lawns, ditch banks and waste places in Alberta from the boundary line to as far north as Edmonton gave promise of good results. This promise was fully confirmed when he shelled hundreds of heads that he gathered. They revealed a large quantity of seed of unusually good quality.

The following year, therefore, he arranged for several plots to be planted on the various Demonstration Farms of the Canadian Pacific Railway situated in the irrigation block, east of Calgary, Alberta. The results of these experiments, which have been continued ever since, have been very satisfactory. Not only have they proved that clover seed can be grown successfully in Southern Alberta, but they have also shown that the seed obtainable is of an exceedingly high quality, with the yield well above the average.

One of the largest plots planted during the first year was three and a half acres, which were planted to alsike clover at Tilley, Alberta. This area produced the following year 2,617 pounds of an excellent quality of machine run seed per acre; an average yield of 748 pounds, or approximately twelve and a half bushels per acre. This seed could have been sold readily, without recleaning, to dealers at twenty cents a pound, which would have given a gross revenue of \$149.60 per acre. But such was the quality that after a thorough recleaning there remained slightly over ten bushels per acre of the highest possible grade of seed. At this spring's retail prices each acre produced a gross revenue of upwards of \$240.

At the same place another plot, comprising almost an acre and a half, was planted to white Dutch clover in 1916. This crop had not looked very well throughout the season, the stand having been thin and the growth rather indifferent, yet a total yield of 205 pounds of seed of an excellent quality was secured from this area in 1917. The average yield was 142 pounds per acre. As this seed was worth at least fifty cents a pound, the returns secured were very satisfactory, despite the poor stand and indifferent growth of the clover. Last year the yield from this plot was somewhat better, 205 pounds of seed of an equally good grade being produced. On the above basis, this represents a gross return of more than \$100 an acre.

The following example related by Mr. Bark shows the prolific nature of clover under conditions in Southern Alberta:

In the fall of 1917, a one-acre lawn of Kentucky blue grass

William Penn MOTOR OIL



A body for every make and type of motor car and tractor—

Extra Heavy, Heavy, Medium, Light, Cold Test

made of Pennsylvania stocks—admittedly the best in the world—to specifications determined by years of experience catering to Western Canadian needs.

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and white clover at Cassils, a small station west of Medicine Hat on the main line of the Canadian Pacific Railway, appeared to contain enough ripe clover heads so that it would pay to harvest it. This accordingly was done, and the area threshed 105 pounds of white clover seed of an excellent grade and quality. This lawn, therefore, produced over \$50 worth of seed, though it was

not planted for seed production purposes.

Mr. Bark has gradually extended his experiments over a larger territory with equally favorable results. Three and a half acres planted to alsike clover at Rosemary, north of Brooks, Alberta, were harvested for seed in 1918, and although the stand was only fair, an average yield of 250 pounds of seed per acre was pro-

duced. Complete records were kept of the cost of handling this area and at the rate of forty cents per hour per man and fifteen cents an hour per horse worked out at \$62.07, or \$17.73 per acre. The total seed produced was 865 pounds, which at twenty cents a pound is worth \$177.00. The net profit from the three acres, therefore, amounted to \$114.93, or \$36.31 per acre, not

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is a sufficient guarantee of your wearing the finest work clothes made, but in order to doubly safeguard you, we added this printed, unqualified guarantee: Our garments and our guarantee form the strongest possible clothing combination.

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"MASTER MECHANIC" are made from good, heavy materials in blue and white stripe, plain black and light and dark blue shades—all sizes.

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a bad return for one season from land that cost only \$50 an acre, although the crop was considered rather disappointing.

But much better results were secured with white clover on the same farm. Of this three acres

an acre. It will be seen, therefore, that the actual net profit from these three acres was \$391.30, or over \$130 an acre. With such results it does not take many acres to provide a man with a good income.



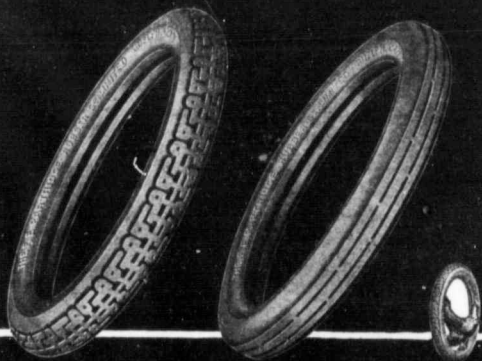
Alsike Clover at Tilley, Alta., after Cutting.

produced 1,144 pounds of machine run seed, which when thoroughly re-cleaned weighed 1,033 pounds. White clover seed is now being sold on the Calgary and Winnipeg markets at sixty-five cents a pound. The grower, therefore, might reasonably expect to receive fifty cents a pound for re-cleaned seed in large quantities. On this basis the gross return from the three acre plot would be no less than \$501.50. As in the case of the alsike clover, the actual cost of handling was carefully kept. It amounted to \$110.20, or \$36.73

Now that the possibilities of growing clover seed on the irrigated lands of Southern Alberta have been practically demonstrated it will not be long before every farmer in the district is growing at least a few acres. The demand for high class seed is so great, and likely to be greater in the future, that the danger of causing a glut on the market is very remote, and the grower can rely on good prices. There is little doubt that within the next few years the industry will assume considerable proportions in Southern Alberta.

Partridge Tires

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THE BEST VARIETIES OF GRAIN

Continued from page 33

sorts. The kernels are rather short, dark red and hard, and yield excellent flour. Very productive, especially on rich soils and in rather dry climates; not particularly desirable where the climate is moist.

Huron, Ottawa 3—Straw stiff and rather long, heads bearded, kernels rather long, dark red, hard. Makes very good flour and bread of a somewhat yellowish color; the bread being light, but not usually so light as that made from Marquis or Red Fife. Extremely productive under a variety of conditions; probably the best wheat to grow in most places where the highest baking quality and extreme earliness are not required. Preston (bearded) and Stanley and Percy (beardless) are similar in most respects to Huron. On the whole, they are inferior to this latter.

Early Red Fife, Ottawa 16—This is a selection from ordinary Red Fife, from which it differs in some respects; it is distinctly earlier in ripening, has larger kernels and somewhat blunt heads, and is (in some climates) rather more

susceptible to rust than the parent sort. Its milling and baking qualities are the same as those of Red Fife. It is one of the best sorts to grow in rather dry districts in central and western Canada where a rather early-ripening wheat is needed and where rust is not much feared. It does very well in the eastern provinces also.

Ruby Group—Very Early Ripening Varieties

These varieties usually ripen from 3 to 12 days earlier than those in the Marquis group; but as a rule the latter are more productive.

Ruby, Ottawa 623—A beardless wheat, ripening considerably earlier than any member of the Marquis group. Kernels hard, red, yielding flour of excellent color and high quality. Straw of very fair length and strength. The grain threshes out easily. Very valuable for localities where there is a moderate rainfall and where Marquis ripens too late. This variety is new, having been introduced in 1918.

Pioneer, Ottawa 195—A bearded variety with hard, dark kernels. Milling and baking qualities excellent. Threshes out easily. Is susceptible to disease in moist

climates and is rather weak in straw when the straw grows long. Adapted to certain rather dry districts where Marquis ripens too late.

Prelude Group—Extremely Early in Maturing

Prelude, Ottawa 135 — Stands alone at present in a class by itself on account of ripening 5 to 8 days earlier than Ruby. Prelude should not be expected to give as high a yield as later-maturing sorts, in seasons favorable to the latter; but it gives very good crops under reasonable conditions. Its kernels are hard, red, plump and extremely heavy. As they shell out readily, this wheat should always be cut on the green side. Flour from this variety is of very high baking strength, but not pale enough to be given the highest rank for color. The heads are short, downy and bearded, and the straw is short, but stands up well. This is the best wheat for districts where there is a tendency towards the production of too long straw and where the greatest possible earliness is essential. One or more new varieties will probably be added to this group very soon.

Durum Group—The so-called "Macaroni" Wheats

It is necessary to mention these wheats as a separate group because they are so different from the ordinary varieties: the large size and excessive hardness of their kernels rendering them very unpopular with most Canadian millers. While it is true that some durum varieties are used for the manufacture of macaroni, to designate the whole group as "macaroni" wheats gives an incorrect impression. Some of the varieties here included are excellent for bread-making, while others are very poor. The great outstanding quality of the durum wheats, which will ultimately make them important in some parts of Canada, is their ability to resist drought. Most of these wheats are bearded, late in ripening and not very strong in the straw.

Kubanka is of the highest quality for bread-making. The

color of the flour is bright, pale yellow.

Goose or Wild Goose is a productive variety of inferior bread-making quality.

Oats

Banner or American Banner—The most popular variety and certainly one of the best. Straw of good length and fair strength, kernels long, not early in ripening, very productive, succeeding best on rather heavy soil. The selected strain of this variety grown on the Dominion Experimental Farms is called Banner, Ottawa 49.

Victory (also called Seger and Conqueror)—A Swedish variety which closely resembles Banner and is perhaps equally desirable.

Siberian—A selected strain of this oat has been introduced as Ontario Agricultural College No. 72. This is very productive, but late in ripening. The straw is longer, and appears to be weaker, than that of Banner, but, especially on light soils and in districts where the season is long, the O.A.C. No. 72 is one of the very best sorts.

Gold Rain or Golden Rain—An excellent Swedish sort, the rapid spreading of which is hindered by the fact that the hull is of a decided yellow color, instead of being straw-colored as in most varieties. This objection should be of very little importance. Gold Rain is slightly earlier than Banner in ripening, gives an excellent yield and has a higher weight per bushel, as a rule, than any other common variety. In strength of straw, it is about the same as other good sorts.

Ligowo—Usually a little below Banner in productiveness, but somewhat earlier in ripening. On the whole not quite so desirable, in most localities, as Banner.

Daubeney—Very early in ripening. Generally produces straw of satisfactory length. Kernels long and thin, but with a good percentage of kernel to hull. The selected strain of this oat grown on the Dominion Experimental Farms is designated as Daubeney, Ottawa 47. There are other varieties which ripen earlier than

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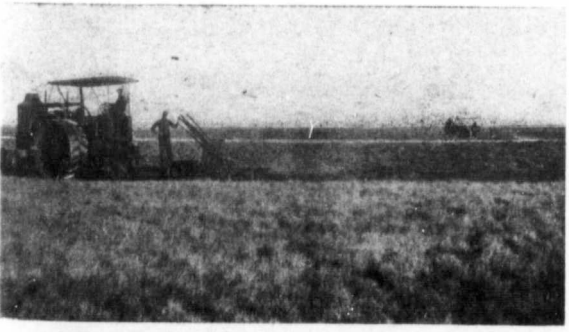
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AUTOSTROP SAFETY RAZOR CO., Limited
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AutoStrop Safety Razor

Daubeney, but they are inferior in some respects. Daubeney is early enough for almost any special purpose or short season. Very early varieties are not expected to yield as large crops as later sorts, but Daubeney is remarkably productive, considering its earliness.

Hulless oat: Liberty, Ottawa 480—An early ripening sort, producing straw of fair length and giving a good yield. Not equal in productiveness, however, to the best oats of ordinary type. On account of the fact that it gives up its hull in the threshing, this oat is of very great value for grinding to produce feed for young pigs and young chickens. It also makes remarkably good oatmeal for human consumption.

This is a new cross-bred variety introduced in 1918.

Barley (Six-rowed Varieties)
Manchurian, Ottawa 50—This is a selection from a kind of six-row barley supposed to be of Asiatic origin. It ripens early (as do practically all the six-row types) and has straw of fair length and strength. In very windy climates, this barley shows a tendency for the heads to break off and the kernels to be knocked from the heads. The awns are sometimes persistently retained when the grain is threshed. Both of these features are objectionable, but, nevertheless, the great productiveness of this variety makes it very popular over large areas of country.

Ontario Agricultural College No. 21 is also a selection from barley of supposed Asiatic origin. This is a very good variety which resists wind better than Manchurian and drops its awns more readily. It gives a large yield. The O.A.C. No. 21 has two slight disadvantages: it is very liable to smut and the threshed grain is of an unattractive color.

Albert, Ottawa 54 is an extremely early-ripening six-row barley which is valuable whenever the maximum of earliness is essential. It gives very fair yields. This is a new variety introduced in 1918.

Barley (Two-row Varieties)
These are much less commonly

grown in Canada than the six-row sorts, but are more desirable for certain conditions.

Duckbill, from which **Duckbill, Ottawa 57** is a selection, is one of the most popular sorts and the only one which can usually be found in commerce in this country.

Chevalier is occasionally grown. There are several strains of this type, among which **Charlottetown No. 80** deserves special mention. This selection was made on the Dominion Experimental Station for Prince Edward Island and is well suited to conditions there. In some seasons, this barley drops most of its awns before harvest.

Gold is a very prolific variety of Swedish origin. It has very short straw.

Hooded Barleys
Beardless, or more properly hooded barleys are attractive because of the absence of awns and on account of their earliness in ripening, but all those kinds which are now in commerce are unsatisfactory. **Success** and **Champion** are two of them.

Hulless Barleys
These are very desirable for feeding purposes, but, up to the present, no very satisfactory sorts have come before the public. Perhaps the best kind is one from the Himalaya mountains which often goes by the strange name of **Guy Mayle**, a corruption of a foreign word **Guymalaye**. In Alberta this is occasionally grown with good success. **Hulless White** (beardless) and **Hulless Black** (bearded) are also obtainable in commerce.

Rye
Spring Rye and **Winter Rye**—Though different names are used for selected strains of these grains, there are no distinct varieties which can be recommended as superior to all others. Farmers purchasing winter rye would do well to secure seed grown as far north as possible, so as to be reasonably sure of the hardness of the strain.

Emmer and Spelt
There are several distinct types of these grains, of varying degrees of coarseness. The best

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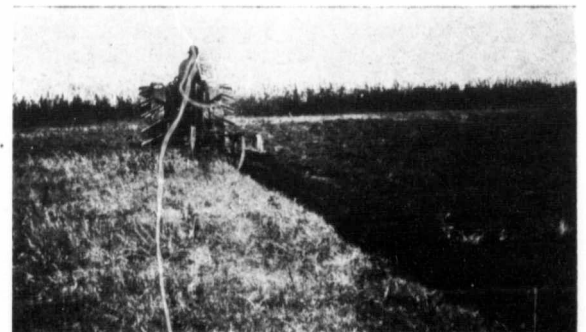
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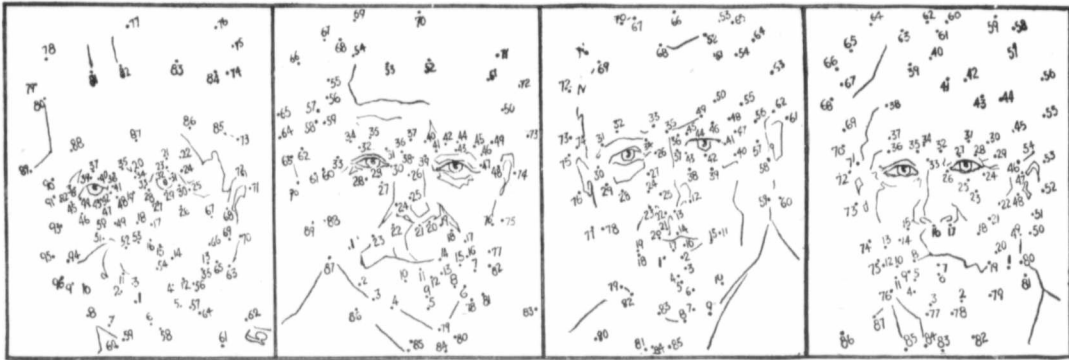
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LASH OF CHARM (trace from 1 to 96)

GO VALID GLORY DEED (trace from 1 to 90)

ROOL WIDOW SNOW (trace from 1 to 85)

DONT BE SORE RIBRR (trace from 1 to 87)

How Familiar Are You With the Features of the Great Men of To-Day? Here is a Real Test.

THE above four diagrams represent incomplete pictures of four of the world's greatest men—men you read and hear about every day of your life. Complete the four pictures by tracing from number 1 to 2 to 3 to 4, and so on until the pictures are finished and the faces of these great living men will be revealed to you so that you should quickly recognize them. Can you make them out?

Below each picture in jumbled letters is the correct name of the great man represented in the diagram above it. Unscramble the letters of his name so that you can correctly name him. In the far column will be found a list of a few of the world's outstanding great men. This list may prove of service to you.

The best completed pictures with the names correct can win \$500.00 in cash. The completed pictures must be clipped from this paper and attached to a separate sheet containing the names of the great men represented by the diagrams, together with complete name and address of contestant in the upper right-hand corner of paper. Complete list of grand prizes to be awarded is shown in the next column.

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This great contest is being conducted by the Continental Publishing Company, 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 squareness to you and every other contestant. Frankly, it is intended to further introduce EVERYWOMAN'S WORLD, Canada's Greatest Magazine. You may enter and win the best of prizes whether you are a subscriber to EVERYWOMAN'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 IS THE IDEA—EVERYWOMAN'S WORLD is so popular everywhere that it now has the vast circulation of over 100,000 copies a month. But our motto is "EVERYWOMAN'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 the 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

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of the grand prizes, you will be asked to assist us in carrying on this big introduction plan by showing your copy to just three friends or neighbours, who will appreciate this really worth-while, 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 Solutions.

Use only one side of the paper that contains names of the great men represented by the pictures, and put your name and address (state 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. Attach this to your completed pictures clipped from this paper.

Three independent judges, having no connection whatever with this firm, will award the prizes, and the answers gaining 300 points will take the First Prize. You will get 25 points for every picture completed correctly and 25 points for every name solved correctly. 15 points will be awarded for general neatness, style, spelling, punctuation, etc., 10 points for hand-writing, and 75 points for fulfilling the conditions of the contest. Contestants must agree to abide by the decision of the judges.

The contest will close at 5 p.m. on Thursday, July 31st, 1919, immediately after which answers will be judged and the Prizes awarded. Address your answers to—

FAMOUS FOLKS COMPETITION,
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A FEW NAMES OF GREAT MEN LIVING TO-DAY

- Lord Reading
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- Herbert C. Hoover
- G. H. Roberts
- H. G. Wells
- Woodrow Wilson
- Georges Clemenceau
- Raymond Poincaré
- Stephen Pichon
- David Lloyd George
- Samuel Gompers
- Lord Robert Cecil
- Sir Eric Geddes
- Sir Robert Borden
- Thomas Alva Edison
- Vittorio Orlando
- Sir David Beatty
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emmers are superior to the best spelts.

Common Emmer is the best sort. It is often sold under the corrupted name "Speltz." It is not a kind of spelt. This grain has been too much advertised. It may be of value in some very dry districts, but is quite unprofitable in most parts of Canada.

Varieties Recommended by Dr. Saunders

The varieties are arranged approximately in the order of their merits, those most generally suitable being put at or near the head of the list. Varieties, the names of which are enclosed in brackets, are considered less desirable than the others, for most conditions.

Manitoba

Spring Wheat — Marquis Ottawa 15, Red Fife Ottawa 17, Ruby Ottawa 623 (very early), (Prelude Ottawa 135, earliest).

Oats—Banner Ottawa 49, Victory, Gold Rain, Daubeney Ottawa 47 (very early), (Ligowo), Liberty Ottawa 480 (hullless).

Barley — Manchurian Ottawa 50, O.A.C. No. 21, Albert Ottawa 54 (very early).

Field Peas—Arthur Ottawa 18, Mackay Ottawa 25, Prussian Blue.

Field Beans — Norwegian Ottawa 710, Yellow Six Weeks.

Flax for seed—Novelty Ottawa 53, North Dakota Resistant No. 52, Premost.

Saskatchewan

Spring Wheat — Marquis Ottawa 15, Red Fife 17, Early Red Fife Ottawa 16, Ruby Ottawa 623 (very early), Prelude Ottawa 135 (earliest), (Pioneer Ottawa

195, Kubanka.

Oats—Banner Ottawa 49, Victory, Gold Rain, Ligowo (slightly early), Daubeney Ottawa 47 (very early), Liberty Ottawa 480 (hullless).

Barley—O.A.C. 21, Manchurian Ottawa 50, Albert Ottawa 54 (very early), (Duckbill Ottawa 57).

Field Peas—Arthur Ottawa 18, Mackay Ottawa 25, (Golden Vine).

Field Beans — Norwegian

Ottawa 710, Yellow Six Weeks.

Flax for seed—Novelty Ottawa 53, North Dakota Resistant No. 52, Premost.

Alberta

Winter Wheat — Turkey Red and Kharkov.

Spring Wheat — Marquis Ottawa 15, Early Red Fife Ottawa 16, Red Fife Ottawa 17, Huron Ottawa 3, Ruby Ottawa 623, (Pioneer Ottawa 195), Prelude Ottawa 135 (earliest), (Kubanka).

Oats—Banner Ottawa 49, Victory, Gold Rain, (Ligowo), Daubeney Ottawa 47 (very early), Liberty Ottawa 480 (hullless).

Barley — O.A.C. No. 21 Manchurian Ottawa 50, Duckbill Ottawa 57, Albert Ottawa 54 (very early).

Field Peas—Arthur Ottawa 18, Mackay Ottawa 25, Prussian Blue, Golden Vine.

Field Beans — Norwegian Ottawa 710, Yellow Six Weeks.

Flax for seed—Novelty Ottawa 53, Premost, North Dakota Resistant No. 52.

Flax for fibre — Longstem Ottawa 53, (Kostroma).



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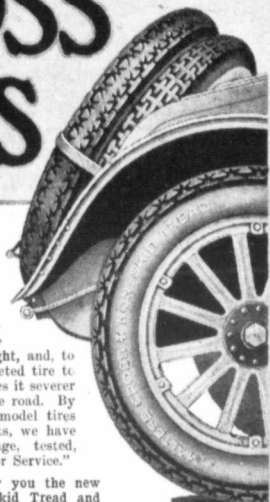
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Without obligation, will you kindly furnish me with full particulars of your Guaranteed Policies. I am.....years of age and am (married) single.

