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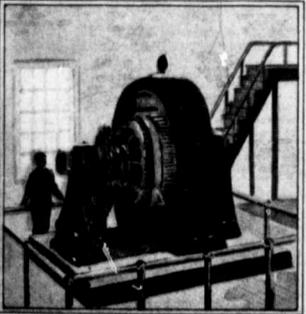
# CANADIAN THRESHERMAN & FARMER

CANADA'S FARM- MACHINERY MAGAZINE  
WINNIPEG CANADA

APRIL, 1913



**FARM POWER**  
WHICH SHALL  
IT BE?



E.H. Heath COMPANY Publishers  
LIMITED  
ELEVENTH YEAR

# JOHN DEERE IMPLEMENTS

## Engine Gangs



### Plows That Suit All Conditions

The price of success depends upon the application of proper methods. Conditions vary. Different methods must be applied to different conditions. The plow that is adaptable for one section of the country may not be the type of plow best suited for another section.

No one type of plow bottom is suitable for all conditions. The Breaker Bottom is adaptable for its own class of work, but how often do you see a farmer plowing stubble with a Breaker Bottom?

Regardless of the condition of the soil that you are tilling, there is a **JOHN DEERE PLOW BOTTOM** built just for your requirements.

Breaker Bottoms, Stubble, Turf and Stubble, Rod and Slat Bottoms, just whatever you require, can be furnished with John Deere Engine Plows.

### Distinctive John Deere Features

**BEAMS AND BOTTOMS IN PAIRS.** Only half the number of gauge wheels and levers as are used on single bottom plows. Bottoms run steady and do not wing.

**QUICK DETACHABLE SHARES.** Greatest invention every made on a plow. Saves eighty per cent of time required to change the old style shares.

**SCREW CLEVIS** located at the point of each beam. Depth of plowing can be regulated while the plow is in operation. No time is lost in stopping to make adjustments.

**GREAT CLEARANCE.** High arched beams. Rolling Colter between the beams (not directly underneath close up to the gauge wheel) eliminate all possibility of clogging.

**GET OUR CATALOGUE** explaining all about engine plowing. Every up-to-date farmer should have one. It is free.

4-6-8-10-12-14 Bottoms

### Engine Disc Plows

The Disc plow is particularly adapted for use in hard, sticky, waxy or gumbo soil.

The disc leaves the furrow bottom concave and porous, therefore, receptive of moisture.

**SOLID FRAME.** The John Deere Engine Disc has a solid frame, put together with hot rivets, not bolts. Built to stand all possible strain.

**It is a Real Disc Plow For Real Hard Plowing**



### Engine Disc Plows

**EASILY HANDLED AND DOES GOOD WORK.**—This is a big plow, yet it is easy to operate. Front furrow wheel is completely controlled by the engine and, in turn, controls the rear wheel, thus allowing perfect freedom in turning either to the right or to the left.

Disc can be set at such an angle as to insure penetration. Scrapers keep the discs free of dirt and aid in turning and pulverizing the ground.

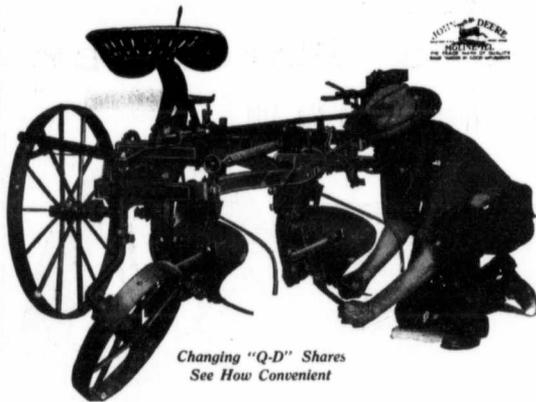
**The Kind of Plow You Want Write for information**

GET QUALITY AND SERVICE—JOHN DEERE DEALERS GIVE BOTH

**JOHN DEERE PLOW COMPANY, LIMITED**  
WINNIPEG REGINA CALGARY SASKATOON EDMONTON LETHBRIDGE

# JOHN DEERE IMPLEMENTS

## Look At These Pictures



Changing "Q-D" Shares  
See How Convenient

### Each One Tells Its Own Story

The first illustrates how quickly and easily a John Deere Quick Detachable Share can be changed. Only one nut is removed; only one wrench is used, and the operator does the job in easy comfortable position.

It is an illustration of the latest and greatest improvement ever put on a plow, saving eighty per cent. of the time required to change the ordinary share.

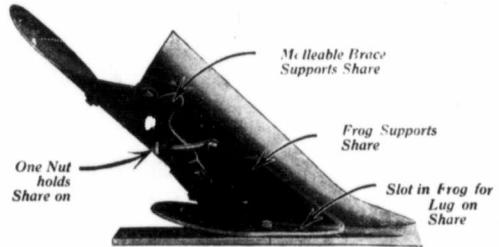
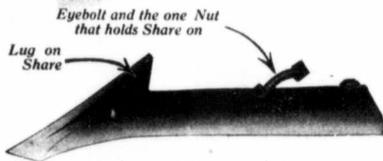
It is a demonstration of the high development of John Deere Plow Bottoms. Features that give Quality and Service are built into these plows, that mean Time, Money and Convenience to every owner.

### Now Look At Bottom Picture

The process of removing the ordinary shares which are used on other plows is here illustrated.

Notice the uncomfortable position of the operator. Working with a wrench in a few inches of space, endeavoring to loosen four or five rusty nuts with the corners already rounded off, as compared with the quick and easy operation of removing a John Deere Quick Detachable Share; besides it takes five times as long to do it.

Far in the Lead  
and  
Still Achieving



### Consider Your Own Comfort

Less effort is required to operate a John Deere Plow with Quick Detachable Shares than any other type of plow made. They save time and labor, and do more and better work.

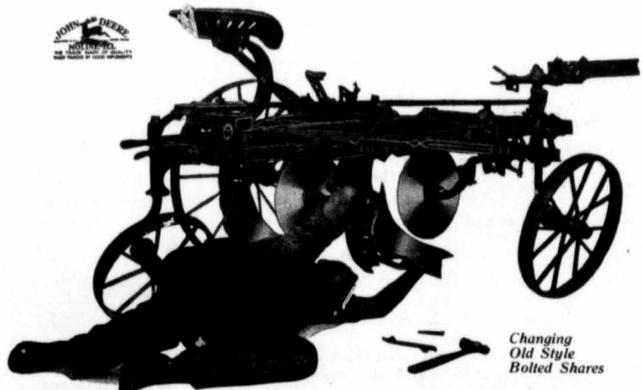
### Always Ahead

Since John Deere invented the first steel plow, John Deere Plows have always been in "The Lead," and the "Lead" is being increased all the time. In points of merits, the distance between John Deere Plows and the many other types of plows in use is becoming greater.

Exclusive features, such as Quick Detachable Shares, place the John Deere Plows in a class by themselves.

The many advantages that are realized from this great improvement cannot be set out in a small space. Write us and we will give you full details.

Investigate this great labor-saving device. Make an opportunity to see these shares taken off and put on.



Changing Old Style Bolted Shares

JOHN DEERE PLOW COMPANY, LIMITED

WINNIPEG REGINA CALGARY SASKATOON EDMONTON LETHBRIDGE

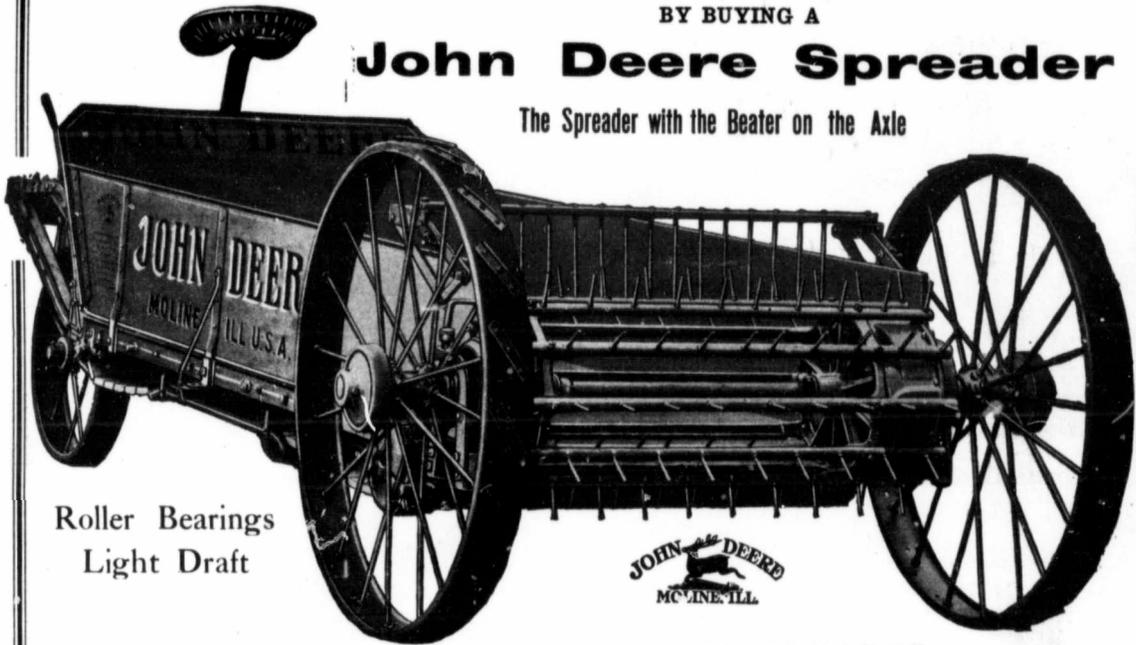
# JOHN DEERE IMPLEMENTS

## Save Your Soil

BY BUYING A

### John Deere Spreader

The Spreader with the Beater on the Axle

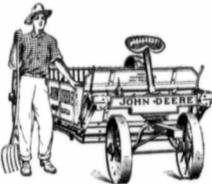


Roller Bearings  
Light Draft

**SIMPLEST AND STRONGEST SPREADER**  
NO CLUTCHES      NO CHAINS      NO ADJUSTMENTS

It has been determined that every bushel of wheat removes soil fertility to the extent of 46½ cents. A 20-bushel crop thus robs every acre of \$9.30. You, as a farmer, must put this back again, otherwise you are playing a losing game. You can do it with a manure spreader. Thus far the question is settled. Now as to the spreader.

IMAGINE a manure spreader without any chains; with all the clutches and adjustments removed; one that has no extra shaft for the beater, no stub axle or counter shaft; one on which the parts that drive the beater all surround the main axle and are within a distance of twelve inches from it; one that besides being of much lighter draft than any other you have ever seen, is so low down that it is only necessary to lift the manure as high as your hips when loading. Imagine all that and you have some sort of an idea of what this new John Deere Spreader is like.

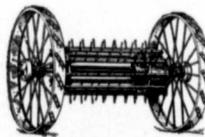


Only as High as your Hips

**EASY TO LOAD**

The first three feet of manure lifted are the easiest of all. The real hard work begins from that height to the top of the ordinary spreader.

John Deere Spreader sides are only as high as your hips and the wheels do not

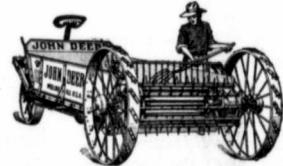


The Beater on the Axle

Mounting the beater in the axle makes the John Deere Spreader possible. It does away with chains, clutches and adjustments. It eliminates stub axles and counter shafts that constantly work out of line and give trouble.

It takes all the strains and stresses of spreading off the frame of the spreader and the side of the box. It makes the John Deere Spreader the simplest spreader on the market.

(There are 150 to 200 less parts on the John Deere Spreader than any other spreader made.)



Light Draft and Easy to Load

interfere with the loading. The whole side of the spreader is available for that purpose. You can see where each forkful goes.

The John Deere Spreader is so designed that no adjustments are necessary. There is practically no use for tools. One simple wrench, however, is furnished, and that only for tightening up nuts.

## John Deere Plow Company Limited

WINNIPEG REGINA CALGARY SASKATOON EDMONTON LETHBRIDGE

You saw this advertisement in this magazine. Don't forget to say so when writing.

THE GATE THAT SERVES YOU BEST



THE PEERLESS

Braced Like a Steel Bridge

JUST as the engineer strengthens the points of strain in a big, mighty bridge, so we have designed braces, stronger than was necessary, to make our gates stiff and rigid.

Peerless Gates

are made of first-class material. Frame work of 1 1/2 inch steel tubing electrically welded together. Peerless pipe braced gates are all filled with heavy No. 9 Open Hearth galvanized steel wire—built for strength and durability—weather proof and stock proof.

Send for free catalog. Ask about our farm and poultry fencing, also our ornamental fence and gates. Agents nearly everywhere. Agents wanted in open territory.

BANWELL-HOXIE WIRE FENCE CO. LTD.

Windsor, Man. Hamilton, Ont.

Mention this magazine when writing advertisers

\$2.00 Worth for \$1.00

The 2 in 1 Automatic Awl is a combination of the two best known dollar tools in the world, the Awl using a waxed thread and the Awl using a copper wire. This illustration shows the inside working of the 2 in 1 Automatic Awl. There are several dozen different kinds of Automatic Awls on the market, but this is absolutely the only Awl in the world that will sew with both waxed thread and copper wire. Did you ever try sewing with copper wire? If you haven't, get a 2 in 1 and try it—you will be delighted. Some of the other improvements to be found only in the 2 in 1 are: special hollow grooved needles to prevent thread from cutting, patented needle for sewing boots, diamonds, needles, and everything packed inside the handle, so that it will slip in your pocket like a knife. We will send the 2 in 1 Automatic Awl complete, with three extra needles, including the patented needle for sewing shoes, a large reel of best waxed thread, and a skein of our special process copper wire. We will send the whole outfit complete, by mail, charges paid, to any address for \$1.00.

FISHER-FORD MANUFACTURING CO. Dept. 95 31 Queen St. West, Toronto, Ont. AGENTS WANTED

Mention this magazine when writing advertisers.

LUNKENHEIMER "RENEWO" VALVES

These valves are exceptionally durable, as all parts subjected to wear are replaceable, and this includes the seat and disc. The seating faces are regrindable, and the scientific construction of the seat and disc minimizes the wear on the seating faces, keeps them free from scale or dirt and eliminates water-hammer. Made of a high grade bronze composition, with the exception of the valve stems which are made of a most durable nickel alloy.

Your local dealer can furnish them; if not, write us. Write for catalogue.

THE LUNKENHEIMER COMPANY,

Largest Manufacturers of High Grade Engineering Specialties in the World, General Offices and Works: CINCINNATI, OHIO, U. S. A.

Mention this magazine when writing advertisers

REMEMBER Our Advertisers are Trustworthy

About Ourselves

WE FULLY expected to be able to announce the new name for this Magazine in this issue, but at the time of going to press we are obliged to announce that all of the details are not perfected. We will, therefore, have to ask your indulgence for another month at least.

Changing a name is like getting ready for a wedding. You may think that you are all ready, but at the last moment you find that you have forgotten a lot of necessary little details—consequently it may be necessary to postpone the date.

We are exceptionally proud of our magazine. No publication in Canada has made such rapid strides in so short a time as has the Canadian Thresherman and Farmer. Take this issue, for example. Have you ever seen any number of any agricultural journal that could equal it? It is clean from cover to cover. You don't find its pages smirched with fakes and patent medicine nostrums. Only the other day we turned down a contract for whiskey advertising amounting to nearly \$1,700.00. This is a big sum of money to lose in one year, but we felt that we owe it to you farmers who have growing sons to keep temptation out of their way in so far as we were able.

Our message to you is "Better Farming." We are perfectly selfish in the matter when we say that your success in farming swells our profits. Likewise your failure makes our losses inevitable. If each and every one of you would, through a better system of farming, increase your yield thirty per cent, there is not the slightest doubt in our minds but what your patronage of our magazine would be all that we could ask for and more. That is why we ask you to take home all that we give you through our reading columns. You may not always agree with us, but if you will read carefully, you will discover a great many grains of truth.

"Better Farming" will, if practised in its every detail, rob your farming operations of seventy-five per cent of their present difficulties, and the beauty of it is that "Better Farming" is cheaper farming. Why not make a resolve something like this before you begin your spring's work: "Resolved, that I will plant and harvest in 1913 in the best possible manner, and that Nature alone will be responsible for a poor crop on my farm during the coming season." Try it. It will work ninety-nine times out of one hundred.

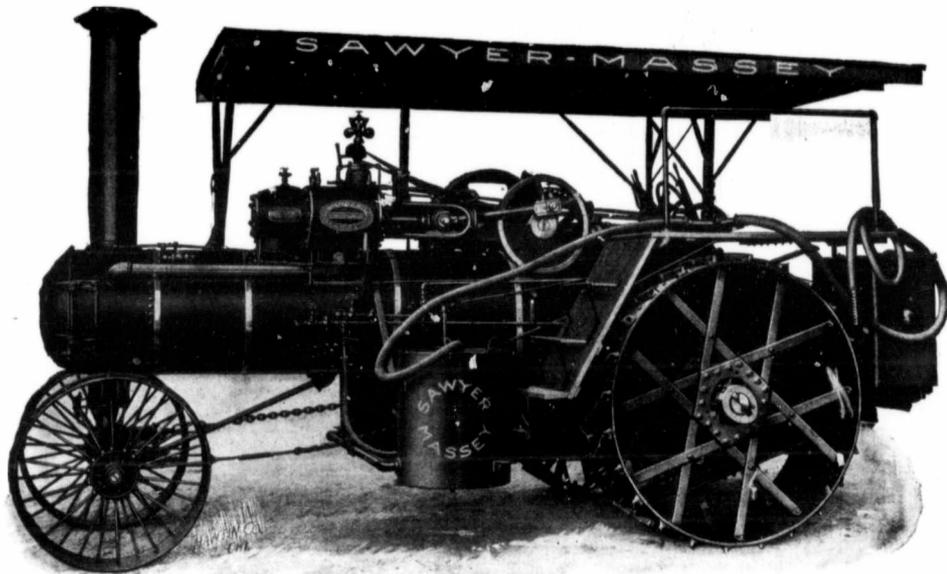


The Question of Quick and Easy Cleaning Narrows Down to this



*The Premier Company*

*The Premier Goods*



When you put your money into a SAWYER-MASSEY Engine and Thresher you make a real investment—one that will bring you large annual dividends. Every machine bearing the SAWYER-MASSEY name is built of honest material, by skilled and experienced workmen and thoroughly tested to the highest degree of efficiency.

Back of the SAWYER-MASSEY product is a strong organization built up through 77 years' experience in manufacturing Canadian Threshing Machinery to meet Canadian requirements.

### SAWYER-MASSEY 1913 WESTERN CATALOGUE

We have just issued the Western edition of our 1913 catalogue, which illustrates and describes our full line of Portable and Traction Steam Engines, Gas Tractors, Threshers, Clover Hullers, Saw Mills and Road-making Machinery. A copy of this book, handsomely illustrated in colors, will be sent on request.

We invite correspondence from dealers in Foreign Countries. Our proposition is attractive.

**SAWYER-MASSEY COMPANY LIMITED**  
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*Branches: WINNIPEG, MANITOBA. REGINA, SASKATCHEWAN*

**SAWYER-MASSEY**

POWER FARMING—WHAT IS IT?—WHY IS IT?

By E. W. HAMILTON

SEVEN years ago this little story, that I am about to relate, could not have been written. Had it by any chance appeared in print, it would have been considered a mere prophecy, or, at best, the written ramblings of a disordered brain.

Today, however, it is such a stern reality that "Power Farming" is on everybody's tongue. Its ever-present pertinacity, its apparent usefulness to humanity in general has caused capital to propinquitate its way. Mere hamlets have developed into cities of no mean size built upon the future possibilities of this twentieth century method of soil cultivation. Limitless prairies have been dotted like a checker board with well-tilled farms, prairies that would have lain dormant for possibly another half-century had it not been for the "Power Plow."

Even the drawing-room has been invaded with this new idea in farming. Allow me to illustrate. Some time ago while out for the evening my hostess mentioned that she was somewhat of a farmer, in that she was interested in several sections of land, and that it was being plowed by a tractor. Unconsciously I asked her what make of tractor it was, and quick as a flash she informed me that it was a "Parr-Hart" — nearly correct, but not quite, yet it goes to show that "Power and the Plow" is a topic of interest even to society ladies.

Power farming, however, is not and never will be society's plaything. It is too much of a stern

reality born of necessity, reared in the cradle of hope, and more or less heart-breaking experience, until today it comes to us as a problem that must be solved—and no man lives today who can blackboard the correct answer and prove it.

Power farming is with us, and what is more, it is here to stay.



To perform as many operations as possible at the same time and with the same machine seems to be the desire of both farmer and inventor.

Were it a tailure, which it is not, the very force of the millions invested in the development of its mechanical side would pilot it to a successful conclusion, but the fact that millions were by no means responsible for its inception is conclusive evidence that Necessity was its Mother, and Necessity never rears a child to failure.

Seven years ago there were less than a dozen internal combustion tractors in all this Canadian West. Today there are in round numbers 8,000, and they are coming in at the rate of over 2,500 annually. Not being satisfied to ride as common freight, the tractor is demanding special

trains, some of these specials paying an entrance fee to the Dominion Customs in the shape of duty of over \$50,000.00

The world is clamoring for wheat, and the virgin prairies of Western Canada are fairly bursting in their impatience to contribute to the world's food supply.

The tractor is the medium of release.

Let us look at the tractor for a moment, and if possible analyze it.

The stationary gasoline engine has given its message to the world through farm and factory alike. The traction engine is to discharge its more important mission through the farm alone, a mission of threefold import at least, obtained as a direct result of accomplishments which are wholly its own.

1st. Through more extended operations.

2nd. Through more thorough work.

3rd. Through more timely work.

No mention is made here of the additional message to the farmer himself of cheaper labor, easier and pleasanter work, and more time to enjoy the luxuries of life, for which the tractor also furnishes the occasion.

That the average man could not give true intensive culture to more than twenty-five acres of land has been the judgment of the best agricultural authorities for years, and even this amount would not be taxed to its utmost as fully as the man would be.

As the pressure for supplies becomes greater it has been more and more evident that the world cannot afford large farms skimmed over with careless culture; her one course, if she would keep her children all supplied with bread, is to increase the product of each acre by substituting twenty-five-acre culture wherever the extensive methods are in use. This means more men; more than she has to spare of the right kind. The problem was a perplexing one until the traction engine solved it by putting into the hands of one man the reins which control the work of twenty-five to fifty horses. Since the Canadian farmer has not the time to properly till all the tillable land in the old way, and there is no way of increasing the number, the time that was his has been increased by putting into his way the working energy of many men and teams.

Usually the area of a single man's cultivated fields is in-

creased at the expense of efficient work. The tractor is permitting him to do better work by giving him the power that is needed to run the most efficient machinery that can be made. The machine designer does not now have to limit his implements to machines that a team will handle; he is permitted to regard them from the stand point of efficiency alone.

Only the farmer himself realizes how many times he has been forced to begin his plowing or seeding or harvesting before the ground or the crop was ready because at best the last part of the work would be delayed until later than it ought to be. With a twenty-five acre field to plow and fit for each man and team not less than twenty days would be required, of which perhaps ten would be within the time when the crop should be sowed and the ground in the best condition. During the first five days of the fitting the ground would be getting late; but if the farm work was planned to the best mechanical advantage and the harvesting of the field to be done all at once as it should be, none of the field was sowed until all was fitted. Then, how many of us can tell the story of a large field almost ready for drill or planter when a three days' rain suspended operations for at least a week, made refitting necessary, and brought planting almost hopelessly late? Not less than thirty per cent of the world's output in farm crops—her possible output—is lost annually because of unseasonable seeding.

The small tractor for the 150 to

300-acre farms is plowing, fitting and seeding fifteen to twenty acres a day; an output to cover the entire farm it is intended for within the usual best seeding season, and enough to complete in one or two days the usual field of any one crop on a mixed farm of that size. Some of the farming moguls of the West are multiplying this output by three, and could, if run the full twenty-four hours, as they may be required, have a couple of townships in growing crops at the end of the average seeding season.

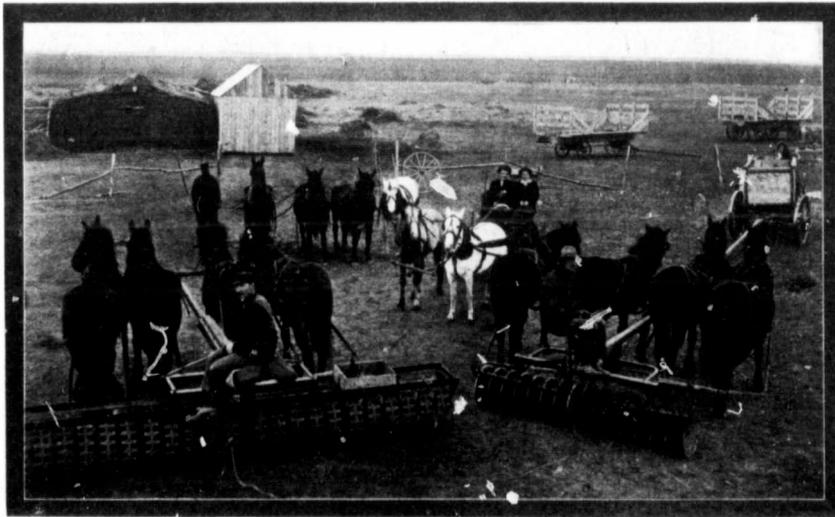
Almost all kinds of soil if worked in the proper condition can be harrowed as soon as plowed more effectively than at any other time. Some farmers make it a rule to do this, though it necessitates extra teams or else a change of teams each working

own distinct uses, and on most grounds a combination of several kinds would be a distinct advantage did it not necessitate driving over the ground so many times. A good tractor will pull a number of these different harrows after it at the same time it plows the ground, and may be rigged to be the most effective of clod crushers with its own weight.

One objection to the thorough harrowing a field should really have is the trampling of the fresh plowed earth by the horses' feet. The tractor can be rigged to plow, harrow and seed all in one operation; or, if more harrowing is desired, the broad wheels do not throw nearly as much weight on one portion of the ground as the horse does and the rolling contact is less objectionable. If they are run twice over the field

team power are from four to six inches deep, though perhaps the owners would be astonished to see their own furrows measured. The depth of a furrow is very deceptive to the eye. Eight to ten inches is the usual depth for tractor plowing on old land though a greater depth can be used if desired. This greater depth is of special benefit on those farms which have been plowed for years on the system of surface skinning until a hard, polished bottom of compressed soil has been established by the bottom of the plow, that cuts the roots of the plant off from nourishment below. By plowing a couple of inches deeper for a few years, and then increasing the depths again, the depth of the seed bed can be gradually increased without bringing to the surface an excessive amount of hard-pan at any one time. The tractor can turn this extra depth without torture and with astonishing uniformity. The thorough harrowing it can give while the earth is fresh will so completely pulverize this hard-pan and mix it with the other soil that it will not have any injurious effect, while it will help in the work of air and moisture-gathering, and the seed bed will be deepened.

A horse cannot pull more than fifteen miles per day on an average, but a team must walk six to seven miles to plow two acres with a 12-inch furrow. The tractor will draw a gang of from two to twelve 14-inch plows two and a half or more miles per hour, and will keep it up all day, without stopping to rest at the end of the furrow; then, by changing men will keep it up all night.



A few years ago the four horse team was considered the "acme of perfection" in farm power.

period from plow to harrow. The tractor can harrow as it plows. Once over and the work is finished no matter what weather changes may come up.

Farmers differ greatly in their belief as to which is the best kind of harrow to use even for the same purpose and upon the same land, while many fields differ in patches in character of ground. The fact is, every harrow has its

thoroughness of the harrowing that can be done with them in the two operations would exceed perhaps a dozen times what could be done with horses, since several different kinds of harrows could be hauled at a time and supplement one another.

The plowing can be deeper than is done with teams, and can be regulated more uniformly. A good many fields plowed by



Double harrowing - 176 acres daily

Plowing 120 acres daily

The life of a horse is figured at about 10,000 working hours, but his maintenance is several times that. The working life of the tractor is at least twice as many hours, and its maintenance ceases when its work is done. The first cost is not so great as that of the horses it displaces.

Whether working or idle, the horse requires food, attention and shelter. All the idle engine wants is shelter—and work. This does not mean, however, that an engine should be kept idle. The man who makes his tractor pay the best is the one who manages to keep it busy the greatest proportion of the time.

The engine can be made an all-the-year-around servant, something that can be said of very few other farm machines. Besides plowing, harrowing and seeding, it hauls binders, hay and grain wagons both to the stack and to market, by almost a train load; threshes, grinds, and does all the work a stationary engine can do, digs ditches, grades roads, rolls meadows and grain fields, and hauls heavy loads of any kind. If the ordinary wagon loads to be conveyed, the tractor will do it. If some unusual work is to be done, such as the moving of a building, the tractor is ready with the power, and if, in the midst of its various tasks, night overtakes it, the headlight turns night into day ahead of it and guides it along. Twenty-four hour stunts are not rare in operating a tractor during the busy season.

The tractor, too, will take up its work at full capacity after a season of idleness without any coaxing or favoring while its muscles are being hardened. It is never out of condition.

One acre in five under cultivation is required to produce the food for the horses that supply the power to work the rest. The tractor consumes nothing that could be made into food for the human family in any more direct way than through the tractor.

"There is no question," says a modern agricultural writer, "but that the crops on many farms might be doubled if a proper seed bed were prepared and proper cultivation given; but on account of having a large acreage the work is hurriedly done; consequently only half a crop is realized. One of the advantages of the small farm is that it is possible to do things in the proper way and at the proper time for growing a maximum crop." Profitable farming is now a power and implement problem. Power combines the intensive culture

sent time is expended in plowing; the shallow plowing method now so generally in vogue. For permanent culture deeper plowing is needed — and the farm world is power-short now. Horses increased fifty per cent. in numbers in the past ten years, and one hundred and forty-three per cent. in price. The supply has not nearly kept step with the demand. Neither are horses able to adapt themselves so fully as the tractor to the wide range of utility represented between the slack and busy season on the farm. The horse force must be kept on an average 9,000 hours for every 1,000 hours of full service. Animals cannot respond quickly enough to the increased demands of the rush seasons unless they are kept in numbers which at most seasons of the year are entirely excessive. The tractor can

also makes it possible to avoid bad conditions by rushing the work through when weather and ground are the most favorable.

Because there are tractors now plowing and seeding a fair sized farm complete between sunrise and sunset we are apt to forget its importance on the small farm; indeed, until quite recently the manufacturers have so far overlooked it that there was not a single small farm tractor excepting those home-made affairs constructed out of old binder and mowing machine wheels. The success of these, and the demand for something of a more finished and uniform design, has forced the factories to take the matter up, and several of the late designs are intended (as some of them succeed in doing) to cater to the wants of the small farm. This demand has been more difficult to meet than that for the large farm, for the big tractor, working in large areas where there is ample room to turn, can be rigged with trailers, and its work may be of a more restricted nature, and still be profitable.

The small tractor must be furnished at a cost in keeping with the other equipments of the place. It must contain within itself a place for attaching and operating four to five plows, and it ought to be so constructed that it will thoroughly pulverize, roll and seed the strip it covers in one operation.

The seeding done, the tractor should be readily stripped of its tilling attachments and converted into a common power truck or general farm wagon, made so nearly a part of the load it conveys as to derive a part of its tractive force from the weight it



Today our Western Canadian Prairies are dotted with scenes similar to this.

be worked to its full capacity every day of the year if there is work to do, and without regard to excessive heat, flies or continuous hours. Weed killing, in particular, can be done by plowing at a time when both the heat and the flies are a torture to horses. Engine culture, too, makes it possible to work land that, because of its extreme refractoriness, could not otherwise be put into tillable shape. It

Sixty per cent of the power used in raising wheat at the pre-



\* Pulling a 40-horse load - Double-disking 125 acres daily.

is carrying. In a similar manner it should be converted into a manure spreader by attaching its tractor trucks in place of the customary front trucks of the

wheels, the field spraying should be done; and with such facilities it will be done, and will not be neglected.

For most of our Eastern farms

Engineer and plowman,  
\$5.00 and \$2.00 ..... 7.00  
Interest and Depreciation 2.00

Total .....\$20.00  
Therefore figuring at the above rate.

	Per acre.
Breaking in heavy land costs	\$1.55
Breaking in light land costs	1.20
Summer-fallowing in heavy land	.95
Seeding and harrowing in one operation	.50

It will be noticed that this estimate is for an engine requiring the attendance of two men, while many rigs of equal capacity are now constructed so that only one man is needed.

In estimating the horse-power

pect a 25 h.p. engine to draw as much load mounted as a tractor as twenty-five horses would draw. The brake test rating measures power of a stationary engine only, and does not represent effective draw-bar pull.

Formerly some gasoline engines, rated the same as steam engines, when mounted as tractors gave disappointing results because a tractor when pulling its full load is being almost constantly overloaded for an instant by little obstacles which even the smoothest ground presents. When one of these is struck the steam engine's more elastic power will carry it over, and then it will recover while the load eases down. The gasoline tractor hasn't the reserve; it has to stop.

Gasoline tractors, too, when used for threshing purposes are being continually "tested," "crowded" and "tried out" by hostile or curious threshing crews, some of whom would like nothing better than to "stall the new-fangled engine down." For this and various reasons it is wise to be certain that the engine purchased is large enough for the work.

The plow test is the hardest necessary test the tractor ever has, and, with plowing requirements provided for, the operator has no occasion to be afraid under any reasonable conditions. Tests have shown that a pull of from 500 to 900 pounds is required to draw a plow four inches deep through gumbo soil. On ordinary farm fields one large engine user reports that with a 35 h.p. engine he can easily handle fourteen 14-inch plows cutting eight to ten inches deep and running at a speed of three miles per hour. For moderate sized farms 20 to 25 h.p. tractors can easily operate from four to six plows, while even more has been accomplished. Tractors of 15, and even 12 h.p., have been reported as doing satisfactory work on moderately sized farms, while in a few



Harvesting—3 at a Clip

regular machine. Again, in the meadow, the same tractor truck must be readily equipped with cutting bars, a complete power mower in itself.

One of the features which the user of the farm tractor should insist upon is greater efficiency as compared with any other sort of farm power. The tractor that does not do its work better as well as quicker has failed in its mission, and so have its manufacturers failed in theirs. The heavier weight, the smooth, broad wheels which apply their own power without the destroying footprint of the horse, should make our cultivated fields as smooth as a floor, and decrease the strain on the machinery we use by forty per cent. Instead of seed beds that in spots contain unbroken clods and poorly worked land, every foot of the land should be ground, and pulverized and crushed into almost a powder, until the dust bed of the most intensive market gardener is obtained, thoroughly aerated, completely oxygenized, but still without the clodding effect of the horse's foot. Not only will the work of the harvesters be greatly reduced by the smooth, even ground over which they will travel, but the cultivation, in the case of corn, can consist more directly of soil culture without partaking of the nature of miniature plows and harrows, completing the work that in the seed bed was neglected. Experience has proven beyond question that a thoroughly tilled field is given a fair coating of manure every time its soil is brought into thorough contact with the oxygen of the air.

As a cultivator, the ideal tractor will be readily stripped of its broad wheels and a narrower set provided which will enable it to traverse the rows with a set of crust breakers and soil aerators that will cover several rows at a time. The rows in planting are measured accurately and run absolutely straight. As a cultivator, the same width setting should be used, then the minimum amount of guiding will be necessary for working one row or many at a time. With the same set of

trailers will not answer, for they require too much space in which to turn. Some of these late self-contained plows claim to turn in



A Hot Day Has No Terrors for the Power Harvester

a space of from eight to fifteen feet, while the old heavy tractors required something like fifty, not including the train of implements

required in a gasoline tractor we must remember that the power of a horse is measured by his effective pull, which is made while he



So Easy that it is Necessary to Walk to Keep From Falling Aloop

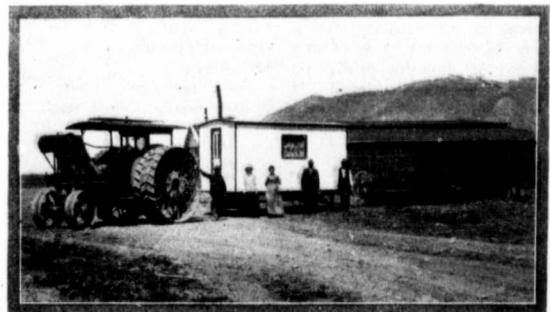
which they dragged along behind.

This is determined so largely by individual conditions that anything more than a general estimate is out of the question. Perhaps of all farm operations plowing furnishes about the most uniform conditions and may be compared most accurately.

In a number of competitive tests with all kinds of tractors the cost of plowing an acre has ranged from 18 cents up to \$1.00, or perhaps a little more. The smaller figures, however, do not include the wages of the operator—just the fuel, lubricating, and other cash expense; while in the higher estimates are included the wages of men, interest on investment, depreciation and all legitimate expense.

**Cost of Cultivating Ten Hours**  
Kerosene, 45 gals. at 20c... \$ 9.00  
Cylinder oil and grease.... 2.00

is in motion. No tractor can propel itself about and at the same time do the same work at



The Spring Start—Miles from Home, it is necessary to carry both Bedroom and Kitchen

the belt that it could do as a stationary engine. Some of its power is lost in transmission; much of it in self-propulsion; hence it is unreasonable to ex-

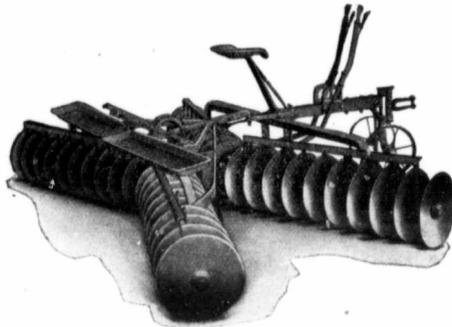
stances home-made tractors of special design have been made to plow with even less power. It is doubtful, however, if less than a

# We Have The Harrow You Want Eight Different Styles For You to Choose From

## SAVE TIME AND MONEY WITH A DOUBLE DISC HARROW

The use of the disc harrow, before and after plowing, invariably means larger crops. This is due to the fact that discing puts the seed bed in the best possible physical condition and conserves the moisture. We will be glad to send you complete information on this subject.

The Cockshutt Double Disc Harrow prepares a perfect seed bed. The double disc method is superior to twice over with a single harrow, because: The front discs break the earth throwing it outward, the rear discs pulverize the earth and throw it inward, leaving no ridges. Then the second harrowing immediately follows the first, before the ground dries or hardens. The double disc leaves the surface level, even, and fine enough for seeding. **SHORT TURN FEATURE.** Can be turned in a radius of one foot, ask our



agent to explain this feature. The Cockshutt double disc harrow is strongly constructed and well braced to run behind an engine. Rear section is entirely independent of front harrow, and can be detached instantly, leaving front section as a regular single disc harrow. When using horses this harrow requires but one man and four horses, resulting in a saving over the "single harrow and twice over" method of one man and two horses, this saving means a lot during the rush season and when help is scarce.

## Cockshutt Disc Harrows Made in Styles to Meet All Requirements



**Cockshutt No. 1 Out-throw Disc Harrows**  
This is our leader and is a very popular type for general cultivation. We have a very strong demand for this harrow, which proves the general satisfaction it gives to all users. The Cockshutt No. 1 has the strength and weight to do good work on any soil. The main frame is an arch of heavy T-shaped steel. Easy to operate and built to stand the strain. Built in 6, 7 and 8 ft. sizes.