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Address.

CANADA'S "SHOCK TROOPS"

(We commend the following to the thoughtful attention of all our men folks in Western Canada. It is an editorial from a recent issue of an exceedingly bright little magazine called "The Threshold"—the "house organ," so to speak, of the Manitoba Military Hospital, Tuxedo, Winnipeg, and is entirely conducted, printed and published by "the wonderful boys" of that institution.—Ed.)

THERE is a great deal of speculation as to the part the soldier-civilian will play in the future of Canada. We have several veteran associations, but all of these disclaim that they are political associations, that is from a partisan standpoint. They have been organized simply to look after the interest and welfare of the soldiers' dependents, but what these different associations will develop into in the future no one can tell. Very few veterans want to be partisans. Their great ambition is to forget the war and forget the army and get back to civilian life.

But the problems of peace will demand that every person with the power of the franchise take an active interest in the governing of our country. We have been fighting for democracy. Now we must wage a different warfare to make that democracy safe. Free speech, the secret ballot, etc., all have their responsibilities, and to make our democracy what it ought to be, and what it can be, every man and woman must play their part, be that part small or great. Canada will have in the near future a new element, a new force, which we believe will play a big part in the political life of our own country, and that is the women's vote.

There is no womanhood that ranks higher than our Canadian womanhood. If we have had our doubts, the experiences of the last four years have driven them away. Canada's greatness could never have been revealed on the battlefield if her sons had not been reared in homes that breathed that spirit. Canadian womanhood is that clarifying influence that

has made our social, political and commercial life as pure as it is. The moral and spiritual tone of a nation can never rise higher than that of its homes. The thought of these homes, the memory of the mothers and wives who have been left behind have been the great anchor that has held thousands of our men faithful to their highest and noblest ideals. The last thought before going over the top has been of wife or mother, and the last word on the lips of the dying has been mother or wife.

As we stand on the threshold of the future with its great problems to solve, would it not be wise, would it not be sane, for the returned soldier to ally himself with this great womanhood? We still need its purifying influences, and as we allowed it to be our anchorage to hold us steady and our star to lead us in the past, why not continue? The women and the soldier-citizens of Canada could be the greatest power for good—linked together from ocean to ocean—not merely by organization, but by the same ideals, and in one great and mighty determination to make these ideals real. By the hearty co-operation of these two great and new forces Canada would have always in reserve a shock troop that would stop any onslaught of her worst and greatest enemy.

CHRISTIAN CHARITY

AN army of British women have been maintaining the national life at home while their brothers defended it in Flanders and France. One of these productive militants has been carrying on in a government office, her work of reforestation. To our question: Would she go into welfare work when peace came, she said.

"Welfare work? Oh, no. The life has gone out of it. Give me for choice the administration of a business, where I can put into practice modern ideas on hours of work, rest periods, safeguards against fatigue, everything tested by efficiency in the workaday world. Welfare work is off the main current of influence. The



A Case 10-20 doing fine work with 3 plows.

world has moved beyond it." The age of philanthropy has gone by. Good food, a decent place to live, enough pay to rear a household in comfort, will no longer be left to kindly college graduates, visiting tenement families. A standard of living will be public policy, not private generosity. The worker will demand it. The employer will grant it. The state will enforce it. These rights to a full life will be fought for by the persons concerned. They will not be handed down by leisured altruists from above. They will not be made the subject of obscure experimentation in slum settlements. In time past, one set of persons underpaid a portion of the community, and another set came along and built them hospitals and refuges. Or sometimes the same man grew rich by underpaying his workers, and then, after he had accumulated his surplus, used the interest money to give them relief.

There will be no time in the coming world for pleasant experiments. Every one will have to work in productive occupation. There will be no money for philanthropy. War debt will keep all hands hustling for the next fifty years. The rich will be rich no longer. Spare capital will be in demand for commercial enterprises—for housing roads, waterways, factories, organized industry for France, Russia, the Balkans, ships to replace the submarined fleet.

The poor will no longer beg a dole from poor relief. They will organize for a living wage. Charity is dead; the war killed it.

A REAL ONE

UPON a wharf where the Yanks were disembarking a reporter buttonholed a rosy-checked private.

"Are you one of the heroes?" the newspaper man asked, with notebook ready to record a stirring tale of heroism.

"Naw," was the blushing reply. "I'm only a common doughboy. But the lieutenant, over there, is one."

To the officer indicated went the reporter.

"I'm told you're a hero, sir," he said.

"No," laughed the lieutenant. "I merely happened to be on the job when something needed to be done, and I did it. However, I can refer you to the simon-pure article." And he pointed out a sergeant with three wound stripes upon his sleeve.

"Not guilty," declared the sergeant, when questioned. Then, his eyes kindling with admiration, he waved toward a figure standing somewhat aside from the throng. "Talk to the major. You couldn't string on a fat man's bay window the medals he's got, and ought to have."

"Nonsense!" ejaculated the major, amusedly.

"That's what you all say!" cried the reporter, in despair. "Is hero-ing a criminal career?"

Chuckling, the major beckoned to an ebony-hued stalwart.

"Rastus," the major said, when the Senegambian saluted and stepped forward, "this gentleman is looking for a hero. I think you are one."

"You might say I am, sah. Dey wasn't a wusser, dangerouser job in de army dan mine."

"What was it?" eagerly inquired the reporter.

"Mistah," Rastus solemnly informed him, "I drove a mule team plumb thoo dis wah."

Terrell Love Holliday.

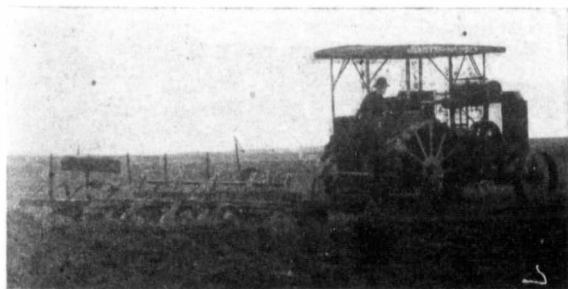
Transients

A kind-hearted gentleman was walking through the back streets of an American town, when he came across a colored woman unmercifully beating a little boy. "Here," he said, seizing her by the arm, "you must not do that. What has he done, anyway?"

"Mustn't do that! What has he done?" ejaculated the enraged mother. "If you want to know, he's been and lei' de chicken house door open, an' all dem chickens got out."

"Well, that is not so serious," said the gentleman, soothingly; "chickens always come home to roost."

"Come home," snorted the woman. "Dem chickens will all go home!"



Sawyer Massey 20-40 towing a 5 Cockshutt Gang

WALTHAM

THE WORLD'S WATCH OVER TIME



Accuracy with Appearance

ACCURACY is the dominant idea behind the Waltham Watch.

In the factory at Waltham, and in the Montreal branch, the working staff from general manager down to the newest apprentice, is imbued with the spirit of "accuracy first."

This is the motive that led to the invention of many wonderful automatic machines which perform intricate operations in the shaping, drilling, polishing and finishing of watch mechanism, with an accuracy and speed that no human hand could equal.

At the same time, appearance is important, and the Waltham is as pleasing in form, as it is perfect in workmanship.

For the man who desires to carry a watch of a quality which adequately meets modern business demands, both as to accuracy and appearance, the Colonial "A" and the Riverside models are great favorites.

Ask your jeweler to show you these Waltham models.



The Riversides
Most dependable moderately priced watches in the world

Waltham Watch Company, Limited, Montreal
Makers and Distributors of Waltham Products in Canada
Factories: Montreal, Canada; Waltham, U.S.A.

R. S. ROBINSON

Established 1883
Capital \$250,000.00

Buyer and Exporter of RAW FURS

WANTED IMMEDIATELY

<p>HIDES</p> <p>WOOL</p> <p>Buying Branches: Seattle, Wash. U.S.A. Edmonton, Alta. Le Pas, Man. Kenora, Ont.</p>	<table border="0" style="width: 100%;"> <tr> <td>No. 1 Extra Large Spring Rats</td> <td style="text-align: right;">\$2.50</td> <td>No. 1 Large Spring Rats</td> <td style="text-align: right;">\$ 2.00</td> </tr> <tr> <td>No. 1 Medium Spring Rats</td> <td style="text-align: right;">1.50</td> <td>No. 1 Extra Large Dark Mink</td> <td style="text-align: right;">12.00</td> </tr> <tr> <td>No. 1 Extra Large Spring Rats</td> <td style="text-align: right;">1.90</td> <td>No. 1 Extra Large Fine Wolves</td> <td style="text-align: right;">22.00</td> </tr> <tr> <td>No. 1 Extra Large Winter Rats</td> <td style="text-align: right;">1.90</td> <td>No. 1 Extra Large Regular Wolves</td> <td style="text-align: right;">20.00</td> </tr> <tr> <td>No. 1 Extra Large Fall Rats</td> <td style="text-align: right;">1.50</td> <td></td> <td></td> </tr> </table>	No. 1 Extra Large Spring Rats	\$2.50	No. 1 Large Spring Rats	\$ 2.00	No. 1 Medium Spring Rats	1.50	No. 1 Extra Large Dark Mink	12.00	No. 1 Extra Large Spring Rats	1.90	No. 1 Extra Large Fine Wolves	22.00	No. 1 Extra Large Winter Rats	1.90	No. 1 Extra Large Regular Wolves	20.00	No. 1 Extra Large Fall Rats	1.50			<p style="text-align: center;">SENECA ROOST</p>
No. 1 Extra Large Spring Rats	\$2.50	No. 1 Large Spring Rats	\$ 2.00																			
No. 1 Medium Spring Rats	1.50	No. 1 Extra Large Dark Mink	12.00																			
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No. 1 Extra Large Fall Rats	1.50																					

Smaller sizes and lower grades proportionately lower
Don't delay while the demand is keen
Highest prices ever heard of for Fisher and Marten—express or mail them quick.

SHIP PROMPTLY

TO

Beef Hides... .16 Kips..... .20 Calfskins... .30

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K. W. High Tension Magnetos

TRACTOR OWNERS

Send for our Catalog of Magnetos and Parts to Fit all Makes

We repair all makes Magnetos, Coils and LIGHTING PLANTS

PROMPT SERVICE WORK GUARANTEED

Acme Magneto Works, 276 FORT ST. WINNIPEG

Rennie's Seeds

**Always Grow
and
Produce the Best**

**Sold Everywhere
Write to-day for Catalogue—Now Ready**

THE WILLIAM RENNIE COMPANY LIMITED
394 PORTAGE Ave., WINNIPEG, Man.
ALSO AT TORONTO MONTREAL VANCOUVER

The Dining Room is one of the most important rooms in Your House

Often it is the only room in which the whole family meets together. Your surroundings influence your moods, and because of this the utmost care should be used in its decorative treatment. Your own good taste, aided by the artistic harmonious tones of

SILKSTONE

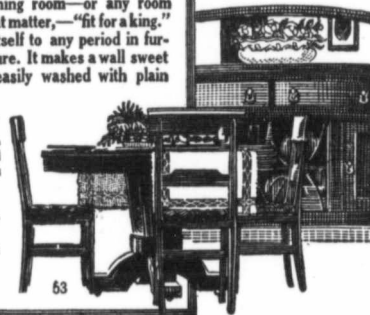
FLAT WALL COLOURS will make your dining room—or any room in the house for that matter,—“fit for a king.” Silkstone adapts itself to any period in furniture or architecture. It makes a wall sweet and clean and is easily washed with plain soap and water.

Nearest *Sibbens'* Agent will be glad to estimate quantity and cost for you. Ask him for Colour Cards.

G. F. Stephens & Co.
Limited
Paint and Varnish Makers
Winnipeg - Canada



This is the Silkstone can. It has a pleasing label printed in gray, orange and black—look for this label.



UNION BANK

OF CANADA

WITH CASH IN THE BANK YOU CAN BUY TO ADVANTAGE

Everything costs more when you have to buy on credit. Why not practise self-denial a while, if necessary, open a Savings Account in the Union Bank of Canada, and with the money in hand buy at cash prices. The saving will help your balance to grow.

BRANCHES IN SASKATCHEWAN

Abhey, Ahsak, Arcola, Asquith, Assiniboia, Bounty, Bruno, Buchanan, Bulva, Cabri, Canora, Carlyle, Craik, Cupar, Cutknife, Dinsmore, Dummer, Eastend, Esterhazy, Estevan, Eyebrow, Fillmore, Govan, Gravelbourg, Guernsey, Gull Lake, Hatton, Hazenmore, Herbert, Houghton, Humboldt, Indian Head, Jansen, Kelfield, Kerrobert, Kindersley, Landis, Lang, Lanigan, La Porte, Lawson, Leader, Lemberg, Limerick, Lovrina, Lumden, Luseland, McNutt, Macklin, Macrorie, Major, Maple Creek, Maryfield, Melart, Milestone, Moose Jaw, Moosomin, Morse, Netherhill, Neudorf, Ogema, Outlook, Ox-bow, Palmer, Pennant, Pense, Perdue, Flapot, Plenty, Prince Albert, Qu'Appelle, Regina, Rocanville, Rosetown, Salvador, Saskatoon, Sceptre, Scott, Shaunavon, Simpson, Sintaiuta, Southery, Strassburg, Strongfield, Swift Current, Tessier, Theodore, Togo, Tompkins, Vanguard, Viceroy, Vidora, Wapella, Watrous, Wawota, Webb, Weyburn, Wilkie, Windthorst, Wolsley, Yorkton, Zealandia.

Head Office: Winnipeg
Total Assets over
\$182,000,000
Deposits over \$127,000,000

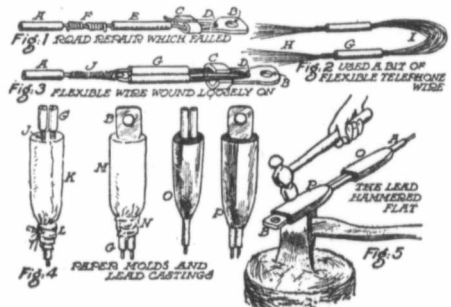
Wiring Repairs on the Road

A MAN who ran a small car was troubled by poor ignition while driving in a country district, remote from service stations and repair shops. Frequent stops to hunt trouble did not improve matters. Finally, becoming stalled near an abandoned farmhouse, he determined to camp right there until the trouble had been located and cured—or something “busted.”

The ignition circuit, from the storage battery out, was removed and carefully gone over, and right next to the battery a break was found in the wiring, which had been patched but not soldered. It was this old road repair, as shown in Figure 1, which had failed. The

behind the farmhouse. Both the paper molds were filled in turn with the melted lead and after the paper was removed were found as shown at O and P, Figure 4.

In the shed was found an old, rusty axe, which was converted into an anvil, as shown in Figure 5, the chopping block serving as anvil block this time. Fetching his hammer from the tool box, he hammered the lead joints flat, one after the other, as shown at O and P, the flexible wire G being thus solidly connected between lug B and ignition wire A; and the resulting connection proved to be as good as though the wires and the lug had been soldered in the most approved manner.



Wiring Repairs on the Road

ignition wire A had broken away from the battery lug B and repairs had been made with the bit of light bell wire E, which had been twisted to A at F and clamped into the lug at C and passed through the hole D, but had not been soldered, though taped out of sight.

The looseness of the connection had permitted oxidation to take place, possibly by passage of heavy currents, until the connection could not be depended upon to carry current. Sometimes it would, sometimes it would not. The owner found a bit of flexible telephone cord G, Figure 2, in the tool box, scraped both ends and the middle, as at H and I, then twisted it into place as shown by Figure 3. Clamp C had also been scraped clean and was not hammered down tight. The joint at J was also twisted loosely.

“Wish I had a soldering copper,” said the owner. To take its place he twisted bits of writing paper round both joints, as shown at K and M, tied them securely below the joints with twine, as at L and G, Figure 4. Then he propped up the joints one at a time in a sand pile, tore a bit of sheet lead off the shed roof where it joined the house, built a little fire in the road and melted some of the lead in an old spoon found

Both connections, O and P, were then well taped, the ignition wire returned to place and the ingenious driver found no more trouble with the ignition system of his car. But he says that hereafter he is going to carry some kind of a soldering outfit, probably a small gasoline blowtorch, a box of vaseline mixed with muriate of zinc, a little coil of wire solder, a crumb of rosin and another of sal ammoniac, together with a very small soldering copper.

He also said that the blowtorch was worth \$100 a minute when he wanted to heat up the carburetor. J. F. H.

Another Hatchet, Please

In a Canadian camp “somewhere in England,” a second George Washington has been found. He, in company with several others, had been granted four days' leave, and, as usual, wired for an extension. But no hackneyed excuse was his. In fact, it was so original that it has been framed in a prominent spot in the battalion orderly room. It ran as follows:

“Nobody dead, nobody ill; still going strong, having a good time, and got plenty of money. Please grant extension.” And he got it.

Help the Y.M.C.A. Finish Its Work for the Soldiers



Help the "Y"
Construct the Manhood
that will
Reconstruct Canada



ALL the world now knows that the Red Triangle of the Y.M.C.A. was the "Sign of Friendship" to thousands of your brothers, sons, nephews, cousins and neighbours' boys in the last four and a half years. Wherever the Canadian Soldiers went, the "Good old 'Y'" went, too. And now it is coming back home with them!

For the support which has made possible the war work of the Y.M.C.A., we thank you. Your money has been

well expended. We have rendered full account.

We ask now your continued sympathy and support for Red Triangle Service for our soldiers during Demobilization, and for Y.M.C.A. work for Canada generally during the Reconstruction period. The Annual Red Triangle campaign will be held throughout Canada May 5th to 9th, 1919. The objective is \$1,100,000.

For what purpose is the money required? We will tell you.

For Our Men Returning

For the soldiers and their dependents, returning from Overseas, we have provided as follows:

1. A Red Triangle man on board every ship when it leaves Great Britain, with a full equipment of games, gramophones and records, magic lantern, literature and writing materials. Where possible, also a piano or an organ. Lectures, concerts, sing songs, instruction re Government repatriation plans, and Sunday services.

2. Red Triangle comforts and facilities for the men on arrival at Halifax, St. John, Quebec, and Montreal, including coffee stalls with free drinks, free canteens, cigarettes, candies, etc.

3. Red Triangle men on every troop train to provide regularly free drinks, eatables and cigarettes, organize games and sing songs and furnish information.

4. Red Triangle free canteen service, information bureau, etc., at each of the 22 dispersal centres in Canada.

5. Red Triangle Clubs in the principal cities of Canada in the shape of large Y.M.C.A. hostels to furnish bed and board at low rates and to be a rendezvous for soldiers.

6. Seventy-five Secretaries to superintend Red Triangle service in Military Hospitals, Camps and Barracks throughout Canada.

7. Tickets entitling soldiers to full Y.M.C.A. privileges for six months at any local Y.M.C.A. furnished.

In addition to our work for the returning soldiers, we have to maintain the Red Triangle service to the full for the soldiers in Siberia, as well as the work of special Secretaries in Northern Russia, Palestine and Poland.

For Canada's Manhood

The reconstruction program of the Y.M.C.A. includes the following vitally important developments:

1. An increased service to 300,000 teen-age boys in the Dominion—the development of Canadian Standard Efficiency Training; Bible Study Groups; Summer Camps; Conferences; Service for High School Boys; for Working Boys in the towns and cities; for boys on the farm and for boys everywhere, who have lacked opportunity for mental, moral, physical or social development.

2. Inauguration of Y.M.C.A. work in the country, and the smaller towns and villages lacking Association buildings and equipment, on a plan of country organizations. This will include the establishment of Red Triangle centres for social, recreational and educational work among boys and men, in co-operation with the churches.

3. The promotion of Y.M.C.A. work among Canada's army of workers in industrial plants, both in Y.M.C.A. buildings and in the factory buildings, organizing the social spirit among the industrial workers of our cities by meetings, entertainments, games and sports.

4. The establishment of the Red Triangle in isolated districts where lumbermen, miners and other workers hold the front trenches of industry.

5. Besides these main fields of increased activity for 1919, we have to provide for enlarged work among railway men, college students and for our campaign to encourage physical and sex education. Under all our work we place the fundamental foundation of manly Christianity.



Y.W.C.A.
For the wives and children Overseas, dependent upon Canadian soldiers, and for Y.W.C.A. work in Canada generally, a sum of \$175,000 from the Red Triangle Fund will be set aside for the Dominion Council of the Y.W.C.A. which is caring for the soldiers' women folk, and their little ones on the long journey from Liverpool to Canada, and is also extending its work for Canadian girls.
For their sake also be generous when you make your contribution.

FOR the sake of our victorious soldiers and their dependents, and the happiness of their home-coming; for the sake of our future citizens, our teen-age boys; for the sake of rural life in Canada; for the sake of the social betterment of the toilers in factory and workshop; for the sake of lonely men and boys in our mines and forests; for the sake of Christian Society and Canadian manhood—we appeal to you. Give us your contribution, little or big. Be as generous as you can.

Hand your contribution to the canvasser when he calls, or if you live where it is difficult for him to call, send it by check, money order or registered letter to the National Treasurer, Red Triangle Campaign, 120 Bay Street, Toronto.

Please Note:
We are not asking for money to carry on our work Overseas, with the Army in Great Britain, France or Belgium. That work will continue at its maximum for some months, financially provided for by the liquidation of our assets Overseas, and will not cease till the last man has sailed for home.

National Council, Young Men's Christian Associations of Canada

The Red Triangle Campaign is being conducted under the distinguished patronage of His Excellency, the Duke of Devonshire, K.G., G.C.M.G., G.C.F.O., P.C.

Hon. Campaign Chairman:
JOHN W. ROSS, Montreal

Campaign Chairman:
G. HERBERT WOOD, Toronto

Campaign Treasurer:
THOMAS BRADSHAW, Toronto.

Campaign Director:
CRAS. W. BISHOP, Toronto

Imperial (Super-Drive) Tractor

HOW IT MEETS THE FARMER'S NEEDS

THE PROBLEM SOLVED

Our main problem was how to deliver maximum engine power at the draw bar. Our first step was to discard entirely the bull pinion drive, the spur gear drive, the open roller drive, the chain and sprocket drive, and the friction drive—types which expose working parts to dust, dirt and grit, and waste varying amounts of engine power.

THE IMPERIAL LIVE AXLE

In the place of these old-time principles we adopted the Live Rear Axle—whose power and durability have been proven for over 20 years in the automobile.

Taking a proven principle—we modified and strengthened to meet slow speed, heavy pulling conditions—and have succeeded by this means in applying our power direct, without the usual loss.

THE IMPERIAL TRANSMISSION

Our transmission of selective type is entirely enclosed—a refinement which makes for strength, efficiency and durability.

All gears are made of special steel gear forging, machine cut, case hardened, ground and polished.

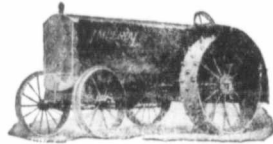
All gears are carried in Hyatt heavy-duty roller bearings and run in oil enclosed in a dust-proof housing.

THE IMPERIAL FINAL DRIVE

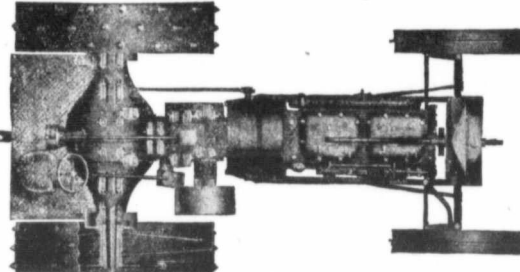
Our final drive applies the power of means of driving spiders through Cushion Springs—directly to the rims of the wheels—not to the hubs or spokes.

It does away with all strain on the hubs or spokes.

It relieves the transmission gears from all jars and shocks in starting—and protects them from backlash on rough ground work.



The Tractor Farmer needs power sufficient to do his plowing, harvesting, and belt-work, day after day, without costly delays for repairs. He needs reserve power which will permit his tractor to work without strain or undue wear. He needs built-in strength which will assure him of years of service. Finally, he needs a machine which is really economical—showing low cost for fuel, oil and repairs.



WHAT WE HAVE ACCOMPLISHED

The result is a tractor which delivers maximum engine power at the draw bar—without the usual loss. It will pull 3 plow bottoms anywhere and 4 plow bottoms in most soils—8 to 8 inches deep—at the rate of 2½ miles per hour without the slightest strain. It will give to the tractor farmer—what he has always needed—a low-cost, full-service, trouble-proof, long-life machine—which will show him a larger production and profit than he has ever been able to obtain before.

OUR LINE INCLUDES "IMPERIAL JUNIOR" THRESHERS BELL STEAM ENGINES AND "IMPERIAL" THRESHERS

THE ROBERT BELL ENGINE AND THRESHER COMPANY, LIMITED

1405 Whyte Avenue WINNIPEG
Factory: SEAFORTH, Ont. Branches: WINNIPEG -- REGINA

THE IMPERIAL UNIT FRAME

The ordinary type of tractor design calls for a channel frame—upon which the engine and transmission are mounted.

This form of construction includes innumerable braces, bolts and other parts liable to twisting and strain not only to the frame itself—but to the machinery mounted thereon.

Here again we found actual necessity for radical improvement. So with this idea in mind we designed our transmission and live axle—so as to make a tractor frame and drive combined.

It does away with useless parts—eliminates excess weight and saves the user from hundreds of adjustments and costly repairs, which he would have if using a tractor of the old design.

ACCESSIBILITY TO GEARS

Soil and working conditions are not uniform the country over.

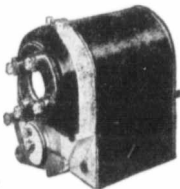
For this reason—it is sometimes necessary to change the reduction from the engine to the transmission by changing the reducing gears.

Ordinarily these gears are placed inside of the gear case. In the Imperial Tractor they are placed on the outside—covered over with a small, easily removable cover provided for lubrication and protection.

Reducing gears in the Imperial can be changed in 5 minutes with a wrench and screw-driver—by even an unskilled laborer.



Electrical Troubles Tractor or Automobile



MODEL T MAGNETO
For Automobile, Aeroplane, or Small Tractor Engines

Enclosed as protection against dirt, water and oil. For engines which are hard to crank, use Model T, equipped with Impulse Starter designed as Model TK.

For 18 years we have concentrated the whole of our attention and skill exclusively to electrical problems, and as recognized experts on auto-electrical equipment, we can safely make the statement that we have met with every conceivable trouble electrical apparatus is subject to. In repairing these troubles we have developed a large number of special devices for detecting and correcting these defects, with the result:

THERE IS NO UNCERTAINTY, NO GUESSWORK, ABOUT OUR REPAIRS

Our repair shop and testing laboratory are the most fully equipped and up-to-date in Canada, and we import a full stock of raw materials for this class of work.



HIGH TENSION MAGNETOS

For Large Traction and Stationary Engines

Intended for all large engines that ordinarily have to be started by turning the fly-wheel over with a crow-bar or where it is impossible to get any speed by hand cranking.

We repair all makes of Generators, Starters, Ignition Coils and Storage Batteries. Our machine shop is fitted with precision tools for turning out very accurate work of all kinds. Insist on your electrical repairs being sent to us, and save time and money.

PRICES ON APPLICATION

Acme Electrical Co.
276 Fort Street WINNIPEG

Don't Fail to Renew your subscription if it has run out. There are Great Things Coming!

TESTED SEED GRAIN FOR SALE

Seed Purchasing Commission,
Regina, Sask.
Canada Western Seed Grain
Bulk Car Lots, F.O.B. Calgary
Per bus.

No. 1 Seed Wheat, Marquis	\$2.28
Seed Barley, Six-rowed	1.25
No. 1 Seed Oats, Alberta orders	1.06
No. 2 Seed Oats, Alberta orders	1.00

Car Lots, One or More Kinds of Grain, Sacks Included, F.O.B. Calgary

Per bus.

No. 1 Seed Wheat (2 bus. per sack)	\$2.43
Seed Barley (2½ bus. per sack)	1.37
No. 1 Seed Oats (3 bus. per sack)	1.15
No. 2 Seed Oats	1.09

Less-than-car-lot (L.C.L.) shipments carry extra charges per bushel: Wheat, 5 cents; barley and oats, 3 cents, to cover cartage from elevators to stations. Freight rates are also higher.

Bulk Car Lots, F.O.B. Moose Jaw and Saskatoon

Per bus.

No. 1 Seed Wheat	\$2.30
Seed Barley	1.25
No. 2 Seed Oats	1.04

Car Lots, Sacks Included, F.O.B. Moose Jaw and Saskatoon

Per bus.

No. 1 Seed Wheat	\$2.45
Seed Barley	1.37
No. 1 Seed Oats	1.19
No. 2 Seed Oats	1.13

ONTARIO OATS, No. 1 Seed Bulk Car Lots, Delivered

Per bus.

Sask. and Alta. points, freight prepaid	\$1.12
All Manitoba points, freight prepaid	1.10

Approximate Freight Charges Bulk Car Lots

Dis. from Elevator	Wheat per bu.	Barley per bu.	Oats per bu.
Miles	e	e	e
100	4½	3½	3
200	6	4¾	3½
300	7½	6	4½

L.C.L. Shipments

Dis. from Elevator	Wheat per bu.	Barley per bu.	Oats per bu.
Miles	e	e	e
100	9	7½	5½
200	13	10½	7½
300	16½	13¾	9½

Seed Sold at Cost

The prices asked by the Commission represent the average cost of the seed grain, including the premiums paid for the superior stocks, which could be cleaned to the seed grades, also charges for storage, cleaning, shrinkage in cleaning, sacks and sacking where required. The service of the Commission and the Seed Inspection Staff are provided free of charge by the Dominion Government.

Sales on Cash Basis

The Commission is permitted to make sales on cash basis only. Bank draft is attached to bill of lading for orders to open stations. Send cash with orders for shipments to closed stations.

Send Orders Promptly

Municipalities, farmers' organizations, groups of farmers and individuals who are depending on the Commission for seed grain should forward orders at the earliest possible date so that shipments may be made to arrive in good time for seeding.

Quality of Seed Offered

Our No. 1 Seed Wheat is No. 1 Hard or No. 1 Northern, selected cars of Marquis, clean and free from all weed seeds, and very superior quality.

The Seed Barley is Six-rowed of strong vitality, practically free from other grain, and cleaned to Seed Grade for purity.

No. 1 Seed Oats are white oats, free from wild oats and other noxious weed seeds, and practically free from other grain.

No. 2 Seed Oats are the same quality as No. 1, but may contain up to ten wild oats per pound.

The average germination of our No. 1 and No. 2 Canada Western Seed Oats is 90 per cent and the weight per measured bushel, 45 pounds.

Our Eastern shipments germinate 98 per cent, and weighs 40 pounds per measured bushel.

Dominion Seed Inspectors inspect all cars and issue a Seed Certificate on each.

Every car or smaller shipment is tested for germination at a Dominion Seed Laboratory.

PREPARE STUBBLE LAND FOR WHEAT

(Experimental Farm Note)

UNDER the conditions generally prevailing in Manitoba, stubble land that is to be sown to wheat should be plowed. In some of the new districts of the West where weeds are not as yet so prevalent, it may be practicable to re-seed without plowing, but in the province of Manitoba, where in

practically all parts weeds are a considerable menace, plowing should not be omitted.

The choice between fall and spring plowing should be determined largely by local experience. Some soils do best with one, some with the other. Generally speaking, heavy soils give best results when fall-plowed, though some types of heavy soil are almost impossible to plow in the fall. Light soils are usually most productive when plowed in the spring.

Fall plowing is best from the standpoint of saving time, as it leaves more time for spring work and usually means earlier seeding.

Spring plowing is more effective in the control of weeds, as, being turned under just before seeding, they have less chance to crowd the grain.

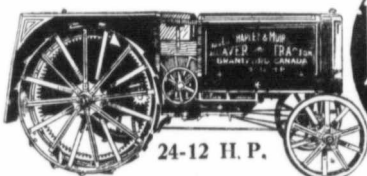
Fall plowing for wheat will give best results if done early. The fall rains are then absorbed much better, weed seeds are started and killed by frost, and almost always a better yield will be obtained than from plowing just before freeze-up.

Provided the plowing of the summer fallow in the previous year has been deep, as it should be, there is little advantage in deep fall plowing for wheat. About four or five inches will bury the stubble satisfactorily and will not be so much in danger of leaving an open dry bottom to the seed bed as where a large amount of stubble is turned in too deeply. This is even more true of early spring plowing, where a moderate depth is decidedly preferable.

No advantage is derived from cultivation of the land in the fall after fall plowing. The rough surface holds more snow and exposes the earth to the frost to a greater degree than where a smooth, level surface is left. Fall plowing should be well worked down in the spring before seeding. The kind of implements and amount of work that are best will vary greatly with different types of soil and no general rules can be given safely.

Spring plowing should be

Oldest and Largest Gas Engine Company in Canada



24-12 H. P.

The Drive that Pulls

SEVE SPEED FRICTION TRANSMISSION

Guarantees Economy

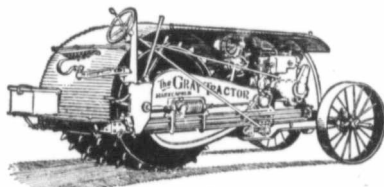
Friction transmission gives instant command of seven speeds—forward or reverse—which can be changed while the tractor is in motion. It only draws from the motor the actual power required, and eliminates power-wasting gears.

The motor is a Waukesha, heavy duty, 4-cylinder engine that develops almost 40 h.p. at normal speed, and has a surplus reserve of 50% over rating. Ball bearings; 12-inch road wheels; strong steel channel frame; working parts fully protected from dirt; internal road gears and special steering device, are only some of the features which combine to perfect this machine. It pays to own one.

Write for our free illustrated catalogue

Goold Shapley & Muir Co., Limited

Brandon Portage la Prairie Regina Calgary



The Gray Tractor Owner Starts Early Because—

THE WIDE DRIVE DRUM

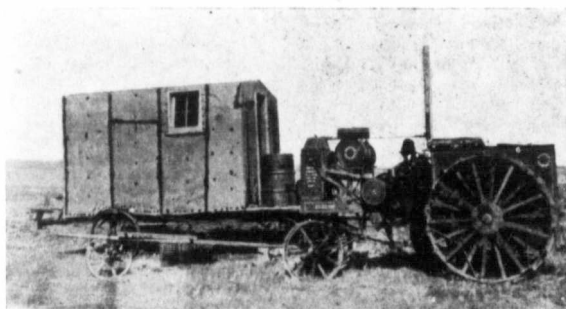
- 1—Goes through soft spots in the field.
- 2—Has sufficient traction for all soil conditions.
- 3—Works on plowed land without leaving ruts or wheel marks in the field.
- 4—Will prepare your fields without injury to seed bed. It does not pack the land.
- 5—Rolls the land ahead of the plow.

Write for information about the special side arm hitch and other exclusive features.

Quality is built into it. You get service out of it.

Gray Tractor Co. of Canada Limited

307-9 Electric Railway Chambers WINNIPEG, MAN.
Alberta Representative: M. D. PEEVER, 24 Mason & Risch Building, Calgary, Alberta.

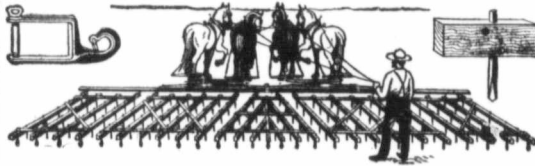


J. C. Bryan—Oiling up at the Lunch Hour

Old Gent (to loafer in rough neighborhood) — What terrible language these people use! Loafer —You're right, gov'nor. It's abah the only thing wot, ain't controlled nowadays.

"I understand that the young man in the house next to you is a finished cornetist?" "Is he? Thank goodness! I was just screwing up my courage to finish him myself. Who did it?"

Watson's Boss Wood Harrows



More acres—better tilled—are possible only when the right implements are used. The harrow illustrated is made of seasoned hardwood and each tooth is rivetted to stay. The draw clevis is malleable, and will stand the strain of hard usage. Sizes—78 tooth, 14 ft.; 102 tooth, 17 ft.; 150 tooth, 24 ft.; 174 tooth, 30 ft.; 222 tooth, 38 ft.; and Wood Boss Lever Harrows all sizes.

WRITE US ABOUT THESE LINES:

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| Whiffletrees | Wood and Pole Saws | Wheel Barrows |
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| Bevel Jacks | Wood Boss Lever Harrows | Roller Crushers |
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Harrow and Packer Attachments for Plows
Hand and Power Washing Machines. "Viking" Cream Separators

John Watson Mfg. Co.

311 CHAMBERS STREET, WINNIPEG, MAN.

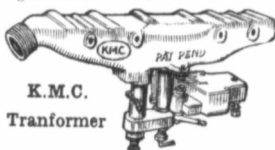
Make Your Ford a Tractor

—yet still retain your car for pleasure. Design and material of highest quality. All gears enclosed and run in oil. Equipped with shock absorbers. Strong steel drive wheels—steel construction throughout. Plows six acres a day with two 14-inch bottoms; also seeds, harrows, harvests, etc.



"FORD CAR TO MINUTES" Ford-a-Tractor

Converts your Ford into a tractor that will do the farm work equal to four good horses. Fitted with



K.M.C. Transformer

The only transformer guaranteed to successfully burn kerosene in Ford cars. Gives 20 per cent more power, 50 per cent increase in mileage, and 100 per cent saving in fuel cost.

P.O.B. Winnipeg, \$48.00.

W.D.C. COOLING SYSTEM which changes the water in cylinder six times a minute, positively preventing overheating under tractor conditions. Write for facts.

J. D. ADSHEAD COMPANY
WINNIPEG, MAN.
Alberta Agent:

J. H. Bulman, 11809 82nd St., Edmonton, Alta.

COUPON
J. D. ADSHEAD CO.,
Winnipeg, Man.
Send me particulars of Ford-a-Tractor
K.M.C.

Name _____
Address _____

worked down as soon as possible after plowing and seeded as soon as possible after preparation. Prompt working of spring plowing is necessary to prevent loss of moisture which takes place rapidly in the windy days of spring. Prompt seeding is necessary so that the grain plants get the advantage over weeds; where worked land lies for a time before seeding, the weeds get the start over the crop.

On most soils packing of spring plowing is advantageous. Some heavy soils do not require it. Experiments go to show that packing after seeding has the greatest benefit as compared to packing at any other time.

Wheat should be sown on stubble land only when the previous crop has been on summer fallow.

OIL CONTAINERS MADE IN WINNIPEG

THERE are few things requiring greater care than the selection of storage facility for fuel oil. Safety and economy here makes a call for something far beyond the average of the ordinary tank, for the various mineral fuel oils have a way of developing strange and dangerous freaks.

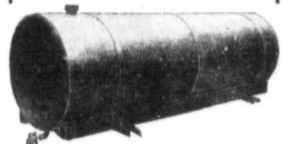
We have seen something in this way made by the Winnipeg Ceiling & Roofing Company which seems to be the last thing in efficiency and economy. Sheet metal of unblemished quality is the only thing that an honest manufacturer will use in the building of anything of the kind, and the assurance of this tip-top quality is written on the face of these products.

Over a hundred thousand of these oil containers have been manufactured and placed in the hands of Western Canadian farmers—a wonderful tribute to the demand for these essentials and to the capacity for turning them out at our own doors.

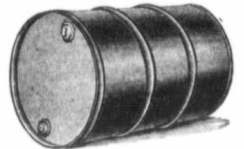
These containers take the form of drums of all sizes and wagon tanks (made in single or double compartments) with a capacity of 305 and 435 Imperial gallons, and notwithstanding the prices to which all manner of metal products have run up within recent date the drums and tanks we speak of are remarkably inexpensive, having regard to the very important part they play in the equipment of men who are handling gas engines, etc.

If the reader is not within hail of a dealer who handles the Winnipeg Ceiling & Roofing people's goods, he can get fixed up by applying direct to the company.

MAX



WAGON OIL TANKS and



OIL BARRELS

BUILT TO LAST AND GIVE SATISFACTORY SERVICE

Write for Full Particulars and Prices

WINNIPEG CEILING & ROOFING COMPANY, LIMITED

P.O. Box 3006 CT119 Winnipeg, Man

HIGH-CLASS "BRITISH" MACHINERY

The "Marshall" Oil Tractor

Built like a Battleship
Runs like a Watch



The Dreadnaught of the Prairies

This Tractor is made in 2 sizes, 16 H.P. Drawbar, giving off 30-35 Brake H.P. on the pulley; 32 H.P. Drawbar, giving off 60-70 Brake H.P. on the pulley. They are economical, durable and reliable. Guaranteed of finest materials and best workmanship. They need few repairs.

IF YOU WANT SATISFACTION, BUY OUR TRACTOR AND THAT WILL STAND UP AND GIVE YOU MANY YEARS OF SERVICE

Farmers are seriously warned not to be misled by the light, short-lived, inferior cheap (so-called) Tractor; it will not stand up, and only causes trouble, vexation and loss.

SEND FOR CATALOGUE
SEMI-DIESEL, TWO CYCLE, OIL ENGINES, STATIONARY AND PORTABLE
suitable for General Farm Work, Threshing, Electric Lighting, Contractors, and General Commercial use.

Marshall, Sons & Co. (Canada) Ltd.
ENGINEERS

Saskatoon Canada
P. O. Box 1964 Telephone 3393

WANTED, PERSONS TO GROW MUSH-ROOMS for us at home; from \$15 per week upwards can be made by using waste space in Cellars, Empty Rooms, Root Houses, etc. (start now); illustrated booklet sent free. Address Montreal Supply Company, Montreal.

Don't Fail to Renew your subscription if it has run out. There are Great Things Coming!

SOME FUNDAMENTAL PRINCIPLES OF TRACTOR IGNITION

Continued from page 18A

gether to form a battery. This is done in order to increase either the total voltage or the total amperage available, as the case may be. There are three methods of connecting cells to form a battery, namely, in series, in parallel, or in series multiple.

A series connection consists in joining the positive or carbon terminal of one cell to the negative or zinc terminal of another cell, as shown in Fig. 8. By connecting them thus the voltage is increased by the voltage of a single cell multiplied by the number of cells. In Fig. 8 five cells are so connected. If one cell has a voltage of one and one-half volts, the battery has a total voltage of seven and one-half volts on the external circuit. The amperage of the battery will be the amperage of one cell.

Result of Parallel Connection

Fig. 9 illustrates a parallel connection, in which case the positive terminals of all the cells are connected together and all the negative terminals are connected together. This battery should have a voltage equal to the voltage of a single cell, but an amperage equal to the amperage of one cell multiplied by the number of cells in the battery. In the battery shown, if one cell has an amperage of 20, then the amperage of the battery is 100 with a voltage of 1½ volts.

Fig. 10 illustrates the series of multiple connection. In this case two sets of cells are first connected in series, and then the two batteries thus formed are connected in multiple. The voltage is equal to the voltage of one cell multiplied by the number of cells in one battery, and the amperage is equal to the amperage of one cell multiplied by the number of batteries. In the figure there are two batteries of five series connected cells, giving a voltage of seven and one-half volts in the outside circuit, and there are two batteries giving a total of 40 amperes.

In the second part of this series of articles on tractor ignition the writer will discuss storage batteries.

SPARK PLUGS AND CABLES

BEFORE you start your engine wipe the plug insulation clean and dry of water and dirt. Then wipe the cable clean and dry also. Then see that the cable is not touching any part of the engine and that it stays supported in this way while the engine runs so that vibration will not shake it down on to hot parts where oil may get on it or on moving parts.