**Cockshutt No. 3 Out-throw Disc Harrow**  
The best Spring Pressure Harrow on the market. This harrow is built on the same style as harrow No. 2, only it is equipped with the spring pressure feature. Pressure is controlled by lever in front of the driver. You will look a long time before you will find a better Spring Pressure Disc Harrow. Built in 6, 7 and 8 ft. sizes.

**EIGHT DIFFERENT STYLES** of Disc Harrows to choose from, including the Cockshutt No. 3 with the **Spring Pressure** feature. Buy a Cockshutt Disc Harrow and you have the best.

The popularity of Cockshutt Disc Harrows is easily understood after you have used one, the greatest care is taken in every detail of manufacture, and satisfaction is given to every user. The bearings on all Cockshutt Disc Harrows are carefully constructed so they are dust and grit proof. Ample provision is made for oiling.

On the inner end of each section is a large bumper casting which saves all end thrusts on the frames. Scrapers are large and carefully fitted, they keep the discs always clean, and are easily governed by foot levers. When working in sticky land it is absolutely necessary to keep the discs clean—Cockshutt scrapers do it every time.

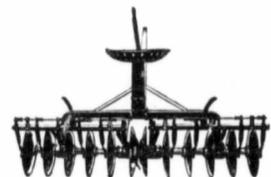
Note the driver's seat is placed well back over the sections. This brings his weight directly over the gangs, and not on the pole to make neckweight for the horses. Cockshutt harrows are easy on horses because in every case the hitch is in direct line of draft, giving the horses the advantage of a straight pull.

We strongly recommend the Tongue Truck on disc harrows. It does away with all jarring of the pole, making the horses work more comfortably; it also makes it more convenient to turn at the end of the field, and to work in fence corners.

**WINDSOR DISC HARROWS.** We can supply you with one of these harrows in either 6, 7, or 8 ft. sizes.

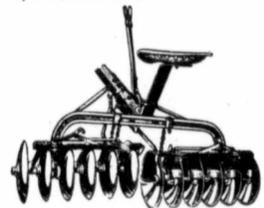
**CHAMPION DISC HARROWS.** The man who prefers this style of harrow can be supplied from stock in 6, 7, or 8 ft. sizes.

**ORCHARD DISC HARROWS.** For use in Orchards or any other kind of field or garden cultivation. You should see this Disc if you are interested in corn or other vegetable cultivation.



Cockshutt No. 2 Out-throw Harrow

This harrow is somewhat lighter in construction than harrow No. 1 but has the strength to stand heavy work in hard ground. The frame is made of angle steel, with heavy steel braces from bottom of arch to pole. You will find all Cockshutt Disc Harrows easy to operate and without side-draft. Built in 6, 7 and 8 ft. sizes.



Cockshutt No. 4 In-throw Harrow

It is a matter of choice whether you use an In-throw or an Out-throw disc harrow, they both do excellent work. This harrow embodies all the latest improvements and is constructed with strong frame and heavy braces. Built in 6, 7 and 8 ft. sizes.

## COCKSHUTT PLOW COMPANY LIMITED

Western Branches: Winnipeg, Regina, Calgary, Saskatoon  
Distributing Points: Red Deer Lethbridge Edmonton Brandon Portage la Prairie

You saw this advertisement in this magazine. Don't forget to say so when writing.

# TRACTION PLOWING

## AS TOLD BY THE MEN WHO DO IT

### Care Essential

I have been a subscriber to your valuable paper for the past two years, so I think it is "up to me" to let you know how much I appreciate it. I consider it the best journal published for a power farmer.

My experience with power farming dates from the fall of 1910. Late that year I saw at the Lethbridge Experimental Farm a 30-60 Aultman & Taylor Co. gas tractor, the first of the make shipped to Canada. I was so much pleased with its appearance that I bought it, even though it was too late for any work that year.

I only use the engine for plowing and threshing, as I have enough teams to do the discing, harrowing and seeding.

As everyone who has farmed in this district knows, the prairie is very hard to break. It takes at least five good horses to pull a sulky plow right along. I have seen 32 h.p. steam plowing engines have difficulty pulling 8-bottoms in breaking on a level field. Breaking is worth \$5.00 per acre here.

On our outfit there is only one engineer and one plowman, and we have a car right with us and generally have a boy to cook. I figure our daily expenses at \$50. This includes everything oil, gasoline, wages, board, sharpening of shares and allows 10 per cent. interest on capital invested and 20 per cent. for depreciation. This may seem a big expense bill, but I like to figure it on the right side.

We average about 16 acres per day, breaking with six plows. As our farm is on rolling ground, we sometimes have to pull up hill with only four plows, but we can pull eight coming down the hill. A tank of water lasts us three days.

We generally pull a disc behind the plows. In stubble work we pull eight plows and two drags, or a disc and a drag. In my opinion stubble plowing is harder on an engine than breaking on account of the dust.

Our engine does not injuriously pack plowed land, as the drive wheels are 7½ feet high, and proportionately wide, so they have a big tread. I think high drivers are a good point in a tractor, as I know from experience that our engine can move on wet ground where others with lower wheels are helpless.

We run a 36 x 64-inch Aultman & Taylor separator, and our engine handles it fine. We use about 35 gallons of gasoline per day threshing. Our engine never

a steam boiler engine is carefully washed out every week, and in some cases oftener, whilst as a rule very little attention is given to washing out the cooling sys-

I have had my outfit for about a year and a half so that I have not had much experience compared with my fellow farmers.

My engine is an International 45 h.p. opposed, one of the 1911 type. Just here I might state that I am very well pleased with my engine considering the power it develops on the various kinds of work, and fuel required for same.

As to the amount of fuel, oil or gasoline required per day, it all depends on the kind of work being done, and for breaking it depends a great deal on the quality of the soil. In this district where the soil is very heavy, I find that six plows with a packer hitched behind is a good load for my engine.

I know that the same power will haul 10 plows in some districts where the soil is much lighter than the Rosetown soil. I find that it requires about 2¾ gallons of gasoline per acre for breaking and packing as described above. The amount of water also varies by the work being done. Plowing requires at least three barrels of water and lighter work such as seeding with three drills or cutting grain with four or five binders it requires only one barrel. I use one team of horses on the outfit for hauling water, gasoline, seed grain, etc., and with two men and myself we can keep the outfit running nicely from early in the morning until dark at night. By changing off with one another during the day it is not hard work. I figure that breaking and packing directly behind the plow, costs me about \$2.00 per acre. That is putting it plenty high enough. I do my discing with six discs and floats hitched behind. The discs are composed of three inthrows followed by three outthrows and are fastened by a hitch built of 6 x 6, 22 feet long and set on a pair of old mower wheels. A loose tongue is fastened in centre of hitch and slips through draw bar of engine. This is to hold hitch from tilting. It is held by two chains angled back from both sides of draw-bar. I use this hitch for my drills and find it a very good rig. Discing and floating cost me about 35c per acre and sowing grain with harrows behind drills costs about 25c per acre.

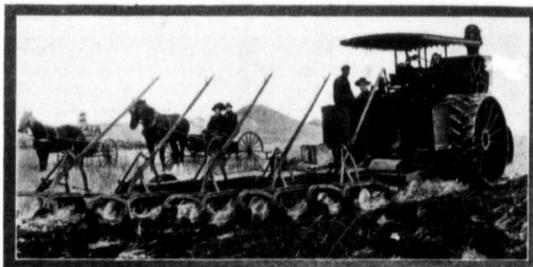
Last spring I disced, floated and sowed my stubble land in the above described way and I find that the ground can be covered very fast with this outfit. We



Nichols-Shepard and Oliver

gives us any trouble in starting. All who have seen our outfit at work declare that it is the best running outfit they have seen.

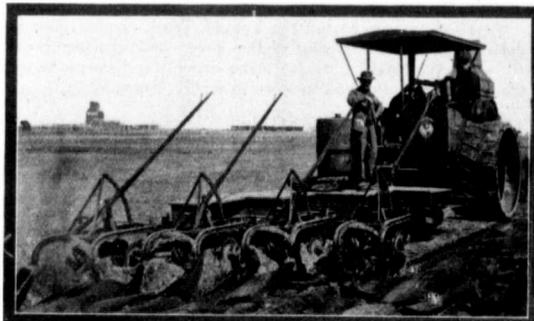
tem, or removing carbon from the pistons, rings and cylinder heads in gas engines. They run them till they stop.



Gaar-Scott and Deere

I will conclude these few remarks by stating that in my opinion, gas excels steam power. Less help is required, and no time

Wishing your journal and its readers a prosperous year, I am,  
Yours truly,  
R. Henderson.



Oil Pull and Deere

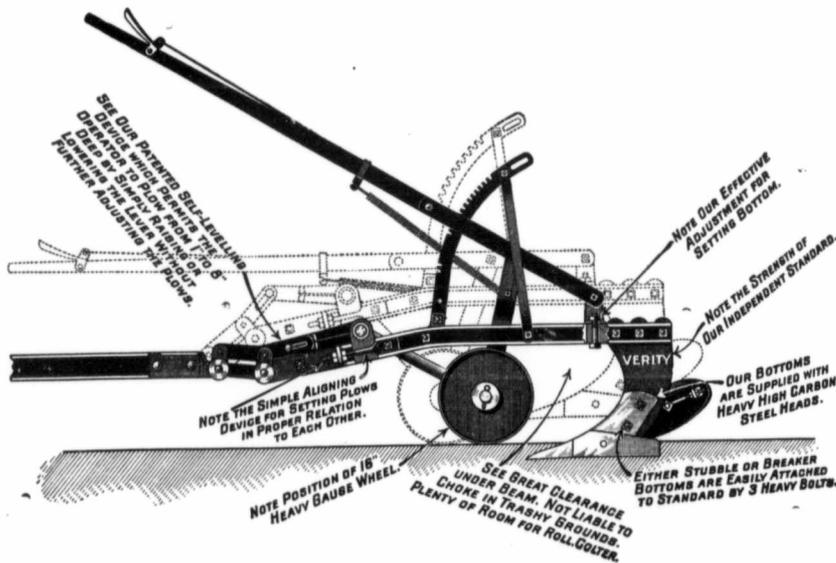
is lost steaming up after a stop, or wet day. The gasoline is always ready. I think that as a rule, gas engines don't get the care they deserve. For instance,

### A Tractor District

In answer to your circular letter which I received a few days ago, I will try to answer the questions contained in same.

# IT STANDS ALONE

## THE BEST!



# MASSEY-HARRIS

## Automatic Self-Leveling Engine Gang Plow

With Those Self-Leveling Bottoms

SEE OUR LOCAL AGENT

MASSEY-HARRIS COMPANY, LIMITED

WINNIPEG    REGINA    SASKATOON    YORKTON    CALGARY    EDMONTON

BE not lured by the siren voice of him who sings only a song of "price and terms." The old time worn and once magic favorite has served its purpose and served it well.

Be not beguiled into thoughtlessly making "What are the price and terms?" the leading question and so strike a most unsound, misleading but mighty responsive chord in him who has little else than a song of "price and terms" to sing.

This notorious old song can yet be sung well, long and sympathetically, and even of late has been known to lull inexpert gas power buyers into forgetfulness that they started out to buy something besides "a seemingly choice line of credit."

For example: Say \$100 will buy a perfectly cut, pure white one karat diamond. \$100 will buy a much larger diamond if imperfectly cut (poor workmanship) or if off color (poor material). "More of one kind than the other for \$100"—that's the point we want to make.

The expert diamond buyer, first off, puts a jewel under a strong magnifying glass. What for? To find the price mark? No, sir! He is giving it the acid test of quality. If it doesn't measure up to standard he won't buy it at any price. "Quality" first, "quantity" and "price and terms" afterwards, is the formula of all experts; whether buyers of jewels, cattle, horses, grain, machinery, or what not.

"Price" alone means nothing. "Price and terms" means nothing. "Price, terms and quantity" mean nothing. Value can only be arrived at by a careful analysis of first, "quality," second, "quantity" and third, "price and terms." By considering all carefully, thus and only thus, can value be ascertained.

NOW SPEAKING OF FARM TRACTORS

There are three kinds: First, poor; second, good; third, best. The First Kind cheaply made, are priced high for value offered, run now and then and usually, unless the buyer is a mechanical genius, runs him in the hole—and even then they are not a good investment because they are not honestly serviceable.

The lure offered to sell this kind of a tractor is "price and easy terms." Bear in mind when buying power, you first need and must have a genuine farm tractor. You can't plow, seed, harvest, thresh or haul with credit, and no matter what terms you get, pay day comes some time and interest multiplies all the time.

The Second Kind are those more honestly built, which do some things and do them well. But there are many other things they do not do. This kind is a good, but not the best, investment.

The Third Kind are those complete machines of highest grade in every part and detail, whose makers do not apologize for a lack of necessary mechanical features they ought to have, but have not.

This third kind is a mighty fine investment for any grain grower, regardless of acreage farmed, because they are money makers all the time and, when not employed on their owner's farm, are always busy elsewhere with never ceasing job work easily obtained. Everybody favors the outfits with a reputation for delivering the goods.

The first two kinds are being discriminated against more and more by the progressive and wide awake farmer.

You see this is a world of progress, yet some manufacturers are standing still—vainly hollering Whoa! and in the meantime trying to persuade patrons that imperfect and incomplete tractors are just what should be purchased.

This, however, is rapidly growing to be a most unprofitable policy as grain growers are steadily discontinuing the purchase of out-of-date machinery. The laggard manufacturer must either get in the van of progress or out of business!

Today, as never before, gas power buyers are figuring from three angles: "Quality, quantity and price." They are no more wholly blinded by the heretofore magic words, "price and terms."

NOW LET'S TALK ABOUT THE PIONEER "30" A BIT

It scored 4 1/2 out of a possible 5 points in the 1912 plow contest for straightness of furrow; a mighty striking tribute to its patented steering method and ease of control—the next best showing made by any other tractor was 4 points—that's a record.

Add to the foregoing only a few of the Pioneer features which you do not get at all in other farm tractors and you have a surprising sum total of quality and quantity; you begin to see how we would be justified in pricing the Pioneer "30" a whole lot higher than other ordinary tractors; but we don't, the price is about the same.

NOW FOR THE DOLLARS AND SENSE PART OF IT

Let's see what, in dollars, sense indicates some few exclusive Pioneer features to be worth. If it has features not included in other tractors, certainly they add something to the manufacturing cost and something to the value of the machine in added life and efficiency.

Let's try to arrive at a real dollar value of a few prominent Pioneer "30" features—that's the sense part of it.

Let's Talk Dollars and Sense

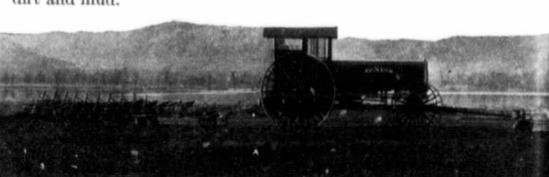
1st: We have a four-cylinder double opposed motor. So perfectly balanced is this power plant that a coin, a quarter, half dollar, or dollar, may be balanced on end on the crank case of the running motor, giving a remarkable demonstration of its freedom from vibration.

The Pioneer motor is a marvel of gas engine development never before approached in a power plant of its size. It is one of the great engineering accomplishments of the gas power era. It develops and delivers without effort a mighty and ever-flowing stream of the most constant power.

What does sense indicate this smooth running power plant adds in dollars to the life of the machine through the absolute elimination of vibration, through reducing depreciation, and wear and tear during the life of the tractor? Let's be mighty conservative and say only \$150

2nd: All gears including the big drive gears are entirely enclosed and encased and run in oil baths. Everybody knows how grit and flying dust literally eats up open gears which run for the most part dry, and, particularly, the big drive gears which are very close to the ground and which collect no end of dirt and mud.

How much does this Pioneer feature, "oil cases and oil baths," add to the life of the gears during the life of the farm tractor? What does sense indicate this is worth in dollars? Let's figure very closely and say only \$150



An Automatic Outfit—the Pioneer "30" with its remarkable self-guide the only one of its kind in the world, and which if through any cause leaves the furrow, will of its own accord automatically turn itself into the furrow, combined with automatic self-lift breaking plows.

3rd: All working parts including the motor are entirely covered, thus protecting all machinery from flying sand and dust; also in rainy weather it prevents troublesome ignition short circuits, which are mighty tedious and bothersome.

What does sense indicate this feature is worth in dollars during the life of a tractor? Let's make a low estimate and say only \$50

4th: All transmission gears are machine-cut from solid steel, making the strongest, most smooth running and highest type of gear possible. (Compare Pioneer cut steel transmission gears with the rough irregular out-of-round noisy cast gears usual in farm tractors, which are made by simply pouring hot metal into a sand mould). Think of the difference in the cost to manufacture them and the difference in the wearing quality. Think of all the power saved and the reduced fuel consumption by cutting out useless friction.

What does sense indicate this feature is worth in dollars during the life of the farm tractor? Again let's under estimate it and say only \$100

5th: There are different sets of gears in the Pioneer transmission—in other words, three forward travelling speeds are provided, with a separate set of gears for each speed.

These three forward speeds are provided so simply by our patented construction that only one added moving part is necessary to procure them.

If each set of these gears are worked one third of the time, our transmission must naturally wear three times as long as that of other tractors for no other reason than that there are three sets of working gears, provided instead of one if every other thing were equal.

With the motor governed at its normal speed, these gear shifts provide forward travelling speed of:— Two miles for breaking and for very heavy work. Three miles for plowing cultivated land, harvesting and other field operations in which this speed is favored by the operator.

Four and one-half miles an hour for hauling and for seeding in wet spring weather when a heavy load makes the tractor wheels slip—and a light load does not. In seeding with the Pioneer, the load may be cut in two and moved forward twice as fast: thus the tendency of the wheels to slip is cut in two and still the same amount of work is done in the same amount of time.

This feature makes it possible to proceed with work with the Pioneer during wet seasons when single speed tractors, even of the same weight would have to be laid aside.

ADDED VALUE

ADDED VALUE \$75

ADDED VALUE \$150

ADDED VALUE \$1025

cooling liquid and there is little or no vaporization—no more refilling water tanks every two or three hours

Of course this radiator costs us more to make than the ordinary kind, but we believe it is worth it. Time wasted is money lost; sometimes in a busy season, much money. That is why we believe in supplying the Pioneer with only the best equipment.

What does sense indicate this high grade feature is worth in dollars during the life of the tractor? Let's make it low and say only \$75

8th: An operator's cab is provided away from the heat of the running motor, which may be entirely closed by windows or screens for protection, at the option of the operator. In this cab is a comfortable upholstered seat, with back and arm rest, so placed high enough that the operator when comfortably seated has, through the cab lookout, an easy seeing gun shot guiding line to insure perfect field work.

All operating levers are conveniently grouped within easy reach around the operator's seat and the Pioneer is operated as easily and comfortably and in the same manner as the automobile. (Compare the easy sensible operation of the Pioneer to the needless, tiresome, grilling work insisted upon by other tractor designers). No more standing on tip toes all day long and breaking necks looking over high wheels. No more standing for twelve hours over the intense heat of a running motor. No more useless discomfort from flying sand and harsh winds. No more is the operator a perfect browsing ground for long-billed mosquitoes.

The Pioneer is designed to produce a maximum efficiency with a minimum effort. The farm tractor is a production machine, pure and simple. It saves and makes money through its ability to produce grain and produce it cheaply. The operator, one of the tractor's most important production factors, was not thought of last when the Pioneer was designed. He can, without question, do more hours' work with less loss of energy with the Pioneer than any other tractor on the market.

What is this added production efficiency worth in dollars? What does sense indicate this feature to be worth to the man who invests his money in a Pioneer tractor? Let's be very, very conservative and say \$150

Total Value over Ordinary Tractors \$1025

We may not agree absolutely as to the dollar value of some of the above features. We, however, believe that individually, each is worth much more than we have put down in dollars. Certainly there is a big value in the Pioneer "30" over any other farm tractor.

If you do not agree with the figures above, if you think they are too little or too much, add or subtract and arrive at a dollar value satisfactory to yourself. Some tractors may not have some of the objectionable features referred to above; some may have one or two of the desirable features listed above, but that is all, and is true to mighty few of them. Therefore, simple subtraction or addition will enable you to arrive at a value in dollars according to your own opinion.

The Pioneer "30" was first to do each and every one of the above things. A leader always—first it has ever been and is now. We feel this leadership justifies our accepted slogan,

"FIRST IN GAS TRACTION"

Thus the Pioneer "30" offers \$1025.00 in added value. There are no end of other exclusive features—many of them—so numerous that they cannot be recited here, but each adds to the sum total of quantity and blends into an exclusive quality.

THE PIONEER "30" THE WORLD'S CHEAPEST TRACTOR

Price and terms, quantity and quality all considered. If you are not already on our mailing list, send the attached coupon for full particulars concerning

THE PIONEER "30"—THE ULTIMATE TRACTOR

CUT OUT, SIGN AND MAIL

The Pioneer Tractor Co., Limited, 201 Alberta Loan Bldg., Calgary, Alta.

Kindly send me free, full particulars of the Pioneer "30."

My name is .....

My post office is .....

My Province is .....

I farm .....

C.T.F., APRIL

Pioneer Tractor Company Limited

CALGARY, ALBERTA

You saw this advertisement in this magazine. Don't forget to say so when writing.

You saw this advertisement in this magazine. Don't forget to say so when writing.

disc from 50 to 60 acres per day and sow 80 to 100 acres per day. Land that is made ready for the drill the fall before is soon sown and done away with. As yet, I do not consider a tractor detrimental to plowed land.

There is a great deal of tractor farming done in this part of the country and I believe it to be the best and most economical way for a man who has a section or more of land, but I would not advise farming this way on a quarter or half section. It can be seen at a glance that it would not pay to run up and down a field with one drill on an engine or with one or two binders or a couple of discs. And it would never pay a farmer to buy three large drills, four binders and hitches, six discs, etc., besides his engine, to do the small amount of work on such a small farm.

As this is the first letter I have ever written of this kind, I hope you will overlook all blunders and mistakes. Trusting it may be of some use to you, I am,

Yours truly,

A. L. King,  
Rosetown, Sask.



#### No Breaks or Delays

We have a 45-22 Hart-Parr engine which has been used for four years. We commenced seeding April 15th, sowing 500 acres of wheat, pulling three eleven-foot drills, followed by tooth harrows and plank clod masher. Had some trouble miring the engine as the ground was very wet. We then sowed 300 acres of flax the same way, after which we plowed and sowed 170 acres more to flax, finishing May 23rd, as we then run up against our rule that 24th of May, the Queen's birthday, is the proper time to quit seeding. Believe that land by this time is getting too dry to germinate seed, and that the chances for rain from June 1st to 20th coming too late for any reasonable assurances of maturing a crop, and that it is by far better to prepare any remaining land for cropping by summer plowing and conserving moisture for the following spring, thereby having your ground in the pink of condition, growing perhaps as much grain in one season as you would in two by continuous seeding.

We then made a run for the States for two months exploiting the virtues of "Sunny Saskatchewan" and to which we returned August 10th.

Looking over our old Hart-Parr, we pronounced him O.K. aside from a little dirt and grease that had accumulated, which was promptly removed, and a string of new binders attached which happened to be a useless job as the rain set in and kept the ground too soft for engine cut-

ting. However, our prosperous looks enabled us to hire teams and we got cutting all done in good season for 80c per acre.

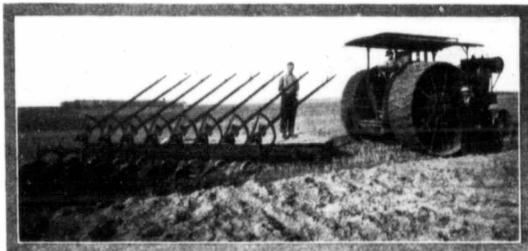
I will say that we have no horses on this ranch and depend entirely upon the engines for all the power upon this tract. A new



Nichols-Shepard and Deere

engine must be bought this season as it is absolutely necessary that you have at least two in the fall, one for threshing and one for land cultivation. As to the engine packing land in this district, our only wish is that the engine had wheels wide enough to cover all the ground as the grain sown

at night, another thing good business men do not do. We did, however. Paid 35c per hour for help, had plenty to eat and worked early and late, a bully good bunch of threshers. The rig ran another seven weeks following this, and was left in charge of the engineer, a green Mis-

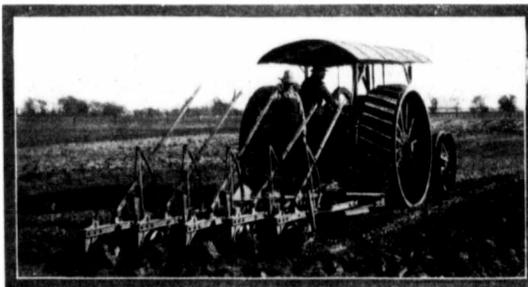


Minneapolis and P. and O.

in those tracts comes up quicker, does not grow so strangely and ripens early, a distinctly favorable condition in our judgment.

The binder arrangement being a failure, we replaced those by attaching a new 32-56 double belted Avery separator and commenced threshing September 23rd,

sourian, whom we imported and educated as a gas engine expert. While it may be needless to say we have adopted him, his income amounting to 50c per running hour. He burns a barrel of kerosene, a gallon of gas, and two gallons of lubricating oil per day



Goold, Shapley & Muir and Corkshutt

a job that we continued until November 23rd. The 24th being a kind of anniversary of May 24th, we promptly left the job and sailed for Yanketoon.

Also our thanksgiving turkey was to be served November 28th. As you probably may not give a

bill we consider him cheap.

Any inquiries or suggestions that may come this way we will be pleased to answer.

Yours very truly,

Raver & Mead,  
Luseland, Sask.

#### Tractor Does Not Injure the Soil

Replying to your enquiry as to our experiences in the use of tractors. We use a Rumely 25-50 gas tractor weighing about 35,000 pounds. We find it takes about three gallons of kerosene fuel per acre to plow good stiff summer fallow six inches deep. We cannot see how land can be plowed with less fuel, as our engine runs as smooth and with as little trouble as any engine could be expected to do. We use about three-fourths as much water as fuel oil, but we have found that soft water is much better for the engine than the harder or more alkali water. The harder water seems to coat the valve stems, causing them to corrode, and stick in the guides.

As to the cost of plowing, we estimate it costs \$2.00 per acre, not less than that. This includes fuel oil, lubricating oil, labor and wear and depreciation.

As to seeding with engine, we cannot use our engine on our kind of soil, for the reason that we have too many low, soft spots, where the water lies too long in the spring. If we waited for these spots to dry, it would make the seeding too late, so we cannot use the engine for that purpose, as it will either sink or slip its drivers, and is unable to pull even itself.

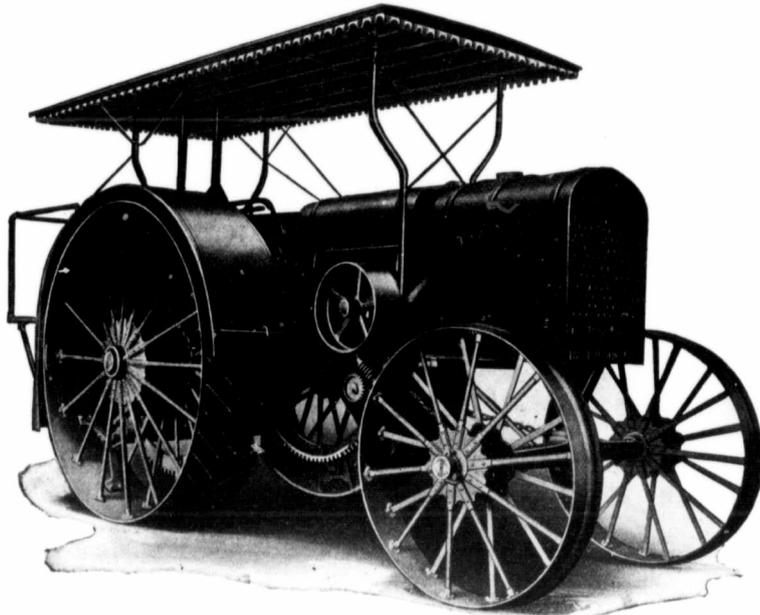
As to discing and harrowing, we have not done much of that kind of work, owing to the trouble of hitching together enough of the common disc harrows to make a load, even if we owned enough or could hire enough to make a load for an engine of our size, and if one has to purchase enough of the double engine gang discs, there would be another \$1,000 of capital tied up.

It is the same with harvesters. To make it profitable to use an engine of large power, we should not have less than four binders and five would be better, again tying up more capital than would be profitable on a 640 acre farm, which is the size of ours.

On the whole we do not consider it a wise investment to buy a heavy tractor for a farm of less than two sections, unless you can make use of such an engine for threshing, or can get enough outside work to make it profitable to invest in so much costly machinery.

As it is with us, we have to keep about as many horses as we would if we did not own an engine. We must have them to do our seeding and harvesting. Owning a separator, we can use them as bundle teams, which helps some.

Perhaps it might be profitable for a farmer owning only one section of land to purchase a smaller engine, say of 15 h.p., weighing about 10,000 pounds,



# HUBER GASOLINE TRACTOR

==  
*A Four  
 Cylinder  
 Tractor  
 Built for  
 Heavy Work*  
 ==

**I**f you have hard traction or belt work to do, and prefer the internal combustion engine, you owe it to yourself to investigate carefully the merits of this outfit. It has features that will interest you and save you money.

The consumption of fuel is very light compared with the amount of effective power developed. The gearing is finely adjusted for transmitting power with the greatest economy. For belt work, there is a wide band pulley placed at side of frame and close to motor. In setting for stationary work, engine is backed into the belt without band wheel turning; and this is found very convenient by the thresherman. The outfit has special advantages for traction work. Its width does not interfere with its use on ordinary roads. The weight is distributed, and draw bar pull adjusted, so that the engine has enormous pulling power. The drive wheels are high and wide, giving a powerful grip on the ground. This is an attractive feature in hauling over soft ground or sand, and in plowing.

The Huber Thresher is a machine that will make money and friends for you. It has great capacity for work. Fast and clean threshing is characteristic of this machine. When you thresh for a man once, he is sure to want your machine to do his work every year.

supplied with oil. The gravity feed will do the rest and relieve you of all care of cylinder boxes.

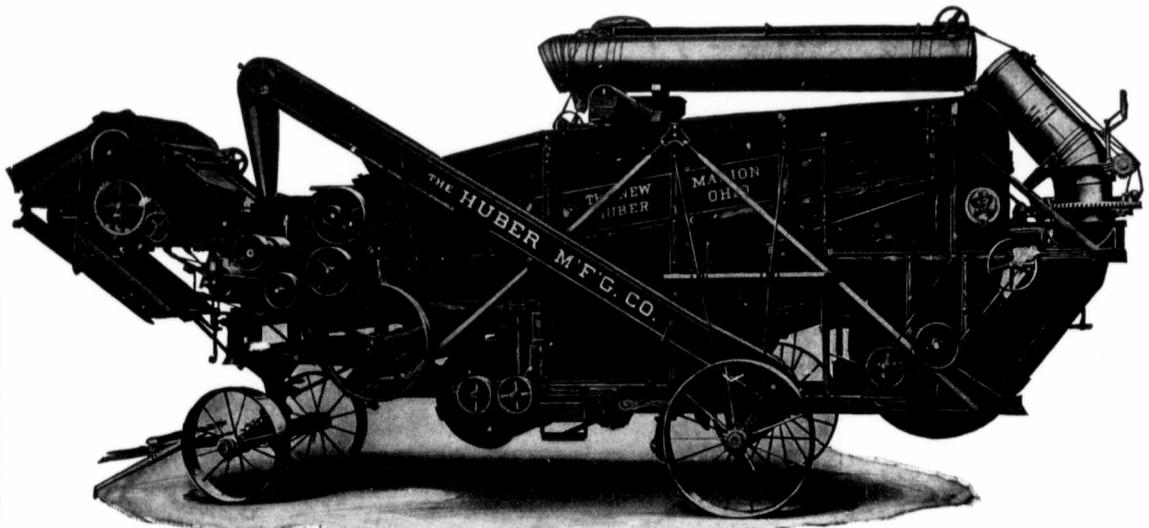
A new feature is the automatic oiling device for cylinder boxes. All the attention the boxes need is to see that the large oil pot is kept

We cannot give many details here. Our catalog gives them all. We have one book telling about our steam engines and threshers; and another describing the gas tractors. Either or both are mailed promptly on request. If you haven't yet received a copy, ask for one today.

## The Huber Manufacturing Co.

MARION, OHIO, U.S.A.

Canadian Branch: Corner Logan and Arlington Streets, WINNIPEG, MANITOBA.



HUBER COMPLETE THRESHER

You saw this advertisement in this magazine. Don't forget to say so when writing.

and capable of pulling three or four plows, and which can be operated by one man, and then use the common light machinery commonly used on any farm, and preferably on land that is not uniformly dry, where a light weight engine might be used at all kinds of work to be done on the common farm.

All things being equal we should think an engine of the caterpillar type would be best on land which does not dry evenly, as such an engine ought to go over soft slippery places.

We have not found that the packing of soil by the tractor wheels has done any harm, unless the tractor passes more than once over the same spot.

If this will be of any use to you, all right; if not, burn it up.

Yours truly,

Jesse Varley,

Davidson, Sask.



#### Regulates Drill to Overcome Packing by Engine

In answer to your request of the 23rd inst., re traction cultivation. My outfit consists of a 20 h.p. Type C, I.H.C. traction gasoline engine, a five-furrow 14-inch Cockshutt engine gang, and for threshing a 27 x 42-inch Aultman & Taylor separator with all the attachments.

The cost of running engine is, per twelve hour run, twenty gallons of gasoline, \$6.00, one gallon cylinder oil, 65c, gear oil, 35c, axle grease, 25c, a repair bill of \$3.00 per day for sharpening shares, etc., and an average of 1½ barrels of water per day for cooling purposes.

I break on an average of nine acres per working day, using four breaker bottoms. I run the plows and engine myself, and take about one day a week for repairing, etc. In stubble plowing, the outfit will plow 12½ acres and harrow same, as I use five 14-inch stubble bottoms, and harrows at the same time.

I have used the engine for seeding, harrowing, packing, etc., very satisfactorily, if the land was not too wet, or if there were not any slough holes, but as a rule the engine is not as good for spring seeding, etc., as for summer fallowing or breaking, and fall plowing. I find that breaking costs on an average of 95c per acre, if a man runs the outfit himself, and then add whatever he considers his time worth to the above. Stubble plowing costs about 70c per acre, and the engine does the same amount of work in discing, harrowing, packing, etc., as 16 horses of 1,400 pounds each.

In regard to an engine packing the land, I put more pressure on drill by putting on stronger pres-

sure springs, where the drill follows the engine wheels, and I find that this works all right, but if the spring is wet, the engine will not work on soft



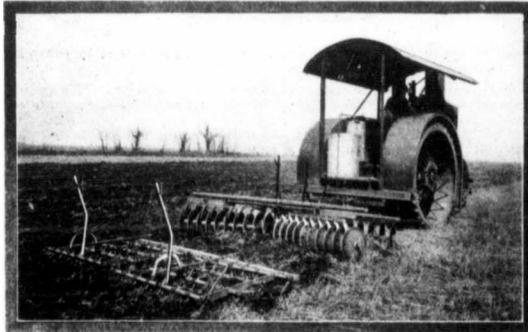
Aultman & Taylor and Deere

plowed land, as the drive wheels slip round.

I have used my outfit for three seasons now, but it does not pay to hire engineers unless you can get a good man, and I have had

I do not consider this outfit suitable for custom threshing, as the crew is too small to afford a cook car, and as most of the farmer's wives have enough work

to attend to in the regular household, without cooking for threshers. Besides this, a number of the farmers are bachelors, who would rather have an outfit with cooking car.

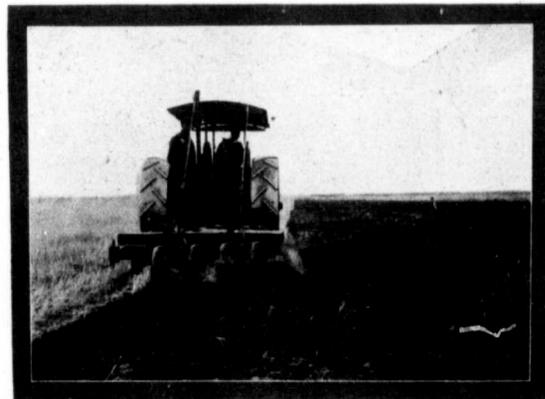


Hart-Parr Doing a Thorough Job

both kinds, but most of them were botch engineers.

In regard to threshing, this makes an ideal outfit for an individual farmer, or for a few neighbors, as they can thresh

A person cannot get a much better small threshing outfit, and I am well pleased with this one, but my advice is to be sure and get a good practical man to run engine and separator, as it re-



I. H. C. and Deere

when the grain is ready with very little help, as six stook teams can keep the machine running steady in average grain, and one man can attend to both engine and separator.

quires experience and mechanical ability to make a success of an outfit. I am,

Yours respectfully,

George Jeffrey.

#### No Experience in Plowing

In reply to your letter would say that I own a 40 h.p. J. I Case gas tractor, which I bought last fall. The fall here was so wet and cold I did not get a chance to do any plowing with it, in fact the ground was so wet that there was practically no plowing done with horses.

I threshed fifty days and never had the engine in the mud. I commenced to thresh about the 28th of September. I never used a tractor before, but I had very little trouble. I expect to use it on the farm in the spring. I used on an average of about 25 gallons of gasoline per day and ½ gallon of cylinder oil, and after the tank was full I only used about one gallon of water. I could pull the separator when moving four miles per hour. I will tell you how I get along in the spring.

Yours truly,

Henry Bell,

Gilbert Plains, Man.



#### Plain Facts But Good Dues

In response to your request for my experience with traction farming, I will endeavor to tell your readers (if you see fit to publish it) as near as I can the truth of this great question. In the spring of 1912 I bought a 25-45 Oil-Pull Rumely, and am very well pleased with it.

Since I was a boy, I have always been interested in engines of all kinds, and I am yet, and always will be. I brought my engine home on May 27th or 28th, and from then until July 15th, I broke 960 acres, and double discd 420 acres, also pulled harrows behind the discs.

I pulled eight plows, and broke from three to five inches deep, and had an abundance of power all the time. When discing, I pulled thirty feet of double discs and harrows, and had plenty of power.

The soil is hard to work here, and in some places very stony. I used a Cockshutt plow, and find it stands up to the reputation very well at very small expense. In fact the only expense I had was getting the shares sharpened.

I ran my engine night and day, and burned from 75 to 90 gallons of engine kerosene, and about 4 gallons of cylinder oil in twenty-four hours, and broke from 25 to 42 acres per day.

My trouble was in getting good engineers. There are lots of them, but only one of a dozen is any good. I finally got a man to run one shift by the name of Oscar Johnson, who was one of the best men around an engine I ever saw. I paid \$100 per month for engineer, and \$45 per month for plowman.