A Complete Line of Known Farm Supplies

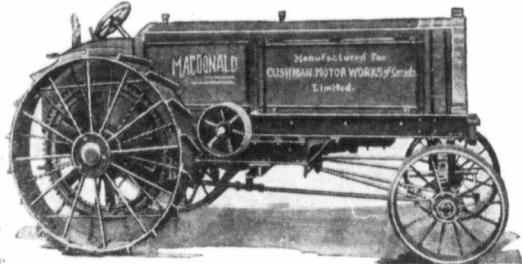
CUSHMAN

Growing in Favor Year after Year

MACDONALD 12-24 Tractor

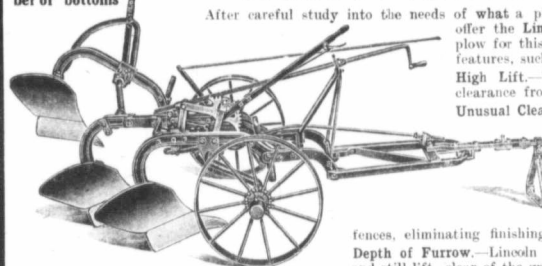
Write to-day.

Handles three plows under ordinary conditions and four in light soil. Motor: four-cylinder, four-cycle, 4½x6-inch; 750 to 800 r.p.m. Develops 28 to 30 h.p. at belt; 12 to 15 h.p. at draw-bar. Weight, 5,900 lbs. The best light tractor made in Canada. Ask for full particulars and price.



Note ease in changing number of bottoms

Lincoln Tractor Gang Plows



After careful study into the needs of what a plow must do in Western Canada, we offer the Lincoln. Experience has proved that the plow for this country must have several outstanding features, such as:—

High Lift.—The Lincoln gives six to eight inches clearance from point of plow to ground.

Unusual Clearance.—By eliminating the gauge wheel through our single unit construction, and bending the beams very high in the throat, clogging of trash and stalks is practically impossible.

Hitch.—Here you have a wide range of adjustment and a rigidity so strong as to make it possible to back up to fences, eliminating finishing up with horses.

Depth of Furrow.—Lincoln gives you a nine-inch cut if necessary and still lift clear of the ground with the automatic lift. Weight of plow is directly above the bottoms, insuring uniform plowing depth under any condition.

One-Man Feature.—A single orcl, extending to operator, from the clutch, raises and lowers perfectly. A full turn of wheel raises the plows—a positive, powerful lift.

Light Draft is accomplished by our special hitch-bar which eliminates side strain.

These features are sufficient to put Lincoln Plows easily in the lead, but the Lincoln has more than all these.

You Can Change the Lincoln into Two-Bottom, or Three-Bottom Plow, by Simply Pulling a Lever.

Nothing to unscrew or lift off. To the farmer who has had an engine doing poor work, pulling three bottoms in unusual soil conditions, this feature at once recommends itself. It is possible to change to two bottoms in hard soil and revert to three when plowing is good.

WRITE FOR PARTICULARS AND PRICES

Lincoln 24-46 Separator

The Cushman 24x46 Thresher is an ideal machine for the owner of a Standard 10-20 or 12-24 tractor. It can be furnished with Hand Feed and Wind Stack, or with full equipment, as illustrated. Very strongly built; exceptional capacity. Cleans the grain fit for market. Also furnished mounted on same truck in combination with our 22 h.p. heavy-duty, ball-bearing Engine.



The Perfect Thresher for use with Small Tractor

Ask for Full Particulars of our Improved 1919 Model

Cushman Motor Works of Canada Limited

Dept. C

Builders of the Famous Light-Weight Cushman Farm Engines
Whyte Ave. and Vine St.

WINNIPEG

Tank Heaters.
Straw Spreaders.
Lincoln Saws.
Incubators and Brooders.

Auto Accessories.
Tractor Plows.
Combination Threshers.
Light-weight Engines.

Lincoln Grinders.
Vacuum Washing Machines.
Holland Wild Oat Separators.
Smut and Pickling Machines.

Wagner Hardware Specialties.
Western Pulverizer, Packer and Mulcher.
Shinn-Flat Lightning Conductors.

If you will observe these simple instructions each time you start the engine it will give you better results. Water, heat, dirt and oil are the enemies of high-tension systems.

The water shorts the plug, making it hard to start the engine. Oil eats up the rubber insulation of

the cable and allows the spark to leak away. Heat bakes the rubber so hard that it cracks and through these openings the spark may jump to ground. Dirt on the plug helps to short the plug. The moral is:

Keep things clean. J. G. Z.

Answered

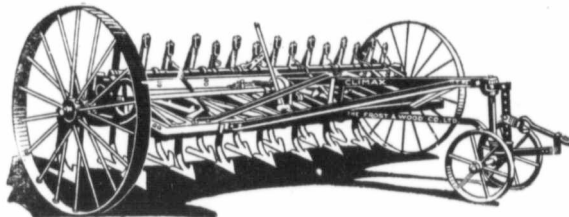
Cholly (handing his friend's revolver gingerly) — "I suppose, now, if this should go off while I'm holding it like this it would blow my brains out?"

His Friend — "No, it wouldn't do that, but it would bore a hole clean through your head."

CLIMAX Power Lift Tractor CULTIVATOR

The farmer who wants to carry sure death to the weeds and thistles on even the roughest land will find a splendid ally in this up-to-date Implement. Don't let these moisture and fertility wasters get ahead of you. "Treat 'em rough" with this Cultivator—it will stand up to any service.

Duck bill points overlap 3 1/2 inches



Extra clearance between the standards

A Pronounced Success in Cultivating Loose Stubble

These new style cultivators can be supplied in 9-foot and 12-foot sizes for light tractors, and in 7-foot and 9-foot sizes for four or six horses with or without power lift attachment. They are equipped with 9 1/2-inch duck bill points on the front row and 11 1/2-inch duck bill points on the back row, with an overlap of 3 1/2 inches on each row—they get all the weeds. Extra clearance between the standards enables the new "Climax" to cultivate long stubble with ease. Each leg has its relief spring to prevent breakage when meeting solid obstructions. A pull on the cord raises the teeth and another pull lowers them—very simple and sure in action.

We have special folders on Cockshutt Implements that you ought to read. Get them from our nearest Agent or write us for copies to-day, stating what implement you are interested in.

Cockshutt Plow Company, Limited

WINNIPEG REGINA SASKATOON CALGARY EDMONTON

When writing Advertisers please mention The Canadian Thresherman and Farmer.

Special Tire Sale

Every Tire Guaranteed First Quality

Size	Make	Guaranteed Mileage	Price
32x4	Dominion Fisk, Non-skid, S.S.	5,000	30.00
32x4	Fisk Red Top, S.S.	6,000	35.00
32x4	Goodrich Cord (Retread) S.S.	5,000	30.00
33x4	Goodyear, Dunlop, Goodrich, Maltese Cross, Non-skids	3,500	35.10
34x4	Goodrich, Goodyear, Non-skid	5,000	37.45
34x4	Goodyear Cord, all weather, S.S.	8,000	55.00
33x4 1/2	Goodrich Silvertown Cord (Retread) Q.D.	3,500	30.00
34x4 1/2	Firestone Plain, Q.D.	3,500	39.70
35x4 1/2	Dominion Plain, S.S.	3,500	41.60
35x4 1/2	Dominion Nobby, S.S.	5,000	51.95
35x4 1/2	Dunlop Plain, S.S.	3,500	41.50
35x4 1/2	Dunlop Special, S.S.	4,000	45.00
35x4 1/2	Maltese Cross Plain, S.S.	3,500	39.85
35x4 1/2	Fisk Black Top Non-skid, S.S.	5,000	47.85
35x4 1/2	Fisk Grey Top Non-skid, S.S.	5,000	46.50
36x4 1/2	Goodyear Cord All-weather, Q.D.	8,000	65.00
37x4 1/2	Maltese Cross Non-skid, S.S.	3,500	45.00

All tires cash in advance or ship C.O.D. Where prepaid points remittance to be received sufficient to cover express charges.

BREEN MOTOR CO. LTD.

704 Broadway, Winnipeg, Man.

FITTING PISTON RINGS

IT IS not expected that a man will often want to fit new rings into the engine pistons of his car, but there may come a time when the required "know how" would be valuable and desirable. It is not a hard task to fit a set of rings into a piston. Any man with the usual amount of patience and mechanical ability can do the work acceptably, provided he knows what to do—and how to do it!

Having procured a new set of rings suitable for the pistons, go over each ring and each slot as shown in Figure 1, and determine which ring may best be fitted into which groove. There may—or may not—be a slight difference in the widths of the new rings and of the slots also. Sometimes the lower slots wear a bit more than the upper ones. Be this as it may, try the several rings against the several slots, as shown in Figure 1, until the wide rings, if any, have been portioned out to the wide slots, and vice versa.

Under no circumstances select a ring for any slot in which the ring will slide into the slot and permit any vertical movement therein. By moving the outer portion of the ring up and down, the looseness of the ring, if there be any, will be magnified, so to

speak, and be very evident under the test mentioned.

After all the rings have been apportioned to slots, proceed with the grinding, as shown in Figure 2. This operation is really very simple. Procure a few sheets of emery cloth—one sheet coarse for the rough fitting, and a sheet each of medium and fine for the fitting and finishing of the rings—and use the emery cloth, as shown in Figure 2. Do not try to fit the rings with sand-paper. While it may be possible to do so, sand-paper is not so desirable as emery cloth for the purpose.

Having tried a ring into one of the slots, as shown in Figure 1, and found which portions of the ring must be reduced in thickness to fit the groove, lay the ring flat upon the coarser emery cloth, place the thumb and all four fingers lightly upon the ring and give it a slight circular movement upon the emery cloth—not a twisting movement of the ring, but a real circular motion, as large as convenient without getting over the edge of the emery



Fig. 1 TESTING A RING

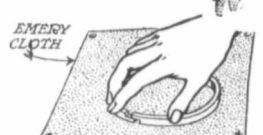


Fig. 2 GRINDING A RING

cloth. If the test shows that all parts of the ring need about equal grinding, space the fingers evenly round the ring and bear evenly upon it. But if some portion needs more grinding than other portions, let the fingers bunch themselves somewhat over that place and it will be ground more than the rest of the ring.

As the grinding proceeds, test the ring frequently by applying all parts of its circumference in turn to its groove, as shown in Figure 1. Change from coarse to finer emery cloth as the grinding approaches completion, and after the ring has been exactly fitted remove any sharpness of both inner and outer corners by rubbing with a bit of the finest emery cloth or, as some men do, with a fine file. This part of the work requires care.

Clean the rings thoroughly before placing them in their grooves. Also clean the grooves, and make

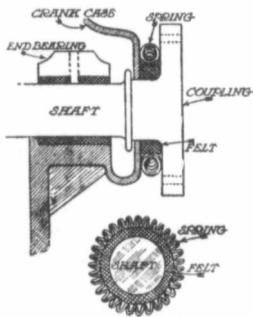
doubly sure that no emery dust gets in either the rings or the grooves. Oil the rings and grooves well before putting in the rings, and work the rings in the slots until you are sure that they fit well and that there are no tight or too loose places. If the former, grind them off. If the latter, throw away the ring and fit in another, and do it more carefully, so there will be no loose spots to waste compression, power and gasoline.

James F. Hobart.

STOPPING THE OIL LEAK

HERE is a trick worth knowing for those who are bothered with an oil leak that is wasting oil round the shaft, near the crank case. Good engine oil costs so much that it is well worth saving.

On my auto-truck engine I noticed a considerable drip of oil round the shaft where it comes through the crank case and connects with the clutch. I opened up the hand-hole plate of the case and I found that the oil was very low. I had experienced this loss of oil before, but I had never felt that enough could leak out to cause such a drop in the oil



height. I got a light and examined close to the end bearing and I noticed that the clearance of the casing hole round the shaft was a good sixteenth of an inch.

My first plan for stopping this leakage was to tie a piece of felt round the shaft, but after experimenting I hit upon the idea of cutting a strip of felt to fit round the shaft and holding it in place with a coiled spring. The spring causes it to pull tight all the time, thus working the felt packing up against the end of the crank case and closing the leak. The spring was obtained by cutting off a length of one like those used to close screen doors in summer—one that measured on the outside diameter three-eighths of an inch.

I think by a study of the accompanying sketch anyone will be able to understand the stunt.

C. H. Wiley.



Who Picks Your Tractor?



If you are doing the picking, see the Stinson before deciding

If you must depend on the judgment of others, see us.

A few reasons for our choice are as follows:

Motor is a 36 h.p., 4-cyl. valve-in-head Power enough to properly drive a 28-in. separator.

It works better on KEROSENE than on gasoline because it's a KEROSENE motor.

Draw-bar pull is 3000 lbs. at 3 miles per hour.

Pulling 3 14-in. plows, this means 12.7 acres in 10 hours.

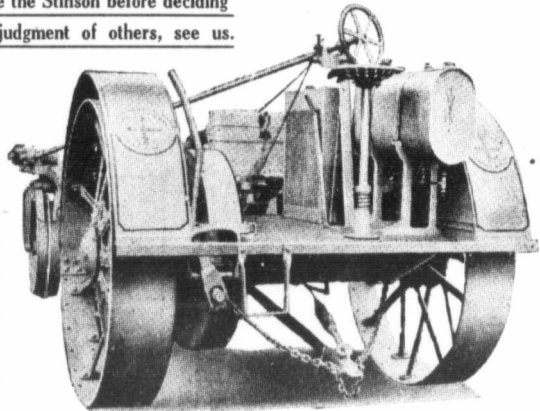
Pulling 4 14-in. plows, this means 16.96 acres in 10 hours.

Weight, 6350 lbs.; 85 per cent on drive wheels.

2 drive wheels, 12 ins. wide, 60 ins. high.

16 angle lugs, 18 ins. long, 3 ins. deep on each wheel.

No side draft, no bevel gears, direct drive to belt pulley.



The best tractor in the world with working parts poorly protected from dust can only be a partial success. The Rain-storm Cleaner supplies the motor with clean, moist air, washed through water. It is nonadjustable and troubleproof ALL gears, including final drive, are enclosed, running in oil, Governor enclosed, running in oil.

And you can buy this tractor at

The Same Price the American Farmer Pays

Write

The Saskatchewan Grain Growers Association Limited

234 FARMERS BUILDING - - REGINA



Buy by the Gallon but Judge by the H.P.

The only way to judge the cost of fuels is by the amount of power that each gallon will put into work in your tractor, farm engine or automobile. Imperial Royalite Coal Oil and Imperial Premier Gasoline are recognized as standards of excellence. Their uniformity is assured by careful scientific refining and exacting tests. No matter where or when you buy these fuels you can be sure of getting uniform, clean, liquid power in its most convenient and economical form. Imperial Royalite Coal Oil and Imperial Premier Gasoline can be promptly supplied in any quantities desired, anywhere in Canada.

IMPERIAL PREMIER GASOLINE

Clean-burning, straight-distilled power for tractor, automobile and gas engine. Its low boiling point makes it the right fuel for cold weather use. Its clean-burning character helps to keep engine parts in the proper running order. No regular user has a kick. Every drop has a big one.

IMPERIAL ROYALITE COAL OIL

The economical fuel for farm tractors and gas engines equipped to use coal oil. Always uniform and brimful of power. Keeps tractor or engine on the job. Excellent for household uses. Buy enough to supply the oil heater and cook-stove when you buy for your tractor.



IMPERIAL OIL LIMITED

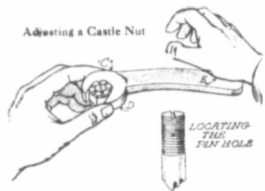
Power · Heat · Light · Lubrication
Branches in all Cities

ADJUSTING CASTLE NUTS

When a castle nut is to be screwed home and the cotter pin put in place, the operations should be done easily, quickly and without losing time in hunting for the hole, perhaps covered by one of the castle towers, and without having to turn the nut backward a part of a revolution in order to uncover the pinhole in the end of the bolt.

Two things are necessary in order to adjust a castle nut easily with no loss of time or patience. The first thing is to locate the hole in the bolt so that its direction may be known, no matter what may be the position of the castle nut. To do this, first clean the bolt. Wipe off all dirt and grease and clean the pinhole in the bolt. Next mark the location of the pinhole as shown in the figure.

To locate the pinhole place a bit of wire or a cotter pin temporarily in hole; then with a file or a hack saw make a cut in the end of the bolt, exactly parallel with hole. Then, when the castle nut



is being screwed home, the position of the pinhole may be always known by simply watching slot and stopping the turning operation when slot is fair with an opening between two of the castle towers.

But sometimes even an experienced workman will have trouble in turning the nut just far enough to bring the towers fairly off the pinhole. To adjust the castle nut easily and exactly, proceed as shown in the figure. First, place a well-fitting wrench upon the castle nut and turn it home as far as it will go easily. When it is judged that the nut can go perhaps no farther than the next opening, turn the wrench the remaining distance in another way. If it seems impossible to get the nut tight use a washer under it.

The figure shows how to adjust a castle nut. Place the wrench securely upon the nut, then hold the tool with the thumb and fingers of one hand, as shown at C and D. Then, using the fleshy part—near the base of the thumb—of the other hand as a driver, strike upon the end of the wrench, as shown at E, and the impact of the blows, though seemingly light, will drive the wrench forward and enable the nut to be moved a very short distance at a time until it is quickly brought fair with the pinhole in the bolt.



BIG REDUCTIONS of Prices

BUY THE BEST SAFE LOCKS

GUARANTEE: We guarantee **SAFE LOCK FENCE** to be made of the best hard steel wire with the best galvanizing and the strongest lock of any fence you have ever seen. If not convinced on arrival of goods, return them to us, and we will refund your money.

No. of Wires	Height in Inches	Ins. Bet wires	WEARS AND LASTS FOR YEARS	Wire Gauge	PRICE PER ROD FREIGHT PAID TO																
					Windsor	Windsor	Windsor	Windsor	Windsor	Windsor	Windsor	Windsor	Windsor	Windsor	Windsor						
4	33	24	11, 11, 11	No. 9	39	40 1/4	40 1/2	41 1/4	41 1/2	42											
6	38	24	6, 7, 8, 8, 9	No. 9	54 1/2	56 1/4	56 1/2	58	58 1/2	59											
7	43	24	5, 6, 7, 8, 8, 9	No. 9	63 1/4	65 1/4	65	67 1/4	67 1/2	68 1/2											
9	51	24	4, 4, 5, 6, 7, 8, 8, 9	No. 9	82	83 1/4	85 1/2	87 1/4	88	88 1/2											
7	26	8	3, 3 1/2, 4, 4 1/2, 5, 6	No. 9 & 12	50	51 1/4	52	53 1/4	53 1/2	54											
7	41	18	5, 6, 7, 7, 8, 8	No. 9 & 12	48	49 1/4	50	51	51 1/2	52											
8	32	12	3, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6	No. 9 & 12	51	52 1/4	52 1/2	53 1/4	54	54 1/2											
10	47	12	3, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 7, 8	No. 9 & 12	64 1/2	66 1/2	67	68 1/2	69	69 1/2											
Brace Wire, 25 lbs.				No. 9	1.90	1.95	1.95	2.00	2.00	2.05											
Staples, 25 lbs.				1 1/2"	1.95	2.00	2.00	2.05	2.05	2.10											
Drive Gate, 48 ins. x 10 ft.				Single	6.35	6.50	6.55	6.60	6.65	6.70											
Drive Gate, 48 ins. x 20 ft.				Double	12.45	12.75	12.85	12.95	13.05	13.10											
Drive Gate, 48 ins. x 12 ft.				Single	7.20	7.35	7.40	7.50	7.60	7.65											
Drive Gate, 48 ins. x 14 ft.				Single	7.75	7.95	8.00	8.10	8.15	8.20											
Drive Gate, 48 ins. x 16 ft.				Single	8.80	9.00	9.10	9.20	9.30	9.35											
Drive Gate, 48 ins. x 16 ft.				Double	10.05	10.30	10.40	10.50	10.60	10.65											
Walk Gate, 48 ins. x 42 in.				Single	3.15	3.15	3.20	3.20	3.25	3.30											
Lott Stretchers				Complete	8.75	9.00	9.00	9.20	9.20	9.25											

ALL FENCES MADE OF FULL GOVERNMENT GAUGE WIRE

The price will be the same to all other stations having the same freight rate as those listed. A correspondingly low price to all other stations. **NOTE:** These are only a few of the styles we carry in stock. Drop us a card for complete list with prices freight paid right to your station.

TERMS:—All Small Orders and Orders for Stations where there is no Agent, must be accompanied by cash. Carload Orders to Stations where there is an Agent, to be accompanied by \$200 Cash and Balance subject to Sight Draft attached to Bill of Lading.



The same method of driving a wrench will also often enable a nut to be removed when the bolt turns round under a direct pull upon the wrench. For removing the nut from the mandrel of a grinding wheel or from a circular-saw mandrel, the method here described will do the business quickly and well.

DISKING MADE EASIER

IHAD long been bothered with soil clods clogging the disks of my harrow even when the mud guards were thrown into gear. After trying various schemes to obviate the trouble I noticed that some relief was secured by slightly changing the slant of the cutting blades of the machine. However, it was not un-

til I conceived the idea of supplementing the mud guards with strands of wire that my harrow worked with maximum efficiency.

To carry out my plan I used ordinary baling wire, cut in two-foot lengths. One end of each strand was attached securely to the frame above the disks while the other was wrapped round the shaft between them and then twisted about itself so as to be firmly held in place.

With this arrangement the clods are thrown up by the moving disks and are caught and sliced by the strands of wire so that clogging does not occur. In no way do the wires affect the draft of the harrow, and they are even helpful when one is working moist, heavy sod land. Aside from dispensing with the necessity of frequently

stopping the team to clean out the blades, the attachment seems to assist in making a more level seed bed.