## Big Work, Big Profits with This Tractor

Here's a big, well and substantially built tractor, that will do your work just the way it should be done; do it easily and quickly, and do it at the least expense for fuel and maintenance. You need not take the second look at the AULTMAN-TAYLOR 30-60 to observe that it is built right from the ground up. It has proven by years of hard, continuous field service to be the most economical, most convenient and most reliable tractor ever offered on the market. Follow the foot-steps of hundreds of other wide-awake, progressive farmers who have saved money, saved time and saved trouble by buying, not the cheapest, but **THE BEST**—the

### AULTMAN - TAYLOR 30 - 60 GAS TRACTOR

We want you to investigate the AULTMAN-TAYLOR 30-60. Go deep in this investigation. The more you investigate it the more you will appreciate its many points of superiority—points that mean dollars saved in years to come. Here are a few of them:

**MOTOR**—Four 7" x 9" Cylinders, continuous, steady power. Cylinders placed in horizontal position on frame. A strong feature. With a vertical engine, all vibration strains come at right angles with the frame. All strains on the Aultman-Taylor, with its horizontal engine, come parallel with the frame and are absorbed by dead weight of the engine. Investigate this feature. It will pay you.

**FRAME**—Locomotive truss type. Built of heavy steel bars and channels. The heavy steel bars provide plenty of stock for receiving the bolts. The truss construction insures maximum rigidity and permits of no vibration of the engine. A strong, simple construction.

**DRIVE WHEELS**—Built-up type, 30" diameter—built to withstand the severest strains. These massive drivers afford great purchase in pulling and enable the engine to pass over soft ground where other tractors are powerless.

**TRANSMISSION**—Absolutely straight spur gear drive. The only practical transmission for tractive purposes. No power-wasting bevel gears to be a source of trouble and costly breakdowns. Look into this most vital feature carefully. It will save you money and grief in years to come.

**CONTROLLING MECHANISM**—Forward, reverse and belt pulley operated by one lever. This single lever control is second to none for convenience.

**LUBRICATION**—Force feed individual bearing oilers, thus insuring perfect lubrication, at all times. This is one of the most important features of a gas engine and has been well cared for in the Aultman-Taylor 30-60.

**FUEL CONSUMPTION**—Uses either gasoline or kerosene with remarkable efficiency and economy. Has proven in shop tests, competitive contests and in field tests that it will do more and better work, at lower consumption of fuel, than any other tractor the market affords.

WRITE US TODAY for further information concerning this big money-making, labor-saving tractor. We have the engine that will do your work and do it better and more economically than any other tractor offered you. It's up to you to investigate. Drop up a postal today.

# The Aultman & Taylor Machinery Co.

Lock Box No. 64. MANSFIELD, OHIO.

BRANCHES:

Minneapolis, Minn., U.S.A.

Calgary, Alta.

Regina, Sask., Canada

I have not done any seeding with my engine yet, but intend to next spring. I intend to pull three outhrow and three inthrow discs and two 22 disc drills at one load.

I think it is a benefit to new land to run over in with an engine, but I do not intend to seed my summer fallow with the engine as I believe it would not pay, as the danger of getting stuck is too great.

The gasoline and kerosene engines are rapidly doing away with the steam engines, as water is very scarce and coal is so high (\$11 per ton) so that it is not a paying proposition.

My expenses per day of twenty-four hours were about \$40 divided as follows:

Kerosene .....	\$18.00
Engineer .....	8.00
Plowman .....	4.00
Oil .....	2.00
Cook .....	2.00
Grub .....	4.00
Hauling of Oil .....	2.00

Total .....

I do not keep any horses about my rig at all. I use about two barrels of water per day, while burning kerosene. I find kerosene gives better power than gasoline, and is 10c a gallon cheaper, the only trouble being that it clogs up the cylinder quicker than gasoline.

In threshing, I pulled a 40 x 62 Case separator with four men rolling it into her as fast as they could, and the engine held the speed much better than any steam engine I have ever seen. In fact one old thresher said it had better power than his 40 h.p. double cylinder steamer.

I would not buy an engine to do custom work, but if a man has a large farm of a section or so, it will pay him to have an engine, as he can get his plowing done at the right time, and can do his discing, seeding, grinding feed, and thresh his grain as soon as it is fit, and get it into the elevators before they are filled up.

Thanking you, I remain,

Your fellow thresherman,  
J. A. Elliott,  
Loreburn, Sask.



Horses and Engine Compared

Replying to your favor of the 23rd re our experience with our tractor outfit, can only say that it has given perfect satisfaction.

Answering your question 1st and 2nd, ours is a Hart-Parr engine, guaranteed to handle the load of twenty-five horses on the draw bar, and to develop 60 h.p. on the belt.

When handling eight 14-inch stubble bottoms together with a disc or drag harrow, we use from

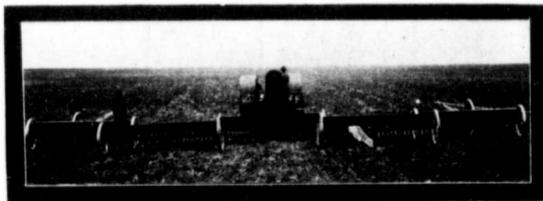
three to four gallons of kerosene per hour, depending largely on the condition of the land, in good plowing three, in heavy backsetting four.

We use about 40 gallons of water per day.

36-60 Geo. White separator and our repair bill amounted to only \$2.00.

Now as to initial cost:

Hart-Parr engine on two years' time cost ..... \$2,850

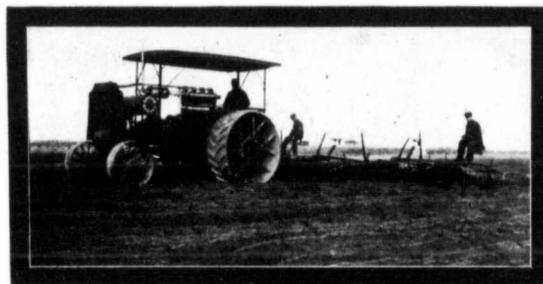


Big Four and Van Brunt

Yes, we consider traction farming more economical than operating with horses. To begin with the initial cost is less and in so far as our experience is concerned the upkeep is less with our tractor than with the number of

Cockshutt plow with 8 stubble bottoms ..... 645  
Harrow ..... 20

Here you have our plowing outfit complete..... \$3,515



Sawyer-Massey Discing

horses required to do an equal amount of work. Besides we can get a great deal more work done in a given time as a result of our ability to work at night. When plowing day and night we can turn over and harrow 40 acres at a cost of 90c per acre.

To do the same amount of work with horses, figuring 5 acres plowed and harrowed a days work for a four horse team, we would require:

20 head of horses at \$250 per head ..... \$5,000



Case and Deere

When working by the day we work fifteen horses and figure on an average of twenty-five acres. During the summer of 1912 we plowed 800 acres with our outfit, graded five miles of road, hauled five binders through harvest and threshed for 29 days, running a

10 sets of harrows, \$40 per set ..... 400  
57-inch furrow plows, \$80 per set ..... 400  
Harrow ..... 20  
Complete ..... 5,820

Here we have a saving of \$2,305 in favor of the tractor.

As to the cost of operating a tractor outfit compared with horses, it seems to us that the engine has many advantages, as I have already stated we can plow and harrow for 90c per acre. In a busy time we can crowd two days work into one by working at night. Days that we cannot work our engine is not on the expense list, we have only two men to care for instead of five as with horses, and during the winter it costs us nothing for fuel.

But with horse power only, you have five men to care for all the time instead of two as with the engine. You have twenty horses to feed on days you cannot work as well as on days you can work, you have twenty horses to feed all winter. And the risk of losing a horse is equally as great as the risk of breaking an engine.

Your 8th question: Do you consider a tractor detrimental to plowed land. Our experience is that it is not.

We believe that tractor cultivation is a success.

Yours very truly,  
Irwin Bros.,  
Goldenstream, Man.



Engine Detrimental to the Land

Re experience in traction cultivation. I am pleased to give you what little information I can. We have a 45 h.p. I. H. C. Mogul 1911 tractor, and a 25 h.p. I. H. C. Titan.

We have used the 45 for plowing and threshing only, and in the two seasons we have had it, we have done a great deal of work with it. We broke over 1,100 acres of sod in 1911, and threshed for 65 days, and it gave us very little trouble.

In 1912 we broke nearly 1,000 acres, and threshed for 35 days.

The big saving in doing the plowing with an engine is the amount of work done with so little labor. Labor is scarce in this country, so that anything which helps us out of the difficulty is a boon. The price of gasoline is a serious drawback to gasoline engines, as it is so high, and the quality is not to be depended on. Last summer the oilmen were like the milkmen, they added a little water, so that they could go around their customers.

We did all our seeding, discing, etc., with the 25 h.p. engine, two men doing more work with it, than we would have done with twelve horses, and the work was quite as well done and even better than the average teamster would have done it.

With the 25 h.p. engine hauling three drills we seeded 320 acres in two and a half days, running



## Entirely Satisfied With Their Rumely Engine Gang Plow



Free-will letters of satisfaction from purchasers who are using Rumely Engine Gang Plows in their fields every day are the best food for thought in deciding on a purchase—far more valuable than mere claims.

The performance of the Rumely Engine Gang Plow at Winnipeg in 1910, where its draft was found to be only 687.5 pounds per 14 inch bottom—the least of all the engine plows competing—was a pretty good example of correct design.

Again, in 1911, when the draw-bar pull was only 633.3 pounds per 14 inch bottom—something like 50 pounds lighter than its nearest competitor—our light-draft principle was proved.

The Rumely Engine Gang Plow, that does such things, is the plow for actual service in any soil, and (let us add) now has behind it a broad experience covering 76 years in plow building.

When a powerful tractor pulling a gang plow gets under way, nothing much can hold it down, and if the plow frame is not properly built it can never stand the strain.

The only limit to the endurance of the Rumely Engine Gang Plow is the strength of its chain.

An excellent new feature of the Rumely Plow is its adjustable break-pin arrangement. To protect the stand-

ards from breaking when striking heavy rocks or other hidden obstructions, we use a wooden pin that will stand nearly as much shock as the standard itself; when the plow point does strike a solid obstruction the wood pin breaks and the standard is saved. This broken pin can be replaced in a moment. The exclusive feature is an adjustment that keeps the plow point in line, even when the pin wears and sags, as all break-pins do.

The wheels on Rumely Plows are castored and follow the swing of the frame in turning short corners, so that there need be no fear of twisting the beams out of alignment like fixed wheels that drag.

The gauge wheel shanks of the Rumely Plow are now equipped with roller bearings in each side of the shank castings—making operation of the levers very easy.

There are so many features in the Rumely Engine Gang Plow not found in others, and so little space here to tell the story, that we should be glad to mail to you a copy of our Gang Plow Data-book. This book goes fully into the details and, besides this, it is the most instructive book on traction plowing methods that the farmer can get.

Write today and ask for a copy. It contains letters from users—letters that will convince you.

**Rumely Products Company**  
(INCORPORATED)  
**Power-Farming Machinery**  
**La Porte :: :: Indiana**

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VANCOUVER, B.C. WINNIPEG, Manitoba

all the time, but I do not think I will seed the summer fallow with the engine in the spring.

The wheels of the engine mark the land that has a good deal of moisture in it, and does the land no good. We have a clay loam here, which is inclined to crack badly if travelled over, when a good deal of moisture is in it.

We think the engine is as good as horses for doing the heavier work on the farm such as plowing, discing, seeding and cutting, and hauling the grain to market.

In a very few years there will be a supply of men capable of running traction engines. This has been the one drawback in traction work up to the present time.

Anyone who is thinking of buying a tractor would make it a point to work at least a few weeks in the field one. The experience thus gained will save them probably a good deal of expense and time.

It takes about four gallons of gasoline an acre for breaking here, and about 4 barrels of water a day for cooling with the 45 h.p. engine. The smaller engine uses a little more gasoline to plow an acre. The amount of gasoline and water used varies so much with the nature of the soil that those figures are not much good to anyone unless for comparison. We find five 14-inch plows are a heavy load for the 45 h.p. engine in this district, while in some parts the engine would pull ten just as well. We drive a 36 x 50 separator with the 45 h.p. engine, and have plenty of power.

Yours truly,

J. McGregor,  
Rosetown, Sask.



**Working in Scrub**

Our traction outfit, which we purchased last spring, costs us as follows, laid down at our station:

40 b.h.p. Hart-Parr engine	\$2486
Four 8-foot Moline discs, in and out throw	150
Six-Furrow Moline engine gang	515
28-50 Case steel separator and belt	1143
John Deere Jumbo break- ing plow	180
	<hr/>
	\$4474

My first work was discing scrub land that had been broken the previous year with a Jumbo plow. I could double disc four acres per hour and do good work. My next work was stubble plowing, the engine drew six plows and a disc, run without much angle, plowing from four to five inches deep. In plowing summer fallow we only drew the plows and went about seven inches deep. In breaking

scrub land I drew one plow (24-in.) and broke from four to five acres per day. Our engine has only one wheel in front, we put this in the furrow and have one

For discing, one man is all that is necessary with the outfit, although we had only one most of the time when plowing. Two could keep the rig going steadier

fall and we were not able to run our rig to its full capacity in threshing. However, it handles all we could get to it and did satisfactory work.

Sincerely yours,

Geo. A. Crampton,  
Manitou, Man.



**Traction Cultivation not a Success**

I did not get my outfit until rather late last spring, consequently we did not commence to plow until about the 10th of May.

I have a Rumely 15-30 tractor, and a six-bottom Rumely engine plow, and a 28 x 44 separator. The engine has enough power to run these successfully.

We plowed about 200 acres after May 10th, and had it in seed by June 1st, doing the seeding with horses. I also used the tractor for cultivating 22 acres of new land. This worked nicely by attaching two disc harrows behind, and hitching the 24-foot harrow to the drawbar of the tractor with a cable. We used about four gallons of engine kerosene per hour at 21c per gallon, and would plow about 15 acres in a ten hour day, the total cost for oil being about 60c per acre. We would use about the same amount of water as of oil for plowing. When the tractor does not labor hard it does not use as much water.

I also used one section of a harrow behind the plows part of the time. On a stretch of 80 rods or more, one man can operate the tractor and plows successfully, but on small fields it would be more economical to have two men with the outfit. We did not use any horses with the outfit, as I would hitch the wagon with the oil tank behind the plows when moving. It took about eight hours to cultivate 22 acres.

I think that a tractor is detrimental to plowed land unless a disc harrow or some other implement heavier than a smoothing harrow is used. A disc harrow can be weighted down to suit the condition of the soil on which it is used.

In considering the success or failure of traction cultivation, I think it is important to consider if it will pay to buy an outfit or not. Judging by the conditions in this part, I think if the actual figures under all conditions were given, I am sure that many of the outfits would not be bought.

I was told by a loan agent that their company sent circular letters to their agents asking them to be very careful in making loans to parties owning threshing outfits. I think we need wider markets and less duty on machinery, as its price is too high in comparison to the price of grain. Oats



Hart-Parr and Deere

one of the drivers on the plowed ground. It crushed the sod and brushed down flat and made a splendid job. We found it much easier to pick the roots this year than formerly.

With regard to cost of opera-

and enable us to work longer hours.

Our land is a loam and is probably easier worked than where they have heavy clay. I do not see any ill effect from the weight of the engine on our crops, either



I. H. C. and Emerson

tion, the engine uses from 3 to 3½ gallons of kerosene per hour this costs 18c per gallon, about two gallons of cylinder oil at 41c per gallon, and about two gallons of gasoline, in all from \$7.50 to \$8.00 per day, without

where we used it in discing or plowing, but I noticed where a neighbor had plowed some heavy clay land when it was wet. The crop was very uneven all summer. Although we have done some very rough work with our engine

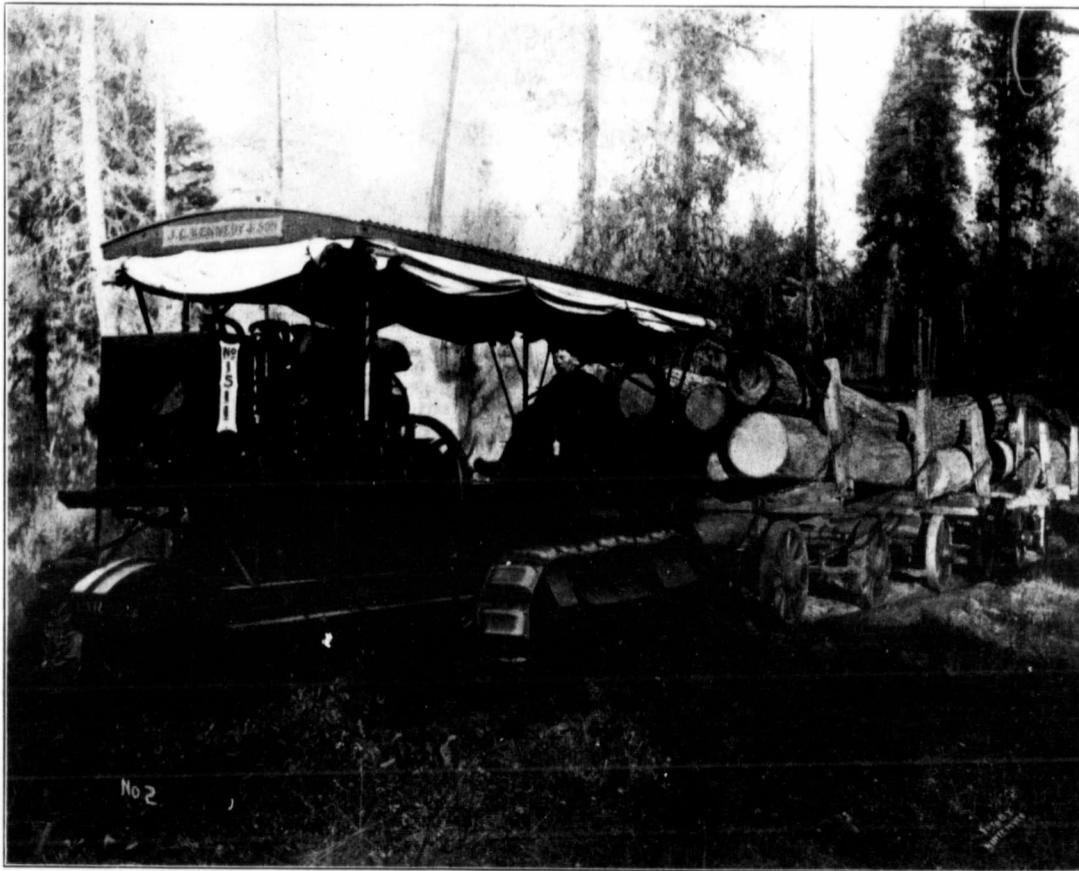


American Abell and Cookshutt

counting wages, interest on investment, and depreciation. To double disc it cost us around 29c per acre, plowing from 40c to 50c per acre according to the length of field and depth plowed.

(broke 115 acres of scrub) we have had no serious breakages.

As the engine is oil cooled we only use water with the fuel. This takes about 20 gallons per day. Help was very scarce this



Caterpillar Pulling a Load of Logs.

# HOLT CATERPILLAR GAS TRACTOR

The gasoline traction engine that solves the question of replacing horses on the farm, in hauling, and in contracting work. By this we mean actually replacing them, not simply doing their work when conditions are ideal and the footing good, but actually pulling the load when it is wet, too wet for a round wheel tractor but dry enough for horses. **The Caterpillar Tractor** does it, first because it has so much bearing surface on the ground, about 2,000 sq. in., that it has plenty of grip to pull with. Then there is less weight per square inch on the ground than on a horse's hoof, in fact about a third less. Another thing, it is laying its own track and running over it like a locomotive on a rail, and it isn't grinding and slipping along the ground and climbing a hill as it sinks in for traction as a round wheel does. This very point gives the **Caterpillar** more pulling power than if it were mounted on wheels because it doesn't use up so much power in pulling itself. You want a tractor that has these qualities and others. Let us tell you about the others. This coupon will bring the information.

Mr. Hunt, Canadian Holt Co., Calgary.

Red Deer, Alberta, June 13th, 1912.

Dear Sir—

If you will excuse our delay in answering your favor would say that we are very busy now and expect to be for some time. We have had some views of the outfit taken this last week by Mr. Stuart of the Farm & Ranch Review of Calgary. He is also giving us a write up in the Exhibition number of his paper so will have some cuts made. He is making us some pictures also so you can probably secure some from him. If you are unable to do so we could let you have one or two.

As to our opinion of the engine would say that it is absolutely the only engine that will work satisfactorily in this section of the country. We are plowing land now that has been refused by other engine outfits on account of soft spots, heavy willow and poplar stumps and are averaging from twelve to fifteen acres a day. We are pulling three twenty-four inch plows and an eight foot double engine disc. In stubble land we pulled eight fourteen inch bottoms, three sections of harrow and run on the high gear all of the time, making from three to four miles an hour.

When it comes to classifying engines in this part of the country there are only two kinds, one kind are Caterpillars, the other are not, the first will work, the others will not.

Yours truly,  
(Sgd.) F. VAN SLYKE & SON.

THE DUKE OF SUTHERLAND'S CANADIAN LANDS

Robert B. Sangster, Agent.

Brooks, Alberta, 1st June, 1912

The Canadian Holt Co., Ltd.,

609 Eighth Ave. West, Calgary, Alta.

Gentlemen—

I have yours of the 30th inst.

I consider the Caterpillar engine has been working very satisfactorily and has been giving us practically no trouble.

We have been pulling eight breaking plows and trailing two discs and a 12-ft. packer, which is a load practically up to your statement of 40 HP at the drawbar.

I have not any photos of the engine working but the representative of the Massey-Harris Co., Calgary was here and took several photographs of the outfit at work.

Yours very faithfully,

(Sgd.) Robert B. Sangster, Agent.

**Canadian Holt Co. Limited**  
609 Eighth Avenue West  
Calgary, Alberta

**SELL YOUR HORSES AND BUY**



**A CATERPILLAR**

**CANADIAN HOLT CO. LTD.**  
609 Eighth Ave., Calgary, Alta.

Please send me a Caterpillar Catalogue.

Name .....

Post Office .....

C.T.F. Apr. '13 Province .....

You saw this advertisement in this magazine. Don't forget to say so when writing.

# The CASE STANDARD

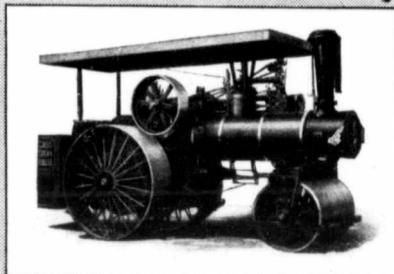
## First in Quality

### Roadbuilding

## First in Durability

## First in Quantity

### Threshing



### Case Ten-Ton Road Roller

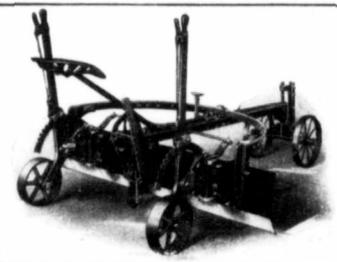
It goes without saying that a Road Roller that can be used for a variety of purposes is a much more profitable investment than one that can be used for rolling only.

The great secret of making money with any machinery is —TO KEEP IT BUSY. The Case Road Roller can be kept busy when other rollers will be standing idle, because the Case Road Roller can be used for Hauling, driving Stone-Crushers and Concrete Mixers, drawing Graders and for General Power Purposes. It may even be converted into a

Traction Engine by substituting parts we furnish for that purpose. Why buy a roller of limited utility and have it idle much of the time when you can earn money on your investment? The Case has a Power Steering Device. It is Spring-Mounted, and has a Spring Differential Gear that applies power equally to both back rollers. These and many other good features of construction you can get in the Case at no more than you would pay for rollers that lack them.

### Case Perfection Reversible Road Grader

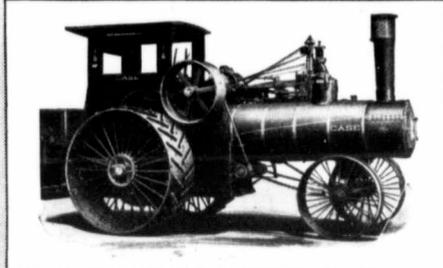
The Case Perfection Reversible Road Grader is designed both for the use of the Individual Farmer and Land Owner as well as for Contractors, Municipalities and others engaged in Road Building. It is built with a full circle ring, which permits the blade to be set in any position and at any angle, thus giving a wider range of adjustment and manipulation. Made in any three sizes for Traction Power, Horse Power and a third model that can be employed to good advantage in grading, leveling roads, digging ditches and trenches and other hard work ordinarily done by hand on the farm.



### Case-Shelby Road Grader and Leveler

A smaller grader designed for farm use. One man and one team can easily operate it. It can be used for keeping roads and lanes in good condition—and for leveling farm land, digging ditches and drainage trenches, as it does the work cheaply and quickly. It only costs 50 Dollars, and being strongly built of iron and steel it lasts for years. They're a labor saver and a paying investment on any farm.

The Case Road Machinery Catalog will save you money if you are about to purchase Road Building Equipment of any description. It tells all about the Case Rollers, Road Graders, Road Drags, Road Rooters, Grading Plows, Wheel and hand Scrapers, Wheel Barrows, Rock Crushers, Stone Graders and Dump Wagons—every one of them containing features that you ought to know before you buy. Don't fail to write for a copy.



### Case Steam Engine

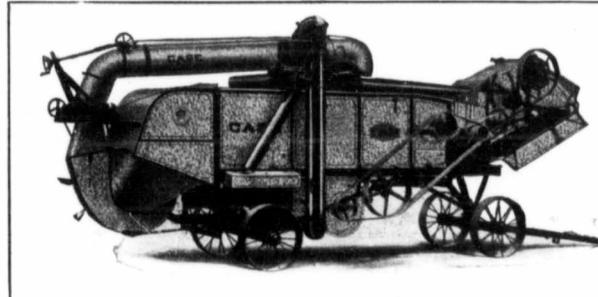
There is only one way to determine engine values—and that is on the basis of what you get for what you pay. You can easily pay more for an engine than a Case will cost you, and get less than a Case will give you—but you can't get as much in Power, Economy and Durability in any other Steam Engine, no matter what you pay.

Case Steam Engines are a *known quantity*. You know what you are getting when you buy an engine with the "Case" name on it. You know that the Case Engine is the oldest, most reliable engine on the market. You know it's backed by the Seventy Year reputation of the Case Company as Builders of Reliable Machinery. You know that the Case Engines have always given universal satisfaction in the field—and you know their Greater Power, their Greater Economy of Fuel and Water Consumption has been demonstrated beyond all question in competition with the World's Leading Makes. You know the Case will serve you well—then why not buy a Case and be safe?

Case Steam Engines are made from 30 to 110 H. P. They furnish Economical Farm Power for all purposes from Grinding Feed to the Heaviest Plowing. The superior features of the construction of all Case Engines is told in detail in the Case Engine Catalog. You will save money by writing for it before you buy.

### Case Threshing Machinery

You must have the very best equipment if you want to make money as a Thresherman. Grain Growers now-a-days are mighty particular what kind of a machine is used on their crop. They want their threshermen to use a machine that threshes fast, clean and saves the grain—they won't tolerate poor work. If you don't give your customers good work this year you won't have any customers next year. Case Threshing Machines are the best asset a Thresherman can have. They have a universal reputation for doing good work that makes the thresherman's services in demand and keeps him busy. Grain Growers the World over are familiar with the good work of the Case Steel Threshing Machines. They have learned by experience that their grain is clean and grades high when threshed with a Case Threshing Machine. You might as well cash in on this world-wide reputation of Case Steel Threshing Machines for good work. It doesn't cost you anything and it means many dollars in profits to you.



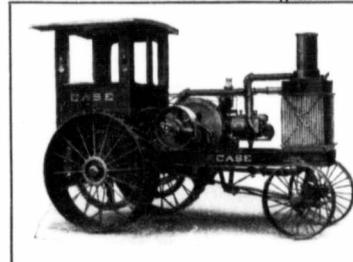
The Steel Construction of the Case Separator makes it weather-proof, water-proof, fire-proof—the most staunch and durable Separator ever built. Are you going to be in the market for Threshing Equipment this Season? If you are, don't fail to write us before you buy. We have a Threshing Machinery Catalog and some valuable information that will save you money.

### Case 40 Gas Tractor

In every essential particular that goes to make up an efficient Gas Tractor, the Case 40 Gas Tractor has proved its superiority over all other makes. The winning of the Gold Medal by the Case 40 Gas Tractor in the 1912 Motor Contest opened the eyes of Farm Power Users. The Case 40 Gas Tractor so completely outclassed all others that even the most skeptical have been convinced.

In average draw-bar horse-power—in low water consumption per acre—in draw-bar horse-power for the same amount of fuel—in distance traveled without replenishing fuel supply—in distance traveled without replenishing water supply—in fuel consumption to plow per acre—in deep plowing—the Case 40 Gas Tractor completely out-distanced all competitors.

If you are interested in Gasoline Power, write for our circulars and catalogs describing in detail the construction of both the Case 40 Gas Tractor and the Case 60 Oil Tractor. They are free and contain information of great value to every one interested in economical Farm Power.



CASE ROAD ROLLER ROAD GRADERS both kinds

## ROAD MACHINERY THRESHING MACHINERY STEAM ENGINES GAS TRACTORS



# J.I. CASE THRESHING MACHINE COMPANY

(INCORPORATED)

741-791

STATE ST. RACINE, WIS. U.S.A.



CANADIAN BRANCHES, TORONTO, WINNIPEG, SASKATOON, REGINA & CALGARY

at our point at present are 17c a bushel. This does not pay for labor and expenses, not figuring hauling them to market from 8 to 20 miles. There is a company near here farming on a large scale, using six tractors to do their work, and I was told they did not make enough last year to pay the interest on their investment. It would be interesting to hear from others from other places and get their experience.

Hoping this letter is not too long, and not too far from the subject, I am,

Yours truly,  
Arnold Dank,  
Annaham, Sask.



### Tractor Beats Horses in Rocky Ground

We have a 25 h.p. I. H. C. tractor, which we use for threshing and plowing, and it makes a success of both. When threshing we use in the neighborhood of 17 to 19 gallons of gasoline a day, that is about a twelve hours run, as we consider that is a long enough day for both ourselves and horses. We use about 40 to 50 gallons of water per day, and when threshing use ten men and six teams with good results.

When plowing we use from five to seven plows, 12-inch bottoms, owing to the depth we want to plow. We plow from 15 to 17 acres in a twelve hour day, good luck being in our favor, and we harrow it down the same day with horses. I have seen very good results, when the ground was disced, sowed and harrowed by the tractor all at the same time. It was considerably better work than that done by horses, because the grain was right there to commence germinating as soon as the ground was disced, and so lost none of the moisture. As a rule when it is put in with horses it is a day or two before the discing is done, and then before sowing is done it has to be harrowed, consequently a lot of the moisture escapes, and moisture is very beneficial at that certain season of the year.

Traction plowing has a great advantage over horses when plowing in rocky places, as the traction plows are much heavier than the horse gangs, therefore they hold to the ground better.

For plowing we employ two men, do our own blacksmith work, allowing our men \$3.00 per day, gasoline \$6.40, cylinder oil \$1.00, hard oil and other oil 50c, making a total of \$16.40, allowing for our blacksmith work \$2.50 per day. Plowing 16 acres of stubble at \$2.50 per acre—\$40.00, leaving a balance of \$23.60 for profit, wear and tear per day.

I have the Canadian Thresher-

man and Farmer for a year for my services as crop reporter. If what little information I have given you in this letter is of any

seven stubble plows and a 20-foot drag harrow which drags the ground twice just as it is turned over, which I find is very satis-

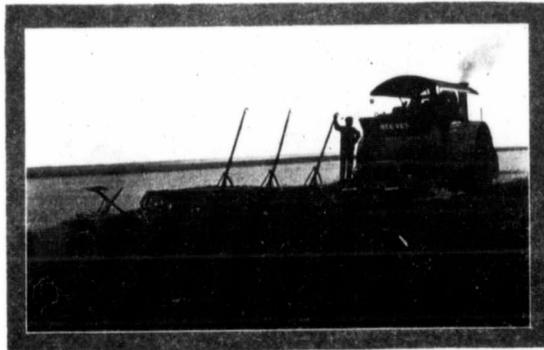


Avery and Avery Power Lift

benefit please reward me accordingly to your judgment.

Yours respectfully,  
J. N. Johnston,  
Vulcan, Alta.

factory. I follow right up with the drill which is drawn by horses. I do not think it pays to hitch a whole lot of machinery behind an engine as there is

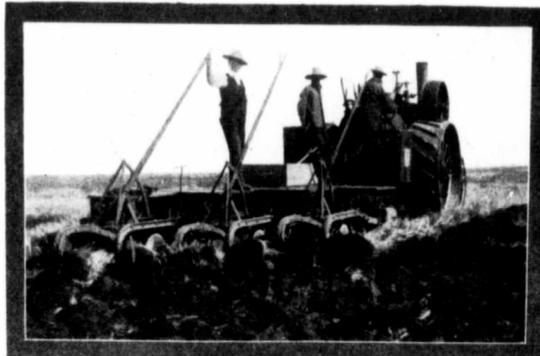


Reeves and Deere

### Costs \$1.00 per Acre

I own and operate a four cylinder Flour City gasoline engine, 30 b.h.p. I pull six breaking plows and can plow 15 acres per ten hour day of steady work. I

usually a great deal of time lost in monkeying and fixing. This is where I think an engine pays because you can get the seed right into the ground before the moisture has a chance to escape. I usually run the packer over the



American Abell and Deere

use about 30 gallons of gasoline and three barrels of water per day. I have one man on the plows and he generally hauls the water with one horse. I figure the whole thing at an average cost of \$20.00 per day. I pull

ground before the drill as soon as possible. I can plow and drag the ground twice and do 20 acres per day at a cost of \$1.00 per acre.

Yours truly,  
C. A. Frazier,  
Flagstaff, Alta.

### Horses a Necessity

As requested to give you my personal experience in traction cultivation, I will endeavor to give you my brief experience as to my views on the matter.

We have a 30 h.p. double cylinder plowing engine, Rumely make, which we purchased last fall and with which we threshed all fall. It gave very good satisfaction, and as it is highly recommended as a plowing engine, we intend pulling eight plows breaking, and ten when summer fallowing. We use a John Deere 14-inch plow.

Our engine is supposed to burn 1½ tons of coal per day of ten hours, plowing from 18 to 20 acres, and 2,500 gallons of water, but we intend to use flax straw for fuel, as it is so plentiful in our locality, and seems to fill the bill just as well in regards to power, but of course is more troublesome in firing than coal. Another thing I might say in regard to using flax straw for fuel, is to beware of bad weeds, as you are very liable to scatter weeds all over your farm or whatever fields you are working in. Flax is a crop which is very hard to thresh clean unless under very favorable conditions, and consequently in hauling it around the field, it scatters the flax seed pretty freely, as there is a certain amount left in the straw. This is the worst drawback I see in using flax straw for fuel. It seems to have the power and cuts down the expense of traction cultivation considerably. It takes two teams of horses and four men to run the outfit in plowing, and five men when using flax straw as fuel, as the fireman can take care of the plows and fire also if short of help where coal is used as fuel, but where help is plentiful there ought to be five men and two teams to look after things right.

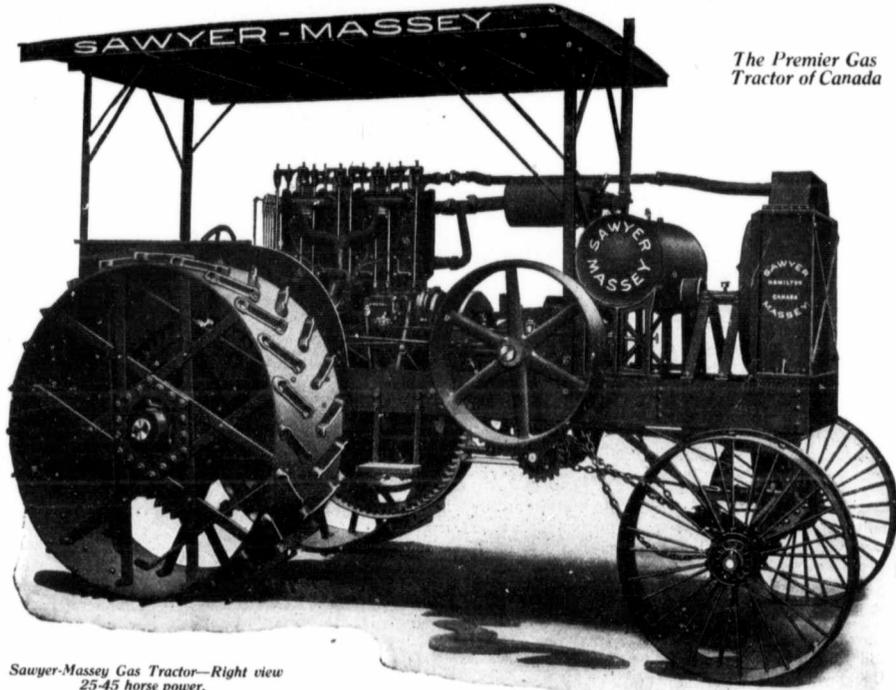
I would like to state what it costs per acre for plowing, harrowing, seeding, discing, and so on, but as we have not used our engine for cultivation of any kind cannot state definitely just what the cost would be. Probably by next fall I could say more about it. Now as to the tractor being detrimental to the plowed land, I would say that it depends on the kind of land you are working. If it is low, heavy land, that is inclined to bake more or less, I would say that after a tractor travels over it, it bakes so hard that it is difficult to make a good seed bed with light machinery, so consequently I think it injures such land, but on the other hand if land is lighter, and more loamy I think it packs it down in good shape.

As to traction cultivation being a success, I will say that it is a great deal more of a success coupled with plenty of horse-



# Gas Tractors

## For Plowing and Threshing



*The Premier Gas Tractor of Canada*

*Sawyer-Massey Gas Tractor—Right view  
25-45 horse power.*

The SAWYER-MASSEY GAS TRACTOR has proved its worth under any and every practical test of use in new as well as settled communities. Its Economy, Dependability and Ease of Operation is testified to by users and owners who have found that it more than fulfils all our claims for its superior merit.

It is designed by engineers who have made a study of actual farm conditions and requirements. It is built of the best obtainable material, by skilled and experienced workmen, in the most modern and best equipped factory in Canada. Every step in its construction is under the constant supervision of experts.

Rated at 25 nominal and 45 brake power, it actually develops over 52 horse-power. The motor is of the 4-cylinder, 4-cycle, water-cooled type. Every part of the motor is perfectly balanced. Over 75 per cent of the weight of the Tractor comes on the rear wheels. It is the Tractor with the pull at the draw bar.

The SAWYER-MASSEY GAS TRACTOR is peculiarly adapted for service in the Canadian West or in Foreign Countries, because of its uniform dependability and simplicity of construction.

We have an attractive proposition for Dealers in Foreign Countries and invite correspondence

*Our Catalogue giving full details will be sent on request.*

**SAWYER-MASSEY COMPANY Ltd.**  
Home Office and Factories: Hamilton, Canada

*Branch Offices and Warehouses:*

WINNIPEG, MAN.

REGINA, SASK.



You saw this advertisement in this magazine. Don't forget to say so when writing.

flesh as you can always keep things going, as horses will go rain or shine, if you have a mind to drive them, whereas the tractor has to have footing or no go, and that is one thing that I notice in our locality, which is a great drawback to traction plowing. There are so many of those "burn outs" as they call them, which are always greasy after a shower of rain, and sometimes stay in this condition for days, and just as soon as you hit those with your driver, it will skid and there you are. You have either to throw out your plows, or stop work, and if you keep going you are doing only half a job, as you are dipping in and throwing out all the time, so that is why I say if you have the hoseflesh and plenty of it you can take your small gangs, and keep your land rolling over. A man figuring on farming on a good scale really ought to have both horses and tractor, as he always knows he can go ahead, and do his own work all the way through, without depending on outsiders to do his threshing, which might be left lying out in the snow as is the case in many cases. I would say that if a man can see his way clear to have a tractor, and use good judgment in handling it, it will prove a success in many different ways.

Respectfully yours,  
M. C. Campbell,  
Horfield, Sask.



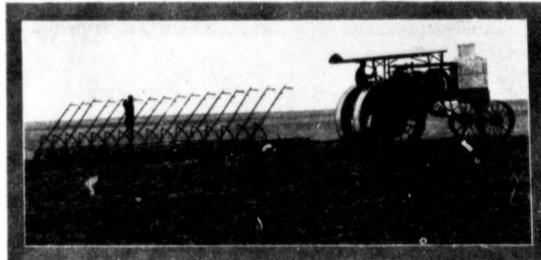
**Must Have the Knack**

My brother and I own a 30 h.p. Russell engine and 8-bottom Cockshutt plow, and have had quite a bit of experience in traction plowing. In order to make a success of it, one must have the knack to handle machinery, so that you do not have to depend on someone else to do your repairing and keep everything tight and in good working order. Most of the failures here have been on account of people buying outfits who had no former experience in handling engines, hired so-called engineers at a high price, who soon put their outfit on the way to the scrap pile. We have used coal and straw for plowing. If we can get straw handy we always use same as it takes no more help, saving the price of coal. The only difference I find is that you are not able to plow quite as much in a day because of the more frequent stops to take on straw. I consider it much cheaper to plow with an engine than with horses, that is, on a large scale, as one would have to have about 32 horses to plow the same amount as we do in a day, and that would mean some work all the year around as you cannot let your horses stand without feed

all winter, whereas with an engine you do not have to bother with it from the time you quit work until you are ready to start again. We do our discing with the engine pulling seven discs and three floats which is a load that

I think traction plowing is a success if you use good judgment, if you buy a good outfit, understand how to run it, and hustle.

Yours for success,  
Arthur Peterson,  
Luseland, Sask.

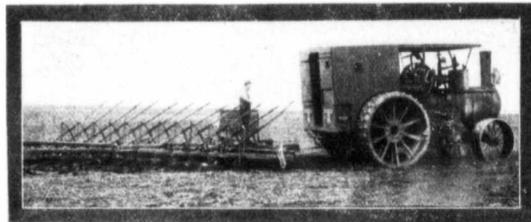


Fairbanks and Oliver

would take 40 horses. In using straw for discing a tight bottom straw rack should be used as otherwise there would be a quan-

**A Believer in Steam**

A letter arrived the other day addressed to my partner, Mr. Sully, and as he is away in Eng-



Rumely and Cockshutt

tity of weed seed fall from the straw. I am of the belief that the machine companies are overdoing the selling of plowing outfits,

land, I will endeavor to answer it to the best of my ability.

In the spring of 1912 we purchased a 25 h.p. cross compound



Big Four and John Deere

by selling to inexperienced men high priced outfits, telling them how much money they can make, but it is quite a different story

steam plowing engine from Reeves & Co., of Columbus, Ind.

Our engine is fitted with an Alberta special boiler, solid steel



L.H.C. and Moline

when it comes to collecting, they even take the stock. I have seen this done more than once. In conclusion I will state again that

gearing, 36-inch drive wheels, rocker grates, rear tank and coal bunker.

We used our engine in several

kinds of soil for plowing, both sod and stubble; and travelled one hundred miles during the threshing run of fifty days, and have been well satisfied with it at all times. We worked our engine very hard, besides getting it down in several mud holes, and our complete repair bill for the year was under fifteen dollars.

It would be rather difficult to state the amount of fuel used per day, as it depends altogether on the coal and other conditions. We tried several kinds of coal, and found Carbondale steam coal far superior to any other kind.

During a ten days' run we plowed an average of twenty acres of sod per day, and used about 1,600 pounds of Carbondale coal, making a cost of 35c per acre for coal, without hauling.

To break twenty acres we used about 2,000 gallons of water. We used one tank team, and while we had coal handy the tank team brought out coal in the morning for all day. One team and four men completed the crew. Our cost for one day was as follows: One day's work of 20 acres at \$4.50, \$90.00. Waterman and team \$5.00; Fireman and Plowman \$4.00; Carbondale coal 1,700 pounds, \$7.65; Blacksmith \$2.00; Engineer \$4.00; Total \$22.65.

My estimate on this is \$1.15 per acre, nothing being counted for hauling coal, oil, etc.

It is very hard to give an estimate on the hauling of coal to an outfit, as distance counts everything.

These figures are for breaking in moderately light land, where our engine pulled eight 14-inch bottoms easily. This is an estimation of what we did during a ten days run last June under favorable conditions. We have never used our engine for seeding or harvesting.

I believe steam is the cheapest power a man can use on his farm, provided he needs that much power, and has plenty of good water close at hand. I would not advise a man to get an engine that would not pull at least eight plows in stubble.

Wishing the Canadian Thresherman and Farmer every success, we are,

Yours very truly,  
Sully & Bompas,  
Bengough, Sask.

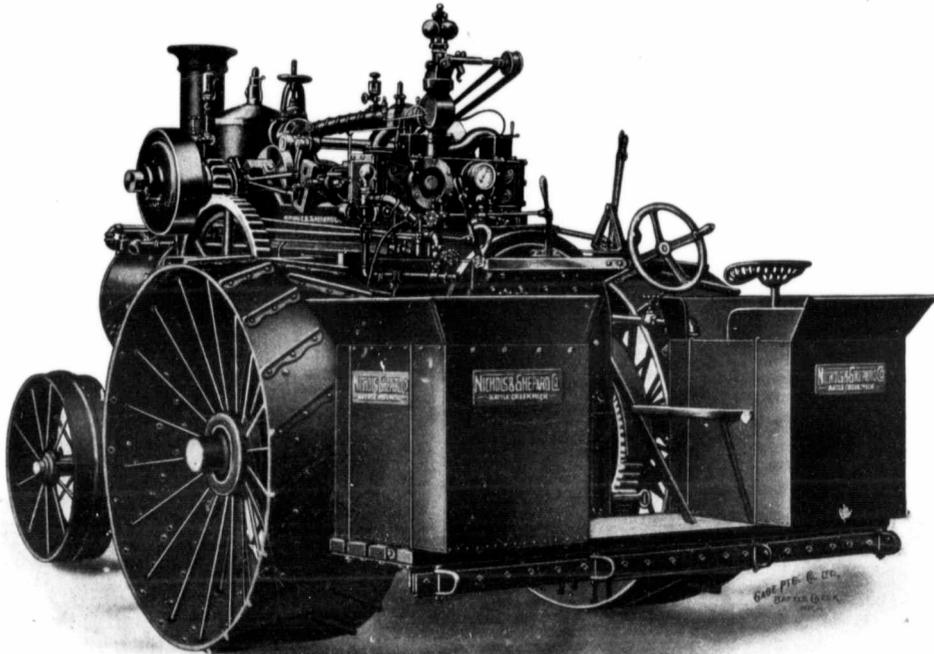


**How About the Oil Question?**

In giving you my experience with traction engine work, I appear (from what I have read in your paper) to have a different engine from anyone who has yet written you for publication and also to have had problems that others have not had.

I have a 25 h.p. Fairbanks engine. It has a large muffler hung

# The Nichols-Shepard Plow Engine is Different



## Nichols-Shepard Big Double Cylinder Plow Engine

The best plow engine is the Nichols-Shepard Double Cylinder.

It is the best steam tractor because it has two cylinders. There is always a push on the drive shaft.

It has the best boiler shell, because it is full one-half inch thick, which cannot spring and loosen brackets like the old-fashioned thin plates.

It has large shafts and large boxes arranged for thorough lubrication.

It is side-mounted with only enough weight on the front wheels to hold them down and guide easily, and enough on the rear wheels to enable it to pull the heaviest load.

It has a large reserve of power for all uses.

Every casting is either cast steel or semi-steel.

It has an indestructible traction wheel and a steel frame plow platform and draw-bar, that is the strongest made.

It has shaking grates for use when burning coal, with no extra charge.

Ample capacity for carrying fuel and water.

Magrum and Nelson, threshermen, of Hazelton, North Dakota, say, on January 28th, 1913:

"You no doubt will be interested to know a little about our success with our Nichols & Shepard 25 horse power double cylinder steam engine. We used it for plowing and threshing, and we had a good engine for both kinds of work. It is a good, successful plow engine. We used an eight-bottom John Deere engine plow for breaking, and it seemed to us that from the way the engine handled the plow in breaking we could have added several more plows to the load. The engine steams easy and runs without trouble."

Write for Catalog and Specifications

**NICHOLS & SHEPARD COMPANY**  
BATTLE CREEK, MICH.

Sole Builders of the Red River Special Line of Red River Special Threshers, Steam Traction Engines, Oil-Gas Tractors, Universal Self Feeders, Stackers, Weighers and Supplies

WINNIPEG, MAN. REGINA, SASK. CALGARY, ALTA.

under the frame and I wish to enquire of your readers if any of those who have a similar machine have tried taking this off and running a pipe through the top for the purpose of getting more power, if so, let us know through this paper how it works, also has anyone made a success of burning coal oil in this make of rig without putting on extra fittings?

I use about 30 gallons of gasoline per 10 hours in plowing and handle a 27-inch Aultman & Taylor separator for the same time on 5 gallons less. I could run a much larger separator than this but I find my engine works to full capacity when pulling five plows in breaking and here is where I want some more information from your readers. If anyone has had one of these engines fitted with a throttle governor and all fittings for burning oil, I would very much like to hear whether he found it gave him more power and if there is any saving in the cost of fuel.

In two years experience I have come to the conclusion that a gasoline engine pays well if you have a section or more of your own to farm for plowing, cultivating and threshing. I have so far tried it for nothing else nor do I think it can be worked at a profit at the present price of fuel if a man has horse power to do the other work, and also because we have not as yet (in this district at least) got a satisfactory system of hitches for discs, drills, etc., and right here, Mr. Editor, is where I think we want some more information from you. Give us some good articles on hitches both home made and manufactured, also let us have experiences from men who have built steering devices for themselves. I have put one on my engine at a very small cost that works well but has some faults. I want to hear how the other fellow did away with them. Also I would like to have the opinion of your readers as to when we will have to quit gasoline or oil traction work altogether, owing to the price of fuel. How much higher can it go before we quit? In this connection an article in the Thresherman on denatured alcohol would be interesting. This is more a request for information than a tale of experience, however, it may bring forth some information that will be of value to some of us.

Yours truly,  
A. W. Soare,  
Lullsville, Sask.



#### Operator is 75 per cent. of Success

Re your request for my experience with traction engines.

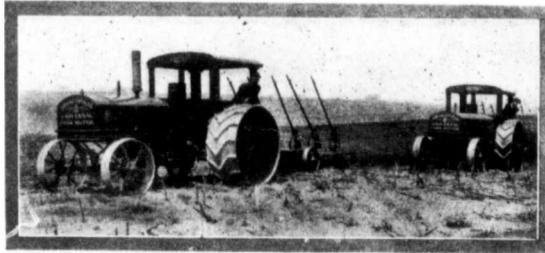
I have had considerable experience on many tractors of varied

types, single horizontal, opposed and twin horizontal, also four cylinder vertical, and four cylinder horizontal.

I own three gas tractors, two 20 b.h.p. I. H. C. tractors, and one 45 b.h.p. This does not mean

most of them are not so high speeded, and this counts a lot on heavy, and hummocky land. I would use a vertical only on stubble land.

Ignition is the greatest source of trouble. When the system is

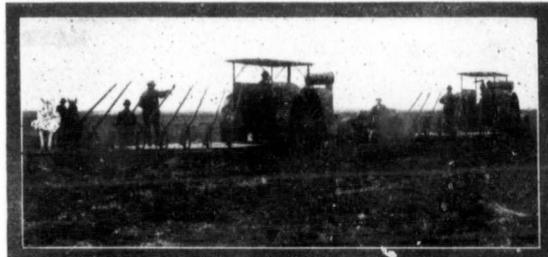


Un/versale and P. and O.

that I consider these engines as the best, but I do place them equal to any. In looking through your issue of December 12th, I notice every contributor leaves the inference that the particular engine he has is the last word in gas engines. My experience is

well understood, the pump spark I believe to be the best. There is not so much wear, being fewer mechanical parts than the make and break.

Next to ignition, I find the types of governing to be more or less troublesome. The throt-

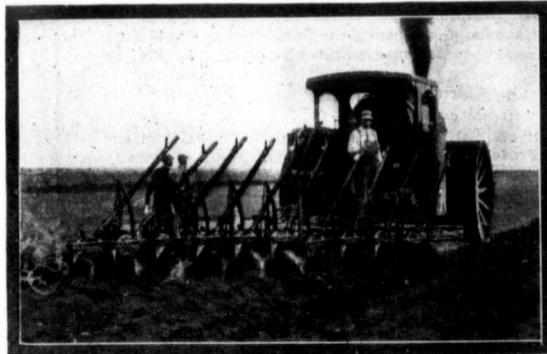


Flour City and P. and O.

ting system is by far the nicest to have, but does not seem to have the same power, although steadier for hill work. For example, my 45 h.p. is opposed cylinder, throttling governor. The I. H. C. engines have a twin cylinder 45 b.h.p. hit and miss. The hit and miss will pull more in the same

that the operator is 75 per cent. of the engine's success. I prefer the horizontal cylinder, because of the better lubrication. The wear is no better than the vertical, and the engine exerts greater drawbar strength. For example, Mr. Cathcart's letter, Big 4-30, compared with W. J. Kerr's

letter following, who uses 30 h.p. Rumely, both makes being 60 b.h.p. It is the same everywhere I have seen the two types at work. Without doubt the horizontal is the easiest to operate, and the best for breaking, as the



Avery and Cockhutt

letter following, who uses 30 h.p. Rumely, both makes being 60 b.h.p. It is the same everywhere I have seen the two types at work. Without doubt the horizontal is the easiest to operate, and the best for breaking, as the

load. The opposed cylinder type is steadier than the twin cylinder, regardless of governing. For threshing, I like the four cylinder opposed type the best.

The amount of fuel I use of course varies with the soil. Some

parts of my farm I can pull one to three plows more than in other parts, making a difference of from one to two gallons per acre. The average for breaking is about 2.25 gallons, and for stubble a little less than two gallons. Poor lubrication, that is, inferior oil, means using more fuel, and at the rate fuel (gasoline) is going up, it certainly pays to curtail the amount used, every possible way.

Water used depends on the nature of the work, whether heavy or light, and also the temperature. On my small engines, I have to use from one to two barrels a day, and on the 45 from two to four. Four barrels of water are used when running on kerosene, but I prefer gasoline, as there is less carbon, and there are less stops, and less water and fuel needed, making less hauling.

I use the small engines, only for discing and seeding. The 45 I think is too heavy, particularly for seeding.

Forty gallons will double disc and harrow about fifty acres, and I seeded this spring 150 acres with a drum and a half of gasoline. I use the engine to seed, because I did not have enough horses to do it. I think the engine the cheapest for seeding, and discing, but in the spring, the sloughs must be finished with the horses, if it is at all wet. For cutting the horses are better, as one binder can stop for adjustment without hindrance to the others, as the engine drawn outfit does, saving valuable time.

We use eight men on engines with horses. Ten horses are used altogether, one team for hauling, and the other for general work, such as getting groceries, gasoline, water and driving, etc.

As to wear on engine, I think plowing the hardest, but that is generally because of poorer lubrication. The grease cups have got to be kept well filled and screwed down frequently. It cost me something to learn to use more oil and grease on bearings and gears.

I am not prepared to compare the cost of engines with horses, but I can readily see the horses require more and better accommodation. Feeding is some proposition in a blizzard or at 60 below, not to mention swamp fever and glanders. Some of my horses die, but my engines can still work. Taking it all around, I like the tractor the best.

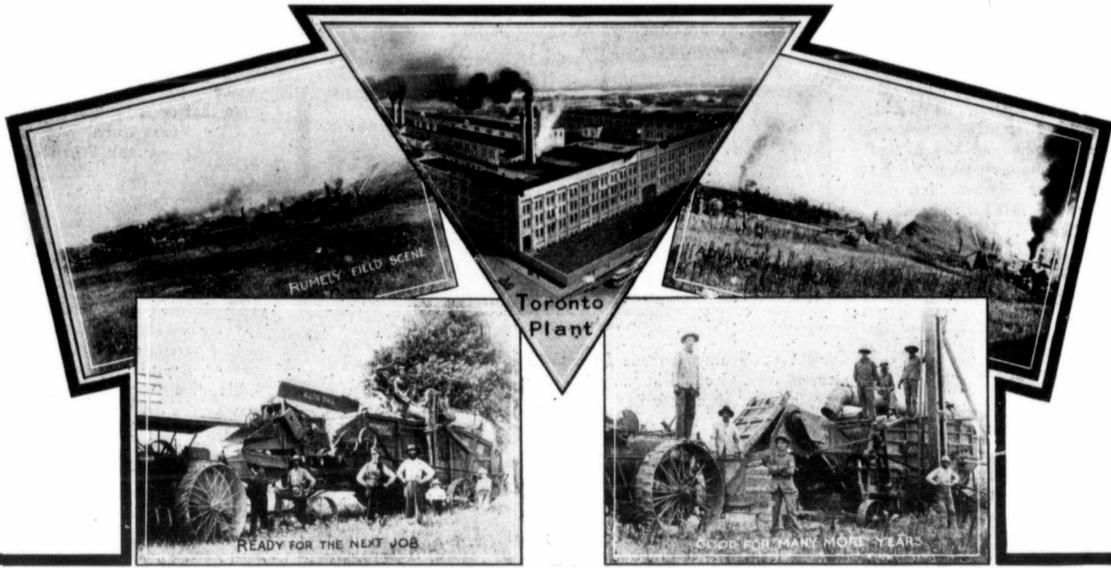
Yours very truly,  
A. Coghlan,  
Aberdeen, Sask.



#### Cultivating Scrub Land

I am pleased to give you my experience with traction farming, as requested by you.

My engine is an American



# Two Profit Makers

EVERY minute of your time in threshing means real money--lost or gained. If your time is lost through breakdowns of a faulty machine, you are just that much out. If gained--over the ordinary day's work--through a speedy, well built machine you are ahead, not only the extra time, but your reputation as a "get there" thresherman.

Buying a separator is not an everyday occurrence and you should investigate carefully before taking a step. Here are two money-makers offered for your serious consideration. Read what the owners say.

## Canadian-Rumely Separators

A custom thresherman, using one of our outfits, writes us the following from Yorkton, Sask. "I threshed a daily average of 4300 bushels of grain last season, and on one occasion when in a hurry, I threshed 6034 bushels and moved two miles, all in ten hours."

Such letters--coming in daily--convince us that no argument of ours is required for the Rumely Separator. A separator that "speeds up," when necessary, to almost double its regular run is not made by every Company. This work is possible only through absolutely true construction from perfect materials, backed up by a picked organization with more than half a century's experience in separator building. If you want your grain in the sack instead of in the stack, buy a Rumely Separator.

Both of these machines are built at Toronto to fit Canadian conditions, "by Canadians for Canadians." Ask for our Separator Catalog.

## Canadian-Advance Separator

In speaking of the splendid work done by his Advance Separator a Western Canada farmer says, "Last fall I threshed 55,000 bushels of grain at one stretch with a machine I have used continually for four years and the only repairs I need will be a new set of cylinder teeth for this season's work, (practically no expense for repairs in four years). My Advance Thresher is the strongest machine I have ever seen and it does most excellent work in the rough stony country where I am located."

The Canadian-Advance Separator is built for the hard work peculiar to Canadian threshing, and is speedy, thorough and clean in its work.

It saves all the grain and makes money for the owner.



# Rumely Products Company

INCORPORATED

POWER FARMING MACHINERY

La Porte

U.S.A.

Indiana

### Canadian Branches:

- Brandon, Man.
- Calgary, Alta.
- Estevan, Sask.
- Regina, Sask.
- Saskatoon, Sask.
- Edmonton, Alta.
- Winnipeg, Man.
- Yorkton, Sask.
- Vancouver, B.C.
- Toronto, Ont.

Abell Universal tractor (later Rumely gas pull) 20 h.p. by 40 double cylinder. I bought it two years ago late in threshing. My separator is 28-inch cylinder and 46-inch rear, Minneapolis special.

I had no former experience with an engine and had a man from the Company here, but he was a steam engineer and one cool day before Christmas when it was about 38 below zero, we broke one cylinder by frost. After that the Rumely Co. repaired the engine and we started threshing again. We only threshed my own crop and two experts came and give me good instructions around the engine for next spring, 1912.

In the spring I bought a Cockshutt plow, 14-inch shares, 6 stubble and 4 breaker bottoms. At first it was very hard to pull but later when I had more experience, the engine pulled it easily. In the spring there was some very wet weather and my engine got stuck several times, but as it was light in weight we got it out quite easily each time. I plowed stubble at the rate of 12 acres per day. My plowman was my son, 15 years old and for all time I operated my engine myself. After seeding 160 acres we started breaking.

I bought a quarter section of land very cheap because it was so full of scrub and sloughs. Before I could break I had to pull out the trees with the engine. They came out in whole bunches at a time. In twenty days we broke about 100 acres, plowing half a mile from one end to the other. At first we tried five-bottoms but the land was too heavy and we had to take one off. After finishing breaking we started to summer fallow with six bottoms. In this work we had lots of power to spare. At this work we made 50 acres in four days. We only plowed seven hours per day and used 20 gallons of gasoline per day, and one pail of water.

Next we started to disc and pulled three 14-inch discs and three sets of drag harrows behind. We got through 30 acres per day. We could have done more but our hitch was not good.

After we finished discing we started to thresh and used only three of our own teams. At first we had trouble. We could not get enough speed to run the separator although the engine had lots of power. I then tried to wind the drive belt on the engine pulley to get higher dimension and after we did this we got along fine. We threshed 1,500 bushels of grain per day. When we finished our own threshing we threshed five big farmers within two weeks. Hired men were very scarce so I had five young boys, the oldest one was 17 years. We

had a breakdown caused by one of the crank pins breaking, which took us three days to get repaired.

The best price in the market for your grain.

I also think that the crop

The only thing I do not like about traction farming is the high price we have to pay for gasoline, but on the whole I think the work done by the engine is cheaper than that done by horses.

Yours truly,  
Frank Prazma,  
Yarbo, Sask.



**Believes in Small Tractor**

I have had over 30 years experience with steam engines and have owned several threshing outfits. I purchased a 32 h.p. American Abell cross compound plow engine in 1910, but as that season was a very dry one in this locality making breaking very hard and also making water very scarce, I cannot say I made a success as my expenses were too high. I broke about 800 acres for outsiders and 100 acres for myself. Yet I profited by it in that I got my land opened up and reaped a big harvest in 1911, which I could not have done had I depended on animal power. Should I own 320 acres or more of good land that I wished to put under cultivation of my own, I surely would not hesitate to purchase a steam or gasoline engine, but there is not any money in breaking for others, even at \$4.00 per acre. There are but few men who can pay for an outfit from the earnings and make wages. But for those having a large tract of their own to farm, by all means put on a tractor.

The cost of plowing with my outfit varies as it depends on the quality of the ground to be plowed, the distance to haul water and coal and also the kind of men in charge.

1. Size of engine 32 h.p. American Abell.
2. I use 6,000 pounds of coal in a 10 hours run.
3. I use 36,000 gallons of water.
4. It requires from four to six horses and from five to six men.
5. The cost per acre for breaking is \$4.00.
6. I never have seeded or disced with this rig but have seen seeding and discing successfully done by light gasoline engines.

What I advocate for the average Saskatchewan farmer is a small tractor that will take the place of eight horses so that 320 acre farmers can afford to own one for their own use.

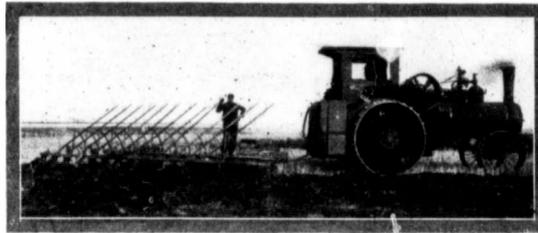
Yours,  
J. M. Johnston.



**A Reduction in Price of Oil More Important than a Navy**

Your letter re traction cultivation received.

I have used steam engines, but the last two years I have used a



"Casey" and Cockshutt

On this threshing I made \$600 clear money. I could have made more had the separator been set right, but it never worked right

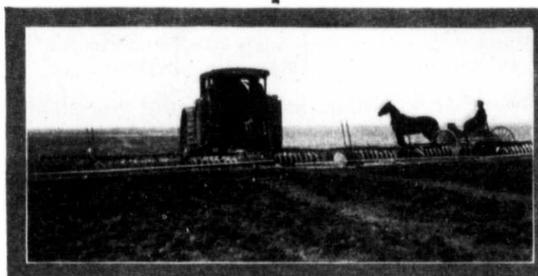
grows heavier on engine plowing than after horse plowing. Where I turned the tractor on seeded land the crop was very poor.



Sawyer-Massey and Deere

on that account. The Company promised to set it for me but so far they have not done so.

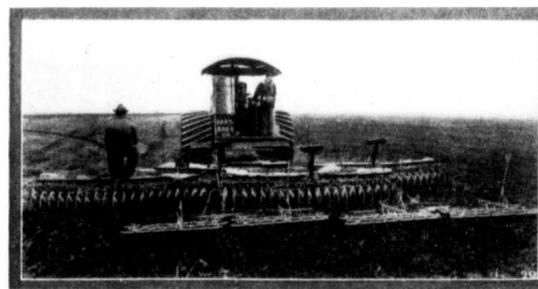
The most trouble I have is with the batteries. They run out very soon, especially at the present time. I do chopping every



Avery Undermounted and Dies

for seeding or harvesting yet, so I am unable to give you any information in this regard. I can recommend this engine to any-

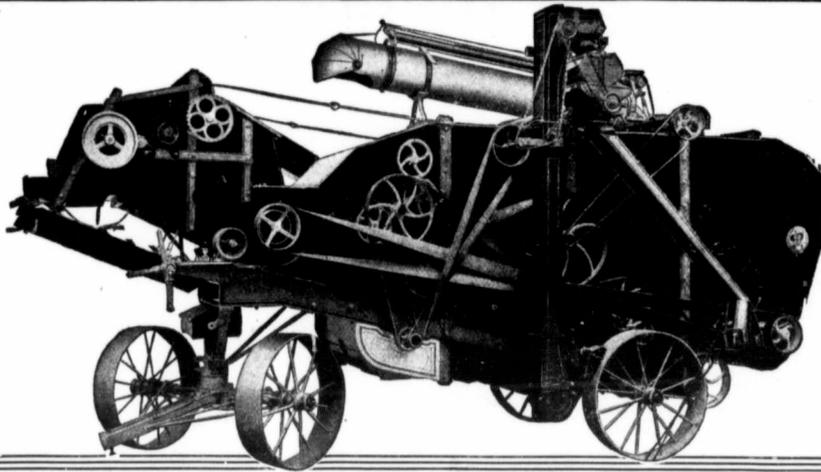
one who can afford to own it. week and sometimes when it is 45 below we have to start the engine with a couple of pails of hot water in the tank to warm the



Hart-Parr and Dies

one who can afford to own it. One good thing about it is that you can get your threshing done just when you want to and catch

as we can. cylinders. We have to be very careful not to let the water freeze or we have to take it out as quick



## Perfect, Money-Making Threshing Service

The man who owns a GEISER outfit does not know what threshing troubles are. He makes *more money—with less work—in less time*. He can take care of more jobs—do them quicker and better—and have *satisfied* customers who will be ready and anxious to call on him year after year.

### Geiser Threshers

The GEISER "New Peerless" Sieveless Separator is best known for its wonderful cleaning system—on the gravity principle—which gives you the *surest, most thorough, easiest* cleaning process in the world. Has special feeder—rotary knife or disc band cutter as desired—strongest cylinder—flaring hopper that feeds from end to end of cylinder—large, self-adjusting bearings—separating drum which takes 95% of grain from the straw immediately back of cylinder, leaving but little work for the straw racks and grain bottoms—telescoping and automatic gearless wind stacker—weather-proof iron cylinder slides.

### "Geiser" Stands for Traction Service and Profit

—with failure, delay and loss reduced to practically nothing. GEISER Separators and Engines have always represented superior quality in materials and workmanship, and just as fast as we have found out how we *could* make them better, we have done so.

Geiser Threshers and Engines are built to *make friends* of the men who buy and operate them. You can get a better recommendation from the man who owns such

**EMERSON-BRANTINGHAM IMPLEMENT COMPANY, Inc.**  
Tudhope, Anderson Co., 1199 Princess St., Canadian Sales Agents, Winnipeg

### Geiser Engines

The GEISER "Peerless" Steam Engine absolutely reduces power troubles until you don't know what they are. This engine transmits *more* of the total power developed in the steam cylinder to the rim of the traction wheels than any other engine ever built, and the work of *any* GEISER engine will prove this.

GEISER Engines are the *only* ones having fire-box boilers that retain the water on crown sheet when pulling down hill and keep the front end of tubes covered when going up hill. Any man who has run an engine realizes the importance of this.

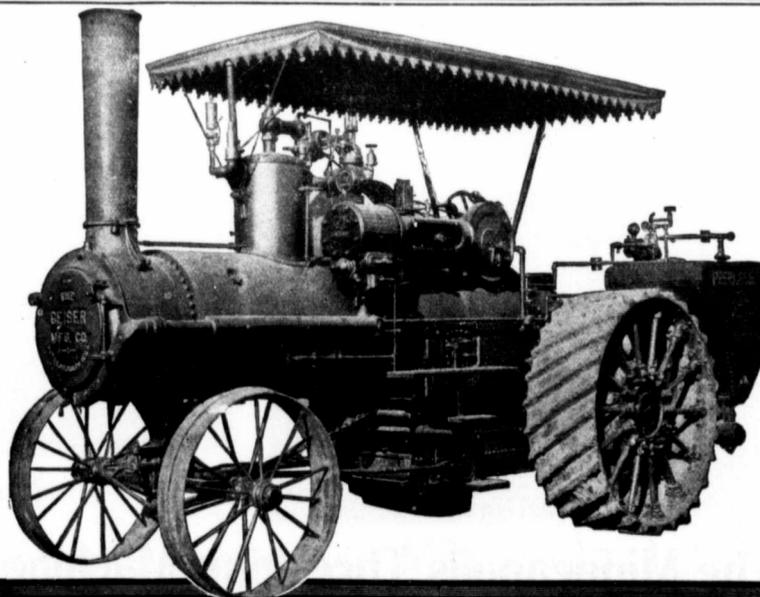
an outfit than we could give you. It is a *profit* maker—working for bigger results, at less expense, *without* the troubles that mean lost time and unsatisfactory jobs.

**FREE BOOKS** Many important and valuable features of Geiser Threshers and Engines are told in Free Books that we want to send you. Please *write at once*. Let us convince you what GEISER efficiency—*money-making* efficiency can mean to you.

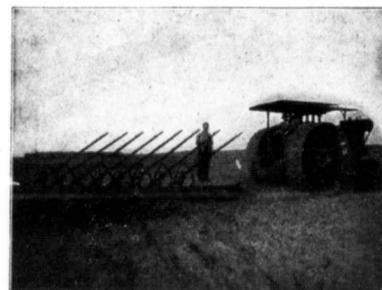
**Good Farm Machinery**

**Rockford, Ill.**

Branches: Winnipeg, Man., Brandon, Man., Calgary, Alta., Edmonton, Alta., Lethbridge, Alta., Regina, Sask., Saskatoon, Sask., Swift Current, Sask., Yorktown, Sask.



# "The Great Minneapolis Line"



The Line of Ever Increasing Popularity

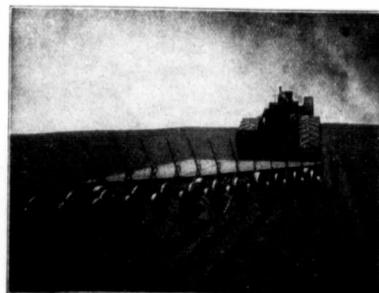


## MODERN

**I** During the past few years it has been demonstrated by thousands of farmers that the successful and economical way to till the soil is with mechanical power. Much has been written, and the progressive, alert and prosperous farmers of today are aware of the many benefits to be derived and the great saving made possible by power farming. If you are about to begin farming the profitable way, keep uppermost in your mind that as there is a difference in horses so also is there a difference in mechanical power.

**I** You don't want a BALKER, do you?

## SIMPLE



Not in Any Trust or Combination

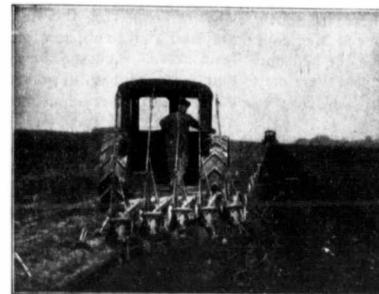
The Minneapolis Threshing Machine Company, West Minneapolis (Hopkins P. O.) Minnesota, U.S.A.

REGINA

WINNIPEG

You saw this advertisement in this magazine. Don't forget to say so when writing.

# "The Great Minneapolis Line"

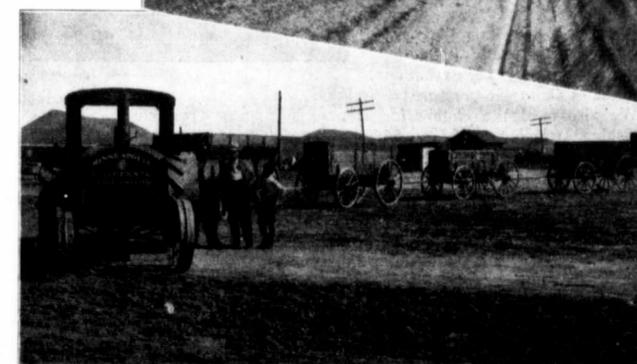
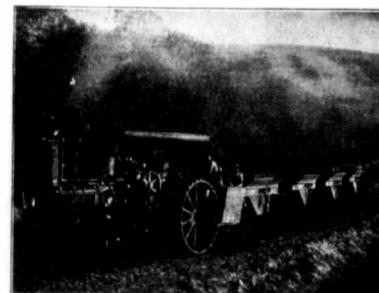


## GROWS

Minneapolis power, either gas or steam, is always steady, reliable and durable. You can depend upon it and not be disappointed. It is **guaranteed not to balk** but to perform its work faithfully and economically. Try to visit one of our Canadian branches, as we feel sure a visit will afford mutual pleasure. OUR pleasure to carefully show you what we have to offer and YOUR pleasure to find THE GREAT MINNEAPOLIS LINE even further in advance of others than you had anticipated. If you are unable to call at any of our branches advise us of your requirements and we will come to see you.

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## DAILY



CALGARY

EDMONTON

You saw this advertisement in this magazine. Don't forget to say so when writing.

Big 4-30 gasoline tractor with self steering device, and an 8-bottom John Deere engine gang, using the full eight in stubble plowing, and only seven in breaking.



I. H. C. and Moline

In breaking we plowed about 25 acres per day, and used from 2½ to 3 gallons of gasoline per acre, and about 4 gallons of gas engine oil, and two gallons of gear oil per day.

I and my little boy (13 years old) run the outfit, so you see I did not have any expense for hired help. Our cost for breaking prairie was from 75c to \$1.00 per acre.

In discing and harrowing, we double disc and harrowed about 40 acres per day. I run the outfit along when discing at an expense of about 20c per acre.

I also used the engine for pulling out brush, poplars, and willows, using about ten gallons of gasoline per day. I consider clearing brush cheaper by pulling it out with an engine, and steel cable than by cutting it off by pulling, as we get all the roots out of the ground.

In plowing stubble, we pull eight stubble bottoms, and a land packer. Last spring, we ran the outfit day and night, doing about 50 acres in 24 hours. We had two men running the outfit at night, and one during the day, operating expenses running about the same per acre as for breaking.

We also used the engine for seeding. We had three drills, and a 30-foot drag harrow on the engine, seeding and harrowing about 50 to 60 acres per day, at an expense of about 45c per acre.

We also used the engine for threshing, running a 33 x 56 Reeves separator with self feeder, straw blower, and wagon elevator, threshing from 1,000 to 1,600 bushels of wheat and about 4,000 bushels of oats per day, and using about 40 gallons of gasoline per day for threshing.

Now I believe that the gas engine is far ahead of the steam engine for general farm work. It is a great saver in expenses, as one man can run the gas outfit, and he can run engine and separator both in threshing. When plowing with a steam engine it takes an engineer, a fireman, a plowman, tankman and tank and

coal team, but there is no waiting for water, no washing of boiler, and no firing up in the morning with a gas engine.

I believe that the gas engine is

work a lot quicker and cheaper with an engine than with horses.

Yours truly,

D. A. Hiebert,  
Waldheim, Sask.

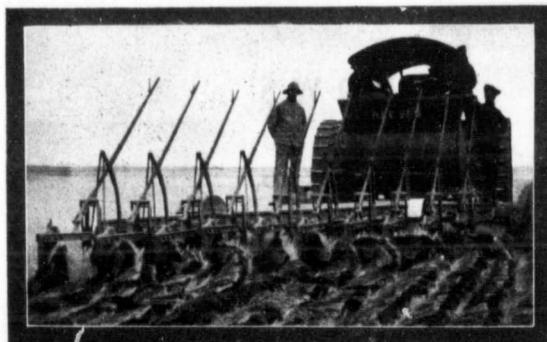
**Gas Beats Horses**

Yes, sir, you have been rightly informed. We (The Jordeth Bros.) are in the traction farming business, and have been in that business for the last four years. We are at present operating two 60 h.p. Hart-Parr traction engines, one down here in South Dakota and the other at Medicine Hat, Alta., which we shipped out there a year ago last summer, rather a year ago last fall. So you see we have had almost two years experience on the Southern Alberta prairies. We find conditions there are very similar to those existing in central South Dakota as far as the tillage of the soil is concerned. The

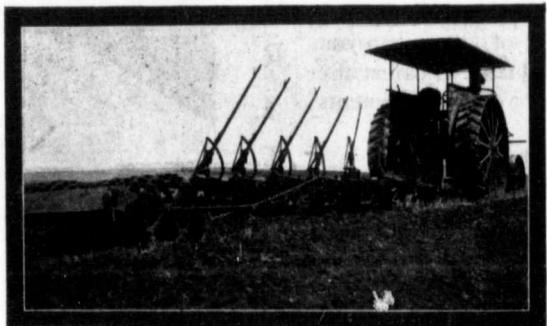
some extent. The Imperial Oil Company is at present putting in reservoir tanks at that place, so that next season we expect to get engine kerosene at about 16 or 17c per gallon, in wagon tanks lots, unless one of John D's warehouses should burn down again. Last year we had to pay from 22c to 25c per gallon, in wood barrels, that always leaked more or less; and still with all these disadvantages the gas or kerosene engines are giving the steam engines an awful rub, as a practical farm horse. You see the gas engine when kept up in good repair is ready to start on a minute's notice, and two men can take it and do all kinds of farm work with it.