C. A. LeClair.

Too Much of a Good Thing

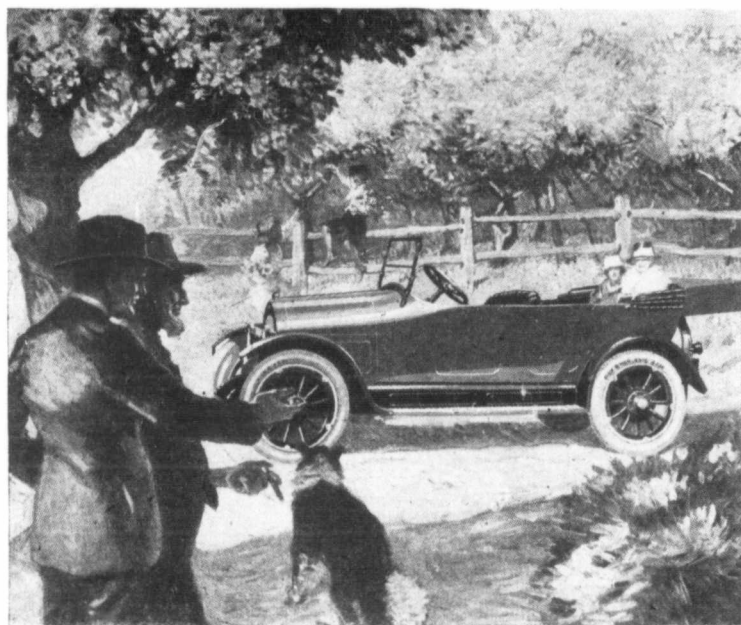
A certain old lady was never happy unless she had something to grumble about, and her pastor tried hard to cure the propensity. One season her potatoes were the finest in the district. The pastor greeted her in the village street.

"Ah, Mrs. Sprockins," he said, "you must be pleased this time. Everybody's praising your potatoes."

"They's purty good," cried the old lady indignantly, "but where's the bad 'uns for the pigs?"

Overland

TRADE MARK REG.



"Apple Blossom Time, In An Overland"

There is nothing more contagious than enthusiasm. The keen appreciation and deep respect that thousands of Overland owners so freely express, is an Overland asset of priceless value. This enthusiasm of Overland owners is our inspiration and obligation to produce cars that will perpetuate and enhance Overland prestige. The Model 90 Overland is completely fulfilling this obligation to old and new friends. Where road conditions are poor, its easy riding qualities inspire appreciation. Everywhere its operation, sturdiness, low upkeep and dependable performance constantly widen the circle of Overland friends. This enthusiasm of the spreading, contagious, inspiring kind is your safest buying guide.

WILLYS-OVERLAND LIMITED
 Willys-Knight and Overland Motor Cars and Light Commercial Wagons
 Head Office and Works, West Toronto, Ontario
 Branches: Montreal, Winnipeg, and Regina

Model 90 Touring, \$1900; Model 84-4 Touring, \$1405; Model 88-4 Touring, \$875; Willys Six, \$2485; f.o.b. West Toronto

JUST WHAT IS NEEDED

Simpson, Sask., Feb. 6, 1919.

IN reply to your letter of Jan. 15th asking for information regarding our tractor, I am sending you the following: Last April we ordered a 15-30 "Pioneer Special," made by the Pioneer Tractor Co. of Winona, Minn., known in Canada as the "Winona Special," and sold by the Winona Tractor Co. of Regina, Sask., and a four-furrow engine gang, with power lift, sold by the United Grain Growers.

The price of the tractor was \$2,100 cash, and the plows, both bottoms and extra shares \$353. The outfit did not arrive until June owing to the great demand for these tractors, so we did not do very much spring work with it. Our land here is very rolling with quite a number of rock. The soil is a black loam with a chocolate loam subsoil. In summer-fallowing we pulled the four plows, plowing a good seven inches deep on the intermediate gear, which is two and a half miles per hour.

This land had not been plowed very deep before, so it was turning about three inches of subsoil. The land had also been disced and harrowed before plowing, which left the ground very loose, giving rather poor footing for the engine. With this load it would climb quite a good size knoll without changing to low gear. In doing this work it used about 3 gallons of kerosene per acre and about two-thirds of a gallon of lubricating oil per day.

In fall plowing it took about 2½ gallons of kerosene per acre, plowing from four to five inches deep. It has plenty of power to draw harrows behind the plows when plowing at that depth. We can plow an acre an hour with this outfit if the land is not too stony. In stony land there is quite a little time lost putting wood pins in the plows.

Last fall we purchased a rebuilt 28x44 Rumely Ideal separator for \$1,200 to thresh our crop. We also threshed for two neighbors in order to get enough teams. We did not do any other custom work. The engine run this separator quite easily when it was fairly good threshing; if it was very tough it was a full load for her. The separator is equipped with a Ruth feeder, which seems to be a very heavy puller, so that if a lighter running feeder was put on the engine would have plenty of power under all conditions.

The crops were very light and badly frosted here this year, very few averaging over 9 bushels per acre, but straw enough for a 15 or 20-bushel crop. With this kind of grain and being short of teams, only having five and a pitcher, we put through an average of 725 bushels of wheat per day. While

The Light Six

A GENUINE

McLAUGHLIN CAR



The McLaughlin trade mark is a guarantee of efficiency in the mechanism and quality in the material and workmanship. The McLaughlin LIGHT SIX stands up to every test and cuts down the cost of motoring. Many owners of this model get over 30 miles per gallon from gasoline and eight to ten thousand miles on tires is not unusual.

Send for Catalogue
The McLaughlin Motor Car Co., Limited
OSHAWA, ONTARIO

McLAUGHLIN LIGHT SIX TOURING H-6-83

See the McLaughlin Mod. ls at the nearest McLaughlin Show Rooms.

threshing the engine burnt an average of 28 gallons of oil; this includes a little gasoline for starting, and used 2-3 of a gallon of lubricating oil per day.

The repair bill for the engine last season was 75 cents. There

were a few small repairs on the separator and plows, but five dollars would easily cover all the repairs on the whole outfit. The transmission, drive chain and all moving parts on this tractor are encased and run in a oil bath,

which is a great advantage when working on the land, as it keeps the dust out and the operator knows that these parts are well oiled. The double opposed motor runs very smoothly, is practically free from vibration and burns kerosene without any trouble.

We are well pleased with the way this engine has worked, and no doubt an experienced man would get more power on less fuel than we did as this is our first experience at tractor operation. I expect to take a course in gas engineering before spring, as we think it will pay well for the time and money expended. This district is not an ideal place for tractor work on account of the rolling nature of the land and the amount of stone there is. A good deal more and better work could be done in the same time on level land free from stone.



The great wheat factory of Wm. Cole & Sons, Simpson, Sask.

Standard Stock Feed For Sale

DURING the war, for the purpose of assisting the farmers, the Department of Agriculture purchased a considerable amount of Standard Stock Feed (Recleaned Elevator Screenings). A large quantity of this valuable feed for hogs, cattle and sheep has been distributed and has given general satisfaction. Owing to the return of peace, and the approach of normal market conditions, the Department has decided to place at the disposal of the farmers its remaining stock, now in storage at Fort William. This is being offered in both the *ground* and *unground* form, at the following prices:

\$25 PER TON
IN BULK
UNGROUND
F.O.B. Fort William

We believe that the feed is excellent value at these prices, and that it will pay stock feeders at different points throughout the Dominion to consider the purchase of a car lot or more.

\$32 PER TON
GROUND
Packed in 100-lb. Bags
F.O.B. Fort William

What is Standard Stock Feed ?

It is known to farmers as Recleaned screenings, or Grade A Screenings or Buckwheat Screenings. "We found," writes a Carleton County user, "that our live stock took to the screenings quite readily; our experience with it was eminently satisfactory." Many other stockmen have given expression to similar opinions.

The Analysis of this feed is as follows:—

Protein.....	14%
Fat.....	5%
Fibre.....	8%

Note—Standard Stock Feed contains a higher percentage of protein and fat than either wheat or domestic buckwheat.

Standard Stock Feed has been tested in feeding trials at the Brandon, Lacombe, Ottawa, Cap Rouge and Lennoxville Experimental Farms. For finishing pigs, it has been found fully equal to barley. It can be used for all classes of stock with very economical results.

Comments on Feeding Value

Standard Stock Feed is an excellent ration for swine, a high feed for dairy cattle, and for fattening lambs has proven very valuable. It has also given very satisfactory results with fattening steers, fed with or without other meals and grains. For poultry it has been found excellent and may be fed either whole or ground in hoppers.

Prospective purchasers must not be misguided by the appearance of Standard Stock Feed either whole or ground. The unground product is seen to contain a quantity of wild buckwheat. This feed has, however, a feeding value almost equal to cultivated variety. In the ground form the meal is somewhat dark in appearance, due entirely to the presence of the wild buckwheat. However, the feed is quite palatable and is readily relished by all classes of live stock. Experiments have shown Standard Stock Feed to possess a value equal to that of good meal mixtures of much greater cost.

STATE CLEARLY

Purchasers should state clearly in their orders whether "ground" or "unground" screenings are required.

OTHER FEEDS

The Department also has a supply of old sample grade mixed corn and Old Process Linseed Oil Cake Meal at Montreal, to be sold at market prices.

Write for particulars.

TERMS Sight Draft with Bill of Lading attached, payable on arrival of car. Orders should be sent direct to the Feed Division, Live Stock Branch, Ottawa. Feed may be purchased in straight car lots only, in bulk unground (25 tons to car); in bags ground (25 tons to car). Get your neighbours to co-operate with you and take advantage of this opportunity.

All orders will be filled strictly in the order they are received, and as the demand is likely to be quite heavy, orders should be placed at once to insure quick shipment.

FREIGHT RATES

Freight rates per 100 lbs. ground or unground from Fort William to several representative points are given in order that you may get some idea of the cost delivered at your station.

Brandon 17c.; Calgary 28c.; Edmonton 29c.; Moose Jaw 22c.; Saskatoon 28c.; Toronto 30c.; Montreal 30c.; St. John, N.B. 44½c.; Moncton 44½c.; Halifax 45½c.

Write for Pamphlet No. 18 giving full particulars about Standard Stock Feed, also Samples.

Live Stock Branch (Feed Division)

**The Dominion of Canada Department of Agriculture
OTTAWA, CANADA**

Massey-Harris



Built for Service

The real test of a Tractor is—will it do the work? The Massey-Harris Tractor has met this test and proved itself to be the Tractor built for service on the farm.

Constructed on sound scientific principles, free from any freakish contraptions, with a strong, sturdy Frame able to stand the severe strain of farm work, and an Engine with power sufficient for any ordinary farming operations. The

12 H. P.
On the Drawbar

**Massey-Harris
Tractor**

25 H. P.
On the Belt

is just the right size of Tractor for the average farm, and is so simple that any farmer can easily operate it.

The name "Massey-Harris" on the Tractor is the farmers' best guarantee. It stands for all that is best in Farm Implements the world over, and represents over 70 years experience in supplying the needs of farmers. This long experience has enabled the makers to embody every worth while feature in the Massey-Harris Tractor, and so offer a Tractor equipped to render power for every purpose on the farm.

Also, in buying a Massey-Harris Tractor, you buy from a Company which makes both the Tractor and the Implements for use with it, and stands back of the whole outfit.

Write the nearest Branch for Tractor Catalogue.

MASSEY-HARRIS CO., LIMITED

Head Offices—Toronto, Ont.

Branches at

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

Agencies Everywhere

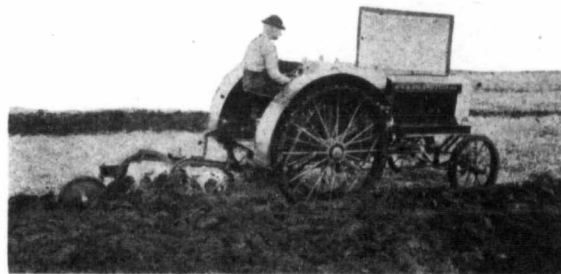
On a farm of 480 acres or more the gas tractor is just what is needed to do the plowing which is the slowest of all farm operations and requires so many horses, some of which are not needed at other times during the year, but still have to be fed and attended to, whereas the tractor does not require any feed or attention when idle.

We would not advise anything less than a four-furrow machine, however, as anything less seems very little faster than a good big outfit of horses. Then, again, in threshing a fair size machine is needed so as to do it as quick as

possible when the grain is ready and while the weather is good. Hoping the above is along the line

of information desired, we are,
Yours truly,

Wm. Cole & Sons.



The "Heider" 9-16 pulling two "Rock Island" plows.

A REAL GOOD INVESTMENT

Rosenfeld, Man., Jan. 29, 1919.

REPLYING to your letter of the 15th inst., re experience of gas engines, we beg to inform you as follows:

In the fall of 1917 we purchased a 15-30 Minneapolis gas tractor and a 4-furrow Grand Detour plow. We have used this tractor for most anything: plowing, threshing, discing, chopping, sawing wood and cutting feed, etc. The first fall we used this tractor for plowing only, as we bought it after the threshing season.

The tractor is of the four-wheel type, and is so arranged that the front and the right drive wheel run in the furrow when plowing. This is a very good feature because it eliminates packing of soil, as there is only one drive wheel to run on the land and, secondly, the main drive that runs in the furrow has got a firm footing. For plowing I would prefer a little more power as our land is of a heavy clay, and so when plowing deep (from 5 to 7 inches) we can only use three bottoms.

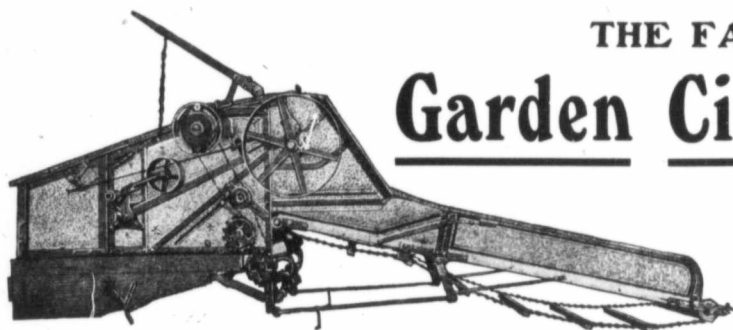
When plowing we use from 20 to 25 gallons of kerosene in a 10-hour day and about 2 gallons of lubricating oil. When threshing we use gasoline only as it causes less trouble, and use from 15 to 20 gallons in a 10 to 12-hour day, using the same lubricating oil as for plowing.

We use a 26-46 J. I. Case separator for our engine, and I may say that it handles the separator nicely. The J. I. Case, I think, is the ideal separator for one of these smaller engines that are used so much these days; because it runs a considerable lot easier than some of the other makes and still does a fast and a clean job. Thirdly, it's one of the simplest separators on the market.

We have threshed about 14,500 bushels this fall, and averaged about 1,000 bushels a day. The best that we did was 2,000 bushels of oats in one day of about 10 hours.

For discing we use two ordinary disc harrows, 7 feet wide, and weight them with two ground bags on each harrow. This is a light load for the engine going in high gear (3 miles an hour).

Our repair bill has been considerably high this summer on account of buying a new magneto. The cost of this was \$125. The type that we use on our engine was a K.W., and we had some trouble with this while threshing, so we had it fixed, but it did not seem to help much because some way or another the spark was not the way it should be. We consulted the mechanic in our district and he advised us that if we wanted to run steady we



THE FAMOUS Garden City Feeder

Has done more to take the hardship out of threshing and make it a PLEASURE than any piece of machinery on the farm.

BECAUSE it feeds a threshing machine as it should be fed regardless of the antics of ignorant or mean pitchers. No more swearing at them. Let them pile the sheaves on any way they please, and as fast as they want to; the Garden City Feeder will deliver the grain **end first** to the cylinder, in an **even flow of uniform depth**. No more broken spikes or slugged cylinder, no more overloaded straw racks or sieves; no clogged blower; no broken or burned belts; no wasted grain; no long waits for repairs. Just a steady run all day, every day, season after season. It's fun to thresh that way, and profitable too. Don't take our word for it, ask any user, or let us prove it to you.

WRITE TO-DAY FOR FREE CATALOGUE

The Garden City Feeder Company, Limited

BRUCE DAVISON CO., Brandon, Man.
A. E. GARDINER, Saskatoon, Sask.

REGINA, SASK.

W. S. MUNROE CO., Calgary, Alta.
MART McMAHON, Lethbridge, Alta.

REMEMBER WE ARE SOLE AGENTS FOR THE CASWELL BELT GUIDE

SATISFACTION GUARANTEED

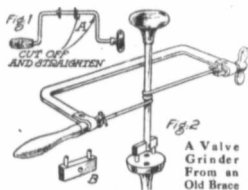
should have a Bush magneto put on (of course, the mechanic was an agent for this make). We followed his advice, because being in the busy season and not wanting to lose much time. But, still, this Bush did not seem to help enough, so I went to work and put in a new set of spark plugs, and after this the engine started and worked as good as ever before. This leads me to the belief that it sure pays to have an experienced man running your engine.

I think it's a real good investment to have a tractor of the size from 12 to 15 h.p. with separator on a 400 to 500-acre farm. Supposing there are about 12 horses to help along in spring work, as it usually is too wet early in the spring for using the engine for seeding purposes, and we know that early seeding is very important, as in the last two or three years the rust has done such a terrible amount of damage to late grain.

Yours truly,
D. J. Klassen.

HANDY VALVE GRINDER
THE sketch shows how a very handy valve-grinding tool can be made from a part of an old worn-out bit brace, with the aid of a hacksaw frame. The section A of the bit brace in Figure 1 is cut off and straight-

ened out. A driving piece fitted with two pins is made, as shown at B, and this is secured into a slot filed in the end of the shaft or rod, Figure 2. A stout piece of cord is used in the hacksaw frame, having a round turn round the grinder rod, as indicated, by a for-



ward and backward movement. The valve is first turned to the right and then to the left, and thus correctly grouped.

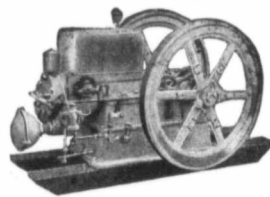
Chas. H. Willey.

William Was Patriotic
"William," demanded Mrs. Whitewash, "whaffor you go an' put on dat noisy vest?"
"Mandy," declared Mr. Whitewash, "'cause Ah'm tryin' t' help Mistah Hoover lick de stuffin' out'n de Kaiser by keepin' a check on mah appetite!"

As a general thing when a pompous man casts his bread upon the waters he is chagrined if it doesn't make a big splash.

The Manitoba Peerless THROTTLE GOVERNED KEROSENE ENGINES

FURNISHED with Small Separators in both the East and West last year, have opened the way for a big increase in the sales of these rings for 1919. We are prepared to put out twice as many as we sold last year.



Reasonably light in Weight—Simple in Construction—Perfectly balanced—All working parts exposed—No Complicated parts to adjust

—Speed Change Lever—Especially adapted to Combinations and independent Portable Outfits. At least three Large Firms are using these engines in the East. We expect to equip at least one hundred outfits in Ontario and Quebec, and want to equip twice as many in the West.

Our Service Cannot be Excelled. Our Facilities are without an Equal in the West. Our Prices are Right—and Our Engines Perfect.

All sizes, from 6 to 16 H.P. Burn the lowest grades of Kerosene Completely and Economically, on no load as well as on full load.

ONE OF OUR SALESMEN WILL BE GLAD TO SEE YOU, LET US KNOW YOUR NEEDS

Manitoba Engines Limited
BRANDON MANITOBA

This Man Speaks With Authority

Smiley, Sask., Feb. 11, 1919.
SUPPLEMENTING the enclosed questionnaire, I should like to say that the reason I have underlined the items in No. 10 (breaking, summerfallow, discing, harrowing, floating, seeding), is that I have no horses, and do all the work with tractor (a Sawyer-Massey 11-22).

If I had horses I should use them to harrow, drill, haul grain to town, and for the binder. As the harrowing and seeding are dusty jobs, they are not the jobs for the bearings and finer mechanism of the engine.

Against No. 16—"Trouble"—I have stated spark plugs, dirt in carburetor. This arises from several causes, such as broken wires, magneto distributor dirty, circuit breaker not opening, or too far open, governor not running

nuts and bolts tight, which is 50 per cent of the trouble.

Every operator ought to have a short course in an engine school to do justice to the tractor, as the tractor has no brains and does not know when it is not doing good work. Another word on plowing: Do not plow when shares are dull; sharpen them up and keep them sharp. It pays just in the use of fuel alone; besides, there is extra strain on the motor, increasing the pull.

Use the best oil, too; the cheap stuff ruins your engine.

I forgot to say I had my engine on a crusher, and it ran like a top; have also hauled granaries, etc., around with it; does all these jobs splendidly.

About overloading: Too many people do this and ruin the engine, sopoling its reputation. Another



J. C. Byer, Smiley, Sask., marking out with disc plows. Steering device his own make.

free, more oil, fine oil at that, 3 in 1, or better if you can get it. Keep governor clean from all dirt.

Nos. 17 and 18—Repair Bill—If good care is taken the repair bill will not be very high. Use the tractor as your best friend, like you would a prize horse, and it will be good for a long time. Do not throw the gear liners in with a jerk; slip them gently like a car, then you are not likely to break something and lay up for a week waiting for repairs.

Keep a few extras on hand, such as oil pump, springs, valve springs, valves, hard oilers and bolts. Keep nuts tight; replace bolts as soon as lost one is noticed missing.

No. 27 — Reasons for lack of tractors in community — One great reason is the average tractor man does poor work with his tractor, especially in plowing. This disgusts a good farmer, and he says if that is tractor work, "I'll have none of it." Look up, tractor men, make your object perfect work; give the tractor the credit it deserves and it will do good work if the operator steers it straight and has his machinery hitched properly. Keep all the

reason farmers do not think tractor any good: Good judgment is needed.

The plow I use is a John Deere No. 5 Pony engine. This plow has put all the other makes in the shade around here. There are 7 or 8 different makes about here, but none can touch the John Deere for good work and stand up to the job on this heavy land. My plow and plowing gives me my own recommendation. Can get more work than I can do; have two or three jobs on list now; waiting for the snow to go.