It is an established fact in our minds that gas engine power is more economical than horse power, when it comes to doing the heavy farm work. Some horses on a farm are entirely necessary. They must come before the engine, for there is work there that, even though it can be done by engine power, it would be entirely impractical. When it comes to breaking and stubble plowing however, the gas engine can do it cheaper than it can be done by horse power, and besides that there is an advantage in doing this work on a large scale in these countries where it is so beneficial to work up the soil and seed it while it is still moist and pliable. When your land is even and uniform there is an advantage in pulling a disc and drill behind the plow and finishing the work as you go along, but on rolling and otherwise uneven land this becomes impractical because you can not utilize your power to the best advantage. This is especially true in breaking where you have to vary the swath in tough patches and in up-hill pulls. We broke about 400 acres of this kind of ground near Medicine Hat last spring and summer. Most of the ground was stony and the soil when dry simply raised cane with the plows.

An average day's work, breaking and rolling the ground, two men operating the engine and plows and one sharpening lays and acting as general funky, would figure up about as follows:



Reeves and Cockshutt



Aultman & Taylor and P. and O.

If our Hon. Mr. Borden, instead of giving \$35,000,000 to Great Britain to build murder ships, would spend some of that money in developing oil wells, and reduce the freight rates on fuel oil, I believe it would be better for this country than building a navy. Then we could buy gasoline and coal oil in this country for the same price as in the United States. The gas engine would then be a blessing for man and beast, but at the present time, every dollar the farmer makes, the machinery company wants, and what they can't get, the oil companies are sure to take, but even if the machine and oil companies fleece us, a man can do his

principal drawback to traction farming at Medicine Hat is the high price of fuel oil, but that is being remedied to



Bates and Bates

1836

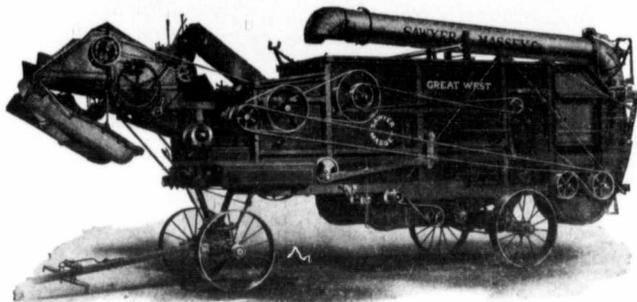
1913

After Plowing

Comes Threshing

# For the Attention of Threshermen

**Sawyer-Massey  
"Great West"  
Thresher and  
Separator**



**Built in  
4 Sizes, for  
Exact  
Service**

The **SAWYER-MASSEY** "GREAT WEST" is a tested and tried machine of unusual capacity and reliability.

Every part of the "GREAT WEST" is designed to give the well-known **SAWYER-MASSEY** efficiency, and no trouble or expense is spared in its making.

THE FRAME is of selected and seasoned hard maple, braced and bound together to withstand the tremendous strain and vibration.

THE CYLINDER is of the heavy double bar type. The grate can be adjusted to suit any condition of the grain. The construction of bars and teeth make a perfect separating device, thorough in action and very rarely needing attention.

THE STRAW AGITATORS separate the grain from the straw cleanly and without loss, and are so constructed that it is impossible for long straw to go through and overload the shoe.

Not only is every part of the "GREAT WEST" thoroughly inspected and tested, but the completed machine is proved up to the high **SAWYER-MASSEY** standard in every way before it leaves the factory.

Home of  
**SAWYER-MASSEY**  
Established 1836.



Builders of Canadian  
Farm Power Machinery

We will be glad to send you a catalogue, or have a representative call and give you proof of the high qualities of the "GREAT WEST" and other Farm Power Machinery bearing the **SAWYER-MASSEY** name. Write us today.

*Our proposition to Dealers in Foreign Countries is an attractive one. We invite correspondence.*

**SAWYER-MASSEY COMPANY LIMITED**

Head Office & Factories

HAMILTON, CANADA

Branches & Warehouses: WINNIPEG, MANITOBA. REGINA, SASKATCHEWAN

**SAWYER-MASSEY**

"THE PREMIER COMPANY"

"THE PREMIER GOODS"

You saw this advertisement in this magazine. Don't forget to say so when writing.

15 acres of ground turned about four inches deep.

Expenses	
60 gallons of kerosene at 25	\$15.00
2 gallons of gasoline at 30c	.60
2 gallons of lubricating oil at 60c	1.20
3 hands at about \$3.00 per day	9.00
Average daily repair bill	2.00
<b>Total</b>	<b>27.00</b>

Average cost per acre \$1.85.

We use no horse with this outfit except for filling the oil and water tanks about once a week.

If you are working in choice level ground you can break twenty acres in this same time and with the same expense, and in stubble plowing you can turn twenty acres with these expenses and at the same time pulling a drill and harrows behind the plows. This is the only way to disc and seed with traction power. We never put an engine on plowed ground for several reasons. In the first place it is working at a great disadvantage, too much energy being wasted in propelling the engine itself; in the second place, one dusty day on plowed land would be enough to ruin an engine; and in the third place, some soil is seriously injured by being packed under the engine drivers.

Now, I claim that this is an impartial account of actual experience, and that the Hart-Parr is not the only oil-cooled gas tractor that it is based on. There are other companies who claim that their engines can do better than this when they really can't do as much. I dare say that the Hart-Parr stands a little more knocking about than the rest of them.

Yours truly,

Jordeth Bros.,  
Per Eynar L. Jordeth.



**Delays Make it Expensive**

Your letter regarding traction plowing, etc., at hand and in reply will give you my experience which is probably somewhat limited.

Last spring (1912) I bought a 15-30 Rumely Oil Pull tractor, and a five-bottom Cockshutt engine gang fitted with breaker bottoms only.

I had 100 acres of backsetting to do, but on account of the unusual wet spring, and waiting for repairs did not get more than 30 acres in time for seeding.

I broke 30 acres of prairie on my own place, working both ends alone, i.e., engine and plows. However this is not practical, so when I went out breaking I en-

gaged a man to handle the plows and help out generally.

I find that the average running expenses, breaking, for a ten hour day on a tractor of this type would be about as follows:



Reeves and Cockshutt

Engineer's wages	\$ 5.00
Lubricator & Cooling oil etc.	1.50
Plowman's wages	2.50
Kerosene (forty gallons)	8.00
Gasoline (1 gallon)	.40
Sharpening plow shares and incindentals	2.60
<b>Total</b>	<b>\$20.00</b>

vestment	\$ 300
s per cent interest on investment	240
	\$1,740 \$2,100
Credit Balance	380

In this I did not figure the use of a team, which however in my

case was no item as the team would have been idle anyway. It required only about an hour's work a day for the team, and not every day at that, since I used it only to take along the oil and an

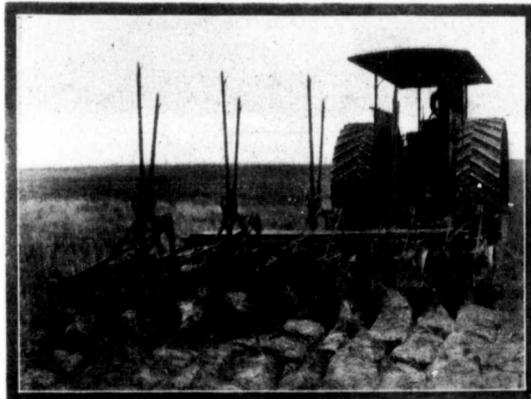


Fairbanks and P. and O.

It is possible to break ten acres a day with four breaker bottoms on a half mile stretch of open prairie. This would work out something like this: Figuring on a sixty day basis for the break-

occasional barrel of water. I never used more than a barrel of water a day.

I do not think that there is any money in custom plowing at the prevailing prices, under the con-



Aultman & Taylor and —?

ing season, and averaging ten acres a day.	
600 acres breaking at \$3.50	\$2,100
90 days running expenses \$20	\$1,800
Deterioration in value on the outfit for first year 10 per cent. on a \$3,000 in-	

ditions that I worked. There is no oil tank at this station, consequently I had to have oil shipped from the nearest tank at a station eighteen miles distant. The oil station at that town has

a limited number of barrels for shipping purposes, and it was seldom that I got the number of barrels ordered, and just as seldom that I got any at all. I was "hung up" for oil day after day, and if the outfit was not idle for want of oil it was waiting for some little repair.

No doubt but what one can do better than I did, if conditions are ideal, or somewhere near the conditions you are led to believe prevail through the statistical figures and testimonials a tractor salesman carries in his yellow grip.

But when you have got to contend with the oil proposition, wait for repairs, to say nothing of inclement weather (which none of us can control) you are up against a losing proposition.

For a farmer with a section of land or more, and where he has hired help by the year—a small tractor with plows, and separator would no doubt be a good investment, for the reason that you could then thresh your grain early, get it to market early, and get the early price, which in my experience has always been better than a couple of months later. This in my estimation would be the thing to do, unless a farmer can afford to hold his grain for spring advances.

In addition to this you could get your land plowed and ready for the drill the following spring, or at least the bulk of it. As conditions are now the average farmer gets very little, if any plowing done in the fall; at least that is my experience in Saskatchewan.

A. G. Harms,  
Elfros, Sask.



**Depends Upon the Operator**

In 1909 we bought a 45 h.p. Hart-Parr tractor. Our purpose in this was to do our plowing and threshing. The Company said the engine would develop 22 h.p. at the drawbar so we bought a six-furrow John Deere breaker. Our engine came on June 4th and we started plowing at once. The Continental Oil Co. furnished us with oil at 23c per gallon but before the summer was over the cost was reduced to 21c. Gasoline for starting the engine costs 27c. I started to run the engine but as I had had no former experience things went wrong. We decided to hire an experienced engineer and we then put on another shift.

That summer we broke 340 acres on our own farm and 500 more for other parties. We got \$4.00 per acre for that. We used on an average of 2 barrels of oil every 24 hours. Our outfit took two engineers, two plowmen, and

# QUALITY-VALUE-SERVICE

*Are not mere "talking points" but are the actual character features of all Thresher Belting made by the Winnipeg Rubber Company. One can BUY a reputation but character cannot be bought by any process of squaring or boosting. It must be FOUNDED and BUILT from something so good that it cannot be wrecked. Our friends have taken care of our reputation. Had there been a loose joint in the character of our belts at any time, our foes and astute competitors would have buried us long ago.*

These Belts are Known as the

## LION BRAND

*Rubber Belts*



and the

## MAPLE LEAF

*Endless Thresher Belts*



*The very finest grade of material only is used in every detail carried out in our factories; the best workmen employed in this industry and the experience of a long lifetime are co-operated and concentrated on the one business of making these goods. The result is--belts that GRIP, belts that PULL and belts that WEAR, and they have stood the test of more thershermen in Western Canada than all other brands put together.*

### With That New Outfit For 1913

See that it is provided with a

## "Lion" or "Maple Leaf" Brand

*If you have any difficulty in getting our goods, write direct to the*

# WINNIPEG RUBBER COMPANY LIMITED

WINNIPEG

NOT IN ANY TRUST OR COMBINE

CALGARY

a man and team to draw water and oil. Our best day's work was 27 acres, but we averaged about 21 acres. It cost us a little over \$2.00 per acre.

The only breakdown we had all summer was a crank shaft, but the Company replaced that for us. That fall we threshed about 1,500 acres of grain, but owing to inexperience we made very little profit.

The next year oil was sold at 19c per gallon. We started two shifts again and kept them going until June. We bought an Emerson engine plow and plowed about 260 acres. We ran the engine only in the daytime and plowed about 20 acres per day. The plow cut more and had a lighter draft than the breaker. The cost was \$1.00 per acre. We started breaking then with two shifts and after breaking 55 acres for ourselves, we broke 400 acres at \$4.00 per acre. That summer we had considerable trouble, the engine caught fire and the damage was \$50.00. We burned several bushings which cost us \$30.00.

We then moved to our own land and broke 160 acres. Then the cooling oil pump broke and one of the cylinders played out. That cost us \$120. Our separator is a Case 32-inch cylinder 54-inch rear. We threshed our own grain that year and when we were nearly done we broke another crank shaft on the engine. We could not get same fixed and the remainder of the grain laid out all winter.

The next year, 1911, oil sold for 15½c. That brought the cost of plowing down. We did not break any land that summer, it was all stubble plowing. We turned over about 500 acres that summer. We broke a cylinder oil pump and crank case. These repairs cost \$250. That fall we threshed only our own grain. We used about ¾ of a barrel of gasoline per day threshing.

In 1912 we plowed only 150 acres in the spring besides doing about three weeks threshing. We summer fallowed 210 acres. Oil cost us 19½c. We used a barrel of 45 gallons per day. We got new drive wheels for the engine this year and they cost us about \$110.

We have never used the engine for seeding or harrowing, although we pulled a harrow behind the plows. We found that it does not pay to run two shifts and we got along better running in the daylight only.

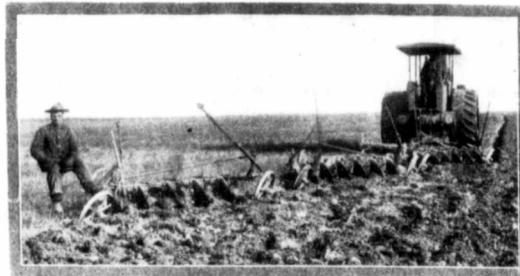
The only time I think an engine is detrimental to the land is in the spring plowing. If the land is worked enough then it isn't so bad but the grain does not come up nearly so quickly where the wheel tracks are.

We have never noticed any difference between plowing done

by horses or by the tractor on summer fallow. As to whether traction cultivation is a failure or a success, I think it depends a great deal on the operator. After

with one man on the outfit, and seeded 800 acres at a cost of 20c per acre with two men on the outfit.

In seeding with three drills, one



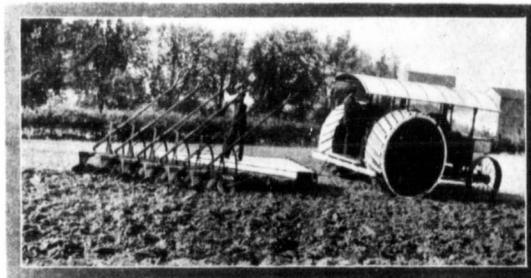
The "Oil Pull" and Emerson

our experience we would not be without a tractor.

Yours truly,

E. L. Plank,  
Rouleau, Sask.

can seed about 75 acres a day. Discing, one can cover about 75 acres per day with three discs, and I used harrows hitched behind the discs.



Ideal and Massey-Harris

**Not Detrimental to Plowed Land**

Your letter to hand requesting my experience in traction farm work. I have had my engine, which is a Minneapolis Big 4-30 h.p., a little over one year, and

I do not consider that the engine travelling over plowed land does it any harm, for we disced and seeded with the engine, and when the grain ripened could not notice any ill effects where engine travelled.



Avery and Avery Power Lift

have plowed nearly 1,000 acres at a cost of about \$1.10 per acre, using 40 gallons of gasoline per twelve hour day, and about 8 gallons of water with two men on the outfit.

I disced about 800 acres last spring at a cost of 15c per acre

Trusting these few lines of experience will be satisfactory, I remain,

Yours truly,

James Maçhan,  
Rosetown, Sask.

**A Beginner**

Your letter asking for information on traction farming received, and in reply will say that I have not had very much experience yet, having only purchased my engine in August of last year, but I will try to give you a little information as far as my experience goes.

1. I have a Sawyer-Massey four cylinder, 25 traction, 45 h.p.

2. We used about 45 gallons of gasoline per day, that is from six in the morning till seven at night. My engine is water cooled and it will run all day on two pails of water.

3. For plowing we have two men with the outfit, one to run the engine and the other to handle the plows. For threshing we used a Waterloo separator 33-inch cylinder. We had seven teams, one pitcher, one engineer, and one separator man. Altogether the outfit gave us very good satisfaction.

I have only plowed 70 acres with my engine but up to the present have not disced or seeded any with it. For plowing it has cost me about \$1.70 per acre, and we may be able to cut the expense a little more when we get to understand the engine better. There are a few things which I consider a great advantage to the farmer: First, he can get his stubble land plowed in the fall; second, that he can plow deeper than he could with horses, and third, if he has a threshing outfit he can get his crop threshed and marketed early, and as early markets are invariably the best, he is generally considerable money ahead at the end of the year.

My experience does not take me as far as the last question yet, but if what little I have said is of any benefit to you I will be pleased to give you fuller information at some other time.

Yours truly,

C. W. Clarke,  
Bounty, Sask.



**Work Done Depends on the Power**

The progress of grain farming is limited to the power in hand to perform the required work essential to the production of grain. This includes plowing, cultivation of the soil, seeding of grain and harvesting of the crop. The men of the hour have been busy coping with the mother of invention and the finality of the present is the internal combustion engine. This seems to meet the requirement to a marked degree perfection in the line of simplicity, and has reached a stage of unique durability and its application to various uses. There are a few very important factors that harmonize



MOLINE PLOWS  
AND OTHER  
FLYING DUTCHMAN  
FARM TOOLS.

# THE MONITOR

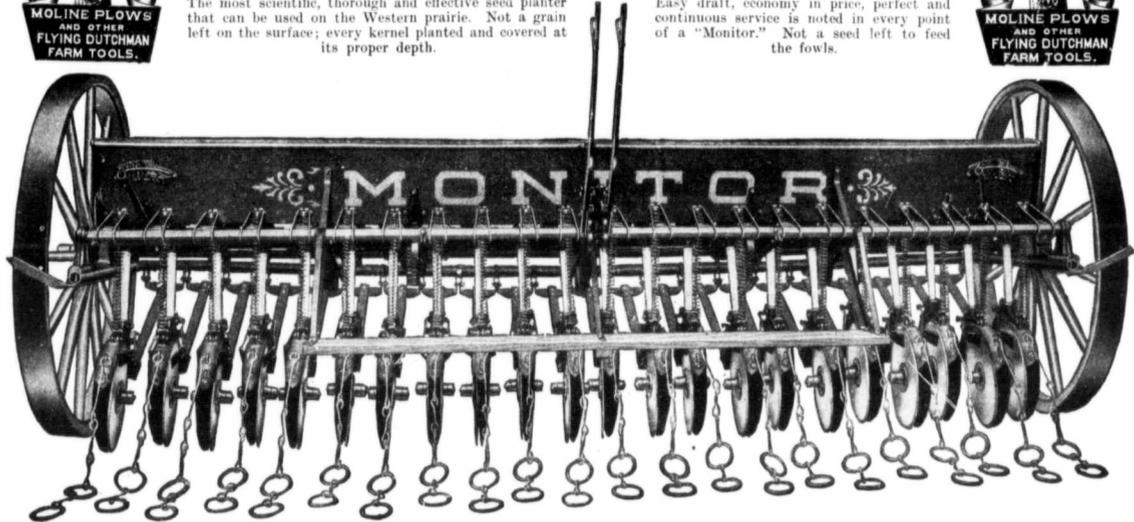
## Double Disc—Single Disc—Low Down Press and Shoe and Hoe Drills

The most scientific, thorough and effective seed planter that can be used on the Western prairie. Not a grain left on the surface; every kernel planted and covered at its proper depth.

Easy draft, economy in price, perfect and continuous service is noted in every point of a "Monitor." Not a seed left to feed the fowls.



MOLINE PLOWS  
AND OTHER  
FLYING DUTCHMAN  
FARM TOOLS.



The Perfect Seeder for a Perfect Seed Bed.

## Big Dutchman Engine Gang



Built in Six, Eight, Ten and Twelve Bottoms.

You cannot buy its equal for strength, for convenience in handling and for a really fine plowing record. NOTE—The heavy steel frame equalizes the strain between the engine and plows. Supported by three wheels—the two in front being of the Castor type. This three-point suspension enables the plow to follow an uneven surface without throwing unnecessary weight on any one wheel. Wheels have steel hubs with removable boxings, dust-proof and provided with compression grease cups. Tires are of heavy steel with wide face. The hitch (composed of two strong chains) and every detail in construction of this engine gang plow is made of the very best material and we guarantee its durability above anything of the kind now in use. The individual plows are a further guarantee of perfect service and each is controlled by its own gauge wheel and lever.

Made by the MOLINE PLOW COMPANY, MOLINE, ILLINOIS, U. S. A.

SOLD BY

### Canadian Moline Plow Company WINNIPEG, CANADA



MOLINE PLOWS  
AND OTHER  
FLYING DUTCHMAN  
FARM TOOLS.



MOLINE PLOWS  
AND OTHER  
FLYING DUTCHMAN  
FARM TOOLS.

You saw this advertisement in this magazine. Don't forget to say so when writing.

with the successful tractor. Perfect carburetion, positive lubrication to all wearing parts, simplicity of cooling device, freedom of complication, good material, accessibility, ease of manipulation, lightness of machine in comparison to power exerted. I am particularly familiar with one make of engine and that is the one that I use, a Hart-Parr 2-60; others only in general. The field and stationery requirements are the same to all engines, but from observation there are some that do not fulfil the requirements. I have had excellent luck. Good luck is generally the result of knowledge properly applied to the task in hand, and poor luck, the lack of same. I have used my engine for two years without a break to stop me from working same, and that is saying a good deal for an engine that has stood up to such heavy strains as mine has endured. This year in harvest my engine drew a 14 disc gang, a scrub for levelling, and a 22 wheel packer behind, which made an excellent job. This operation was done at the expense of 2 1/4 gallons of kerosene per acre. The water problem is one that does not require much attention as about a barrel of clean water per day is about all that is required for a full load for 12 hours. I have reduced the labor problem to a minimum by inventing an engine guide which I use exclusively for plowing and which works perfectly. With this outfit I successfully operate the whole rig myself and without any lost time. I have a cab on the engine which protects me from the winds and hot sun and extreme weather conditions. I also installed a force pump to pump fuel from barrel to engine tank which means a great saving of time. I think I can perform work about 50 per cent. cheaper with engine power than with horses. I do not know that the packing of the ground by the weight of the engine is detrimental to growth of the crop, at least I have not found it so. My advice to all would-be purchasers is, to get a thorough knowledge of the engine you intend to buy and then operate the machine yourself, if you are an apt scholar and are looking for a good time. Wishing all success.

A. W. Brewer,  
Cupar, Sask.



#### Read This—A Good One

I am in receipt of your recent request for my experience in traction work, and will try to give it to you as far as it goes. I have only had my outfit for one season, and owing to business reasons, I was unable to get as much experience personally as I would have liked.

It was my intention to operate

the engine myself and with this end in view had attended the traction school at the Manitoba Agricultural College the previous year. Before going there, I had never had anything to do with gasoline or any other kind of engine, but they gave what I considered a very practical course,



The Hackney Auto-plow.

and I felt that I had sufficient grasp of the subject to try to run my own engine. I was somewhat disappointed therefore, when I found it necessary early in May to go back into the store for two months and hire an engineer to run my outfit. Quite possibly it was the most economical way in

about this engine in comparison to others that were at the college but the expert in charge of this machine took great pains in explaining the mechanism to the students, and allowed us to handle the engine much more freely than we could other machines, and in consequence I felt and indeed

heard other students say, that I knew more about this engine and felt more able to operate it than I did the others and consequently I thought I should have the one I knew most about. However, while I am on the subject I might say that I am well pleased with the engine, and while, if I were



4 Twin City Forties in a string.

the end for I succeeded in getting all the work done that I had planned, but except for a short time during the latter part of July, I did not run my engine at all.

As I mentioned before, I attended the short course given by the Agricultural College during

getting another, I would buy a larger size, I think that it would still carry a Big Four.

My work last season was entirely breaking sod and discing, and for this I used a John Deere engine plow and two ten-foot Emerson engine discs. Most of the sod was very tough and the



Twin City and Moline.

June, 1911, and any knowledge I have of engines was gained there. It was owing to my experience there that I decided to cordingly purchased one of that Company's Model G. 25 h.p. machines similar to the one demonstrated at the college. I am not in a position to say anything

ground very dry at times, so that on an average the engine could handle only four bottoms and do good work. However, as we had used six horses on a sulky on previous breaking I was not inclined to quibble over the power developed by the engine. It can show 25 h.p. all right. This is a point that I think engine manu-

facturers should notice when intimating the number of plows their machines will handle, as I will admit that at first I expected my engine, which is warranted to pull from four to six plows, with a man in charge recommended by the factory, should have handled the average of five at least, while I know now that with the sod in this district I should not have expected it. The point I am making is this—that I had an engine that I am satisfied developed the rated 25 h.p. and, I believe, from the Company's recommendation to me and my own observation while with him, better than the average engineer to get the power out of it—still it could not pull more than four plows and do the work. In some localities probably 25 h.p. would pull more than six plows, but the companies should study localities, and recommend their engines according to what a prospective buyer has a reasonable right to expect in his own district and not what it might be capable of doing somewhere else.

Moreover I don't think there is much uniformity in rating as yet. I mean as a tractive—not belt power and I believe that at present you could take a number of engines rated the same and putting them at actual work beside each other, find that some would pull more plows than others. This to me would not signify that any machine fell below its rated tractive power, but that others were away above—probably larger engines, but given a lower proportionate rating.

Not having been with my engine very much I have no definite cost figures to give you. We used between two and three gallons of gasoline and a gallon or so of lubricating oil in a full ten hour day, also a couple of pails of water. In fact we used very little water, just filling the tank every few days when there was room in it for a barrel full.

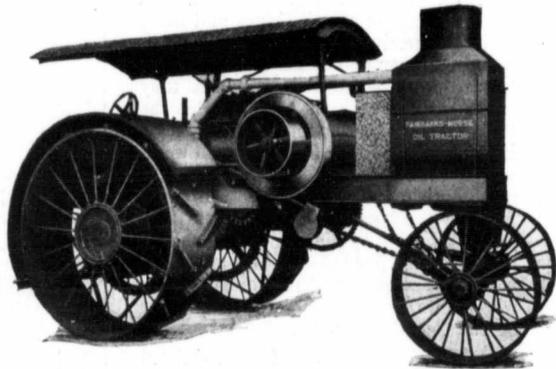
I had a man on the plows besides the engineer as the ground was rough, while had it been level the engineer could have gone along alone with the steering device. Aside from them I had a man with a team at rock picking or other work, hauling an occasional barrel of water or a few drums of gasoline.

As the current rate for breaking here is five dollars per acre, I am satisfied that my work was done very cheaply, I expect at a saving of nearly half though I have not the exact figures.

In conclusion, I am well satisfied with my outfit in every way; in fact I do not see how I could have got my work done as I did last season if I had not bought it.

Yours truly,  
J. N. Kettles,  
Pincher Creek, Sask.

# The Splendid Work Done by This Tractor is the Result of Our 35 Years Experience in Engine Building



We have been building and selling Fairbanks-Morse Engines to farmers for over thirty-five years, during which time we have put out well over 100,000 in all parts of the continent. The experience gained in so long a period is something that cannot be duplicated in any other way. It tells in the service that Fairbanks-Morse Engines give everywhere under any condition.

A tractor succeeds or fails according to its engine. With this fact in mind, we put into Fairbanks-Morse Oil Tractors the best engine that money, skill and experience can produce, and make you a tractor that will prove a good sound investment. With a

## FAIRBANKS-MORSE OIL TRACTOR

(15-30, 20-40, and 30-60 H.P.)

all operations on the larger sizes are controlled by a single lever, giving two speeds forward, and one reverse. Our tractor will develop more than full rated horse power on cheap fuel oils as well as on gasoline. We employ Force Feed Lubrication, ensuring long life to bearings, etc., and smooth steady operation of working parts. Our Sheet Steel Convertible Radiator provides efficient cooling, on a minimum of water or oil. All parts are easily accessible, yet thoroughly protected from dust and dirt. The engine is well balanced and drives the tractor or delivers power at the pulley without excessive vibration and racking of frame.

### The Great Economy Feature

in a Fairbanks-Morse Oil Tractor is that it will save 50 per cent. of the fuel expense by using low grade fuel oils in place of expensive gasoline. The money thus saved would pay for the tractor in three seasons. **SEND FOR NEW TRACTOR CATALOGUE, No. 50**, full of facts and figures worth knowing, and letters and photographs from men who own one.

**WE MANUFACTURE** Fairbanks-Morse Oil Tractors, 15-30, 20-40, and 30-60 h.p., also Gasoline Engines, all types, Portable and Stationary, 1 to 500 h.p.; Binder Engines, adapted to all makes of binders; Marine Engines, 2 and 4 cycle, 1 and 4 cylinders; Hand and Power Pumps for every purpose; Truck and Pitless Wagon Scales.

## The Canadian-Fairbanks Morse Company Limited

**Winnipeg**                      **Regina**                      **Saskatoon**                      **Calgary**  
**Montreal**                      **St. John**                      **Ottawa**                      **Toronto**                      **Vancouver**                      **Victoria**



"Everything Begins and Ends with the Soil"

# The CANADIAN THRESHERMAN & FARMER

CANADA'S LEADING AGRICULTURAL MAGAZINE

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APRIL, 1913

## THE OUTLOOK

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Advertising rates furnished on application

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**LOSE YOUR HEAD AND LOSE THE BATTLE.**—Lose your heart and you have lost all." This is one of the Proverbs of Spurgeon, and Solomon never made a pronouncement that dove-tailed so perfectly into the conditions of his day as does the homely counsel of the Baptist preacher into the greater excitement and fever heat of modern times. It is an appropriate admonition in view of the depressing atmosphere that seems to gather around at certain seasons, as now, when the balance becomes so finely adjusted between hope and fear as to what the near future is going to develop.

**"MONEY IS TIGHT AND PRICES ARE POOR,"** we hear on the one hand, and on the other that the outlook was never so pleasant and hopeful—that there is nothing unusual in the economic sluggishness of the moment; it only wants a little pinch of Spring medicine to set it going. The sage of our street affirms

that he never found things really "moving" just at that point when people were getting tired of the winter and when the harbinger of the kindly chinook had not yet been felt in the morning air. He says he never expects to find things marching at the quickstep until he sees the ice pans sweeping down the Red at five miles an hour.

**"WE COLOR OUR FUTURE BY THE HUE OF THE MOMENT."**—This is a universal experience that the crowd will probably never get away from, but it is wholesome to reflect at such a time as Dr. Johnson did, how trifling the difficulties and blighted hopes of the hour will seem when we laugh at them, say twelve months hence. The lull is nothing more than the providential resting-place, at which one may sit down for a little to wipe the beads of excitement from the brow and do a little thinking to the end that when we set out again in dead earnest, we may "walk circumspectly, not as fools, but as wise."

**ALMOST EVERY MAN WE MEET** has his pet theory as to the reason and the remedy for the prevailing flabbiness of "things". And when we can spare a few moments to get away from the serious mood, it is highly amusing to contemplate the number and diversity of these reasons. One man who is sure of his ground throws the whole burden of responsibility upon the banks, while the very next is equally convinced that the banks are doing the right thing. He had studied the question very carefully; has had the policy of the banks fully explained to him; and is now satisfied that they are simply taking the same wholesome precautions they took just six years ago, only they have closed down a little earlier this season than they did in the memorable summer of 1907.

**THE UNREST IN EUROPE** and a hundred and one local reasons are no less seriously put up—to none of which, however, will any reader of this page give more than a passing notice. By the time he sees it, he will be too busy collecting

"his mattocks and his hoes," so that he may take his place in the grand re-opening of 1913. It is in periods of enforced idleness that we get the blues and make fools of ourselves. The loafing habit is born in all men and seems to exact heavy tribute from some fellows when they cannot get on with their job. But the Western Canadian is not habitually lazy. His salvation and his fortune lies in work, and he knows it. He will part with the most enticing allurements of the social hour for the opportunity to labor. It is meat and drink to the Westerner, and no man starts to plow and to sow anywhere with such certainty of recompense as he who knows his business and attends to it on the Canadian prairie.

**FORGET ABOUT THE BANKERS AND THE POLITICIANS** until you have done all the spring plowing and seeding that you can do or intend to put in. Give your whole heart and soul to this and neglect all else for the time being that lies outside the radius of your own little business. Read the papers by all means for the news of the day, but don't worry a great deal about what the newspaper writers have to say about certain news features. Get ahead with your own job and put in your recreative moments with some light literature that does not deal with the entanglement of economic conditions. When all is done, and you have reached that point again where you can only wait, stand up and have a look around.

**A NEW ATMOSPHERE** seems to envelope the earth. There isn't a cloud between sun and soil. The air is charged with music and everything that has got a foothold in the earth is sprouting as fast as nature will let it. "Things" have a wonderful way of adjusting themselves. They are like the wind—"Thou canst not tell whence or whither"—but they strike a remarkable balance in the long run. The statesman, politician or newspaper editor has not yet been found who can put his finger on the button that connects everywhere. They have all had their prophetic opportunities and they have all had to come down from the perch. The man who works steadily at his own business makes a more effective contribution to the adjustment of "things" than all of them put together.

**AGITATION AND "CONCERTED ACTION"** MEETINGS present wonderful attractions for some men. Every winter season holds its revels in this way and it is meat and drink to the leisured multitude of mouth organs to take a leading part in "work" of this sort. But what effect do those frothy ebullitions have on "things" as a whole? Precious little except to send the barkers home to their kennels in a worse frame of mind than when they left them. To the farmer, this month of April hasn't a minute to spare for aught else than his own "home mission work." Let every man first be king of his own quarter section.

# THERE MUST BE A REASON FOR THE SUCCESS OF RUMELY GOODS. CUSTOMERS BUY, ARE SATISFIED, AND BUY AGAIN.

**OUR BUSINESS FOR 1912  
20 TIMES WHAT IT WAS FIVE  
YEARS AGO.**

**OUR BUSINESS FOR 1913  
TO DATE OVER HALF  
GREATER THAN FOR THE SAME  
PERIOD LAST YEAR**

<b>GAAR-SCOTT</b>	<b>1836</b>
<b>RUMELY</b>	<b>1853</b>
<b>NORTHWEST</b>	<b>1874</b>
<b>ADVANCE</b>	<b>1881</b>

**THIS TRADE-MARK STANDS FOR  
60YBARS OF QUALITY IN  
FARM MACHINERY.**



# RUMELY LA PORTE

(667)

During January we showed our salesmen the good things at our factories. During February we were busy booking contracts with the best dealers, who have come to want our line because of its great variety of high grade goods.

We have arranged with the best dealer in each town to carry our machines and repairs—to become a service center for the Rumely Organization. (You know every man is at the center of the world, and all the world will come to him if he makes it worth while.)

With all this work January and February showed a gain of 53 per cent over the previous year.

Now, in March, we are hearing from our customers. We know we are off to a good start, because prospects are good—good all along the line.

E. S. Tecktonius, Sales Manager for the Northwest, reports that his territory is in splendid condition after last year's large crop and that many tractors will be sold, because farmers have found them profitable.

A. J. Donovan tells of success in the Western Division, especially on the newer and smaller Rumely lines—a success shared by every branch house and nearly every salesman.

Two years ago we began sending tractors by trainloads to the Northwest and to Canada. Farmers watched them pass with interest and received them with enthusiasm. Now the South is calling for farm power, and V. E. Bush, Southern Sales Manager, says the first solid trainload just delivered in Dixie is only a hint of what Southern farmers will require.

Up in Canada, Sales Manager Witmer, reports that farmers have at last discovered that the OilPull Tractor is the only real kerosene-burning engine. Wherever an OilPull has been sold, the cost of selling the next one in that locality drops. The neighbors have found that the only kind of kerosene tractor to buy is one that burns kerosene all the time. They know what a big manufacturer of tractors' supplies has just found by investigation and reported to us—that the OilPull is the only tractor that burns kerosene every month in the year. This concern has punctured, once and for all, the claims of the "we-burn-kerosene-too" fellow, who at his best never claimed to burn it as we do in the OilPull. Many competing tractors do not burn it at all—not after the farmers try it once or twice.

Farmers who have used the OilPull, one, two or three years are flooding our Librarian with testimonials, facts and figures. The OilPull has made good. So has the GasPull. So has the time-tried Rumely, Advance and Gaar-Scott steam tractors and separators. So has the whole line of smaller machines. Every sale is a vote of confidence and every testimonial is a handshake we appreciate.

Farmers have shown their confidence in Rumely standards. Five years ago our business amounted to \$800,000. In 1913 it was twenty times that. We sold more Advance machines, more Gaar-Scott machines and more Rumely machines than any one company, by itself, had ever sold in one year.

All Rumely factories are running full time with a normal force. We are selecting the high grade mechanics from the thousands of skilled and unskilled workmen we have employed. We are organizing to produce economically and efficiently by increasing the standard of workmanship.

This year will see even a greater increase in sales. If our threshermen and farmer friends carry out the intention to buy that they have already expressed, our sales will be double those of 1911.

For all this we are grateful. We are going to show our appreciation in the only substantial way—by giving better goods for the money and backing them up with a service that extends to every township and lasts as long as the machines will turn a wheel.

# The 1913 Motor Contest

**Rules and Regulations of the Agricultural Motor Competition Canadian Industrial Exhibition, Winnipeg, Canada, July 4th to 19th, 1913.**

The following rules and conditions will be strictly adhered to:

### Classification

The entries shall be classified as follows:

#### Division 1

##### Internal Combustion Motors

**Class A**—Gasoline traction engines having a piston displacement of or less than 300 cubic feet per minute.

**Class B**—Gasoline traction engines having a piston displacement over 300 cubic feet per minute and not over 500 cubic feet per minute.

**Class C**—Gasoline traction engines having a piston displacement over 500 cubic feet per minute.

#### Division 2

##### Internal Combustion Motors

**Class A**—Kerosene traction engines having a piston displacement of or less than 300 cubic feet per minute.

**Class B**—Kerosene traction engines having a piston displacement over 300 cubic feet per minute, and not more than 500 cubic feet per minute.

**Class C**—Kerosene traction engines having a piston displacement over 500 cubic feet per minute.

#### Division 3

##### Steam Tractors

**Class A**—Steam traction engines whose piston area in square feet times 200 x .8=60 or less.

**Class B**—Steam traction engines whose piston area in square feet times 200 x .8—from 60 to 100.

**Class C**—Steam traction engines whose piston area in square feet times 200 x .8=over 100.

**Note 1**—Piston displacement to be area of piston in square feet times 700, which shall be considered the typical speed.

**Note 2**—In compound engines the high pressure shall be used and 10 per cent added.

Prizes in each class shall consist of:

- First Prize ..... Gold Medal
- Second Prize ..... Silver Medal
- Third Prize ..... Bronze Medal

In all classes where there is no competition a diploma of award only may be given, upon which will be set forth, together with the number of points scored, that it was the only entry in the class.

### Entries

2. All entries must be made on or before June 2nd, 1913, and must be made on the official entry form, with all data filled in accurately and accompanied with an entry fee of \$50.00 for each entry.

3. All entries must be accompanied by an affidavit that the information therein is true and that the engine in question is from their regular stock, not being built specially for competition. A blue print or photograph of blue print of the boiler, with the approval stamp of the Alberta Inspector thereon, must accompany the entry.

4. Each entry shall be allotted an official number, which shall be displayed during the competition.

5. Any firm or individual shall not enter more than one engine in each class unless the engines be radically different in construction, such difference being understood to apply to the power equipment and not to piston displacement.

6. If the same type of engine is entered in both gasoline and kerosene classes, the identical engine may be used and operated in both classes, provided no change is made of parts of equipment, but there shall be a separate fee for each such entry.

7. Should the judges find the entry data inaccurate in any particular, they may, at their discretion, rule the engine out of the contest. Competitors shall state at time of making entry the number of bottoms with width of furrow they purpose using in plowing test, so that ground may be surveyed in good time.

### Conditions

8. The fuel shall be that furnished by the Exhibition Association at current prices at Winnipeg at time of contest.

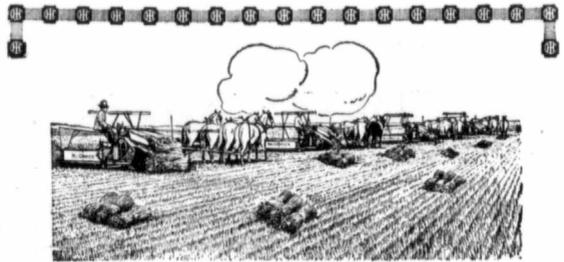
9. Each competitor must have one man to whom the judges may give orders or with whom the judges may consult.

10. Each competitor must have sufficient staff for the care and running of his own entry.

11. Two men only, except observers, will be allowed on interstate engines during a test, one an engineer and one a fireman.

12. One man only, except observers, will be allowed on internal combustion engines during a test.

13. No other person to be allowed on or close to the engine except the official judges and observers.



## Efficient McCormick Features

SEVENTY years' experience in the production of one machine tends to standardize it. But that length of time spent in careful study also brings out the strong points of the machine and enables the builder to devise features that make the machine efficient and satisfactory. There are a number of such features on McCormick binders, features that insure a complete harvest of the grain, whether it be short, tall, standing, down, tangled or full of green undergrowth.

## For Western Canadian Fields

the McCormick binder is built with a floating elevator which handles varying quantities of grain with equal facility. A third packer assists in the handling of grain that is very short or full of undergrowth. The improved knoter has only two moving parts. The tops of the guards are almost level with the platform canvas, leaving no ledge where short grain might accumulate. The reel may be adjusted very low. For these and other reasons the McCormick binder is efficient in Western Canadian fields. See the McCormick local agent for full information, or, write the nearest branch house.

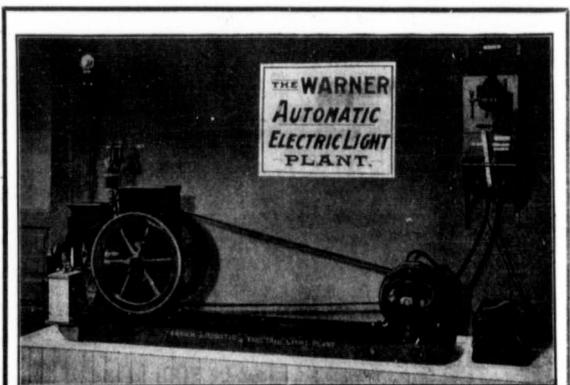
**International Harvester Company of Canada, Ltd**

WESTERN BRANCH HOUSES

Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Estevan, Sask.; Lethbridge, Alta.; North Battleford, Sask.; Regina, Sask.; Saskatoon, Sask.; Winnipeg, Man.; Yorkton, Sask.

These machines are built at Hamilton, Ont.

You saw this advertisement in this magazine. Don't forget to say so when writing.



## AUTOMATIC ELECTRIC LIGHT PLANTS

For Farmer, Rancher, Storekeeper, Hotel, Moving Picture Theatre, Village, or Town. All absolutely automatic, the engine starting and stopping itself whenever necessary. No electrical expert needed. Plenty of light and power for Pump, Grinder, Cream Separator, Electric Stove, Toaster, Heater, Fan, Sewing Machine, etc. We can instal the plant, wire your buildings, and furnish all fixtures, etc. No danger, no bother, they run themselves. All sizes up to towns of 1000 population.

### AUTOMATIC ELECTRIC OUTFITS

For Automobiles, Tractors, Plowing Outfits, etc. No cost for operating. Powerful searchlights for plowing. Plenty of light for all machinery.

Ask for Catalogues and Prices.

## WESTERN MOTOR COMPANY

305 Carlton Street

AGENTS WANTED

WINNIPEG

You saw this advertisement in this magazine. Don't forget to say so when writing.

14. The names of the operators to be furnished the judges at commencement of test, and the same operators to handle the engines during all tests.

15. One man only, except the official judges and observers, will be allowed on the plows.

16. The plows, belts, chains, water-tanks, sufficient revolution counters and recording dynamometers for their engines, with sufficient charts and such other things as may be required during the tests, must be supplied by the contestants.

17. All instruments, including dynamometers, shall be labelled with the name of the owner and deposited with the judges on the arrival of the engines on the exhibition grounds, for testing, and shall remain in their possession until all tests are completed.

18. All engines must be on the grounds not later than 8 a.m. July 4, 1913.

19. Each engine shall be allotted a certain space on the grounds, where the engines shall be exhibited at all times except when being tested, and will be guarded all the time.

20. Each engine shall be equipped with a standard revolution counter, both for the brake and plow test.

**Test**

21. Test to comprise brake test, plowing test, and such other tests as the judges deem essential.

22. The judges may test the engines in any order that may to them seem desirable. The contestants will be given one hour's notice when to be ready for test.

23. The rules of the Province of Alberta with regard to boilers and engines shall govern the pressures, etc., allowed.

24. Provision shall be made so that a standard steam gauge can be applied to all boilers during the test.

25. Before commencing the tests, the pop valves and steam gauges shall be inspected by the judges and sealed, and any sediment or foreign matter that may get into these parts after being sealed shall not be taken into consideration.

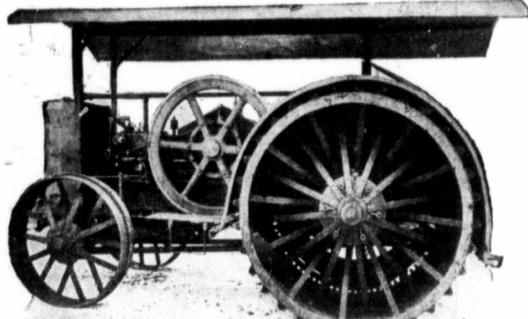
26. Any engine failing to complete any test shall be disqualified.

27. Contestants shall be prepared to assist the judges and their observers in taking dimensions, removing parts for inspection, and any other work that may be necessary for a complete inspection and test.

28. The brake test shall consist of a two hour economy test. During this test the engines are to run at their greatest load consistent with economy.

29. Competitors will be allowed thirty minutes after the previous engine has left the

**You Want An Efficient Tractor!**



Efficiency in a tractor depends largely upon design and construction. Poor design or inferior construction will soon send a tractor to the scrap heap.

Our "IDEAL" Tractor took first place among five entries at the Winnipeg Trials last year for design and construction. This fact will work out to the advantage of "IDEAL" Tractor buyers in the field. We want you to know about the engine that drives the

**"IDEAL" TRACTOR**

and the stay-in-order ignition system, the steering device, governor, and cooling system.

Send for our catalogue. It goes thoroughly into all details of the construction and equipment of the "IDEAL" Tractor and tells facts worth knowing. Free copy mailed anywhere on request. Write us to-day.

WE MANUFACTURE "IDEAL" Gasoline Tractors, Windmills and Pumps of every description, "IDEAL" Hopper-Cooled Gasoline Engines, "Maple Leaf" Grain Grinders Wood Sawing Outfits, Etc.

**Gold, Stanley & Muir Co.**  
WINNIPEG, REGINA, CALGARY, LIMITED

You saw this advertisement in this magazine. Don't forget to say so when writing.

**The Gregg Line of Eveners**  
Is Complete in Every Detail

It is not equalled by any other, in quality of materials, simplicity of design, or in any point of construction. The Eveners are heavier by a quarter of an inch than any other on the market.



**GREGG FIVE-HORSE GANG PLOW EVENER**

The line includes all combinations, from the Two-Horse Wagon Doubletree, to the Six-Horse Tandem Evener.

**GREGG MFG. CO., Winnipeg, Man.**

We have a Catalogue for you.

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Water Scarcity Booms Business for Well Drillers**

Enormous increase in immigration, scarcity of pure water and alarming spread of TYPHOID FEVER are booming the well-drilling business. Entire populations demand pure well water.

Well drillers are making from \$25.00 to \$50.00 a day clear profit the year around. Magnificent money-making possibilities for live men everywhere who want to work—men who have a reasonable amount of money to invest in machinery—men who can grasp the exceptional opportunity for engaging in this business NOW—a business VITAL to the country's prosperity and growth.

**Immigration Compels Immediate Action!**

Hundreds of thousands of families are settling throughout Canada, and every homestead requires a pure supply of fresh water. Creeks, lakes, ponds and shallow wells, now contaminated in every locality, are being condemned by health authorities. And the drilled well is the people's only alternative. Today, there is ten times more drilling than men to do it. Enter this profitable field, simplify the work with

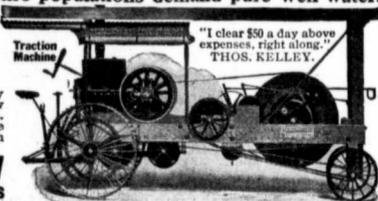
**Armstrong Well-Drilling Machinery**  
Built for Service Since 1867—Cuts the Cost—Trebles the Profits

Well-Drilling Machinery affords you the quickest and easiest way to turn the Canadian water scarcity into profits. It does more work at less expense than any other drilling machinery in existence.

By actual test Armstrong machines average 92 feet per day in solid rock, using 6½ gallons of fuel on 11 gallons of water. Other machines average only 61 feet on 11 gallons. Armstrong gives a 48 per cent more efficiency at 32 per cent less fuel.



For nearly half a century Armstrong Machinery has been noted for its unequalled durability; also for its simplicity of construction and operation. Our patented Internal Compensating Band Wheel Clutch—which does away with lost motion—is one of the greatest improvements ever made in well-drilling designs. This clutch and our improved friction hoists do away with all attachments, balance wheels, cast brakes, cams, bumpers, treadle levers, bumper rolls, eccentric rollers, chains, springs, sprockets and ratchets. Produces ideal elliptical drilling motion with absolute minimum friction. Eliminates expensive repairs and delays. Only one gear and pinion. We make gasoline and steam outfits—traction and non-traction, walking beam, spinning rig, rotary and combination outfits—a machine for any depth, every formation. Outfits furnished with power or without. We furnish James Armstrong Special Gasoline Drilling Engine with patented speed-controlling lever of drilling end of machine. Changes instantly and absolutely controls speed of engine. Sentitive to steam power. Our clutch removes last objection to gasoline power for drilling. Best guarantee protects you fully. A branch now in Saskatoon to take care of our Dominion trade. Confer with us on any technical question. WRITE FOR BIG 184-PAGE ILLUSTRATED CATALOGUE—The book fully explains well drilling and shows how Armstrong Machinery simplifies it. Tells how new men have jumped in and made big successes with little or no experience. If you are interested in well drilling write for this book. Sent free on receipt of 12c to cover postage. **ARMSTRONG MFG. CO., 611 Second Avenue, Saskatoon, Sask., Home Office and Factory, Wm., Ont.**



"I clear \$50 a day above expenses, right along."  
THOS. KELLEY.

**Why Well Drilling Beats Threshing**

An Armstrong Well-Drilling Outfit costs from one-half to one-third that of a threshing outfit, can be operated every day in the year, and pays from two to three times the profit. Proving wonderfully attractive to threshermen, farmers, railroad men—to all seeking steady work and a profitable business of their own. Complete outfits furnished with or without power.

You saw this advertisement in this magazine. Don't forget to say so when writing.

brake to try out the engine, and to state the amount of load they wish to carry. After the competitor has stated the load he wishes to carry, the operator will keep the brake as near that load as possible for two hours, and no change will be made. Careful measurements of the fuel and water used will be taken and the condition of the engine noted.

30. After the two hours' run a test will be made of the maximum horse power the engine will develop for thirty minutes, the competitor stating the maximum load he wishes to carry, and careful measurements again being taken of all fuel and water.

31. Plowing test may extend over a period of five hours or longer, if deemed necessary by the judges, and each engine shall be allotted the same number of rounds. The contestants may use any kind of plow they wish. The depth of plowing to be uniform, and as directed by the judges. A recording dynamometer will be placed between the engine and the plow, which will accurately record the pull. Careful measurements will be taken of the fuel and water used, the acres plowed, the draw-bar pull, the fuel per acre, the distance travelled without replenishing, and such other data as the judges deem essential. At least one one-hour chart spread over the time of plowing must be made by each contestant engine.

32. In connection with the plowing test, the quality of plowing which is to be judged by prominent agriculturists shall have special reference to thickness of furrow, finish at the ends, condition of the back furrow, and any other features which might have to do with the engine. In connection with the evenness of depth of furrow, the exact depth prescribed by the judges must be maintained throughout the test, the number of furrows opened at the commencement of each round shall be carried through to the end.

33. Design and Construction. Under this head will be considered the protection of the working parts from mud and dust, dustproof bearings, accessibility of all parts, such as valves, igniters, bearings, ease of manipulation, such as starting and stopping, reversing, and the general handling of the engine.

34. Contestants will be prepared to take down such parts of their engines as may be necessary in actual practice in the field.

35. General. It is to be expressly understood and agreed by the manufacturer that the engines entered in the competition are of the same material and construction as those he is selling in

## Turn idle hours into concrete fence posts

**EVERY** farmer finds himself now and then with a few idle hours in which both himself and his help must look for "odd jobs" to keep them busy. Use these hours to make concrete fence posts. You can make a few at a time, storing them until needed. Then when you want a fence in the new field, your posts—everlasting, concrete posts—are all ready to use. The making of fence posts is only one of scores of every-day uses for concrete on the farm described in the book,

**"What The Farmer Can Do With Concrete"**

**NOTE**—This 160 page book will be sent to you free upon request. You do not have to agree to use cement or place yourself under any other obligation. Just send us your name and address. Address,

Publicity Manager  
**Canada Cement Company Limited**  
512 HERALD BUILDING, MONTREAL  
500

*WHEN you buy cement, remember that the farmers of Canada have found that "Canada" Cement is best. Look for the label on every bag and barrel.*

You saw this advertisement in this magazine. Don't forget to say so when writing.

the open market. Only such pressures and speeds will be allowed during the tests as are under ordinary working conditions. The judges may limit the speed or pressure of any engine when they deem it necessary to a fair test. Contestants must submit their dynamometers, steam gauge, etc., to such tests as the judges deem necessary to assure them of their accuracy.

36. The competitors, upon being given notice of the testing of their engines, are to make all arrangements for water, belts, etc., so that as little delay as possible will result.

37. Should there be a desire on the part of any operator to appeal from the decision of the judges, he can do so by notifying the engineer in charge in writing and the latter person will call a meeting of the representatives of all the competitors, which shall sit as a board of arbitration and hear the complaints and the opinions of the judges. It will require a two-thirds vote of those present to reverse the decision of the judges.

38. The following are points upon which the awards will be made:

<b>Score Card for Large Field Motors</b>		ability of materials..... 20	20
<b>Brake Test</b>		Accessories ..... 15	15
Div. 1 & 2. Div. 3.		Speed range miles per hour and method of changing ..... 15	15
Horse power hours per lb. of fuel.....	130	100	100
Horse power hours per lb. of water used.....	20		
	150		150
<b>Maximum Brake Test</b>			
Ratio of piston displacement to maximum load	50		50
<b>Plowing Test</b>			
Div. 1 & 2 Div. 3.			
Draw-bar h. p. per lb. of fuel.....	140	115	
Draw-bar h. p. per lb. of water.....	25	30	
Area plowed per hour per economy brake h. p. ...	25	25	
Quality of plowing in so far as engine is responsible.....	10	10	
Distance travelled without replenishing fuel...		10	
Distance travelled without replenishing water.....		10	
	200	200	
<b>Design and Construction</b>			
Div. 1 & 2 Div. 3.			
Diameter of circle required in wheel to turn in medium soft ground	5	5	
Protection of working parts.....	15	15	
Accessibility of working parts.....	15	15	
Ease of manipulation.....	10	10	
Lubricating oil used in cylinder and crank case per unit of power developed (economy brake).....	5	5	
Finish, proportion of working parts and durability of materials.....			25
<b>Penalties</b>			
All penalties to be deducted from final score.			
Points.			
1. For each hour late in entering allotted position on ground.....	2		
2. Each minute over five minutes required in getting away from test.....	2		
3. For each minute over 30 minutes required in getting started.....	1		
4. For each stop after start of test.....	10		
5. For each five minutes of stop after first five minutes.....	10		
6. For withdrawing after starting and entering again, 15 per cent of total points won. In such case items 4 and 5 will not count.....			2
7. For reducing permanent load after starting brake test (maximum or economy) for each 5 per cent of fraction thereof of load started with.....			2
8. For increasing permanent load after starting brake test (maximum or economy) for each 5 per cent or fraction thereof of load started with.....			1
9. For each revolution of engine more than 5 revolutions above or below the average.....			25
(The maximum variation to be used, should the governors stick, it would be considered under 10 and not here.)			
10. For each temporary changing or reduction or increasing of the load which is so conspicuous, it cannot be covered by No. 9 during a brake test.....			5
11. For cleaning, adjusting, or changing igniters.....			5
12. For cleaning carburetors.....			10

- 13. For adjusting bearings (each bearing) ..... 20
- 14. For adjusting clutches (each adjustment) ..... 5
- 15. For changing depth of plows when dynamometer is recording per notch per plow ..... 1
- 16. For having a knock in engines. Each place of knock ..... 5
- 17. For each hot bearing ..... 5
- 18. For not having standard equipment on engine during all tests, each feature ..... 5
- 19. For each yard over four yards a plow is out of the ground ..... 2
- 20. For vibration of whole engine frame, amount of penalty to and ratioed ..... 10
- 21. For vibration and rattling of light parts, including cab ..... 5
- 22. For a wabbling belt ..... 5
- 23. For more than one man starting, each man ..... 3
- 24. For not having sufficient for running 8 hours ..... 1
- 1st hr. less than 8 hours without replenishing ..... 1
- 2nd hr. less than 8 hours without replenishing ..... 3
- 3rd hr. less than 8 hours without replenishing ..... 6
- 4th hr. less than 8 hours without replenishing ..... 10
- 5th hr. less than 8 hours without replenishing ..... 15
- 6th hr. less than 8 hours without replenishing ..... 21
- 7th hr. less than 8 hours without replenishing ..... 28
- 25. For having the R. P. M. of the engine in the plowing test greater or less than in the economy brake test—
- More than 1 and less than 2% ..... 1
- More than 2 and less than 3% ..... 3
- More than 3 and less than 4% ..... 6
- More than 4 and less than 5% ..... 10
- More than 5 and less than 6% ..... 15
- More than 6 and less than 7% ..... 22

Sir Wm. Whyte,

President.  
 Prof. L. W. Chase,  
 Engineer in Charge.  
 A. W. Bell,  
 Manager.



**Culture**

Culture may be divided into three classes; Musical, Literary and Artistic.

Music Culture is made up of motifs, money and half-nakedness. In its most virulent form it is seen at Grand Opera.

Literary Culture consists of equal parts of rhapsody, hysterics, toadyism and simple mania. It is incurable in extreme cases. In the case of young women, a sudden marriage sometimes works wonders.

Artistic Culture is divided into realistic, impressionistic and mystic. In the realistic, we see things as we think they are; in the impressionistic, as we hope they never will be; in the mystic, we look mysterious and frankly admit that it would be no earthly use to impart to common minds our own superior opinions.



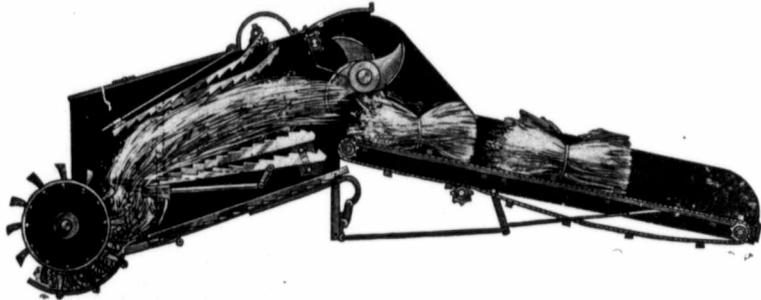
**Couldn't Serve It**

In a fashionable restaurant a new multi-millionaire with no knowledge of French and no desire to expose his ignorance, pointed to a line on the menu and said to the waiter:

"I'll have some of that."

"I am sorry, sir," the waiter answered, "but the band is playing that."

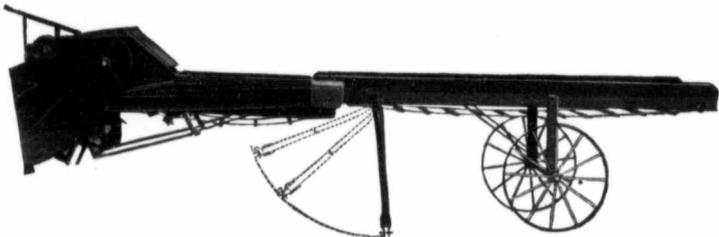
# \$1000.00 REWARD



## TO THE PARTY WHO RECOVERS

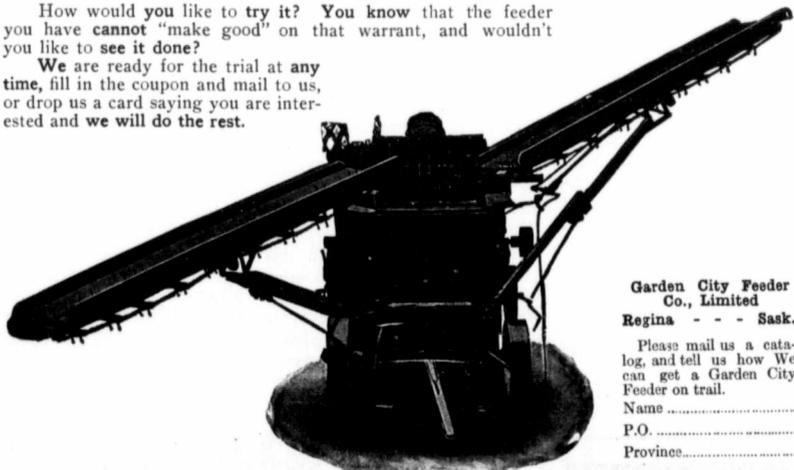
the time and grain lost by the threshermen of Canada caused by improper feeding of their separators. You cannot get the reward, but you can prevent a recurrence of the loss, by allowing us to put a **GARDEN CITY FEEDER** on your separator. We will do it, and if we fail to "make good" on the following guarantee, the trial will not cost you a penny:

The **GARDEN CITY FEEDER** is positively warranted to feed any separator to its full capacity, with any kind of grain in any condition, without slugging the cylinder, breaking any concaves or spikes, or winding, or allowing any uncut bundles to get between the concaves and cylinder, or causing any burned belts, and to deliver all bundles to the cylinder end first, regardless of how they may be piled upon the carrier; and to be free from litter under the feeder caused by leakage or dragging back of the grain.



How would you like to try it? You know that the feeder you have cannot "make good" on that warrant, and wouldn't you like to see it done?

We are ready for the trial at any time, fill in the coupon and mail to us, or drop us a card saying you are interested and we will do the rest.



Garden City Feeder Co., Limited  
 Regina - - - Sask.

Please mail us a catalog, and tell us how we can get a Garden City Feeder on trail.  
 Name .....  
 P.O. ....  
 Province.....

**THE GARDEN CITY FEEDER CO. Ltd.**  
 REGINA -:- SASKATCHEWAN

You saw this advertisement in this magazine. Don't forget to say so when writing.

# Good Roads in Western Canada

BY A. C. EMMETT

The writer of these articles (which will be continued from month to month throughout the year) has had a wide and severely practical experience and is specially engaged on the "Good Roads" movement.

**M**ANY farmers are averse to the spending of money on the provision of good roads throughout the country owing to the mistaken idea in their mind that they are simply for the benefit of the automobile owner. This is by no means the case as the good road will benefit the farmer to a greater extent than any other person, and it must be borne in mind that in boosting the good road the motorist is doing a great deal to help the farmer in the development of his farm and to provide means of intercourse between themselves and their neighbors which they would not otherwise have.

It is largely due to the efforts of the big automobile clubs of Canada that the following highways have been projected and are in many cases already partially completed and are being steadily pushed forward to completion by reason of the influence brought to bear upon the government by the motor owner. The roads in point are:

The National Highway. — A good motor road running from Halifax to Vancouver.—A Tourist highway connecting motorists the nation over with all points east and west.

A motor highway between Toronto and Montreal.

A first-class road between Montreal and Miami, Que., where it connects with a road running south through the Eastern States to Florida.

A road from Prescott to Ottawa, linking up the Montreal-Toronto Highway with the Capital City.

A permanent, paved road between Toronto and Hamilton, that will be a valuable commercial motor highway between two important growing cities.

A road from Winnipeg south to Pembina, where it joins the Meridian Highway, running direct to Galveston, on the Gulf of Mexico.

A motor highway starting from Vancouver and running south to join the Pacific Highway which follows the shore of

the Pacific Ocean through the United States to Mexico.

Investigations made as to the cost of hauling freight over the ordinary wagon road show that the average cost of hauling is about 25 cents per ton per mile, and that the average distance hauled is 8 miles. It has been demonstrated that with good roads the cost could be reduced to about 10 cents per ton per mile, or at the outside 12½ cents per ton per mile. When the enormous volume of traffic hauled over the roads in this country is taken into account, the vast saving that could be made annually by the provision of good roads can be well appreciated.

In many ways the farmer, and all concerned with the improvement of our agricultural crops, particularly would be benefited by good roads. In the first place, he would thereby be enabled to merchandise his crops at times when prices were the highest and also at all times of the year. The lack of good roads in this connection means millions of dollars annually to the farmer.

It is even of more importance to the truck farmer whose products need a quick market and the prices of which are subject to great fluctuations. Moreover, the railroads are vitally concerned, because if products can only be moved when the roads are passable, then at certain seasons the railroads are taxed beyond their equipment capacity, whereas in a time of bad roads equipment is idle. In many more ways the reasons why this condition of our roads is of vital and material importance to farmers could be suggested, but sufficient has been said to show that in advocating an improvement of our roads a vitally practical subject is being considered.

In the second place, an improvement of our roads will mean much for the social and intellectual betterment of the rural population. It has been well said that the difference between semibarbarism of the Middle Ages and the civilization which preceded it was the difference between good and poor means of communication. It is essential, in this country at least, that farm life be made as attractive as possible in order to hold our rural population to the farms. This cannot be done when, through roads which are impassable a large portion of the year, the

children are unable to attend schools and the families cannot secure that social intercourse which is so essential to the development of the character of the highest type of citizenship. If farm life is to continue to be one of isolation and self-denial, the unhealthy and undesirable flow of population to the cities will continue in great force.

Lastly, good roads are a most valuable asset to the government itself. They are essential in times of war and no less so in times of peace. In the one respect alone of constituting a splendid check upon the railroads and other carriers in the matter of freight rates their importance cannot be over-estimated.

The question then remains to be considered, how a better system of road building can be obtained. It is but natural that the government should be turned to for aid in the shape of funds, and no line of public expenditure can be more justified from every standpoint than this. The need is apparent; all that is required is the united efforts of the voters to attain this beneficent result. When we consider the many millions of dollars which are annually appropriated for the promotion of objects which in no way touch so closely the prosperity and the happiness of the people, it would seem that the justice of the demand for public aid in the construction of good roads cannot be denied.

There is one matter to which attention could be drawn, and that is the employment of convicts in the construction of our roads. A large part of the expense of road building is the factor of labor, and here is a large supply of labor at our disposal which can be utilized to the best advantage and without danger to any other interests. The objection has been raised to the employment of convicts in various lines of manufacturing by the labor unions, that honest labor is subjected to an unfair competition.

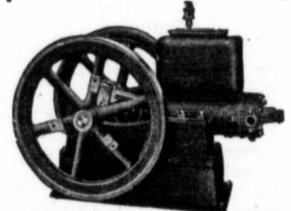
The labor unions, as a whole, make no objection to the project of employing convict laborers in the construction of roads. Moreover, the convicts themselves much prefer work in the open air and sunshine to that within the portals of the penitentiary, and various students of the questions in places where the plan of convict labor on the roads



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"GOES LIKE SIXTY"



Anybody can operate the simple "GOES LIKE SIXTY" Engine. Ready for work the moment you get it. Built strong and sold to last a lifetime. Will give long, unflinching satisfaction. Gas, gasoline or kerosene can be used for fuel. Gilson quality gives full value for your money—dependable service, great durability, highest economy and perfect satisfaction; freedom from trouble, delays and expense. Every engine **ABSOLUTELY GUARANTEED**. You can try this engine on your own farm before settling for it. You take no chances. The "GOES LIKE SIXTY" Line has an engine for every purpose. All styles and sizes from 1 to 40 h.p. Write for catalogue. **GILSON MANUFACTURING CO., LIMITED**, 56 York Street, Guelph, Ont.

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**WANTED — SALESMEN AND SALES-WOMEN**—Hundreds of good positions now open, paying from \$1,000.00 to \$5,000.00 a year. No former experience required to get one of them. We will teach you to be a high grade Traveling Salesman or Saleswoman by mail in eight weeks and assist you to secure a good position where you can earn good wages while you are learning Practical Salesmanship. Write today for full particulars and testimonials from hundreds of men and women we have recently placed in good positions; also list of good positions open. Address Dept. 279 NATIONAL SALESMEN'S TRAINING ASSOCIATION, 506 Kent Building, Toronto, Ont.

**USE WHITE ROSE GASOLINE**  
More Power Less Carbon

26

# THRESHER COMPANIES

26

all doing a large business in Canada can and will supply you with

## RUTH FEEDERS

These concerns have years of reputation and millions of dollars at stake and consequently could not afford to put their stamp of approval on anything but **THE BEST**

We believe what you all want is a Feeder that for more than the past ten years has been doing good, satisfactory work in the CANADIAN FIELDS. A Feeder may do good work in South America, Russia, or even in the United States and then fail to handle the Canadian crops right. Without hesitation we refer anyone intending to get a new Feeder this year to any one of the Eight Thousand Threshermen in Canada who are using the

## Ruth Feeders

THE RUTH has been tried out and proven to be the only Feeder that can make good under any and all conditions. Wheat, Oats, Barley, Rye and Flax all look alike to the Ruth. Buy the Feeder that has been proven out IN CANADA. If ever one has it, it is THE RUTH. Do not buy an experiment. BUY A RUTH. Below is the RUTH WARRANTY; please read it carefully. You will notice that the Ruth Warranty covers Three Years, that is 1096 days. We know of other Feeder Warranties that cover Five Days. This is a difference of 1091 days in favor of the RUTH.

### The Ruth Warranty

*"The RUTH Feeder is Warranted to Feed any make or size of Separator to its full capacity, with any kind of grain in any condition whatsoever, bound, loose, straight, tangled, stack burned, wet or dry, PILED ON THE CARRIER IN ANY WAY YOU PLEASE, without slugging the separator cylinder or loosening a spike; and to do a faster, cleaner and better job of feeding and to WEAR LONGER AND COST LESS FOR REPAIRS than any Feeder manufactured by any other Company in the World. We further Guarantee it to be made of the best material obtainable by the most skillful workmen and if WITHIN THREE YEARS FROM DATE OF SALE (if our instructions are carried out) any part of the above described Feeder (except webs and belts) should break or incapacitate the Feeder owing to a defect in material or workmanship, and not on account of carelessness on the part of the user, we will replace such part or parts ABSOLUTELY FREE OF COST, on return of defective parts F.O.B. Winnipeg, Man."*

Read the Warranty

It tells the Whole Story

WHILE OUR HEAD LINE IS THE

## Ruth Feeder

We sell practically all else that a thresherman wants. If you need any of the following, drop us a line and you will have an immediate reply with prices and complete information

Acetylene Gas Headlight. Headlight Attachment to change oil burning headlight into a gas light. Gas Tail Light for rear of engine. Oil Pumps. Spark Arresters. Tooth Straighteners. Flat Guides. Cylinder Wrenchers. Canvas or Rubber Drive Belts. Leather Belting. Carbide. Tank Pumps. Suction and Discharge Hose. We handle NO SECOND GRADES. Everything the best, and prices are right.

# The MAYTAG CO., Ltd.

## WINNIPEG

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They all know that the Ruth Warranty is genuine

Sawyer-Massey Co.

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American-Abell E. & T. Co.

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Gaar, Scott & Co.

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The Rumely Co.

Robt. Bell E. & T. Co.

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Huber Manufacturing Co.

Geiser Threshing Machine Co.

McDonald Thresher Co.

That is Why They Can And Will Supply You With RUTH FEEDERS

That is Why They Can And Will Supply You With RUTH FEEDERS

### WARRANTY

The Ruth Feeder is warranted to feed any make or size of Separator to its full capacity, with any kind of grain in any condition whatsoever, bound, loose, straight, tangled, stackburned wet or dry without slugging the separator cylinder or loosening a spike, and to do a faster, cleaner and better job of feeding and to wear longer and to cost less for repairs than any feeder manufactured by any other Company in the World. THE MAYTAG CO.

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# SILVER STAR ENGINE KEROSENE

## The best fuel for OIL BURNING ENGINES

Recommended by the Hart-Parr and Rumely Companies, and used by all Oil Tractors in Motor Contest at Winnipeg Industrial Exhibition.

### Imperial Motor Gasoline Standard Gas Engine Oil Polarine

Carried in stock at 275 Tank and Warehouse stations in Manitoba, Saskatchewan and Alberta. Also

### Distillate Fuel Oil

For prices at our Branch stations nearest you, write to the office of

# THE IMPERIAL OIL COMPANY LTD.

Main Office: Winnipeg

Regina, Moose Jaw, Saskatoon, Edmonton, Calgary, Lethbridge

is in operation have stated unequivocally that in all cases such work has redounded to the mental, physical and moral well-being of the convicts themselves. Accordingly, it would seem that in looking for an auspicious beginning of the campaign throughout Canada for the improvement of our roads and highways, the employment of our convicts as laborers on the roads should not be overlooked.

#### Government Aid in U.S.

The American Government in passing a bill authorizing the use of motor trucks for postal delivery service added a "rider" which aroused very little comment, mainly because its importance was not understood. The "rider" in question was a provision for the building of good roads throughout the country, the work to be carried on in conjunction with the efforts of local authorities.

The plan outlined in the government bill is an excellent one. It calls for an appropriation of \$500,000 to be spent in im-

proving roads selected by the government, over which rural delivery is or may hereafter be established. Each state in the Union is to be allotted about \$8,000 for the improvement of two post roads each year, with a reserve fund of about \$2,000 to be spent annually in the maintenance of such roads. To avail themselves of the government cash, each state must expend twice these amounts in road building and maintenance, the work to be done under the supervision of local authorities.

#### Automatic Starter for Gas Engines

All users of gasoline and kerosene plow engines will be pleased to learn that a starter has been invented by Mr. Frank H. Walker, of La Porte, Indiana, and is now being placed on the market. This will be a great saver of time and trouble, as it is guaranteed to start an engine in all kinds of weather, whether it be hot or cold.

Besides eliminating the physical labor of cranking the engine, it insures the operator against accidents which often occur when cranking.

We often read and hear of men who, when threshing, are actually afraid to stop their engines to fix up the separator when anything

goes wrong, but rather let it run idle than take the risk of not being able to start it again. We have also heard of men who let the engine run during the noon hour for the same reason. With a device that will positively start the engine under all conditions, an operator need not fear to stop his engine.

The Walker Starter is not a cranking device, but is a starting device which starts the engine by producing within the engine cylinder the same conditions which exist there when the engine is actually running. A current of air is passed through the starter carburetor at a high velocity, and carries with it to the cylinder a charge of fuel in the form of a fine spray. When the pressure in the cylinder becomes great enough to commence moving the piston, the charge is ignited, thereby starting the engine.

Mr. Walker, who is an engineer of wide experience, has been experimenting with his starter since 1908, and has so perfected it that one of the largest builders of plow engines in the United States, who tested out the device, gave him a score of 95 per cent. perfect.

The Walker Starter Co. will open offices in Winnipeg, and will be represented in Western Canada by Mr. A. C. Campbell, who has had a wide field of experience with gas tractors, and who until recently was principal of one of

the travelling schools sent out by Indiana School of Tractor Engineering. Mr. Campbell is well known in Manitoba, having lived in Winnipeg and vicinity for 10 years.

□

There is a graveyard in Ireland at the entrance to which is a notice:—"Only those living in the parish buried in this graveyard."

**A Success-Making  
HARROW**

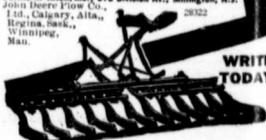
**BEST** for irrigation or dry farming; for summer fallowing and weed killing. The coulters leave the surface mulched so the soil attracts and conserves all the moisture.

**ACME**  
cuts, crushes, turns, smooths  
and levels in one operation—

On plowed stubble the trash is left beneath the surface where its fertilizing properties can be made use of. The "ACME" is made in all sizes. Let us send you our catalog.

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121, Calgary, Alta.,  
Regina, Sask.,  
Winnipeg,  
Man.

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TODAY**



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**USE  
WHITE ROSE  
GASOLINE**  
More Power Less Carbon



# BIG FOUR "30"

## Once Used — Always Used!

Here are just a few of many users who have liked the BIG FOUR Farm Tractor so well they have re-ordered until they now own individually from three to eight BIG FOUR Tractors.

- |                                    |             |                                     |             |
|------------------------------------|-------------|-------------------------------------|-------------|
| E. J. Middleton, Young, Sask.      | 5 Big Fours | Carlos N. Boynton, Pettibone, N. D. | 4 Big Fours |
| Weitzen Land Co., Zealandia, Sask. | 6 Big Fours | Edw. L. Rose, Harwell, Sask., and   |             |
| Gould & McGee, Arnaud, Manitoba    | 8 Big Fours | Meadows, Man.                       | 7 Big Fours |
| Fred Engen, Saskatoon, Sask.       | 6 Big Fours | Hackney Land Co., McLeod, N. D.     | 4 Big Fours |
| Commercial Wheat Growers Co., Kin- |             | C. W. Colgrove, Flasher, N. D.      | 4 Big Fours |
| dersley, Sask.                     | 7 Big Fours | Cheyenne Wells Development Co.,     |             |
| Mendoza Sug. Plant., Havana, Cuba  | 3 Big Fours | Cheyenne Wells, Colo.               | 3 Big Fours |

One user recently wired in an order for his eighth BIG FOUR. These experienced users want efficiency. They know what the BIG FOUR can do.

There are also hundreds of farmers, working anywhere from 320 to 1,000 acres, who use the BIG FOUR. When they buy a second tractor, it will be another BIG FOUR.

### BIG FOUR Holds Record

The BIG FOUR has broken more acres per engine than all others. Its record is what is selling the BIG FOUR today — past performance is what counts!

We can furnish you with any evidence you want of the BIG FOUR'S supremacy. It delivers more power to the draw bar per gallon of fuel than others. Self-steering device saves one man's time and wages. Uses kerosene and gasoline with unequalled economy and efficiency.

### Sold On Approval

You need not pay out one cent for the BIG FOUR "30" Farm Tractor until it has satisfied you on your own farm that it is the tractor you want. The BIG FOUR "30" was the first farm tractor sold on approval. Every BIG FOUR sold so far has been

sold on approval. It has always made good against competition.