I guess I'll ring off now as you may think I am giving you "hot air," but these are facts nevertheless.

Yours respectfully,

John C. Byer.

Comrades

"Some men have no hearts," said the tramp. "I've been a-tellin' that feller I am so dead broke that I have to sleep outdoors."

"Didn't that fetch him?"

"Naw. He tol' me he was a-doin' the same thing, and had to pay the doctor for tellin' him to do it."

UNION TRUST

COMPANY LIMITED

Farm Loans at Current Rates IN PRODUCTIVE DISTRICTS

We have funds to lend on First Mortgages to practical farmers who are living on and working their own land.

WE CAN GIVE YOU PROMPT SERVICE

Write for application forms and full particulars

Union Trust Company, Limited

Union Trust Bldg.

WINNIPEG

Box 3004



Motor
4 cylinders 5x6

High Power—Light Weight

You can put a White-Allwork on wet land or use it for seeding and harrowing. The White-Allwork weighs only 4800 lbs., yet it has 3000 lbs. drawbar pull on high gear, or 4000 lbs. on low gear. It has a 4-cylinder (5x6 inches) motor, the largest engine on any 3-plow tractor. It is compact, sturdy, and easily handled—turns inside of 12 feet radius. You can use it on rolling land and work in close to fences.

The engine is set cross-wise on the frame, doing away with bevel-gears and giving a belt pulley on direct line with the crank shaft. All gears are self-oiling, and well protected from dust.

The White-Allwork is a worthy addition to "The First Quality Line."

You know best what a White-Allwork will save you.

You know what horse work or other tractors are costing. Let us tell you what it costs to use the White-Allwork on every power job on the farm. Then decide for yourself whether this practical tractor will save you money or not.

Write for full information

The Geo. White & Sons Co., Ltd.,
Moose Jaw, Sask. LONDON, ONT. Brandon, Man.

"THE FIRST QUALITY LINE"

Steam Tractors Threshers Gas Tractors

1

The White-Allwork Kerosene Tractor

One Dollar-and-a-Half spent on the "Canadian Thresherman and Farmer" will give you the best education on power-farming you can buy at any price.

10 Searching Questions About the Maxwell and 10 Frank Answers; Read Them, for They May Decide Your Choice of a Car

Q.—Reduced to one point what is the single greatest thing you can say about the Maxwell?

A.—It is reliable.

Q.—What makes it reliable?

A.—The chassis was designed five years ago to be extremely simple. Then we kept on making and making Maxwells all alike on this chassis year after year until now we have made 300,000 of them. Our policy is to do one thing well and thus obtain perfection.

Q.—Have you changed the original design any?

A.—Not in any single fundamental. We have added an improvement here and there from time to time—but no changes from our original program.

Q.—Have there been any great chassis improvements in the last 5 years?

A.—We believe not. There have been multi-cylinder cars and multi-valve cars; but in a car sold in Canada under \$1300 we do not believe them to be practical.

Q.—How much of the Maxwell car do you build?

A.—We believe that we manufacture more of the parts that go into our car than any other manufacturer.

Q.—Why do you do this—can you

not buy parts from others cheaper than you can build them?

A.—In some cases yes; but not so good as we can build them. In other cases no, for besides our 7 great plants in the United States—an investment that runs into many millions of dollars—we operate a big Canadian plant at Windsor, Ont., carry a tremendous inventory, have a rapid "turnover" and a large one. Besides, we make parts for cars other than our own including some that cost in excess of \$4000.

Q.—Has the Maxwell every modern equipment?

A.—Yes, even including the carrying of the gas tank in the rear.

Q.—Have you improved the appearance of the Maxwell any?

A.—Yes. We have made a vast improvement in the last few months—so much so that many persons thought we produced a new model. Note the illustration. This is drawn from a photograph without the slightest exaggeration.

Q.—How about parts?

A.—There are many hundreds of thousands of dollars in parts carried by our Maxwell dealers all over Canada.

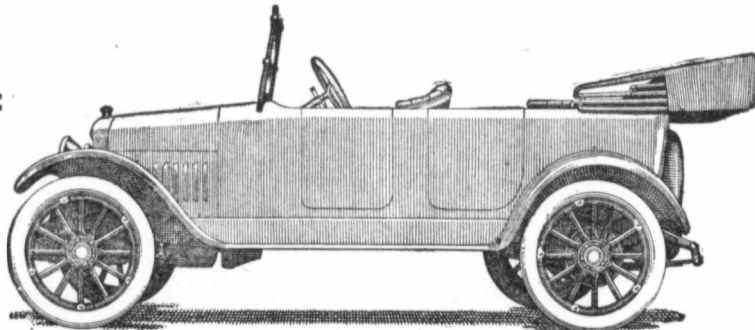
Q.—Will you reduce the present price if I buy a Maxwell now?

A.—No. The present price is guaranteed until July.

Price \$1275 f. o. b. Windsor, Ont.

War Tax to be added

MAXWELL MOTOR COMPANY OF CANADA, Limited
WINDSOR, Ont.



More miles per gallon
More miles on tires

OUR WOMEN FOLK

CONDUCTED BY
PEARL RICHMOND HAMILTON

KNIGHT'S ERRANT

They came, expectant, at the call
Nor lingered long to count the cost,
Knowing that if their hearts should fail
Their highest goal of life were lost.

Not theirs, it was, alone to keep
The honor of the flag unstained.
But to defend the higher claim
Of Him, whose cause had been pro-
faned.

Through rack of blood and fire they
went,
These champions of a high enterprise,
The Way of Sacrifice they trod,
The light of sunrise on their eyes

And those strong souls who had not
known
The Christ, before the call of war,
Saw Him upon the field of death,
With clearness never known before.

And all are one, for creed and caste
Are merged to serve the common
good
And by their blood the world shall live
In universal brotherhood.
—P. F. Atkey.

THE PRAYER

By Lillian Malfield Roberts

Dear God, I am a woman—womanlike,
No weaker and no stronger than the rest.
And that is why I ask this prayer to-
night
For help and guidance in the little
things,
If I could feel your hand upon my
lips
On days when I am sick or merely
tired
Of all the little trivial worrying things,
Perhaps the stabbing word would not
dart out
To wound my child, and turning, cut
my heart.
I do not want to nag, I only want
Guidance to understand that each of us
Has his small troubles, and that mine
are not
Harder in truth than other women
bear,
And when the little troubles vex me so,
I am too prone to turn and cry them
out
In maudlin tears upon my husband's
breast,
Keep me from this!—he has enough to
bear.
And one more prayer that I would make
to-night:
If I could only see the difference
Between the really big and little things!
I do not ask for better—or for more—
I only ask for this: God keep my soul
From growing petty. It will be enough
Help me in this, and I am satisfied.

A HOME SONG

I read within a poet's book
A word that starred the page:
"Stone walls do not a prison make,
Nor iron bars a cage!"

Yes, that is true, and something more:
You'll find, wherever you roam,
That marble floors and gilded walls
Can never make a home.

But every house where Love abides,
And Friendship is a guest,
Is surely home, and home-sweet-home:
For there the heart can rest.
—Henry Van Dyke

"BETTER LATE THAN NEVER"

The following address was delivered at the 1918 H.E.S. Convention by Mrs. W. J. Rowe of Manitow. A request came from the delegates at the closing session to have the address printed and placed in the hands of each society. Although more than a year has elapsed since this talk was given it was found at the recent convention that members from all over the province were still asking for this same address.

WHAT CANADA DEMANDS OF HER WOMEN

By Clarissa Rowe

THE subject, "What Canada Demands of her Women," was prompted by the very earnest desire which I believe is in the heart of each woman to help bear her share of the added burden which the war has laid upon the shoulders of the stay-at-homes. In Canada the only women who come under the head of the military are the nurses. There are many problems confronting the women of Canada today—in fact, they are coming so thick and fast, they are fairly tumbling over each other—but the paramount one, we believe, is how best we may serve our country in the hour of dire need?

Let me take you back to the beginning. When our forefathers, for some reason or other became dissatisfied with conditions in the Old Lands, and decided to strike out, and make a home in the New World beyond the seas, packing up their few treasures, and tying them in a red handkerchief, they set sail for the land of promise. The trip in old sailing vessels, tossed hither and thither on the waves, lasted anywhere from six weeks to six months. Finally reaching a port in Canada, they disembarked, counted their treasures, which in many cases had increased on the voyage—the stork following the vessel and aiding immigration. These old sailing vessels made only annual or semi-annual trips, and not even the prospect of an increase in family, deterred these hardy old pioneers from braving the dangers of an ocean voyage in quest of making a better home for themselves and their families.

These Men and Women Were Not Afraid

Then began the long trip up country. Mother and children tucked away in an ox cart, while the father walked by the side, coaxing and prodding on the lazy oxen, when finally they landed some where, picked out the best looking bush lot they could find, and started to subdue the wilderness. And we have never grown weary of hearing our mothers and grandmothers tell of the privations and hardships which they underwent in the rearing of their families; the loneliness, the anxiety, when the man of the house went to the nearest grist mill, sometimes 75 miles distant; the fear that wild beasts might devour them, and the yearning and homesickness for the friends and loved ones left beyond the seas. But gradually other settlers came in, and over in the distance above maples, curled up the smoke from another log shanty, and the first woman who came did not feel nearly so lonely, for across the clearance was another woman, with her man and little family going through just the same experiences which she had endured a few months previous. And the most natural happening was that these two women became friends. They knew each others' joys and sorrows, if a child was ill in either home, it mattered not which, both women were there to tend the sick, when their children were born, one woman waited on the other. It was the most natural and humane thing they could do, for they were far from doctors; and so sprang up the community spirit, which seemingly we have lost or is dead, and which the University Extension Service is endeavoring to resurrect, by sending out college professors to talk to the people of town and country on this subject. And with all due respect to the college professors, one old grandmother in Eastern Canada has forgotten more of the true spirit of community life than all the present-day professors know. The new community interests are for economical and commercial purposes, while the old, sprung from the spontaneous desire to help the other fellow. This is the type of woman who has bred the men, who at the first call for help from the Motherland, cast aside every weight and hindrance, and went forth to do or die. These old pioneer women

were not afraid; neither is their progeny.
The Log House Days

It may be a long stretch of imagination from the days when the early settlers in Canada raised log barns and log houses, had husking bees and quilting bees and killed pigs together, to August the 4th, 1914, when the cry came across the water, from the dear old Homeland, "Come over and help us." We all remember the early days of the war, when the recruiting officers could not handle our men who clamored for the privilege of helping the Mother Country, in defence of little Belgium. The world wondered why Canadian men were so anxious to go overseas, and I believe we surprised Great Britain herself in our zeal to help. Germany thought Canada too far away to take a hand in the fight, but to use a term which is more expressive than elegant, "she had another think coming." To do otherwise than go help redress the wrongs of Belgium would be unworthy of those fearless ancestors of ours, who braved all the rigors and hardships of our life in a new country, to give into our keeping the land which we now possess and which we mean to hold—our own Canada. There have been people mean enough to say, that the younger men went for adventure, the older men to get rid of their debts, and if married, to get away from their wives.
One thing we do know is that they have all made good. Many will never return. These men were not afraid of anything; they were not even afraid to die.

The Voting Women

The part the women played in the memorable election of December 4th, 1917, was as effective as it was unselfish. The women had no axe to grind except to send speedy help to their loved ones in the trenches. One of the most pleasing features of the women's campaign was the unselfish work done by women who were unable to vote—through no fault of their own, but owing to the accident of having no male relative who could serve. True there were some women who refused to help, and to seem to have a grudge because they had no vote. They remind me of the women who have no children, and who for that reason cannot take any interest or pleasure from the children of other women. If women are going to measure up to the high standard set by the men who have laid down their lives, we must be big enough and broad enough to sacrifice even the casting of a vote, when the honor of our country is at stake. There is no room in Canada today for the selfish or jealous woman. If we have in the past failed to live up to the standard of these hardy pioneer women, who made their homes and reared their families under trying circumstances, then it is high time that we start putting our house in order, for as surely as night follows day, there are dark days ahead for the women of Canada.

The War

As more and more of our young men are being called to the colors, we find great gaps in the industrial and commercial life of our country which must be filled, and if there are not enough men left behind to do the work, then it is plain duty of the women to take the places of the men. Here and there all over Canada, particularly in this western country, are women taking the place of men, on the farm and in the office and doing the work successfully. No longer does the general public think that a woman has not the ability to manage a farm, or business all by her-



"Lawks, this war do open one's eyes, don't it? Fancy your son writing from Jerusalem—I always thought Jerusalem was in Heaven!"

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self, for it is being demonstrated right along since the war started. And wonderful though it may seem, the work of the home is being carried along as well as the business. Women are not giving up their home for this outside work, for they find more than ever the need of their own fireside when the toil of the day is over. Rest assured that the foundations of the home are not tottering because women are finding work outside the big world. It is my firm belief that the home is on a surer and safer and saner basis to-day than ever before.

Here is a recipe I got from a woman, who has been managing her own farm since her husband enlisted three years ago. Pocket your pride, get into a pair of overalls and go to work. This woman and her daughter do all the work, plowing, harrowing, seeding, cutting, stooking, getting their wood out of the bush in the winter. They have paid their debts every fall and kept a family of five children well clothed, well fed and attending school. That is one case right at home; there are many more throughout Canada. The women of France and their sisters of the British Isles are doing practically all of the farming, and in England at the present time there is more land under cultivation than ever before. General Haig says: "There is no better soldier in France than the Canadian." King George, when decorating a Vancouver lad for bravery a few weeks ago, said, "I would be proud to be a Canadian soldier," and I believe the women of Canada are as brave as her men.

We women are measured not by our ability to talk and pass resolutions, but

by the use we are in our own homes and in the community. I am presuming that each woman has a home—consequently her larger interests are there, but she cannot escape the demands made upon her, to help the community in which she lives. Women there are who have so many outside interests that they have no time for the home, and, on the other hand, there are women so engrossed in their own homes they have no time for public affairs. One state is about as bad as the other. Whether you live in the country or in

the town, hundreds and sometimes thousands of dollars are spent in the upkeep, and women are chief spenders of this money. Where are we spending all these dollars? Are we spending in our own community where it is going to do the most good? Or are we spending it hundred of miles away, to help build up the large centres? The war has revealed certain defects in our dealings one with another, and this is one of them. We have been hearing so much the last few years about a square deal, and giving the other fellow a

chance, that we know that we are not living up to the light that is in us, if we pass up the man or the woman in our own community who is trying to make an honest living.

I suppose it would be a direct insult to be told that we are not honest, yet here are some of the things we do. We look for good, cheap articles. To get good things is all right, but as a rule they are not good and cheap at the same time, and if they are we are getting something for nothing; we are dishonest. When we are quoted a price we take it for granted it is about right, and it is mighty poor business to ask for a cut rate. We all know that many of our good cheap products are the result of sweated labor. Let our motto be, "Live and let live." Be willing to pay the price. From every small community in this country goes every month thousands of dollars for goods which could be bought at home. Results are beginning to show in deserted towns and abandoned farms. That is why the College Extension Service are sending out professors to talk to us on this very subject. They see that we are cutting our own throats. They are more alive to our own interests than we are ourselves.

The war is changing our social conditions, breaking domestic ties, and upturning old forms of convention. In men as well as women there is being bred a spirit of independence, that is likely to change many of our habits and customs. Women are entering employments heretofore thought only fit for men, and while many will return to domestic life when peace comes many will continue in their new calling.

There is work to be done, and the



THE FOOD BOARD
"Are you the Butter Committee?"
"No, we are the Dried Fruits."

public is not finicky about who does it, whether man or woman, so long as it is well done. The farms are demanding more workers, doctors are run off their feet, schools are vacant for want of teachers, churches are being closed for the same reason.

We have women teachers, doctors, lawyers, dentists, but not enough to supply the demand, but no woman adult qualified to teach and preach the Gospel of Jesus Christ.

But we already see signs of a change. In England, where the revolution in the status of women has been accelerated by the war, permission has been granted women, under quite strict conditions, to address their own sex in the churches. The objection to this has been so strong, that the bishops who granted this permission have been compelled to withdraw it. But in the future there will be a place for the regularly ordained woman preacher.

It is like the franchise, it is bound to come. Woman's qualities seem to particularly fit her for the work. This is the last prejudice against women to be overcome. We all look forward to the day when we shall not need two, three, four and sometimes five churches in one small centre. The men who return from the war are not going to perpetuate religious differences. They have learned that faith, hope and bravery are the prerogative of no particular school of theology, and that religious differences are not conducive to human brotherhood.

Changes are coming in our religions as well as in our social life.

Never before in the history of the world have there been such opportunities for women to develop their individual inclinations along lines of work suitable to the several heavens.

Carpentering, architecture, shipbuilding, electrical work as yet are almost untouched by Canadian women, and again the work seems fitted to the female worker who is both precise and exact. Men are being taken from those posts and there is no reason why women can not do the work if only given a chance.

That is all the Canadian woman asks—a chance to help out her country in war time, and I believe she will measure up to the standard of her splendid men.

The Canadian men are not afraid to face the Hun hordes and engage them even when they know it means sure death and the women at home are not afraid to attempt any work, no matter how hard it may be.

Because we are one or two generations removed from those thrifty and self-sacrificing women of old who helped make Canada what it is to-day, is no reason that we are not equally courageous. Canadian women love their country and are ready and willing to do any work or make any sacrifice in order that we and the generations to come may be free people.

The years ahead do not look so easy and care-free as in pre-war days, but for the future we are not afraid.

For out of all this chaos must come construction; from this black night of doubt will come a stronger faith.

This is God's way of purifying the world; it is the Divine plan, therefore it must be right. This is what sustains women in these trying times.

**WOMEN IN THE WORLD'S PROGRESS
THE EDITOR'S WIFE**

WHY do I give her first place under the heading of "Women in the World's Progress"? Because she is the mother of a soldier. For four long years her heart has been full of anxiety—hope—expectancy for her brave son overseas. Should not these courageous mothers be recognized as the most important women in the progress of the world's history?

The mother of Lieut. Jack Duthie created an atmosphere in the home that developed strong men. Mothers are the sculptors of men. A mother's sphere in the home is so wide that many women are not large enough to fill it.

There are only two kinds of homes—happy homes and unhappy homes. It takes a woman possessing the noblest

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WINNIPEG CANADA

qualities of womanhood to produce the harmonious tune of life that vibrates throughout the home and out into the world till men overseas are blessed and helped with that fine spirit of comradeship from the soldier son of such a mother.

The making of a happy home is the most important work before us in this reconstruction period. Mothers who raised sons that have "shown us God" these past four years are women civilization crowns as queens of true progress.

We see much of publicity given to women before the public eye—we praise their work—we laud them to the sky—but the women whose influence will bless the next generations—who are they? Mothers of men. Their names may never be in print. I have never read the name of the mother of Lieut. Jack Duthie in print. She gave to the world a noble son and her influence will never die.

Some of our readers gave sons who will not return, but their influence will live on and on in the lives of other men who were touched by them. These

mothers, too, will live forever in their influence. Mrs. J. D. Duthie is the mother of a soldier. May God bestow His richest blessings on the mothers of soldiers—everywhere in this great Canadian country. They well deserve first place on the roll of honor in woman's progress, for they moulded the men that made it possible for England to keep her word to Principle.

She kept her pledge to Belgium!
This song
A free earth sings throughout each day and night.

She paid her pledge when it fell due.
The wrong
Of evil could not turn her from the night.
Of her true word. This sceptered nation hurried
Her all into Love's scale with naught to gain
Except the freedom of a fearful world
From war and wrong and poverty and pain.
She saw the vision of a glad earth blest
With lasting peace, with heaven's work and rest.

Her pledge was paid in full when it fell due.
The word she gave to Principle was true.

She kept her pledge to Belgium!
Her men
Fought valiantly in Flanders' mud and rain;

Her women sought the tasks of slaves again.
All England paid that no more war or pain
Should strike at earth. The vision of the King
Who reigns o'er all, she saw by night and day—
A world redeemed from fear and suffering.

Her battle cry became the words we pray:
"Thine is the kingdom!" This her bugle call—
"Thy kingdom come!" Thus England fought for all,
And paid in full her pledge when it fell due.
Thank God, her word to Principle was true!



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MANITOBA WOMEN'S INSTITUTES ADVISORY BOARD MEETING

THE Advisory Board of the Manitoba Women's Institutes met on Friday, March 25, in the Legislative Chambers. The members present were: Mrs. H. M. Speechly, Winnipeg; Mrs. D. Watt Birtle; Mrs. G. T. Armstrong, Manitou; Miss A. F. Playfair, Hartney; Mrs. Jas. W. McQuay, Valley River; Miss Helen Macdonald, supervisor Home Economics work; Mr. S. T. Newton, director of extension service.

Mrs. Watt was unanimously elected chairman of the board, and Mrs. Armstrong was appointed secretary-treasurer.

Among the subjects which were discussed the following items are of particular interest:

Various changes in the constitution necessitated by the change in name from Home Economics Societies to Women's Institutes, were discussed, and recommendations regarding same were prepared for the law amendments committee.

It was suggested that we hold a number of district conventions throughout the province, the arrangements to be made by the extension service.

Mr. Stratton, of the Department of Education, addressed the board, suggesting ways in which the Women's Institutes might render assistance to those schools composed largely of non-English pupils.

NEWS NOTES FROM OUR INSTI- TUTES

THE winter has been most discouraging in some ways on account of the health conditions prevailing, which have prevented the societies meeting as frequently as they wished. Notwithstanding this fact, in looking over the reports which have come in, we find some very interesting items. Some of the outstanding ones are here given:

Austin—Has decided to adopt a French war orphan as their special charge for the next two years. They are also taking steps to have a district nurse established in their community.

Arnaud—Reports having a number of talented members who favor them with items at their regular meetings. They have a large number of girl members, and these girl members often render choruses at the meetings. After their February meeting their president gave a Valentine tea. At their March meeting they had a meat canning demonstration, and the rollcall was responded to with Irish jokes.