### Uses Kerosene Gasoline

The BIG FOUR uses kerosene and gasoline. It is not a one kind fuel tractor. We have gone just a step further. In some territories it is best and cheaper to use one kind of fuel, in other territories another kind—we have prepared for this by equipping the BIG FOUR with Dual Purpose carburetor, that uses both kerosene and gasoline, with unequalled economy and efficiency.

**Send for Catalog** Describing the BIG FOUR in detail, telling all about its construction, its work and its economies. With catalog we will send you reprints from scores of users' letters showing just what the BIG FOUR is doing in actual use. Write now.

## EMERSON-BRANTINGHAM IMPLEMENT CO., Rockford, Ill.

(Incorporated)

The Largest Line of Farm Machinery in the World.

### TUDHOPE, ANDERSON COMPANY

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Please send BIG FOUR literature.  
 Emerson-Brantingham Implement Co.  
 Please send me above catalog free and oblige.

You saw this advertisement in this magazine. Don't forget to say so when writing.

WRITE TODAY

entire

PRACTICAL TALKS TO THRESHERMEN

Talk No. LXVIII

CONDUCTED BY PROFESSOR P. S. ROSE

Note.—The term "gas engine" in these lessons will be used indiscriminately in speaking about all internal combustion engines.

THE subject of engine balance, and especially of tractor balance, which is of the utmost importance, was touched upon in the last lesson, but the complete discussion will be left for a subsequent lesson. Many designers do not apparently recognize its importance and appreciate the fact that the continuous working and easy upkeep of the entire machine depends largely upon how well the whole machine is balanced. There are many tractors in service that shake violently, due to a wrong distribution of the moving weights. They are always getting out of order, the nuts are shaking loose, the carburetor gets out of adjustment and there is frequent breakage of small parts. The purchaser should, therefore, give careful attention to this matter in selecting not only a tractor, but any gas engine. Gas engines can be designed with almost no vibration if proper skill and care are used.

This statement is fully borne out by the performance of automobiles. Even the cheap machines are now designed so they run quietly and with hardly any vibration. The reciprocating parts that move in opposite directions are made of exactly the same weight within the fraction of an ounce and the rotating parts are designed of the proper size. Where counter weights are used they are very carefully placed and accurately proportioned. The building of a gas engine is a much more intricate and exact operation than the building of a steam engine. There is much more labor involved and the cost is consequently greater for a given horse power. The raw material may not cost any more, but the labor does and that, as everybody knows, is what constitutes the heaviest expense in almost every kind of manufactured article. Small farm engines of one cylinder and the cheapest design sell at from twenty to twenty-five dollars a horse power. A better grade of engine sells at a little higher cost. Tractors cost from forty to sixty dollars a horse power, but this difference is easily explained when the heavy framework, gears and tractor wheels are taken into consideration. It is safe to say that tractors sell as reasonably as ordinary farm engines of 5- or 6-horse power. Regardless of what many people think, moreover, they are selling as cheaply as steam tractors, considering the

difference in labor cost. In fact, the profits in the gas tractor business up to the present are less than in the steam tractor business. The only way these can be increased is by the use of automatic machinery and enormous output just as it has been accomplished in the automobile business.

There is a heavy and growing demand for tractors for general farm work and the time is not far distant when there will be a number of great factories turning them out. Just as soon as that time arrives manufacturers will be enabled to build them and sell them at smaller cost. The history of the automobile will be repeated in the farm tractor field.

Weights of Tractors

The weights of gas tractors vary between rather wide limits. The heavy tractors of 60-brake horse power weigh from twenty to twenty-eight thousand pounds, while some of the small machines of 20-brake horse power weigh as little as forty-five hundred pounds. The maximum weight of tractors classed as light weight is in the neighborhood of fourteen thousand pounds. The most of them, however, come between the limits of five thousand and eleven thousand pounds. One or two of the very large machines weigh upwards of thirty thousand pounds. These, however, have never proven very successful from either the manufacturer's or farmer's point of view. Up to the present time the most popular and serviceable tractor has been the one weighing from eighteen to twenty-eight thousand pounds. It has proven adaptable to the large farms, and especially to the new farms of the West where there was much heavy breaking to do.

On the smaller farms of the East, and even on the large farms where the soil is not difficult to work, there has been a demand for a lighter weight machine. This demand is being met by a number of concerns at the present time who are building tractors of medium weight and others that are bringing out a real light weight machine. The only difficulty with the very light weight machine is that of traction. There is a certain amount of weight required on the drivers in order to obtain a sufficient pull at the draw bar without excessive slippage. Just how much weight is required no one seems to know with certainty. Much

depends upon the shape of the wheel lugs, their length, the width of the wheel and the speed at which the whole machine travels over the ground. None of these factors have ever been carefully determined and almost every one is groping more or less. The problem of designing a light weight tractor is not so much one of engine design and the strength of parts as it is of traction. It would seem at the present time that the whole art is retarded on account of insufficient data on this all important point.

Some designers have undertaken to solve the problem by making extra wide wheels, some with long, sharp lugs that penetrate the soft earth and reach the hard soil below, and some by providing four drive wheels instead of two. At the present time nobody knows who is on the right track. Much experimental work is necessary before the problem is finally solved.

Present practice among heavy machines is to distribute the weight of the machine in such manner as to throw seventy per cent on the drivers. The remaining thirty per cent on the front wheels is necessary in order to give the machine steering way. When the load is applied, the weight on the front wheels is reduced a certain amount, probably another ten per cent depending upon where the centre of gravity of the entire machine is located. The small proportion of weight is then just sufficient to steer the machine and keep it steady. The same practice has been followed out for quite a number of years in steam traction engine practice and for the heavy machines may be said to be fairly well standardized.

There is an immense amount of experimental work being done at the present time, but unfortunately it is almost impossible to obtain the results. If it were, if all the data that is being accumulated by the different workers in the field could be gotten together, it would be of immense benefit to every worker in the farm power field. Machines are being built in almost every possible manner, as regards the form of the wheels, their number and their position under the machine. For example: there are a number of three-wheeled tractors, some of which have two drivers and some have only one. In some cases the drivers are placed in front and in others at the rear. Where only one driver is employed, it

is generally made wide in order to obtain sufficient tractive power.

In a recent machine four wheels are employed, only one of which is used for driving and it is designed to run in the furrow where the soil is compact. This will undoubtedly work out quite well for plowing purposes, but when used for seeding where it has to travel over loose ground there will most certainly be considerable slippage. One or two tractors have been built with long sharp lugs that penetrate the soil to a considerable depth in order to find solid ground at the bottom of the furrow slice. These machines are not without merit, and some very able designers maintain that the final solution of the light tractor problem will be found in a wheel built in this manner. A recent machine of this kind has been built and tried out in Italy and the reports are quite flattering. In this case the long lugs may be folded up when not needed. At first sight it appears as though this would be an easy solution of the problem, but there is a vast difference in soils and in the same soil under different conditions of moisture. With a wet sticky clay or gumbo soil it is almost impossible to use such a wheel. It will fill with mud and become useless. In many places, however, it should prove effective if properly constructed.

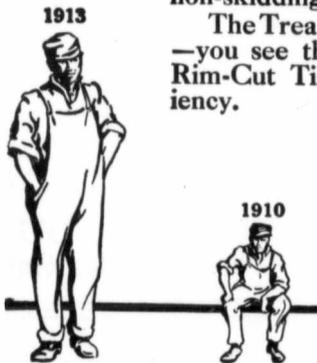
We are gradually coming to understand that there must be a large number of types of tractors suitable each for its own particular type of farming. There must be small tractors for the medium sized farms — tractors that can be sold at the price of six or eight horses, tractors for orchard work where overhead room is at a premium, tractors suitable for the large grain farms of the prairie states, and tractors suitable especially for road work. It is true that all of the different styles mentioned may be used for any of the other purposes to a greater or less extent, but they will not prove the most economical. The prospective buyer should study his own farm and his own conditions carefully and select the type best suited to his own particular needs. This requires that the man who contemplates entering the ranks of the power farmers should study carefully all of the various tractors and their merits before investing.

# A clinging Non-Skid tread on a double-mileage tire

No-Rim-Cut Tires—the tires that will not rim-cut—can be had if desired with a tread that will not skid.

A money-saving tire with a power-saving, non-skidding tread.

The Treads with the diamond-shaped blocks—you see them everywhere—add *life* to No-Rim-Cut Tires *without* lessening their resiliency.



How We've Grown!

When we started making No-Rim-Cut Tires in Canada in the Fall of 1910 we employed 89 men. At the close of 1912 the number had increased to 596. Now it is well over 600 and growing.

It is a Goodyear policy to help the men who help us. We want to make smooth if possible the problem of living that confronts our men. A large number of them live in Goodyear houses. We own fifty in Bowmanville and will build more as they are needed.

The Balmoral Hotel has been turned into a Goodyear Club, with Swimming Tanks, Billiard Room and Reading Rooms.

The Goodyear men have their own sporting organizations, Baseball, Hockey, Bowling, Trap-shooting. They own their own Athletic Field.

The success of the Bowmanville plant and the uniform quality of No-Rim-Cut Tires is due in no small measure to the enthusiastic efforts of these men.

Here is what has been accomplished in scarcely more than two years:

Number of employees increased seven-fold.

Floor space increased 3½ times.

Daily output of No-Rim-Cut Tires increased 20 times.

## GOODYEAR NO-RIM-CUT NON-SKID TIRES

Get that? The countless skid-resisting blocks cannot press in and bruise the fabric of the tire. The blocks are wide at the base. Under pressure, they spread out and distribute the weight over the whole tread of the tire.

The extra thick tread of tough rubber adds extra wear—prevents punctures.

The diamond-shaped blocks are the toughest rubber we know. They keep their grip for thousands of miles. When the centre blocks wear down the side blocks do the work. And the blocks are springy. The extra weight of this tread does not deaden the tire and jolt the mechanism of the car. The Goodyear Non-Skid is a live tire. Try it and see.

**These perfect Non-Skid Treads are vulcanized onto No-Rim-Cut 10% Oversize Tires. See now what you get. A perfect Non-Skid Tread, in conjunction with a tire that saves 48% of your tire cost. A tire that practically doubles your mileage.**

No-Rim-Cut Non-Skid Tires can be fitted to practically every standard make of rim. Look up the Goodyear Dealer.

152

**GOODYEAR TIRE & RUBBER CO.  
OF CAN. Limited**

Head Office, TORONTO    Factory, Bowmanville

*These tracks are always True and Straight. Watch the road.*



BRANCHES at Victoria, Vancouver, Edmonton, Calgary, Regina, Winnipeg, Hamilton, London, Toronto, Montreal, St. John.

All kinds of Rubber Belting, Hose, Packing, Bicycle and Motor Cycle Tires, Truck Tires.

The  
**Thresherman's Question  
Drawer**

ANSWERS TO CORRESPONDENTS

**Q. R.Y.** I have a 13-horse power engine that has been used a little more than two seasons pulling a 31 x 49 separator, with all attachments and a ten roll husker shredder with band cutter and self feeder, and I have considerable flue trouble the last season. I have been very careful with it, too.

1. Which kind of expander would you advise me to use, the roller or spring (that is Prosser's) in repairing flues? I have used the roller, and have not had very good success.

2. If flues are cracked around the bead, does it show they have been burned or that they are made of poor material, and does their being cracked around the bead show that I need new flues?

3. Will flues burn out in two seasons when the engine is overloaded, if they are kept free from scale by using boiler compound and having plenty of water in the boiler at all times?

**A.** 1. If the flues in your boiler are cracked around the edges it is evident that they were not properly annealed before they were put in. In order to anneal them properly they should be heated to a bright cherry red, then buried in slaked lime. If slaked lime is not available, use dry ashes. Let the flues cool down slowly in the lime or ashes, and do not attempt to work them until they can be easily held in the hand. This treatment will make the ends, and that is all you will want to anneal very soft and malleable. It makes very little difference which type of expander you use provided you handle it properly. We have had good success with the roller and also with the spring expander. If anything we prefer the roller.

2. Much difficulty is experienced sometimes in beading. Be careful that the direction of the blow is always toward the edge of the hole. After the beading is done use the expander lightly again. Be sure also to have the ends of the tubes clean and bright before attempting to put them in the boiler. The tubes should not project more than three-sixteenths of an inch beyond the flue sheet. This is sufficient to make the bead. If much more metal is left the bead will be large and be likely to burn off.

3. There is no telling how long

a set of flues will last. We have known them to last several years under favorable conditions, and have also known them to get out of repair inside of a week in some of the bad alkali conditions of the West. Much depends upon the workmanship of putting in the flues, upon the way the engine is handled and upon the feed water. It may be that the boiler compound you are using is to blame for a part of your flue trouble. We always view boiler compounds with suspicion.

**Q. V.C.J.** 1. Do you think that my boiler will fire better by putting a dead plate about eight inches wide at the front end of the fire-box next to the tube sheet? I burn pine wood.

2. How would a compound engine work if the piston were taken out of the high pressure cylinder?

3. Could I get more draft by taking lid off spark pipe and letting the sparks drop into a bucket of water. My engine is a Case.

4. I notice that you recommend giving a boiler twice the pressure that you want to carry, in testing. Would not this be liable to strain it?

5. Which is the easier to handle on the road, a simple or a tandem compound engine?

6. Will not rubber hose be preserved better by submerging in water when not in use than by storing in a dry place?

**A.** 1. It is customary, we believe, to place the dead sheet next to the fire door in direct flue boilers. It is doubtful if a dead plate would do any good in a wood burner boiler. In our opinion it would not, although we are frank to say that we have never tried it with anything but coal.

2. Your engine would run, but it would not have nearly as much power and a great deal less economy. It would not be a sensible thing to do.

3. None of the draft goes through the cinder pipe on the side of the smoke stack, and consequently its presence or non-presence would have no effect whatever on the draft.

4. In recommending fifty per cent. higher cold water test than the steam pressure that is to be carried we are merely following the recommendations of the best

## Safety From Punctures and Skidding Without Cost

**AUTOMOBILE USERS,** by fitting your tires with Woodworth Treads you can protect them from punctures, from wear and all outside injuries, you can have safety from skidding and prolong the life of your tires enough to pay more than double the cost of the treads. In other words you can have protection from punctures and safety from skidding not only without cost but in such a way as to save money. Good tires used continuously with Woodworth Treads and kept properly inflated average 10,000 to 15,000 miles of service.

Woodworth Treads are made of leather treated by a secret process which prevents it from ever becoming hard or brittle. They are held on the tires by coil springs which keep them always adjusted. They cannot get loose to chafe or injure the tires. When you use Woodworth Treads, you can feel that your tires are prepared for any roads. Nothing can injure them and they will not skid on slippery places.

Woodworth Treads fit all makes of tires and anyone can easily put them on without taking the tires off the rims.

Woodworth Treads are carried in stock by **JOHN MILLEN & SON** and the **RUSSELL MOTOR CAR CO.**, all their branches or will be ordered for you by any first-class dealer. Send for free booklet on the "Preservation of Tires" and full description of the Woodworth Treads.



### LEATHER TIRE GOODS CO.

Niagara Falls, Ontario

## Steam or Gas Tractors



Equipped with



give greater efficiency

Equally satisfactory for STEAM and GAS TRACTORS

Patent Ball Ranger Speed Changer Supplied on all Genuine Pickering Governors. Will increase speed 50% or more.

**The Pickering Governor Co.**

PORTLAND

CONN., U.S.A.



## Decide Now on Your 1913 Belting Requirements

You will find the Sawyer Canvas Stitched to be the ideal Farmer's belt. It will stand a few months' rest and come out strong and pliable, or it will stand many years of service.

Write for our Booklet L.

**SAWYER BELTING CO., Cleveland, Ohio**

# DESMOND MODEL "U"

IS STILL

## INJECTOR KING

If your dealer cannot supply you write us direct and give us his name. We will see that you are supplied.

Every injector is thoroughly tested before leaving the factory and is sent out with an unqualified guarantee to do perfect work under all conditions.



It is the one injector that will give perfect service under the most varying conditions. Made with a two-piece body with parts connected by a union nut. When loosened, connections can be turned in any direction desired. When connections are made, the nut is tightened and the injector is ready for work. It will fit any space, can be fixed in any position or adapted to any special condition and connected with either side of the boiler. The piping and valves can be arranged to suit your requirements—not merely to fit injection. All tubes screw into the body and cannot fall out or get damaged when cap is removed; nor can they get out of alignment. The Model "U" is FLEXIBLE and will meet every demand that can be made on an injector. It starts low at from 20 to 25 lbs. and works high to 175 lbs.



Special high pressure injectors, working up to 235 lbs., can be furnished when desired. The Model "U" lifts water 25 feet; handles water at 130 deg. and delivers to the boiler at almost 212 aeg.



Absolutely automatic, it will not "back" or "break" under any circumstances. The drip cock of the Model "U" permits draining the injector and piping in freezing weather and makes convenient place for drawing hot water when in operation.

**Desmond Stephan Mfg. Co.**  
Urbana, Ohio

**Crane & Ordway Co. Ltd.**  
Sales Agents for Canada  
Winnipeg, Canada

You saw this advertisement in this magazine. Don't forget to say so when writing.

engineers of this country. It is a rule they have devised for the testing of boilers. The cold water test at best is a makeshift and does not give any indication of what the strength of the boiler really is. All you know when you get through is that it either did or did not give way. You may argue from that fact that it is safe for a pressure which is much lower. We would not advise extending the pressure more than fifty per cent. above the steam pressure that it is intended to carry.

5. We do not know that there is any particular difference in the case of handling one type of engine over the other. Some people find it easier to handle a double engine than a single, but that is largely a matter of practice.

6. We would not recommend storing rubber hose in water.



Q. H.B. 1. What is the reason that my engine will pound when hooked out in the last notch, but will gradually cease when moved toward the centre? It has the link reverse.

2. Will the straw rack shake through more straw on the grain pan when run at 230 revolutions per minute than when run at 200

revolutions per minute? It is a Case machine.

3. Which will crack the most grain, two rows of concaves set down and a cylinder speed of 900 or one row set up and a cylinder speed of 1,075 revolutions per minute?

4. Can the grain be cleaned better with a slow motion, say a cylinder speed of 900, than with a speed of 1,075, the straw being dry?

5. What would be the speed of the fan to do good work?

6. Will an extra sieve used with the adjustable sieve clean the grain any better?

7. What would be the speed of the blower fan to take care of the straw from a twenty-eight-inch machine, the straw being tough?

8. Which will give the better results on the fan and straw rack pulleys, canvas or leather belting?

9. In calculating the speed of pulleys where should the measurements be taken, over the crowning face or at the edge?

A. 1. There is undoubtedly some lost motion in the joints of the link and its connections, and very likely there is more friction in the valve and its connections than there should be, thus making it run hard. When the reverse lever is cleared down at the

end of the quadrant the leverage is longest and any lost motion will be taken up with a jerk which causes the pounding at the moment the valve changes its direction of travel. If the packing of the valves stem is too tight or if the valve runs heavy the tendency to pound will be greatly increased.

2. The more vigorous the agitation of the straw rack and the finer the straw is chopped up the more straw will pass through to the grain pan below. Considerably more straw will pass through when the straw racks run at 230 revolutions than when run at 200 revolutions per minute.

3. The cracking of grain is dependent more upon the spacing of the teeth than upon the speed of the cylinder, and it is imperative therefore to adjust the concaves so that the distance between the concave teeth and cylinder teeth will be the same on each side. This is particularly true in the middle and eastern sections of the country. Where the wheat berry is large, as it is in Washington and Oregon, the speed of the cylinder has considerable to do with the cracking of the grain, and it is advisable to run the cylinder as slowly as possible, and at the same time thresh the grain out of the straw.

4. The cleaning of the grain is dependent upon the speed of the straw racks, the speed of the fan and the amount of vibration of the sieves. Under certain conditions a slow speed is advisable, under other conditions the speed should be increased. Much depends upon whether the grain is perfectly dry, or if it is wet and heavy. When dry, your fan runs at slow speeds. When wet and heavy the speeds must be increased. The writer is of the opinion that most grain separators run at too high speeds for best work in your section of the country.

5. The speed of a fan on a twelve bar Case separator should be about 470, and on the twenty bar machine 485 revolutions per minute. These are the speeds recommended by the manufacturer.

6. It is almost impossible to answer this question without knowing the condition of the grain, what has to be cleaned out of it, whether weed seeds or chaff. The use of an extra sieve will usually give a little better results, but the rate of threshing will necessarily have to be slower.

7. The speed of the blower fan of Case engines is about 600 revolutions per minute. It is always advisable to run the blower

fan as slowly as possible. It makes it easier to handle the straw, and requires less power with slow speeds than with high speeds.

8. We are inclined to believe that leather belting will give better satisfaction on the fan and straw rack pulleys, than either canvas or rubber. It is, of course, more expensive.

9. In calculating the speed of pulleys use their largest diameter at the crown.



**Q. E.O.H.** 1. Explain the difference between a direct and indirect valve motion.

2. Explain fully how a lubricator works.

3. Describe the relative positions of eccentric and crank when the eccentric are set correctly.

4. What is outside lap and inside lap, and what are they for?

5 Will a crank pin wear round or flat? Please explain and give reasons.

**A. 1.** A direct valve, at the beginning of the stroke of the piston, moves in the same direction, and the piston to uncover the port and an indirect valve moves in the opposite direction. All traction engine valves, with a possible exception of one or two, are direct.

2. There are quite a variety of lubricators. Some of them work by water displacement, and some require no water. Cylinder lubricators are usually provided with a vertical pipe cator. Steam condenses in this pipe and the water, being heavier than the oil, displaces the latter and forces it out through a suitable opening to the sight feed glass, which is also full of water. The oil floats up through the water in the glass, and is delivered through a suitable oil pipe to the steam main.

3. All simple valve non-reversing engines, having direct connection between the eccentric and the valve stem, require the eccentric to be set a little more than ninety degrees ahead of the crank, ahead meaning in the direction in which the crank turns. Link reverse engines, in which the connections between valve and eccentrics are in a straight line, have two eccentrics, one set a little more than ninety degrees from the crank above the center lines of the engine, and the other the same distance on the other side. If there is an indirect rocker arm between the eccentric and valve, the angle between crank and eccentric is a little less than ninety degrees, and the eccentric follows the crank; that is, it is behind the crank. The eccentric of the Woolf gear, without an indirect rocker arm, is almost one hundred and eighty degrees from the crank. With the rocker arm it is

on the same side of the shaft as the crank.

4. When the valve is placed central over the steam ports the amount by which it overlaps the two ports on its outside edges is called the outside lap, and the amount by which it overlaps the inside edges of the ports is called inside lap. The outside lap regulates the angle of advance of the eccentric and the point of cut-off. The inside lap regulates the opening of the exhaust and the degree of compression or cushioning.

5. A crank pin will wear flat, since the heaviest pressure and the greatest grinding occur near the two centre positions.



**Q. G.M.** The fly wheel of my engine is forty-two inches in diameter, and I would like to know if I can use a twelve-inch cylinder pulley on my separator by speeding the engine a little faster?

2. Can you tell me why my engine steams better some days than on others?

**A. 1.** You can speed your engine enough faster to use a twelve-inch cylinder pulley, but, of course, when you do so the vibrational stresses in your engine will be increased somewhat, and greater care will have to be exercised to keep the bearings in good condition, and all bolts and nuts properly adjusted.

2. We presume the reason your engine steams better on some days than on others is because on some days the draft is better, due to the direction of the wind and the angle it makes with the ground. The writer has noticed this condition a good many times, and can find no other reason



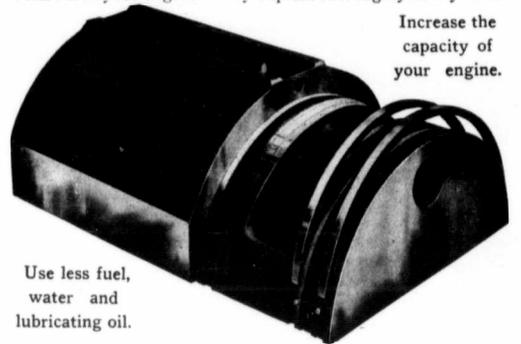
**Q. J.C.** I have heard that potatoes will prevent scale from forming in a boiler. Is this true, and if so would not any vegetable do just as well? Would potatoes be of any use for an alkaline

## Every Traction Engine Owner Should Read

Our pamphlet "The Evidence" before running their engine another season. This pamphlet contains facts vital to the success of the MAN who owns and operates a traction engine.

Over five hundred of your brother threshermen tell of the results to be obtained by installing a **GOULD BALANCE VALVE** in your engine. They explain thoroughly how you can

Increase the capacity of your engine.



Use less fuel, water and lubricating oil.

And eliminate practically all of that annoying and expensive wear and tear on valve gear.

Send us your name and address—a post card is the easiest way—and a copy of "The Evidence" will be mailed you promptly.

ADDRESS

**Gould Balance Valve Company**

**KELLOGG, IOWA, U.S.A.**

Agents wanted in unoccupied territory  
Write for contract

## Sawyer-Massey Co.

NOT

# IN A COMBINE!

You saw this advertisement in this magazine. Don't forget to say so when writing.

## The Rockwood Paper Drive Pulley ON AN ADVANCE SEPARATOR



Boyleston, Ind., Nov. 9, 1912.

Dear Sirs:

Replying to yours of the 7th. I have used the Rockwood Pulley and find it a success.

It increases the pull of the machine, and I think it will save the cost of the pulley in one year on the wear of the belt alone.

They are surely the candy kids.

I run mine on an Advance 32 x 54 Separator and it pulled as steady as could be with no dead sound.

I remain,

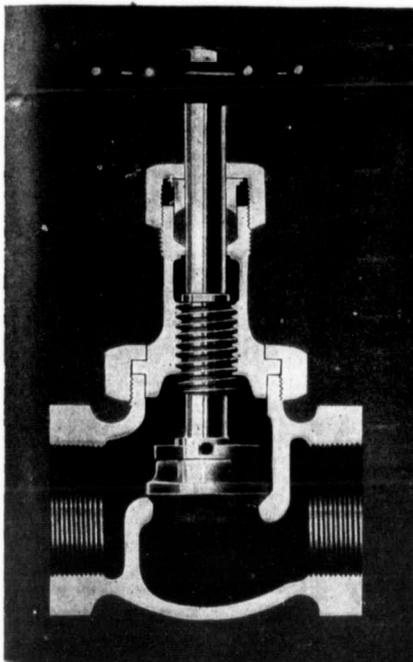
Yours, Sam Zerfas.

**A LITTLE MORE EXPENSIVE BUT WELL WORTH THE PRICE!**

Don't fail to get one on your new machine. All sizes for all makes.

**THE ROCKWOOD MFG. CO. 1928 English Ave. Indianapolis, Ind., U.S.A.**

You saw this advertisement in this magazine. Don't forget to say so when writing.



*"Something better in valves than you have ever used before."*



## Regrinding Brass Valves

VIZ:  
Globe Angle Cross  
AND

Horizontal, Angle, Vertical and Swing Check Valves  
GUARANTEED TO STAND A CONSTANT WORKING PRESSURE OF TWO HUNDRED POUNDS

**They Have Passed Government Inspection  
for the Provinces of Alberta and Saskatchewan**

THEY EMBODY the newest designs and the best mechanical ideas ever employed in valve construction.

THEY WILL GIVE absolute reliable service and dependability under high pressures and severe conditions.

**If You Want VALVE Comfort—  
Give This Valve a Trial!**

Write us for interesting Booklet—"Something better in Valves."

**PENBERTHY INJECTOR CO. LIMITED, WINDSOR, ONT.**

You saw this advertisement in this magazine. Don't forget to say so when writing.

A. Potatoes have been used with fairly satisfactory results, especially in water that contains carbonate of lime. The skin of the potato contains a slight amount of tannic acid, which acts upon the scale forming material and breaks it up. Hemlock bark and oak bark have been used with good results. Other vegetables are not as good, because as a rule they do not contain as much tannic acid. Potatoes would help correct an alkaline water to some extent, but it would take too many to do much good where the water is bad.



Q. R.G. We have had a hard time to keep up steam on engine, and at times it is impossible. Can you tell me the reason? The engine is a 22-horse power, drop fire box return flue boiler, hitched to a 41 x 66 separator with blower, feeder and weigher. I have fired it two falls, and run it six, and always found it hard to fire. The boiler is clean and free of scale, and the flues are clean. The valve which is a Woolf, is set correctly, and it does not leak steam. The exhaust nozzle points up the middle of the stack.

A. It is very difficult to answer your question with any certainty because any one or more of several causes might make the boiler

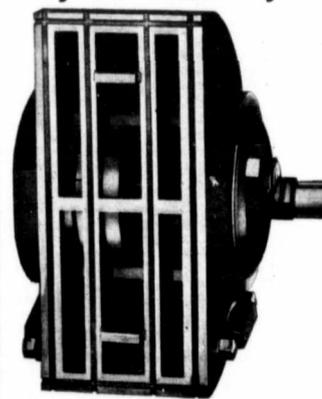
steam badly. There are two things to consider in such a case, the apparatus that makes the steam, and the apparatus that uses it. If either one is in bad adjustment you will have trouble with the steam. Taking up first the generation of the steam, two things may be wrong; the heating surface may be ineffective or else the fuel may not burn properly. In the first place this may be due to the scale in the boiler, either on the crown sheet or on the tubes, or to suit inside of the tubes. In the second case the exhaust nozzle may not point up to the centre of the stack or it may not be the right size for the fuel used, thus making a poor draft. There may be a leak of air into the fire box above the fire or at the front end of the boiler or at the base of the stack.

If the boiler generates enough steam it may be partly lost before it is turned into power in any one of a number of ways. The piston may leak. The valve may leak or steam may blow into the air through a broken gasket or from some of the valve stuffing boxes. In the case of Woolf engine there are one or two little pistons in the steam chest cover which hold a valve to its seat. It may be that these are rusted and stick, in which case the valve might lift from its seat at some points in the stroke, and allow live steam to

blow through into the exhaust. Or it might be that the valve was not correctly set, thus allowing a waste of steam. In your case the valve apparently is set right, and the exhaust nozzle is apparently all right. The trouble then must

be that there is dirt or scale in the boiler which either prevents circulation of the water or the flow of heat from the furnace into the water, or else there is a leak of steam at one of the points indicated.

### They Win Their Way Because They Pay



**The Baker Balance Valve** is considered by all mechanics to be the finest principle of a balance valve in existence, and will increase the power of the engine from 20 to 30%. The Baker Valve can be attached to any kind of slide valve type of engine without facing the valve seat. Note the soft metal packing around the face of cage.

They pay for themselves in a short time in actual saving of oil, fuel and water. Read what Mr. Partridge says about them. He is only one of hundreds.

Baker Valve Co., Winnipeg, Man.

Oakburn, Man., March 6, 1913

Gentlemen,  
In reply to your letter of March 3rd, would say that I did not have a single complaint last fall from any customer using the Baker Valve. In fact every man was more than pleased with the results gained by using the Baker Valve. The engines use much less water and by so doing steamed much easier. A child can reverse the engine under full head of steam.

I might say that I had about ten of these valves on my territory last season.  
Yours truly,  
J. W. Partridge.

We want agents everywhere. We want you to sell them in your locality. Write us to-day. We pay a liberal commission.

**BAKER VALVE COMPANY**

100 James Street

Winnipeg, Man.

RUMELY  
LA PORTE

RUMELY  
LA PORTE

# Canadian Power, Seed and Soil

VOL. 1.

LA PORTE, INDIANA. April, 1913.

No. 4. 634

## EACH GENERATION'S FAVORITE

RUMELY STEAMERS FOR PLOWING  
AND THRESHING DEMANDED  
BY MANY FARMERS

Rumely Agencies and Branches Through-  
out Canada Insure Prompt Deliveries

Rumely Power-Farming Machinery re-  
mains the favorite of threshermen and  
farmers after almost sixty years.

In the early days of the country's de-  
velopment Rumely machinery followed  
the settlers as they pushed Westward;  
then up into the Northwest, as railroads  
were built, carloads of Rumely thresh-  
ing and plowing engines and Rumely  
grain separators followed. Soon it was  
necessary to build branches in order to  
care for quick deliveries of machinery  
and repairs.

That Rumely goods had merit is at-  
tested by the constant growth of the  
Rumely business. The first Rumely ma-  
chines were honestly built of dependable  
materials. No effort was spared to im-  
prove them wherever possible as the  
years progressed.

Rumely Plowing and Threshing En-  
gines have remained second to none of  
their competitors. Ask any experienced  
thresherman, who knows what Rumely  
machines will do, what he thinks of  
them. We will abide by his decision.

Today Rumely Steam Engines for  
threshing and plowing are better than  
they ever were. Keen designers, expert  
workmen and skilled engineers are  
responsible. Every possible means to im-  
prove each and every part has been taken  
full advantage of, until they stand today  
strong and sturdy power giants, ready  
for any sort of power work in the field  
or on the road, in any kind of weather.

There are many dealers in Canada who  
can supply you with Rumely machines.  
Call upon them, or write any of the  
branches listed in another column.



**How We Help**

One way is by the handsome lithographed signs, furnished to contract commission dealers, such as are shown above. These are of steel, punched so that they may be easily set up.

Motion always attracts the eye, and a swinging panel has been provided. The World Trade Mark is the distinguishing mark in the Rumely Sign and the Banner Boy Trade Mark shows up prominently in the Advance-Gaar-Scott sign.

The signs are 28 inches high and 20 inches wide. They are so attractive in color and design that they cannot fail to attract attention.

## STILL IN THE GAME

GAAR-SCOTT STEAM ENGINES RE-  
TAIN THEIR POPULARITY

Now To Be Had From Branches of  
Rumely Products Co., Limited

More than three score years have  
passed since farmers of the virgin  
prairies trailed for many miles through  
yellow dust the clumsy threshing ma-  
chines built by Gaar-Scott & Co., of  
Richmond, Ind. Often the machines, still  
damp with black paint, presented a  
mottled and begrimed appearance before  
they started to work, but the owners  
cared little for that.

Quickly the days of the horse power  
gave way to the steam engine, and when  
the farmers saw how steady and reliable  
Gaar-Scott engines were for threshing,  
they called for bigger ones to plow the  
tough, stubborn prairie sod.

Gaar-Scott machinery, always of as  
high a quality as it was possible to build,  
became exceedingly popular. Its reputa-  
tion spread across the border into Can-  
ada, and into the great Northwest con-  
signments went by trainloads.

So was built reputation for Gaar-Scott  
engines; and because they have main-  
tained their high standard, hundreds of  
farmers today insist on using these  
popular machines.

When Gaar-Scott & Co. cast its  
fortunes with M. Rumely Co., Inc., of  
La Porte, Ind., a little more than a year  
ago, some felt a little disquieted, but  
their fears were quickly dispelled when  
it was announced that Rumely Products  
Co., Inc., would continue to supply Gaar-  
Scott steam threshing and plowing en-  
gines and other Gaar-Scott machinery.  
The promise has been carried out to the  
letter, and Gaar-Scott machinery is to be  
secured today from Rumely Products  
Branches and Rumely Products Agencies.

On account of this arrangement it is  
still easily possible to get a plow rig in  
plenty of time to get a big crop in and  
reap a big harvest in 1913.

### PLOWS 2217 ACRES IN ONE SEASON

#### SASKATOON MAN TELLS OF WORK ACCOMPLISHED

T. J. Connaughty, of Wilcox, Sask., the  
owner of a 30 horse power Rumely Steam  
Engine, has made good money on his in-  
vestment. His season's plowing totalled  
1,500 acres with a disc and 717 acres with  
a breaking plow. In plowing 900 acres,  
straw was used as fuel; for the balance,  
coal served.

Mr. Connaughty says he could easily  
have plowed considerably more acres per  
day had he used coal entirely instead of  
straw, as he found that with straw as  
fuel, 28 to 32 acres were covered per day,  
while the acreage was increased to an  
average of 40 acres when coal was used.

For the disc plowing Mr. Connaughty  
received \$3 per acre. A twenty-disc plow  
was used. For breaking, he received  
\$4.50 per acre.

While plowing is harder on an engine  
than threshing, Mr. Connaughty says he  
did not lose more than two days in two  
years and not a minute on account of  
the engine. The entire outfit paid for it-  
self in two seasons' threshing and one  
season's plowing.

### LOW COST OF FUEL A SURPRISE

#### ALBERTA PLOWMAN STATES 30 CENTS PER ACRE COVERS COST OF COAL

W. B. Babington, of New Hat, Alberta,  
owns a 36 horse power Rumely steamer.  
He uses coal for fuel, purchasing it in  
carload lots at \$4.25 per ton.

Last August Mr. Babington began  
plowing, starting on the fifth of the  
month. He broke 1,200 acres before the  
season closed, using twelve bottom plows.  
Afterwards he summer-fallowed the land,  
pulling fourteen stubble plows, and part  
of the time eighteen plows and two disc  
harrowes.

The engine gave entire satisfaction.  
Mr. Babington says it will easily handle  
twelve breakers in heavy soil and four-  
teen to sixteen in ordinary prairie sod in  
his district, provided the ground is in  
fair condition as to moisture.

Figuring on the total coal consumption  
and the 1,200 acres plowed, Mr. Babing-  
ton was amazed to find that the fuel  
cost was only 30 cents per acre, even  
though the coal was not handled as  
economically as it might have been.

## DEPENDABLE POWER FOR

PLOWING      THRESHING      HAULING  
HULLING      SHREDDING      ROAD WORK

Is Yours When You Own a **Rumely or Gaar-Scott Steam Engine**

ASK US THE NAME OF THE NEAREST DEALER



# CANADIAN POWER, SEED AND SOIL

Canadian Power, Seed and Soil

Established 1913 Vol. 1, No. 4

Published Monthly by  
**Rumely Product Co.**  
 (INCORPORATED)  
 La Porte, Indiana

## OLD FRIENDS ARE BEST

Most of us appreciate the value of old friends. Experience may have taught us a valuable lesson, or perhaps we may have been so fortunate as to cling to our old friends by instinct. At any rate we know the maxim holds good.

Discarding old friends for new has often wrought havoc and bitter disappointment. The untried are often unreliable—often they fail us when needed most.

What is true of friends is just as true of power. The reliables are those that have stood the test of time—machines that have built their reputation by actual performance.

Rumely steam engines are popular in every farming section. Advance and Gaar-Scott Steamers are as highly regarded by all who know them. Farmers look to them today as the sure and steady power giants that will get their crops in on time, and furnish power later for harvesting, hauling and threshing the grain.

Rumely, Advance and Gaar-Scott Steamers are easy steamers, strongly built, highly improved. Those who prefer steam for power cannot go amiss when they invest their money in either of these well-known makes of engines.

## THE RUMELY PRINCIPLE

When an unusual or difficult piece of work is to be done, we look for an experienced and capable man; difficult in detail operations or important lawsuits are not intrusted to young doctors or young lawyers just starting in their work, and who lack experience. Experience is just as important in the manufacture of agricultural implements—for it is a difficult matter to design machinery to meet the many conditions that vary from year to year and from place to place.

For sixty years the Rumely Company has been in constant touch with the work of grain threshing and traction engineering on the farms of this country. It has stored in its organization the priceless experience upon which it draws when any new problems arise.

Our main aim in business is to turn out machinery that will be so useful and serviceable upon the farm that it will be needed everywhere. We know that if we gain this one thing, all else will be added to it.