Basswood—Remembers all who are sick, whether they are members of the society or not. Their sympathy is expressed by sending flowers.

Balmoral—Is much interested in village improvement and they are taking steps to establish a park this year.

Beulah—Has started having community singing at each meeting and find it most enjoyable. They are making arrangements to instal a McGill travelling library in their community.

Burnside—Is interested in the Children's Aid Society, also a keen interest is taken in public matters.

Crandall—Is keenly interested in Boys' and Girls' Club work and is assisting the local club in every way possible. They have installed a "hot lunch outfit" in the school, and are making an effort to have a gymnasium installed in the basement of the High School.

Dugald—Is interested in the Winnipeg Children's Aid Society. A donation of \$50.00 and four quilts is the start for this year's work. Socks to Tuxedo and twelve dozen eggs to the Military Convalescent Home are other generous contributions.

Dauphin—Has opened a new rest room. The rural council gave generous support, granting \$1,500.00. The Town Council paid for the furnishing of the room.

Edrans—Is planning to establish a library and is also interested in Boys' and Girls' Club work. They are planning to organize a club this spring.

Emerson—Is so busy that they keep their local paper supplied with interesting news notes. They find their new rest room a very enjoyable social centre for Saturday afternoon teas. They give generous help to Red Cross, Belgian Re-

lief, the Khaki Home in Winnipeg and other worthy causes.

Eden—Is interested in the live topic of conservation of health, particularly with reference to child welfare. They are studying the subject of suitable recreation for their young people.

Flee Island—Is considering securing a bronze tablet as a memorial to their soldier boys.

Gimli—Has given a contribution to Serbian Relief. They are making arrangements to provide accommodation for returned disabled soldiers for the summer months.

Lyleton—Has responses to the rollcall taking the form of a quotation from Longfellow or Tennyson. They are planning to establish a Boys' and Girls' Club and are assisting the local Girls' Basketball Club.

Minnedosa—Has moved its rest room to newer and better quarters. They received increased grants and have demonstrated that the rest room is a most valuable asset to their community.

Manitou—Is interested in improving the sanitary conditions of their town, and also hope to reopen their rest room.

Morris—Receives the interest and support of their local paper, which they acknowledged by sending a letter of appreciation and a cheque after their annual meeting. They have forwarded a box of provisions to the Winnipeg Children's Aid.

Melita—Had the members of their Boys' and Girls' Club entertain them at one of their meetings. The meeting was pronounced a great success.

Pilot Mound—Is discussing a community centre. They have been allotted

the care of Birch River S.D. as their special charge.

Rosser—Supports two French war orphans and has organized a Boys' and Girls' Club in their locality.

Rivers—Is interested in improving the clothing for the Salvation Army, Brandon, also clothing for French refugees. They have appointed special committees for special work such as rest room, floral, reception and library committees.

Roland—Has adopted a French war orphan. They have donated \$10.00 to their Boys' and Girls' Club as well as \$50.00 to the Serbian Relief.

Shellmouth—Had children's sayings in response to the rollcall at one of their meetings. These were most entertaining and called forth great applause. They are interested in a war memorial, and



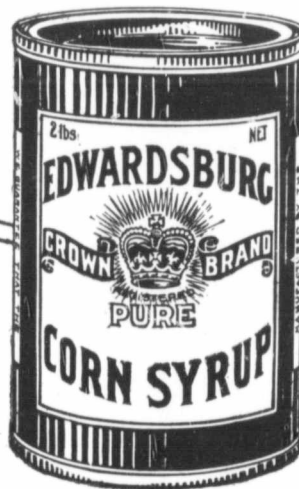
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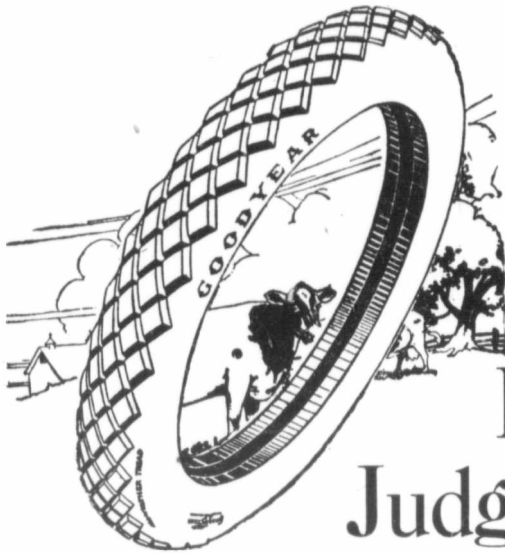
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called a public meeting to discuss the subject.

Treherne—Has adopted two French war orphans. In addition to this a number of the societies have held successful short courses in dressmaking, millinery and cookery.

Transcona—Had a style show after their short course in dressmaking. The last evening of the course they had a public entertainment; those who attended the classes wore the garments they had made, and a most enjoyable programme was provided. The evening was voted a very great success.

What the New York Call characterizes as "the loneliest job in the world," is the job chosen by three Wyoming women who are shepherders—not shepherdesses of the days of Watteau—on the ranch of B. J. Reno, Campbell County, Wyoming. Each girl cares for 2,500 sheep.

Five women cow testers have recently been appointed by dairy agents of the United States Department of Agriculture, co-operating with the state agricultural colleges and the state dairymen's associations. One of these has been placed in Iowa and the other four are in Wisconsin, where the first woman cow tester in the country is now starting her second year of work.

The St. Louis Women's Council has opened down-town offices for a carefully worked out Americanization campaign. A special effort is to be made to reach alien women and their families and to enlighten them on the benefits and opportunities of the United States. The work is under the immediate direction of Bagdasar K. Baghdigian, a native of Armenia, now connected with the Missouri School of Social Economy.

The Farm Garden in Spring

Contributed by Donald MacVicar

Portage la Prairie

A GREAT deal of loss and labor can be avoided in handling the farm garden if the necessary operations are wisely planned ahead.

If the garden has been manured and ploughed or dug in the fall, it should be thoroughly well harrowed as soon as the condition of the soil permits, if not ploughed in the fall, all the surface rubbish should be collected and either burned, or made into a compost heap. It should then receive a coating of thoroughly rotted manure, giving a heavy coating to the part where gross feeders such as cabbage, turnip and cauliflower, etc., are to be grown, and a lighter coating with such woodsheds and soot as are available to the land intended for carrots, onions, etc. It should then be ploughed at least six inches deep, packed and well harrowed.

Pruning, planting, and selling out of cuttings should be done before the garden is sown and planted. The cuttings

should be selected from the best bearing bushes, and should be about 12 inches in length. Remove all the buds but four at the upper end, plant them firmly in a well shaded trench about 6 or 8 inches apart, so that 5 inches are underground and the lowest bud at least two inches above the ground level.

The cutting prepared in this way produces a bush with one stem, and can therefore be kept free from dandelions and other weeds. When planting out put the black currant and gooseberry bushes in the damper part of the garden as they require more moisture than the red and white currant. If there is a strawberry patch put down the garden line and even up the rows, taking the strongest plants to form a new row or two, placing the plants firmly in a shallow trench with the roots well spread out and the crown just above the ground level.

From this new row pluck off all the flowers that show during the first season, and allow three plants to each runner. Weight the runners in the best position to keep the wind from blowing them about. Cut off beyond each newly rooted plant. Plants should be a foot apart and the rows four feet.

In the rasp-brew cut out all the dead-wood and all the weak canes, leaving three or four of the strongest about three feet apart. Give a good top dressing of well rotted manure. Rake up and burn the old vines after tying up those left to fruit. When the pruning of bushes and hedges is complete, clean up and burn. Look round the base of the fruit bushes and if any dandelions or any other perennial weeds are showing spade them out by the root, and the dutch hoe used once a week will keep the garden in good shape during the growing season. The dutch or push hoe is the most useful garden implement throughout the summer and fall. By using it frequently raking is unnecessary, slugs are killed, moisture retained and plant growth developed.

To keep the onion maggot in check powder round them with a mixture of soot and lime, and hoe frequently about an inch in depth to destroy cutworms. For green fly and caterpillars on bushes water in the evening with hellebore wash. For the cabbage butterfly plant a Windsor bean between each plant, and wash during the butterfly season with soapuds and coal oil, one glass to a gallon, once a week.


After the garden is sown and planted thus, an hour or two weekly with the dutch hoe should keep it in trim after the thinning has been done. Above all things put down an abundant supply of winter vegetables such as potatoes, onions, cabbage, parsley, parsnip, carrots, celery, etc.

It is a most unfortunate time to have one's horizon limited to a single farm, a single village, or even a single province. Whatever happens to our boys in khaki in later life, they will never lose the world outlook acquired by their experiences abroad.



A Back-yard Eden—by the Railway Track, Winnipeg


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Over 100 appetizing, nourishing recipes in our new illustrated book.

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WOMEN'S INSTITUTES

This department is an open forum for all women's associations working together for the common good. The women's institutes of all our western provinces are urged to send us any items of interest concerning their work.

**EDWIN
Annual Report**

It is with great pleasure and satisfaction that I present to you the third annual report of our society. The first one in its history that we have not been in the midst and turmoil of war. Surely it is ours to rejoice, not only in the end of the war, but in victory. The enemy has been frustrated in his designs and we should be able to "carry on" with lighter hearts than we have known for many a day. Owing to the "flu" epidemic in our district we were unable to hold several of our monthly meetings. Seven meetings were held during the year with a good attendance of members and fifteen visitors. Demonstrators were present at two of our meetings.

Receipts for the year were \$90.10, of which \$73.50 was donated to the Red Cross and soldiers' comforts. Besides the above, 100 pairs of socks were knit by our members, also sewing done for the Red Cross. There has been 54 boxes sent overseas valued at \$3 each, making a total of \$162.

In December of 1917, money was collected through this organization to buy a victory bond to help the Y.M.C.A. fund for Portage la Prairie. There was also \$7 donated to the Children's Aid Society, Winnipeg.—Gertrude E. Patterson, secretary.

NAME ?

On Saturday afternoon, March 1, the Women's Institute met with the president, Mrs. Gos, in the chair.

After repeating the Lord's Prayer in unison, Mrs. Harvey Kerr gave an account of the work done at a special meeting as to the securing of an agricultural representative.

Then we had a splendid report from Mrs. Seales as to the work accomplished at the Institute convention held in Winnipeg the week of Feb. 16. Our institutes might do well to consider such things as: (1) Intelligent voting. (2) Child welfare. (3) Current events. (4) How best to help the foreign element. (5) Peace reconstruction. (6) Lending a helping hand to war brides.

We were very glad to hear that Mrs. Dayton was to give her address here in the near future, as it was one of the many fine addresses given at the convention. Miss Playfair, of Hartney, has also consented to give her address.

Miss Alice Simpson favored with a song and a trio was given by Mrs. C. Cook, Miss E. Palmer and Miss Coutts, all of which was much appreciated.—Sophia M. Kerr.

HARTNEY

The regular monthly meeting of the Hartney H.E.S. was held in the council chamber of the Town Hall on February 6, with the president in the chair.

It was decided that some of the money donated for patriotic work should be spent for thread for making the garments for the French Relief.

After a short discussion about rest room there was a committee formed to see if plans could be made for a rest room. The rest room question had been laid over till the close of the war, and it was thought that now something might be accomplished.

Mrs. W. H. B. Hill made a motion to contribute five dollars from our treasury to be sent to Lady Aikins towards the wedding gift for Princess Patricia. Mrs. McDowell seconded this motion and it was passed.

With reference to the temperance question, Mrs. Lane moved that the following resolution be sent to the government; Mrs. Hill seconded the motion and it was carried unanimously.

Resolved by the women of Hartney and district, members of the H.E.S., that the Dominion Government be urged to make no change in the Temperance Act. We are convinced that the women of Canada will heartily support in preserving the same.

Two delegates, Mrs. Chas. Forbes and Mrs. W. Scharff, were appointed to represent us at the convention to be held in Winnipeg. A resolution was drawn up to send to the government requesting them not to resort to the daylight saving scheme. This resolution was moved by Mrs. W. Forbes and seconded by Mrs. H. Cowan. The meeting was unanimous for this resolution.

A resolution moved by Mrs. W. Scharff and seconded by Mrs. Hill was carried unanimously. The resolution read:

Resolved, that the society place itself on record as being in sympathy with the proposed movement regarding the boy problem of our town and district and is willing to express its approval by an active co-operation.

Several of our meetings having been withdrawn on account of the prevalence of influenza in town and district, the election of the directors for 1919 took place with the following directors elected by ballot: Mrs. E. J. Hodgson, Mrs. Geo. Jasper, Mrs. J. Callander, Mrs. W. H. B. Hill, Mrs. W. J. Jasper, Mrs. W. Forbes, Mrs. Lane, Mrs. Perrin, Mrs. Robson, Mrs. W. Scharff, Mrs. J. Scharff.

VIRDEN

The Virden Home Economics Society held its annual meeting on Saturday, the 24th inst., this being the first meeting since the "flu" ban was lifted. The hall was filled with members from all parts of the district. The reports showed the work undertaken during the year to be both varied and interesting. The reports of every committee showed a balance on the right side.

The activities of this organization touch the welfare of the people of the

We Sell the Famous



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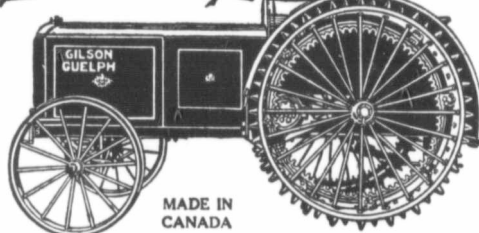
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—Alloy steel,—Dust proof transmission, etc.—and all so simple and easy to operate that a small boy can do it easily.

The Gilson Standardized Tractor meets perfectly the demand for a high class, serviceable tractor to increase production and is a money-maker for its owners. Sizes 11-20, 19-25 and 15-30 h.p.

Write to-day for full particulars.

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WRITE
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FOR PRICES
DELIVERED TO YOUR STATION

You are going to fence your farm? Why not purchase the posts now and have them on the job to commence work after seeding? A few carloads are offered, but they will not last long.

The grade of posts we offer are: Green Cut, Bush Run, and a carload consists of from 1,000 to 1,400 seven-foot posts. A car would be divided in about the following percentages:

- 35 per cent would be 3 in. to 4 in. at small end.
- 45 per cent would be 4 in. to 5 in. at small end.
- 20 per cent would be 5 in. to 6 in. at small end.

Write for prices delivered at your station.



NOT WHAT HIS HEART SPOKE

Jock: "Could ye no gie me a photograph o' yersel', Sister?"
Sister: "What would you do with it?"
Jock: "I'd put it in a nice collection o' curios I've been mackin' oot here."

whole district at many points, and it is no exaggeration to say that outside the church it is one of the most beneficial organizations we have. During the year the patriotic effort consisted of donations to St. Dunstan's Institute for the Blind, Canadian field comforts for the men in the trenches, to the local Patriotic Society for Red Cross needs, to Tuxedo and our own local hospitals, grants to the Boys' and Girls' Club work and to the Agricultural Society prize list. In addition, over \$300 was spent paying the caretaker of the cemetery, which has, through the efforts of this organization, been converted from a wilderness of weeds to one of the most beautiful spots in the province.

Our rest room, which was burned recently, is now in new quarters and is handed over to a separate committee. It was organized and supported for years by the Home Economics Society and is acknowledged by our merchants to be a benefit to the town as well as a great comfort to the women from the country. We have given an organ to the primary department of the public school and established the nucleus of a permanent library consisting of 700 carefully selected books which are greatly appreciated. Through the efforts of our school committee, Mrs. H. H. Gouler, president of the Local Council of Women, was recently appointed to the school board by acclamation.

A request from Mr. D. McDonald, Virden Agricultural Society's manager, asking that the Home Economics Society appoint the lady directors to the fair board, was appreciated and an assurance of most hearty co-operation given.

A study of the Dower Law and laws affecting women and children have been under consideration. One of the great benefits of the organization is the friendliness promoted between town and country women. We are one in all work helpful to the people of this community. We feel we have a year of great opportunity ahead, a large part of which will be concentrated on all that pertains to the welfare of our children and young people, soldiers' widows and orphans, but also the brides of our boys returning to this district will be assured of a welcome and any assistance in learning to make new homes here.

The officers elected for the coming year were as follows: Honorary president, Miss Shields; president, Mrs. Gee; first vice-president, Mrs. T. Clark; second vice-president, Mrs. H. Kerr; secretary, Mrs. Seales; treasurer, Mrs. Beveridge; press reporter, Mrs. Willoughby; and an able board of twelve directors.

VALLEY RIVER
January

The monthly meeting of the Valley River Home Economics Society was held at the home of our newly elected president, Mrs. J. W. McQuay.

A letter was read from Lady Aikins requesting contributions for a wedding gift for H.R.H. Princess Patricia. It was decided not to forward any contribution from the society as a whole.

The president reported that the new rest room in Dauphin would be ready for use on Saturday, Feb. 15.

Mrs. Thos. Playford read a splendid paper on "Life's Burdens and How to Bear Them," emphasizing the importance of always trying to look on the bright side, resignation to God's will, and a remembrance that many others have burdens as means of lightening our own.

Mrs. Brown kindly offered her home for the March meeting.

February

A well attended meeting of the society was held at the home of Mrs. McDonald on Feb. 6.

The coming convention and the desirability of sending delegates was discussed. Miss McKillop and Mrs. Kelly were appointed as our representatives.

A resolution was passed to the effect that in view of present war conditions we request the managers of the fair to arrange for the exhibition of war cookery, sewing and knitting instead of the usual display of fancy cookery and needlework.

Papers dealing with "Woman's Part in the War and Her Responsibility After it

Maltum Stout
REGISTERED

Food License 15-326

MEN WHO WORK ON THE FARM
KNOW BEST THE JOY OF A
REFRESHING BOTTLE OF
Maltum Stout
WHEN THE WORK IS HADDEST

79

**97 Piece
Dinner Set
and lovely
Silverware
Given To You**



YOU can secure without a penny of cost this magnificent complete, 97-piece English Dinner Service and a lovely set of half-dozen Wm. A. Rogers teaspoons.

Each dinner service is guaranteed full size for family use, its 97 pieces comprising 12 cups and 12 saucers, 12 tea plates, 12 dinner plates, 12 bread and butter plates, 12 soup plates, 12 sauce dishes, 2 platters, 2 oval covered vegetable dishes, a cream jug, covered sugar bowl, a gravy boat, pickle dish, and a salad bowl. It is handsomely decorated in rich floral design and will surely delight the most fastidious housekeeper. The beautiful set of Teaspoons are in the famous Wm. A. Rogers French Carnation design with French grey handles and brightly polished bowls.

Read our Wonderful Offer

We are determined to establish a national reputation for Dr. Egan's Famous Life Building Blood Tonic and Nerve Pills and are sparing no expense to secure representatives in all parts of Canada who will help us by introducing this famous remedy to their friends and neighbors. This is why we offer to give away these magnificent premiums.



**Canadian French
Canadian Teaspoons**

Genuine Wm. A. Rogers make—the most beautiful pattern ever seen. These magnificent spoons will delight any housekeeper and they are guaranteed to give every satisfaction in wear.

We pay all delivery charges on these Grand Premiums

**Will you sell just 12 boxes among your friends
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You can easily do this because every one you know will be glad to learn of this grand remedy. It is one of the world's best known prescriptions, a tried and proven remedy for weak and impure blood, nervousness, indigestion, constipation and anemia. In all run down conditions of the system it will be found a grand blood builder and revitalizer, and as a general tonic for blood and nerves it has no equal. You will be able to sell them quickly and easily because every purchaser of a box can obtain a beautiful gift of fine silverware from us free. Then return our money, only \$1.00, and we will promptly send you, all delivery charges paid, the beautiful set of spoons, and the handsome dinner set you can also receive without selling any more goods by simply showing your fine reward among your friends and getting only six of them to sell our goods and earn our fine premiums as you did. We pay all delivery charges right to your door.

REMEMBER YOU TAKE NO RISK. You do not spend a cent of your own money. We trust you with our goods until sold and if for any reason you cannot sell them we will take them back and give you beautiful premiums or pay you a big cash commission on the quantity you do sell. Write to-day if you wish to take advantage of this liberal offer. It gives you the opportunity of a life-time. Address: **The International Mfg. Co., Dept. D 11 Toronto, Ont.**

is Over," were read by Mrs. McQuay, Mrs. Playford and Miss A. McQuay.

These were followed by a discussion as to means of making things pleasant for the boys of our district who are in the district. It was decided to send boxes under the auspices of the H.E.S. A committee of four was appointed to arrange for the sending of the boxes. A vote of thanks was tendered to Mrs.

B. Boughen for entertaining us at the last meeting. Mrs. Parker kindly offered her home for the next meeting.

March

The March meeting of the Valley River Home Economics Society was held at the home of Mrs. W. Brown.

The meeting was opened by singing a hymn and by responsive rollcall.

Communications from the Extension Service Department were read and discussed. The Valley River Society expressed themselves as being agreeable to changing name of Man. H. E. Societies to Man. Women's Institutes.

A resolution was passed to the effect that we send a resolution from our society to our member in the House of Commons urging the continuance of

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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 enable us to make our prices so moderate compared to many other catalogues.

WHY HAVE WIND-SWEPT CROPS? PLANT TREES

FOR ORNAMENTAL HEDGES

100,000 Caragana, 1-2 feet high at \$5.00
50,000 Lilac, 2-3 feet high, at 5.00
150,000 Cottonwood, Russian Poplars and Willows, 3 feet high, at 5.00

FOR SHADE OR SHELTER

Straight Young Trees

Cottonwood, Maple, Ash or Elm, 5 to 10 feet 50c to \$1.00 each

Thousands of Crab Apples and Plum Trees, Currant Bushes, Raspberry, Strawberry and other fruits, etc.

We are special agents for Messrs. Sutton and Reading, England. We list in and Catalogue the hardest varieties of their World Famed Seeds in sealed packets.

Write To-day for Our 1919 Catalogue

in which we list all the hardiest and best varieties of Vegetables and Flower Seeds, Fruits, Trees and Shrubs, Grasses, Fodders and Seed Potatoes.

Profusely Illustrated and Cultural Directions.

NEW EVERBEARING STRAWBERRY

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



\$1.00 per Dozen postpaid
\$7.00 per 100 postpaid

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

Photo taken in our Nursery

HARDY MINNESOTA GROWN CORN

Not the cheap Southern Corn

	Bus.	50 Bus.
North-West Dent	.....	\$4.50 \$4.00
Minnesota 13	.....	4.50 4.00
Red Cob Ensilage	.....	3.50 3.00
Yellow Dent	.....	3.00 2.50

MILLETS

Common	.....	\$7.00
Siberian	.....	8.00
Japanese	.....	9.50

SORGHUM or

Sugar Cane	.....	\$12.00
Field Peas	.....	8.00
Timothy	.....	15.00

BROME, WESTERN RYE, RED TOP and other grasses.

SEED POTATOES

All Standard Varieties

	Bus.	50 Bus.
Bovee	.....	\$2.25 \$1.50
Early Ohio	.....	2.25 1.50
Wes. MacGregor	.....	2.25 1.50
American Wonder	.....	2.25 1.50
Mortgage Lifter and other varieties.		

It pays to get our Seed Potatoes; they do well in Western Soils. We grow from 50 to 70 acres of Seed Potatoes each year.

ROSE PLANTS

Postpaid, 6 for \$1.00

These young plants are grown in Greenhouses on their own roots, and are suitable for Planting out in Garden or for pot culture in house. Will commence flowering in July—some varieties earlier. These include varieties of Hardy Perpetual Roses, Hardy Rugosa Roses, Tea Roses, Ever-blooming Tea Roses, Climbing Roses and Moss Roses.

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BRANDON, Man.

Est'd 1883

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Makes a Clean, Quick, Easy Job of Separating

and gets every last drop of cream. Over seven hundred times a year you use a separator—get the best—find out all about the

ANKER-HOLTH Self-Balancing CREAM SEPARATOR

Besides giving you all the cream—at any desired density—you have the lightest running machine on the market and the easiest to clean. Perfect self-balancing bowl. A boy can get as good results as the expert. Cream flows from bottom of bowl—no flushing necessary. Gearing gives full grip. No numbered discs to confuse—a child can put them together in the dark.

Mechanically Perfect

Hinged mechanism in base gives easy access to moving parts. No oil cups or holes. No vibration. No intricate parts—one tool fits all parts.



30-DAY TRIAL

Makes fair test possible—use it 60 times then decide. We guarantee that the bowl will keep in perfect balance during entire life of separator.

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61 VICTORIA ST. WINNIPEG, MAN.

Dominion-wide total prohibition legislation.

The secretary was instructed to buy a hymn book and hymnals for use in the society.

The meeting then adjourned, and Mrs. Brown, assisted by Misses Susie Brown and Edith Spencer, served a dainty lunch.—Adela M. McQuay, secretary, treasurer.

Mother's Corner

(The following beautiful poem was sent in for our corner by the mother of the lovely child whose picture appeared in the February issue of this department.)

A MOTHER'S PRAYER

MY little son goes faring down the street.
His first trip "over town,"
Dressed in his cap and overalls, he says,
"I can go alone."

I almost catch my breath, and softly pray
That danger may not strike—
A whirling engine, or a runaway,
Or fall from giddy height.

So soon the years will flit when from my side
He'll gallily saunter forth
Into the flare and glare of life's highway—
An eager, fearless youth.

Oh! then a pain will grip my heart, and prayer
On wings of love will rise
Each hour, "God keep him safe, God keep him clean,
Let honor be his prize."

Sin lurks and lures at every turn,
(Can he be lured withstand?)
"Clothe him, O Lord, and cleanse him every day,
And make of him a man."

—Eva Fraser.

A DISTANT RELATIVE

During the course of a trial in Chicago a witness by the name of Francis Dooley was asked concerning the defendant: "Are you related to Thomas Dooley?" "Very distantly," said Francis. "I was my mother's first child. Thomas was the tenth."

CONTEST FOR BABIES

We are delighted with the splendid response of the mothers in this contest. We want the mothers of children under four years of age to send us the pictures of those little ones. A prize of twenty-five dollars is offered to the mother who sends in the best description of the care she gave her child, with a picture of the child. A second prize of ten dollars, and a third of five will be given also.

We hope to have the pictures of a hundred babies for this department. Do you not want to see your baby's face in our department? You will help other mothers by sending us your experience on the care of children. One mother writes: "I am glad one farm paper is interested in better babies as well as calves and colts." We feel that this contest will help many mothers and will be a factor in the conservation of childhood. Very great effort is needed at the present time in the conservation of childhood. We must not neglect our children but double our efforts in their behalf. We are anxious to make this contest a most important feature of our department and urge all our mothers to help us for your particular letter may save the life of a little one. Is that not worth while? Then send us the photo of your little one with a description of your care of the child. Give weight, height, chest measurement, and general condition. Every photo will have a place in our department. We all want to see the picture of your little one on our page.

You never saw an animal fill his mouth with food and then take a drink to wash it down.



The Sign of a Good Mattress

Make a note to see the No. 1 Health Brand Mattress. Use it on a Banner Spring. This label is a guarantee.

Sold by all good dealers.



Gall Cure That is GUARANTEED

Bickmore's Gall Cure is guaranteed to do all we claim for it. If it doesn't, you get your money back. Successfully used on over a million horses each year all over the world. Cures while the horse works! Wonderful for collar and saddle galls, broken skin, rope burns, sore shoulder, mange, and other skin diseases, bruises, cuts, chafes, mud scalds, grease heel, chapped teats on cows and other wounds on horses, cattle, pigs, and poultry. "Your Gall Cure," says C. A. Tripp, of Marshfield, Wis. "If it doesn't, you get your money back. I got my shoulder healed last summer. Got a small box of Bickmore's and did not get it. My shoulder was healed. Worked her every day in the meantime." W. B. Dixon, of Perry, Okla., says: "I have used your gall cure on a horse with a galled neck. Less than one box cured in a remarkably short time." Ask for Bickmore's Gall Cure in your neighborhood. Your dealer will give you money back if you are not satisfied after using it. THE BICKMORE COMPANY, Dept. 561 562 Notre Dame St. West, Montreal, Can.

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WINNIPEG MONTREAL

Ethereal solution of menthol, 10 to 50 per cent, applied by camel's hair brush, averts boils, carbuncles and inflammatory gatherings, and cures itching eruptions.

Saves Time
Saves Work
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Burn off that Stubble!

Lightning Stubble Burner

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Learn to Run a Tractor

Complete, practical course by mail on the construction, operation, care and repair of all kinds of gas and gasoline tractors. You learn at home. Write for circular.

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The only reliable treatment for Lump Jaw in Cattle.

Fleming's Lump Jaw Cure
Price \$2.50 a bottle. Sold under a positive guarantee. Your money back if it fails. Write for Fleming's Vest-Pocket Veterinary Adviser. We advise and illustrate. It is Free. Fleming's Chemical Horn Stop. A small quantity applied when calves are young will prevent growth of Horns. A 50c tube and postpaid is enough for 25 calves.

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36-37 Canada Life Bldg. WINNIPEG

I asked my little one the other day:
"What does love mean?"
She replied: "Kisses from Daddy."
True—if love is the most beautiful thing in the world—then kisses from Daddy is love—little girl. (P.R.H.)

I took a piece of plastic clay,
And idly fashioned it one day,
And as my fingers pressed it still,
It moved and yielded to my will.
I came again when days were past,
The bit of clay was hard at last,
The form I gave it, still it bore,
But I could change that form no more.

I took a piece of living clay,
And gently formed it day by day,
And moulded with my power and art,
A young child's soft and yielding heart.
I came again when years were gone;
It was a man I looked upon,
He still that early impress wore,
And I could change him nevermore.

Given good food, a brave heart, and any reasonable amount of diversion, most young people outgrow their sins—and even their mistakes—almost as soon as they outgrow their clothes. But to outgrow a punishment is quite a different matter! People who deal out punishments ought to think about that!

If the child really has worms, a good remedy to expel them is the following: Oil of anise, 3 drops; fluid extract spigelia and senna, 1 ounce; santolin, 8 grains; take one teaspoonful at bedtime in water. (From Healthy Home Publication.)

FOR BURNS

Best of all treatment for burns and scalds is carbolic acid, 1 part to 25 parts sweet oil, apply with camel's hair brush every two to four hours, or as often as the pain reappears, until new skin is formed. This treatment may be preceded by an application of cold water, as an immediate application until the first shock and pain is alleviated.

For a man, sawing wood every day until he gets sweaty will do as much for chronic sore throat as anything. The reason is that elimination is helped by the violent activity of the stomach, back and shoulders in this greatest of all physical exercises. Building up the general vital resistance is a remedy of greatest importance. The inhalation of hot steam is a most valuable measure. Gargling the throat with hot water is also valuable.

Is it harmful to take a small dose of Epsom salts daily for constipation?
Yes. If this medicine is kept up for a time, it will produce irritation of the mucous membrane of the stomach and bowels. It also irritates the tissues of the liver and kidneys and produces definite changes in these organs. Epsom salts, sodium phosphate, mineral waters, and other like medicines should be used only under the direction of a physician, and then for only a limited period.

SOMETHING NEEDED BESIDES MILK

At what age should a child be given food other than milk? Milk contains from seven to fourteen times less iron than the other articles of food. Although the other mineral constituents of the milk are present in the same proportion in which they are contained in the tissues of the child at birth, iron is present in mere traces only.

The infant enters the world with a supply of iron in the liver; and to a smaller extent elsewhere, which has been stored during intra-uterine life. The child gradually draws upon such store for the manufacture of the blood-coloring matter, which lasts until its digestive organs are prepared to digest food other than milk.

The small amount of iron in milk is sufficient for the growth of the child, hence the high percentage of iron in the organism at birth. Late weaning, or the too prolonged use of milk as the exclusive food of a child artificially fed, causes anaemia. This is the first pathological condition which we mark as arising from failure to modify the diet of a child at the proper time. The chemistry of milk,

Clean tiled walls and floors with Old Dutch.

In fact you'll find Old Dutch is best for cleaning anything that's hard to clean throughout the house. Besides, it's more economical than soap or any other cleaning material.

Old Dutch Cleanser

Gold Standard

The Chaffless COFFEE

The fragrance developed in the roasting process is retained in the vacuum-sealed Gold Standard tin. A trial can will prove why Gold Standard—Western Made for Western Trade—is superior to other coffees. Blended to suit western waters.

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Splendid Winter Layers
\$2.00 Per setting

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FOR SALE—A 3-plow tractor, slightly used. Cheap for cash. L. C., Box 5164, Winnipeg.

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Messrs. Savory & Moore, Chemists to The King, and makers of the well-known Infants' Food, issue a little Book entitled "The Baby," which gives a great deal of useful information on the Care and Management of Infants.

A USEFUL GUIDE

The book contains hints on Feeding, Teething, Development, Infant Ailments, and such matters as Sleep, Exercise and Fresh Air, which are so important for baby's well-being. It also contains a chart for recording baby's weight, a dietary for older children, and recipes for simple nourishing dishes. It forms, in fact, a useful mother's guide, which should find a place in every home. It is not intended to take the place of medical advice, when such is needed, but it will often serve to allay needless anxiety, and indicate the right course to be pursued.

FREE TO MOTHERS

Those who are genuinely interested in the subject may obtain a free copy of the Book by sending name and address on postcard to Savory & Moore, P.O. Box 1601, Montreal.

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Have water on your own farm. In spare time make wells for your neighbors. It means \$1000 extra in ordinary years, double that in dry years. No risk—no experience necessary.

Complete Outfit for Getting Water Quickly Anywhere
Includes boring rigs, rock drills, and compressed machinery. One man with cash bore often bore 100 feet or more in 10 hours. Pumps 50c to \$1 per foot. Engines, oil, hose, power, etc. Write for Easy Terms and Illustrated Catalog.
Lisle Mfg. Co., Chicago, Iowa.
Address: Saskatoon, Sask. Tel. 101

Got Gophers? Kill 'Em Quick

For Information See
KILL-EM-QUICK
Ad. on Page 61 of this Issue.

Our Young Folks

GIRL'S PRIZE LETTER

Trossachs, Sask., Can.

Dear Cousin Doris:—I am so interested in the letters of this page that I read them with great interest every month. I see you are giving \$2.00 every month for the prize letter. How I would like to be able to write the best letter during the month of October, but I do not suppose there is much chance, as I am only nine years old and most of the boys and girls, who write seem to be older than that.

However, I am going to try. I am going to write about my ambition, as I cannot write very much about how I would help win the war, although I also try my best to help in small ways that I can, such as not wasting food, etc., and writing letters to my uncles who are soldiers, to encourage them. It is my greatest desire to grow up to be a young lady, kind and lovable.

I want to always be kind to young and old people, poor and rich, and I also want to be very kind to the dumb creatures. If you have ever read the book, "Beautiful Joe," of which Marshall Saunders is author, you will remember one character of the story who plays a very important part.

This is Laura Morris. I just long to be kind like her. Everybody loved her and she always was so cheerful. Our teacher just read that book to us at school. She reads fifteen minutes every day after the noon hour.

The story was very interesting and Laura was the one who interested me most. I am trying every day to be kind to dumb animals, for, as it says in the book, not only because I lose nothing by it, but because I ought to; for they were placed on the earth by the same Kind Hand that made all living creatures.

I also want to be a teacher—and, oh! won't it be fun for the children who go to my school when I intend to be so kind? Well, that's my ambition, and if I do not fail to fill the place, I will do a part in this world towards cheering up the old, and poor, and I certainly do intend to be kind to dumb animals. I must tell you of a pet gopher we had at school last summer. During the spring this gopher used to come into the entry, and if the door was open it would come right into the school room. It was very nervous at first and, if anyone moved, it would run out.

At recess and during the noon hour we would stand on the step and throw pieces of bread towards it. It would come right up to the step and pick the pieces of bread up. At last one of the girls sat down on the step and held a crust of bread out towards it.

The gopher came right up and nibbled the crust of bread. Many days passed by and this gopher was fed every day in this way. Finally he got so tame he'd sit right beside us and eat out of our hand. We could pick him up and carry him around, and if we'd set him up on the shelf he'd sit there until we took him down.

All summer long we petted him and loved him dearly, but in the fall one of the big boys came back to school. He told us he was going to kill him because it was terribly foolish to tame anything like a little destructive gopher. We begged him not to kill the gopher, but one day at noon he came in carrying poor, dead Dick.

He had just killed him and, oh, how heart-broken we girls were. Such a terrible fate poor Dick met with because we had tamed him and he was so brave. Since then we have never made an attempt at taming another. Well, I must close, wishing this page every success.—Thelma J. Swedburg, age 9.

Dunfermline, Sask.,

February 3rd, 1919.

Dear Cousin Doris:—I have just been reading the interesting letters of your young folks' page in The Canadian Thresherman and Farmer.

I thought I would write a letter and try and win the prize.

I live on a farm about eight miles from a town named Dunfermline. I came to Saskatchewan when I was three weeks old and I have been here ever since. I go to school and I am in Grade III. I am eight years old. I live half a mile from the school, twelve miles from Asquith and twenty-five miles from Saskatoon.

I cannot play the organ by note, but I can play tunes by ear when I hear them sung a few times. I have two sisters and one brother. My eldest sister is going to high school.

Well, I must close for this time, with best wishes to all.—Ethel Mary Hall, age 8.

Birtle, Man.,

Feb. 5th, 1919.

Dear Cousin Doris:—I have been reading with great interest the letters of your page for some time. I noticed that you gave a prize of \$2 to the person who wrote the best letter. How I should love to get it for this month. I am no hand at letter writing, but anyway I will try my luck.

I am a farmer's daughter, fourteen years old, five feet, six inches tall, and weigh about a hundred and eight pounds.

I go to school every day. We live about two miles from the school. I have two sisters, one a year older than myself, and my other sister is just eight years old. There are no boys in our family, just "we three" girls.

Our school was closed for two months last fall for Spanish influenza. It opened again after the New Year, but the "Flu" started again and school has been closed for two weeks now. I hope that it will soon open again as I want to write my examination in June. I am in Grade X and like the work very well, although I am not fond of going to school.

I am very fond of music and have taken violin lessons for about a year and a half. I hope some day I will be able to play well and give people pleasure. My greatest ambition in life is to be able to play the violin. I have played at quite a few concerts. My oldest sister accompanies me on the piano. I think music is one of the nicest things of all, and is the only thing that can make you forget your troubles for a while. As soon as I have my second class certificate I want to go away and study music, and when I have finished my course I hope to give lots of people pleasure.

I am very fond of crocheting and have done a lot. At present I am crocheting a bag. I gave nearly all my crocheting away for Christmas presents.

Well, I must draw this letter to a close, or else there will be no more room left for anyone else. Wishing the club success.—Muriel B. Dudley, age 14 years.

DUE FOR A RISE

A downtown merchant, while engaged in the office the other morning, discovered that he had left his pocket-knife at home and, as he needed one urgently, he asked the different clerks, but none of them happened to have one. Finally the errand boy hustled in and the merchant called him, asking if he was able to produce the desired article. Jimmy handed over his pigsticker.

"How is it, Jimmy, that you alone out of my entire staff seem to have a pocket-knife with you?" smiled the proprietor, eyeing Jimmy with undisguised admiration.

"Dunno, sir," replied the youth, "unless it's because my wages are so low that I can't afford more'n one pair of pants."

COULDN'T FOOL HIM

"I want to get a pair of corsets for my wife."

"Yes, sir, Jim, hand me down a pair of thirty-five-inch ones."

"Why, how did you know her size?"

"Any woman who allows her husband to buy her corsets always has a thirty-five-inch waist."

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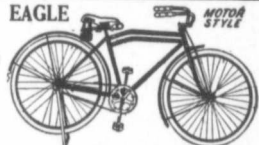
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Are you dissatisfied with the fit of your artificial teeth? If so, try our Patent Double Suction Whalebone Vulcanite Plates, set

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LONG experience has taught us the best principles of churn construction. For instance, wood is the best material for the barrel, it does not chill like crockery or glass and oak is the best wood. The barrel of Maxwell churn is made only of selected oak. Mechanism is simple but strong. Every detail of construction and finish is high class throughout. That's one reason why Maxwell churns are exported to all the great butter making countries of the world.

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The Hamilton Tractor Plow

A Better Implement Does Not Exist

THE **Hamilton** tractor plow scours under adverse conditions. It turns a smooth furrow and provides a compact seed bed, putting all trash in the bottom of the furrow. A wide range of close adjustments enables the operator to turn a furrow of the exact depth required. When opening the field, the front bottom can be adjusted to turn a furrow of any depth.

The quick-detachable-share arrangement is one of the special features of the **Hamilton**. The shares can be removed without the use of a wrench. It requires only a few minutes to unscrew the hand nut or wheel and kick the share off the plow. There is no time wasted--the change can be made in a very few minutes. Any man who knows plows will appreciate this feature to the full.

This is the power lift plow--meaning that the tractor furnishes the power to lift the plow. A slight pull on the rope by the operator from his seat raises and lowers the bottoms—a very simple and easy operation. The lift is high with good clearance. Levers which are long and convenient are in easy reach of the operator and govern plowing depth.

The **Hamilton** tractor plow is substantially built throughout. The beams are exceptionally heavy, of high grade carbon steel, rigidly fastened together by heavy braces. Two or three-bottom sizes. The hitch has good range of adjustment up and down and sideways. Careful protection is made against dust getting into wear bearings. Wooden break pin is to minimize danger of damage to plow.

Purchasers of **Hamilton** tractor plows have for years assured themselves of plowing and satisfaction and will now be more certain than ever of good plowing. No better implement exists than the **Hamilton** tractor plow. Write the nearest address below for complete information.

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Easier to Drive Than a Team of Horses

As the Young Lady Pictured Above Agrees

ONE of the chief advantages of the Case 10-18 Kerosene Tractor is its easy handling. It is simple and compact. It weighs little more than a team of horses. Its length is 108 inches, width 52 inches and height 58 inches. It turns in a 22-foot circle.

This Case 10-18 is ever ready for all kinds of farm work, such as plowing, discing, pulverizing, harrowing, haying, harvesting, road-work, threshing, hauling, cutting feed, filling silo, baling hay, grubbing, sawing wood, etc. Because of its flexibility, it produces more hours of work per year and thereby increases its earning capacity.

IN this Case 10-18 we offer our latest and best small tractor. It is the climax of our 77 years of experience in building power-farming machinery. It easily pulls two 14-inch plows. It will drive a 20 by 28 Case Thresher with feeder and windstacker. For every occasion requiring its rated power for drawbar or belt work this tractor sets the pace.

It has plenty of reserve power.

While rated at 10 horsepower on the drawbar it can deliver about 25 per cent more. While rated at 18 horsepower on the belt it can deliver about 25 per cent more. This means that it is built to handle an over-load.

In this Case 10-18 are found dozens of advanced ideas. For instance, it has a one-piece main frame with a four-cylinder engine mounted crosswise.

THIS construction affords a dust-proof housing for the rear axle, bull pinion shaft, transmission and the bearings for these parts.

This construction brings rigidity and assures perfect alignment of all shafts, gears and bearings. All gears are cut steel, fully enclosed and run in oil.

Another feature is its economic consumption of kerosene. It has a Case Sylphon Thermostat which controls the cooling system and insures complete combustion of kerosene.

An improved air-washer delivers clean air to the carburetor. No grit nor dust can get into the cylinders to minimize their efficiency and shorten their life.

Our illustrated booklet describes all the betterments in the new Case 10-18 and our larger sizes. Write for a copy at once. We will send it gladly.

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