"The most permanent thing in the universe is change." In placing this limitation on the whole field of knowledge, Emerson said: "No truth is so sublime but it may be trivial tomorrow in the light of new thoughts." The progressive manufacturer builds his success upon a recognition of the similar fact that there is no product of the inventive mind and skillful hand so perfect but it may be surpassed tomorrow.

In farming operations the primary need is power. It may be animal, steam, gas or oil, but power it must be, and the more efficient the power the greater the success. Rumely, Advance, Gaar-Scott—three mighty power farming names. Either means efficient plowing or threshing power for you.

## WORKS LIKE A WATCH

A high-class watch is a pretty delicate piece of machinery to compare with a steam engine, yet that is the comparison made by an enthusiastic owner, one Lewis Penwell, who owns a 35 horse power Rumely Steamer. The engine was purchased in August and used continuously from that time until the ground was frozen too hard to plow any longer.

Nine 14-inch plows, two discs, two harrows and a leveler was the burden the Rumely engine was given to pull, and it did the work easily, covering an average of twenty acres a day, from the time it was started until put away for the winter.

Mr. Penwell says he will be ready to start plowing in the spring as soon as the frost is out of the ground, and will run a day and night force until the ground freezes up again.

Talk about custom plowing and money making. Mr. Penwell is out to win.

## RUMELY PLOWS

In offering the Rumely Engine Gang Plow for 1913, we wish to inform our readers that every previous effort has been eclipsed; for the new plow contains many advantages we were never able to offer before.

Rumely Engine Gang Plows, while made especially for Rumely engines, are adapted to any other style. They are strong and rigid, and are furnished in five, six, eight and ten bottoms, in stubble, general purpose, slat, breaker or rod breaker bottoms.

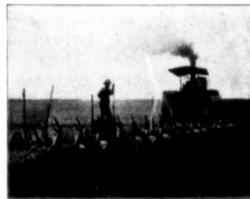
A new method of beam attachment makes it easy to set the plows so that they will cut the same width and depth of furrow. This prevents twisting of the beams when working in heavy sod. To overcome damage to the plow in case a stump or rock is struck the plow is fitted with wooden break pins, which will give way before any other part of the outfit.

Straight levers make it easy for the man on the platform to work without bending, and blind quadrant guides permit him to drop the points to a uniform depth with one operation.

We also furnish the Rumely-Sanders Traction Disc—the strongest, most dependable and most satisfactory plow of the disc type we know about.

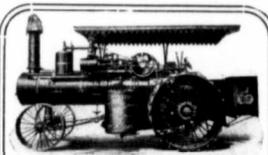
## GOOD THRESHING

Good threshing depends on good machines and steady power. Rumely, Advance and Gaar-Scott Grain Separators are all family names in the threshing world. All have demonstrated their work so often and so well that words from us as to their merit are unnecessary.



But we wish to state the sizes we are building, so that you may understand just how well we are able to supply your needs: Rumely Ideal Grain Separators are furnished in 28 x 44, 30 x 48, 32 x 52, 34 x 56, 36 x 60 and 40 x 64 sizes. Rumely Ideal Jr. Separators come 18 x 40 and 24 x 44 in size. Advance Separators may be had as follows: 28 x 44, 30 x 48, 32 x 56, 36 x 60 and 40 x 64, with Juniors in sizes 22 x 36 and 24 x 40. Gaar-Scott Separators come in sizes 28 x 49, 31 x 52, 33 x 56, 36 x 60, 30 x 64 and Junior sizes 20 x 40 and 24 x 44.

Self-feeders, wind stackers, weighers and other up-to-date improvements are furnished as desired.



## Garr-Scott Engines

are furnished as follows:

- Threshing**  
 12-30 h.p. Single Cylinder  
 13-39 h.p. Single Cylinder  
 16-48 h.p. Single Cylinder  
 18-50 h.p. Single Cylinder  
 18-54 h.p. Single Cylinder  
 20-60 h.p. Single Cylinder  
 22-65 h.p. Single Cylinder  
 25-75 h.p. Single Cylinder  
 20-60 h.p. Double Cylinder  
 22-65 h.p. Double Cylinder  
 25-75 h.p. Double Cylinder
- Plowing**  
 25-75 h.p. Single Cylinder  
 25-75 h.p. Double Cylinder

Side and rear mounted.

Equipped ready for work.

Ask your dealer; write nearest branch or us.

**Rumely Products Co.**  
 (INCORPORATED)



Power-Farming Machinery  
 La Porte :: Indiana

## POWER FARMING MACHINERY

Rumely Power-Farming Machinery comprises machinery for all seasons, and for all kinds of work.

Aside from steam engines, threshing machines and engine gang disc plows, the line includes hullers, shredders, steam, oil and gasoline stationary and portable engines, gas and kerosene tractors, grain graders, saw mills, listers, cultivators, pulverizers, contractor's hoists, automatic balers, engine guides, oil and water tanks, wind stackers, weighers, baggers, diaphragm pumps.

Tel us the size of your farm and just what the desired machine is expected to do. Our Farm Experts will advise which is the proper size to buy.

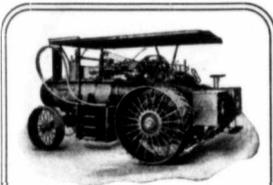


### Canadian Branches

Quick deliveries of power-farming machinery are promised Canadian farmers through the branches of Rumely Products Co., Limited, and the many Rumely agencies located throughout the province. Literature on any machine is furnished free.

Address "Rumely Products Co., Ltd."—a postal card will do—to any of the following points:—

- |                 |                  |
|-----------------|------------------|
| Brandon, Man.   | Saskatoon, Sask. |
| Calgary, Alta.  | Yorkton, Sask.   |
| Edmonton, Alta. | Toronto, Ont.    |
| Estevan, Sask.  | Vancouver, B.C.  |
| Regina, Sask.   | Winnipeg, Man.   |



## Rumely Steamers

are furnished in these sizes:

- Threshing**  
 12-36 h.p. Single Cylinder  
 16-48 h.p. Single Cylinder  
 20-60 h.p. Single Cylinder  
 25-75 h.p. Single Cylinder  
 16-48 h.p. Double Cylinder  
 20-60 h.p. Double Cylinder
- Plowing**  
 25-75 h.p. Double Cylinder  
 30-90 h.p. Double Cylinder  
 36-110 h.p. Double Cylinder

Furnished with all equipment ready for instant work.

Further information from your dealer, the nearest branch, or from us.

**Rumely Products Co.**  
 (INCORPORATED)



Power-Farming Machinery  
 La Porte :: Indiana



**CRUELITIES IN THE POULTRY YARD**

It is surprising how many people, otherwise model citizens, are guilty of cruelty to both fowls and animals. It may not altogether be intentional on their part, but nevertheless they do things that call for censure.

One of the most common acts is to carry chickens by their legs, heads down. This cruelty has been practised for some years, and no one ever thought about it. They did not notice the rush of blood to the head of the fowl when carried that way. A neighbor just the other day was carrying a fat hen by the legs, and in a few minutes the bird was gasping, and came pretty near choking to death. An equally cruel method is to carry fowls by the wings—especially so when the fowls are heavily bodied. The proper way is to allow the fowl to rest on the arm, and the legs held firmly by the hand; or it can be held between the arm and body.

A dealer was one day noticed to yank killing stock out of a crate, by catching a leg or a wing, and otherwise roughly handling them. When remonstrated with he replied that it did not matter, as the birds would soon be killed.

With some people it is common to throw fowls over the fence into a yard. There is no telling in what manner they will reach the ground, and when this cruelty is performed while the attendant is in a fit of anger, there is considerable force put into the throw.

A very pious old gentleman was vexed to the cussing point because his chickens happened to get out of the yard, through a broken fence, into his garden. In his anger he threw a stone and lamed one of the fowls. "There, it serves you right; I don't pity you a bit," was the only comment on the accident. How much better it would have been to have carefully driven those fowls back into the yard and at once repaired the fence.

Verily, the contrariness of the hen is "not in it" with the con-

trariness and stupidity of some of the attendants.

A common cruelty is to overcrowd the flocks, especially in close, badly ventilated houses. Allowing the supply of drinking water to run out, and placing the drinking vessels out in the sun, are cruelties practised by shiftless, lazy people.

Many acts of cruelty can be named in the methods employed in breaking up broodiness in hens. For instance, dousing them in water, tying them by one leg to a stake, or throwing them into a yard of young cockerels to be knocked about right and left, are all practices that should be stopped. Broodiness is a provision of nature for rest, and certainly the industrious hen deserves it. But if it is wanted to have her change her ideas or condition, the only humane way is to place all such in a separate house where there are no nests nor male birds, and allow them to gradually have the fever pass off.

For some years back it was the custom to sell little (newly hatched) chicks at the poultry shows, and also at large bird stores around Easter. These innocents were bought by fond parents for their little tots, and carried to their houses in pasteboard boxes. Without the proper brooder heat, or the right kind of food, these little chicks would be slowly tormented to death, quite often, too, by rough handling from the "cute baby." But it is not so now. The Society for the Prevention of Cruelty to Animals has taken hold of the matter, and will no longer allow this uncivilised cruelty.

Anything that will inflict needless pain, or make the fowls uncomfortable should be punishable. It is surprising how many people, who otherwise are kindhearted and good, will not stop to think that their very acts are uncharitable and un-Christian like.

Fresh air, sunshine and exercise are the very best poultry tonics. But fresh air does not mean drafts in the houses, nor

**Read This**  
Appreciation of The  
**"MAGNET"**  
Cream Separator



The International Dry Farming Congress,  
Lethbridge, Nov. 15, 1912.

The Petrie Manufacturing Co. Ltd.,  
CITY.

Gentlemen—  
We wish to compliment you upon the excellence of your exhibit of cream separators at our recent exposition. The consensus of opinion among all was that they were the best separators shown, and we believe that such exhibits should do much to further the dairying interests of this district. The exhibit was attractively placed, and well handled by the men in charge, and we have no doubt should result in increasing business for yourselves.

Yours truly,  
J. W. McNICOLL,  
Chairman.

That the "Magnet" was not only "the best Separator shown" at the Dry Farming Exposition but is also the

**Best That Can Be Shown Anywhere**

doing the real work of extracting the butter fat is attested by thousands of Successful Dairymen in Canada today.

We will prove every point we claim for the superiority of the "Magnet" on your farm—at our expense.

**The Petrie Mfg. Co., Ltd.**

Head Office and Factory: HAMILTON, ONT.  
Winnipeg, Calgary, Regina, Vancouver, Montreal, St. John, N.B.  
Edmonton, Alta.

**"Bumper" Barley Crops**

are easily obtained by the intelligent application and use of Nitrate.

CHILEAN

**Nitrate of Soda**

gives plants a good start, carries them along to proper development and maturity, and provides a "bumper crop."

Clean—uniform—odorless—cheap. Its results are astonishing and convincing. 100% immediately available.

Be sure and write today for our booklet—FREE.

"Fertilizers for Corn and Cereals."

Dr. WILLIAM S. MYERS  
Director Chilean Nitrate Propaganda  
17 Madison Ave., New York  
No Branch Offices

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

**BLATCHFORD'S CALF MEAL**

The complete milk substitute, raises calves without milk, prevents scouring, insures early maturity, raises 3 feed calves at the cost of one. Send for free booklet, how to raise calves cheaply and successfully without milk.

STEELE BRIGGS' SEED COMPANY, WINNIPEG, Man.

does sunshine call for exposure to hot suns during the summer. Our houses should be so constructed that fresh air can constantly be present to drive out bad odors and purify the atmosphere. The sunshine should be able to reach every corner to destroy any germs that might be lurking in dampness. The fowls should exercise by scratching, that they may cause a circulation of the blood. The above are the three best medicines in the poultry doctor's art.

Hardy parents beget hardy offspring. If we neglect in this particular each succeeding generation will be more delicate. No fowl should be used in the breeding pen that has had a case of serious illness. No matter how sure we may feel that full health has been restored, there is still some taint of disease remaining in the fowl which will be inherited by the young. Inbreeding has caused more weakened constitutions than anything else we know of.

Some years back the poultry fraternity were greatly alarmed over the ravages of "cholera." If chickens died suddenly, or if they all of a sudden became sick, cholera was balm for it. Of late years we hear very little about this disease, the reason for which is that we have very few if any cases of this dreaded disease in the poultry yard, and nine-tenths of these reported 20 or 30 years ago were not cholera, but instead a condition produced by a combination of indigestion and lice. The poultry were fed on practically nothing but corn, producing an overfat condition, and the subject of grit was never thought of. Consequently the food being of a starchy nature, and not properly digested, and the hen or fowl being in an overfat condition, indigestion was sure to present itself. This trouble coupled with lice—and in those days the poultry keepers were not so particular about keeping lice at bay—the fowls would succumb to "cholera" just about as sure as the "good old summer time" came around. It is a fact that genuine cholera cases are almost as scarce as hen's teeth.

Egg eating is a habit that starts with hens, generally, that are out of condition. In other words, when the hens get too fat, and also when there is a scarcity of lime in the bill of fare the shells of the eggs become thin. When they are being laid these soft shelled eggs usually break, and the hen thus acquires

a taste. It is always best to gather the eggs several times a day, so that there will be no chance for breakage by hens crowding on the nest or by the newly-laid egg striking those already laid.

For canker in fowls, the following remedy is recommended: Mix 12 drops carbolic acid, one teaspoonful laudanum, 10 cents worth sugar of lead, five cents worth sulphate of zinc, and one pint of water; shake well. Open up the nostrils with a broom straw, and with a small glass syringe inject into them the mixture, three times a day, and put eight to ten drops in the mouth. Feed soft bran and give plenty of water.

Here is a novel way for preventing fence flying; take good strong string, and tie a knot about three inches from the end; then take the end nearest the knot, and put it around the tip of the one wing, and tie a slip knot below the knot in the string, so it cannot pull up too tight on the wing. Then pass the other end of the string under the other wing, and have it just loose enough, so that the chicken can keep its wings folded naturally, and tie same as other end. After it has been on about six weeks the string may be removed, and your chickens will stay in just as though it had never flown over a fence.

It is characteristic of the laying hen to be quick in her movements, and more or less of a nervous disposition. When a hen is lazy, and moves about in a careless, indifferent manner, she is pretty sure to be a poor layer.

An egg to belong to the strictly fresh egg class should not be over three days old, in summer weather, and a week old during winter. But in either case they must be kept in a cool temperature. Heat very quickly stale eggs. Crates of eggs allowed to remain in the hot sun for several hours will quickly change their condition.

Poorly dressed poultry goes begging in the market, while the supply of choice (fancy) stock is not sufficient to meet the demand. In shipping to market, all dressed poultry should be assorted according to size and color, in order to secure the best returns. Small, poor, scraggy, half dressed birds bring prices in proportion.

## FREE A BOOK THAT EVERY COW OWNER NEEDS

In this 72-page book has been gathered together a fund of valuable information covering very fully those questions which are of vital interest to every owner of cows.

Some of the subjects interestingly discussed in this book by the best known authorities in America are as follows:

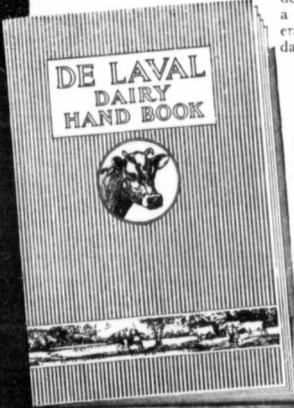
- Dairy Cows' Diseases and The Proper Treatment;**
- Proper Dairy Feeding and Balanced Rations;**
- Most Suitable Dairy Crops; Alfalfa;**
- Dairying for Profit; Silos and Silage;**
- Soil Fertility; Farm Buttermaking, etc.**

Illustrations of representative cows of each of the well-known dairy breeds are shown and the special claims for each breed are set forth by the various cattle association secretaries.

The book also contains a series of illustrations showing the desirable points in selecting a dairy cow and much general information of value to dairymen.

While the De Laval Dairy Hand Book covers the various phases of dairy farming most completely, it is in no wise technical, but is written in plain every-day language so that even the children can understand it.

**Free to Cow Owners.**  
Just fill out the coupon printed below and send it to  
**De Laval Dairy Supply Co.,**  
LIMITED  
128 James St., Winnipeg



**DE LAVAL DAIRY SUPPLY CO., LTD.**  
128 James St., Winnipeg  
Please mail me, postage free, a copy of your Dairy Handbook.

I keep \_\_\_\_\_ cows. I sell cream, make butter, sell milk (Cross out whichever you don't do.) The make of my Separator is \_\_\_\_\_, used \_\_\_\_\_ years.

Name \_\_\_\_\_  
Town \_\_\_\_\_ Province \_\_\_\_\_ **Canadian Thresherman**

You saw this advertisement in this magazine. Don't forget to say so when writing.



**Brandon Creamery & Supply Company**  
**BRANDON, MAN.**

### Get The Most For Your Cream!

Ship to us and receive highest prices. We furnish tags free and supply cans without charge until you are satisfied with our methods. Some of the best-known shippers in the West have been dealing with us for years.

We pay cash for every can of cream received and remit promptly. Cans returned in 48 hours. Write us and we will put you in a position to get the most for your cream. WE PAY ALL CHARGES.

**The Brandon Creamery & Supply Company**  
BRANDON MANITOBA

## Tie This Tag to Your Cans

You saw this advertisement in this magazine. Don't forget to say so when writing.

A "large roaster" means a plump, soft chicken of four or five pounds weight. The broiler weight in March is one and one-quarter pounds each; in April, one and one-half pounds; in May, one and one-quarter pounds to two pounds. Old cock birds have a special classification, and do not come under the head of "large roasting" fowls.



The hen turkey sells first, and medium-sized carcasses sell best in market. The market turkey should be shorter in legs and neck than is ordinarily the case, and very full in the breast. A compact body, meat and fat, rather than a large size and coarse structure.



The proper way to kill a turkey is to tie its feet together, hang on a pole, then cut the throat and allow to bleed freely. Dry pick, leaving head and wings on. After picking, dip in hot water and then in cold. This will give the skin a fresher look.



Turkey breeding stock should be changed about every three years. Nature protests against inbreeding by giving warning with club-footed and ill-conditioned chicks.



**New Regulations Governing the Free Entry of Pure Bred Animals**

On the first of April this year there will come into force new regulations governing the free entry to Canada of animals for the improvement of stock. To this end the following amended regulations have been adopted by Order in Council for the guidance of importers and custom house officers:

"1. No animal imported for the improvement of stock shall be admitted free of duty unless the owner is a British subject, resident in the British Empire, or if more than one owner, each is a British subject, resident in the British Empire, and there is furnished an import certificate stating that the animal is recorded in a Canadian national record or in a foreign record recognized as reliable by the national record committee.

"A statutory declaration by the owner or one of the owners, that he is a British subject, or that each is a British subject resident in the British Empire, and that such animal is the identical animal described in such certificate must be provided, and that such

animal is being imported into Canada for the improvement of stock.

"2. In case such certificate is not at hand at the time of the arrival of the animals, entry for duty may be accepted subject to refund of the duty upon the production of the requisite certificates and proofs in due form satisfactory to the collector within one year from the time of entry.

"3. The form of certificate to be accepted for the free importation of animals for the improvement of stock, and the customs procedure in connection therewith shall be subject to the direction of the Minister of Customs.

"4. The above declarations shall be attached to the Free Import Entry and may be made before the collector, sub-collector, surveyor or chief clerk at the port where the goods are entered or before any functionary authorized by law to administer oaths."

Under the old regulations a British subject residing in a foreign country or the citizen of another country living in Canada could secure the free entry of properly registered animals, whereas under the new order foreign persons or firms are excluded from this privilege.

Customs officers are required to examine carefully the animals presented for entry to see that they correspond with the description contained in the import certificate and if they do not, duty is collected.

The statutory declarations required regarding citizenship and identity will, it is hoped, effectively prevent abuses that led up to the passing of the new regulations.

As in the past, animals are subjected to veterinary inspection at the port of entry. Officials of the Health of Animals Branch who do this work are required to make a report as to color and markings. If it is found by the Canadian national records that foreign certificates of registration do not correspond with these reports Canadian registration and import certificates for the animals in question are refused.



**Inbreeding and Utility**

No one denies that inbreeding, close-breeding or line-breeding is necessary to secure perfection of form or color, but these are not the aim of the utility poultry keeper. My object has always been to breed birds as good looking as I could without sacrifice of usefulness.

Close-breeding, as a means of building up laying strains, has

# Easy To Use Cheap To Buy Guaranteed To Kill Gophers For Less Than 1c Per Acre

That is the story of Kill-Em-Quick. It is easy to use because you simply soak grain, *your own clean grain*, in water over night, drain water off and mix with Kill-Em-Quick. For *instant* use, simply soak any grain in hot water for 10 minutes, drain water off and mix the grain with Kill-Em-Quick.

Kill-Em-Quick is cheap to buy because a 75c box will kill 2000 gophers—making it *cost less than 1c per acre*. This I guarantee.

No other method of killing gophers compares, in economy, effectiveness or convenience.



## Kill-Em-Quick

is a mixture of several ingredients that make a poison so attractive in odor that gophers go crazy for it—so good to the taste that gophers eat it as if they were starving, and so deadly that a *single poisoned grain means instant death to a gopher*.

It is always uniform, cannot be adulterated because it is sold only in sealed boxes. Unlike old-fashioned poisons, it is *not* bitter, it is *not* hard to mix, it does *not* weaken and it is *not* expensive.

Be sure to use Kill-Em-Quick this year. Our guarantee protects you—your money will be refunded if not satisfied. Made in these sizes—75c, enough to kill 2000 gophers, \$1.25 size, enough to kill 4000 gophers.

Sold by nearly all druggists or sent direct, prepaid, on receipt of price.

ANTON MICKELSON, Pres.  
Mickelson-Shapiro Co.  
Dept. C Winnipeg, Man.

## FREE!

Three - cornered coin purse, made of real leather—most attractive coin purse you ever saw. In every package of Kill-Em-Quick you will find a coupon. Save two coupons and send with the one in this advertisement. Send the three coupons to us and we'll mail you free, postpaid, the handy leather coin purse. Get two boxes of Kill-Em-Quick at once, clip the coupon in "ad" and send us all three.



## Coin Purse Coupon

This coupon and two coupons from packages of Mickelson's Kill-Em-Quick entitle you to one Leather Coin Purse free. Send no money—just this coupon and two coupons from Kill-Em-Quick packages.

MICKELSON-SHAPIRO CO.  
Dept. C Winnipeg, Man.

You saw this advertisement in this magazine. Don't forget to say so when writing.



## International Stock Food Is Equally Good for Cows—Horses—Pigs

This great tonic is for all live stock—to make cows give more milk—to keep the working horses in prime condition—to fatten pigs and keep the "winter" pigs strong and vigorous. We guarantee that it will make your oats, calves, pigs, sheeps and lambs grow rapidly, and keep them healthy and thriving all the time. Tell us the number of head of stock you own and we will send you a copy of our \$3.00 Stock Book—Free.

Here's another farmer who finds it pays to feed International Stock Food—Buckhart, Wash Co., N.B., Jan. 15, 1913. "INTERNATIONAL STOCK FOOD is all O.K. I average a package every two months for my stock—having three horses, four cows, two calves, four steers and sheep. Careful tests show that my milking cows have given 60 per cent more milk since feeding International Stock Food. It is also fine for calves."—DEEPLY TOWN.

International Stock Food, Poultry Food, and Veterinary preparations are for sale by dealers everywhere. If you cannot obtain our goods in your town write us direct. (51)  
INTERNATIONAL STOCK FOOD CO., LIMITED . . . . . Toronto

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Don't Fail to Renew Your Subscription  
Before it is Too Late.**

been tried with Barred Rocks. All the cockerels saved for stock each year were bred from the hen that had proved herself the best layer by trap nesting, when a pullet, the year before. This was continued for about six years. I am writing from memory, but I believe that the best hen in the last year laid 246 eggs, while one in the yard laid only eight.

Now, if the principle is correct, how is it possible that a hen close-bred for six years for egg production only managed to produce eight eggs?

A hen is a high-pressure engine. Fancy a little hen of four pounds producing her own weight in six weeks. To support this awful drain upon the system, only perfect health and the maximum of vitality can serve.

Some years ago there was a scare raised that trap nesting was going to ruin our pure-breds. So far from this, we found that the hens we should have selected to breed from by vigor alone, were just the ones that were entitled to it on egg records. When chickens are bred from two sister hens, by cocks unrelated to the hens and to each other, they may safely be bred together. But I can not advise the utility poultry keeper to go closer than this. It is important that the unrelated cock should come from a fair laying strain. The worst form of in-breeding is one that has unfortunately been too much practised on farms — the saving of cross-bred cockerels from the home yard simply because they are nice looking birds. A pure-bred bird is far more prepotent with cross-bred hens than a mongrel.

**A Free Trip to the Winnipeg Exhibition for One Hundred Boys from the Farms of Manitoba**

The Canadian Industrial Exhibition at Winnipeg have instituted a Farm Boys' Club for their forthcoming exhibition, July 8th to 16th, the association undertaking at their expense to bring to Winnipeg one hundred boys from the farms of Manitoba, paying transportation, supplying them with their meals and lodging whilst in Winnipeg. To enter the contest a boy, between the ages of 14 and 19, must write an essay on "The Prairie Farm—(1) How best to improve it; (2) Why I wish to remain on it; (3) The necessity of mixed farming; (4) How to make farm life more enjoyable; the same to be delivered to the Association on or before May 1st, and the one hundred boys who have forwarded the best essays will be chosen for the trip. In addition to the trip, \$200 is offered in prizes for the best

## THE STORY OF TWO FARMS AND ONE FLASH

**PROTECTION POSITIVELY GUARANTEED**

caused by lightning to any structure and its contents if said structure has been rodded by our ninety-nine p.c. pure copper cable. We give an absolute guarantee to this effect, and we know we are taking no risk in doing so.

**IN OUR TEN YEARS' BUSINESS AS ELECTRICIANS**

No building which has been protected by the "TOWNSLEY" system has ever been damaged by lightning storm, while others in the immediate vicinity have gone up in smoke.

**IT CANNOT HAPPEN**

and our protecting cover (which is the least expensive insurance you ever paid) not only guarantees you against loss of property, but the inconvenience arising from such destruction, and the double loss in being put out of business till it has been replaced.

*Write us at once for full particulars. Agents wanted in Western Canada*

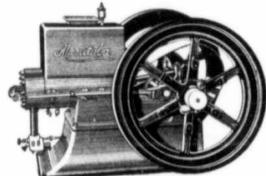
**197 Main Street Winnipeg**  
O. W. TOWNSLEY, Manager

**RUINED BY SIMPLE NEGLECT OR THE FOLLY OF BEING UNPROTECTED**

**SAVED BY TOWNSLEY AND TAKING NO CHANCES**

**99 CANADIAN LIGHTNING ARRESTER 99**  
PURE COPPER AND ELECTRICAL CO. LTD. WINNIPEG PURE COPPER

You saw this advertisement in this magazine. Don't forget to say so when writing.



# Manitoba ENGINES

## MUST Make Good

We have no half-hearted policy, no enticing sales promise, no narrow-gauge claims of goodness to put before engine buyers. Our greatest asset in the engine-building business is downright make-good policy back of every engine we sell. No man living who owns a MANITOBA engine, can truthfully say we have not stood squarely behind him and the engine he bought from us. Before being able to adopt such a strong policy, we had to be sure of our engine, therefore our first care was to put out a high-grade engine, built with nothing but the best at whatever cost. We produced such an engine in the MANITOBA and now back it to the limit. Results show the wisdom of our attitude, for our output constantly grows. We have a catalogue for you. It tells what we use and what we do not use, where we buy our material, how we guarantee the MANITOBA engine and how we make it good. Send for a copy. It's full of sound, practical information, free.

**WE MANUFACTURE:**  
Gasoline Engines, 1 1/2 to 25 H.P. Wood and Iron Pump, Grain Grinders, 6 to 12 inches. Wood Saws, all sizes. Pumping and Power Windmills, 8 to 14 feet.

**"Made in the West for Western Needs."**

**MANITOBA ENGINES LIMITED**  
(Formerly The Manitoba Windmill and Pump Co., Limited)  
BRANDON, MAN. CALGARY, ALTA.

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**Make Farm Work Easy For Man and Horses.**



Heider eveners distribute the load so every horse pulls an equal share. That means better work from each horse, easier work for you. They are made for 2, 4, 6 or 8 horses. The 4-horse plow eveners work four horses abreast on gang, sulky and disk plows, 1 horse in furrow. 2 on 2 plowed ground. Heider 2-horse eveners for wagon, manure spreader, grain drill, or any implement with pole.

**Heider Eveners**

Made right work right without side draft. Will last a lifetime.

Sold by dealers everywhere. If your dealer has none in stock don't accept any other. Write us for free catalog.

HEIDER MFG. CO.  
735 Main St., Carroll, Iowa.

Mention this magazine when writing advertisers

## Engine Owners

We are the makers of "The Corrugated Galvanized Gasoline Wagon Tank." They last longer on account of being galvanized, are made many times stronger by corrugating.

*Write for Particulars*

**Western Corrugated Culvert Co.**  
Saskatoon, Sask.

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four essays in such a way that one boy may win \$80 in a special prize in addition to having the benefit of the trip. When in Winnipeg the boys will visit the stockyards, some of the principal factories, car shops, etc. Full particulars may be obtained from any school teacher or school inspector or directly from A. W. Bell, manager, Winnipeg. The club will be under the control of Principal Black, of Manitoba Agricultural College; R. Fletcher, Deputy Minister of Education; and the association.

**The World's Wheat Returns for 1912**

The following table gives the 1912 wheat production of all the countries which have so far made their official reports to the Department of Agriculture, Ottawa.

	1912	1911
	bushels	bushels
Belgium	15,278,000	14,617,000
Bulgaria	63,750,000	72,005,000
Denmark	3,744,000	4,469,000
Spain	112,416,000	148,497,000
France	338,039,000	322,342,000
England, Wales and Ireland	55,070,000	61,612,000
Hungary	184,367,000	190,770,000
Italy	165,721,000	192,397,000
Luxemburg	664,000	626,000
Roumania	89,413,000	95,657,000
Russian Empire	727,043,000	509,503,000
Switzerland	3,278,000	3,524,000
Canada	205,685,000	215,851,000
United States	720,333,000	621,338,000
India	366,930,000	374,845,000
Japan	24,453,000	24,851,000
Egypt	28,948,000	38,046,000
Tunis	5,226,000	8,635,000
Norway	276,000	270,000
Netherlands	4,608,000	5,566,000
Algeria	27,172,000	36,596,000
Sweden	6,748,000	8,234,000
Australia	79,079,000	71,867,000
Germany	160,277,000	149,412,000
Austria	52,973,000	58,881,000
<b>Totals</b>	<b>3,437,439,000</b>	<b>3,230,411,000</b>

In the above table the estimates for Australia, Germany and Austria are given for the first time. The production of Oats in Germany is 552,470,000 bushels, against 499,548,000 last year; in Austria 157,574,000 against 147,187,000. Barley in Germany 159,926,000 against 145,133,000 last year; Austria 78,384,000 against 74,415,000. The production of sugar beet in the countries so far reported to the Institute is 135.9 per cent of that of the same countries last year; of cotton 96.2 per cent.

**The Lone Stranger**

Twenty years ago a beautiful young country girl was to be married. A friend said to her: "My dear, you will have a beautiful and attractive home. In the years to come you will doubtless derive much happiness from it, but remember this: About you there will often be young men and women, and sometimes older ones, who will be many miles from their homes. Occasionally there will be unworthy ones, but

most usually, perhaps, they will be ladies and gentlemen. But they will be lonely; they will hide their loneliness, but they will feel it. It will be right for you, with your home and plenty and loved ones, to remember these worthy strangers. They will be ministers, evangelists, teachers, and those following other professions; they will be clerks, agents, farm hands, or people engaged in other employment. Open your home to them frequently. On holidays, or when ill or discouraged, they will be apt to feel their isolation most keenly. They will appreciate so much the hospitality of your abundance and the kindness of your generous heart. Do not forget the stranger within the gates."

The young bride promised to heed the advice, and during the twenty years she has observed it faithfully. As a result her home has become not only a thing of beauty, but a haven of refuge. Multitudes have called her blessed, and she has indeed been blessed. She has remained youthful in heart; her sympathies have broadened; her outlook has widened. She has been well repaid in the happiness which she has created for many a fellow traveller on the road of life. But, perhaps, best of all, she feels that she has pleased the Master, who said: "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto me."

**The Popular Girl**

She can smile when things go wrong, and does not consider every little disappointment a calamity.

She shares her pleasures and keeps her troubles to herself.

She never makes the faults of her friends a subject of conversation; is slow to criticise, and can always find something kind to say about every one.

She accepts favors gracefully and returns them gladly.

She does not shift her responsibilities on to others, but cheerfully lends a hand to lighten her neighbor's load; strives to keep on the sunny side, but is ever ready with helpful sympathy for those who walk in the shade.

She is loyal to her friends, tender and devoted to those she loves, and generous to all.

She is liked by both men and women, and loved by children; and she finds the world a good place to live in.

"There may be uniformity of individual insight into truth, there should be no conformity of one man's mind to another man's truth."—Horne.

**GROW LARGER CROPS OF BETTER QUALITY**

ALL up-to-date Farmers and Market Gardeners now realize that they must return the plant food, removed by repeated cropping, to the soil in order to farm successfully.

We have now in stock a limited supply of complete fertilizers for all **Crops and Soils**, also a small stock of **Muriate of Potash, Acid Phosphate and Nitrate of Soda**.

Write Now for Prices and Full Information.

**GARTON SEED COMPANY LTD.**

Winnipeg :: :: Manitoba

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**MONEY IN POTATOES**



**Don't let any of it slip through your fingers**

If the average crop is good enough for you, you are going to miss the big profit on your potatoes. The extra bushels are what count. With potatoes at \$1.00 a bag they are gold. Don't let them get away from you.

You should get 240 bushels to the acre. And you can if you start in early enough. Are you going to let bugs fly away with your profit? Are you going to sit down and let weeds and blight get in their work?

At the present high prices, the average yield of 120 bushels is not enough. It will net you \$48.00 to the acre over and above expense and labor. But expert potato growers have learned how to double the crop. The extra 120 bushels add \$80.00 per acre to the profit, making a total clear profit of \$128.00 to the acre.

What these men have learned has been gathered together in a little book entitled "Money in Potatoes." This is the best practical potato book we know. It gives you a chance to learn in a few hours facts that it took many years to accumulate.

**The \$80.00 Coupon will entitle any bona-fide farmer to a free copy while they last.**

**THE \$80.00 COUPON**



The Canadian Potato Machinery Co., Limited  
M Galt, Ontario

As a Potato Grower I would like to have a free copy of this book.

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





WHILE the Winter Fair at Brandon can hardly be said to come under the head of a farm problem, it contains some lessons which it is well not to pass over without some comment, and this is the time in which to speak of them while they are still fresh in the memory.

The citizens of Brandon have shown great enterprise in providing splendid quarters for the housing of the winter fair. Every winter fair that has been held in Brandon has brought out excellent stock, but this year, for the first time, it was possible to see it in the proper relation of classes, and therefore the show of 1913, from an educational standpoint, was the best that has yet been held.

and it is also a good time for the man who has mares to breed to see all the available stallions within a reasonable distance of his place and decide which one will best suit to mate with the mares he has.

As a special help along this line, Brandon offers a very excellent prize for the best stallion standing for stud in that district, and this brings out each year a very large class. If a stallion standing in the district does not show in this class, it would generally pay the intending breeder to find out just why he has not appeared. So much for the aged stallions.

Then the spring show is an excellent opportunity for the man who is breeding stallions to give his future purchasers a chance to

middle of May, if they are to make their best gains before their first winter is upon them.

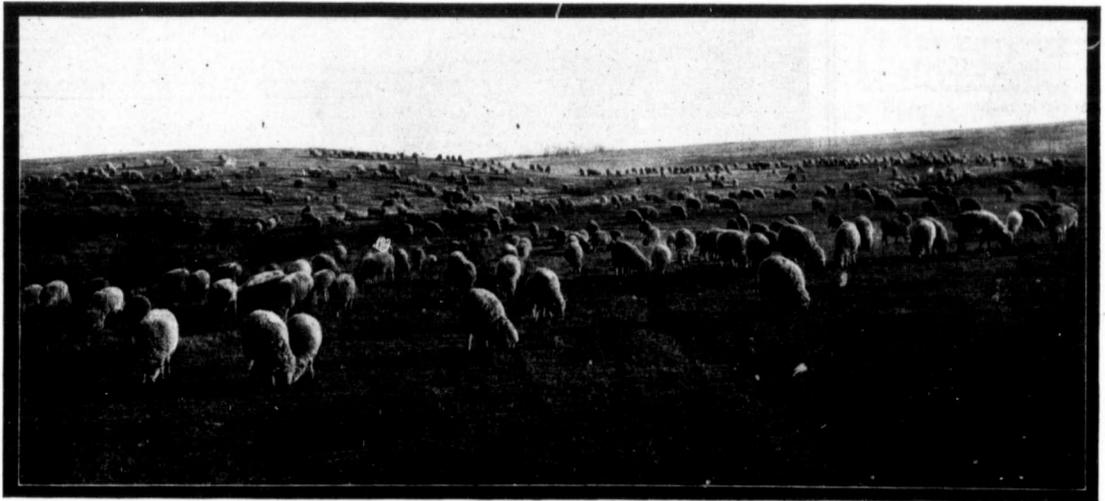
The spring show is a good time, however, to bring out fillies of two years of age, and the classes are more especially valuable when the sires of these fillies are present, as it is then possible to get an idea how the stallion impresses himself upon his progeny, and this advantage pertains also in the classes of yearlings and foals, both stallions and fillies.

For example, at Brandon this year there was a class of nine filly foals, Canadian bred, of which nearly all the sires were present, and one of the things especially remarked by onlookers was the way in which some of these fillies resembled their sires, and others again appeared to give

stallion.

The majority of the exhibits in these classes came from within forty miles of Brandon. There were geldings and fillies in three or four classes, all the get of one sire and frequently dropped by the same mare. One man showed a foal yearling, two-year-old and three-year-old, all the get of one stallion, out of one mare which had originally been bred on his farm. The quality of these fillies and geldings it would be difficult to surpass in any show, and practically all of them were shown by farmers actively engaged in the raising of grain and stock.

A more valuable lesson could hardly be asked for, especially as in one case a man who showed one of the six-horse teams, all of which were his own breeding,



Part of a Flock in Sunny Alberta

As the horse end of the show is the best one at the present time, it will be dealt with first. No one doubts for a moment that spring is the proper time to show stallions, especially aged stallions suitable for stud, or travelling on circuit; in fact, it is the only time in the year when aged stallions should be shown.

No stallion who is worth his salt for breeding purposes should appear in the show ring at the summer fair. He ought at that time to be on his circuit. The spring show is, therefore, a good time for the man who wants to buy a stallion to make a selection,

see what he is bringing on, and also for the breeders to get an idea of what may be expected in the future. The two-year-old stallion, while not mature, has reached a point where the experienced buyer can form a pretty accurate judgment of what he is going to be.

The spring show is not a place for brood mares, and Brandon has very wisely cut out that class. Brood mares either are, or ought to be, so heavy with foal at this season of the year as to make it unwise for them to travel any great distance from home. Foals should be coming along from the

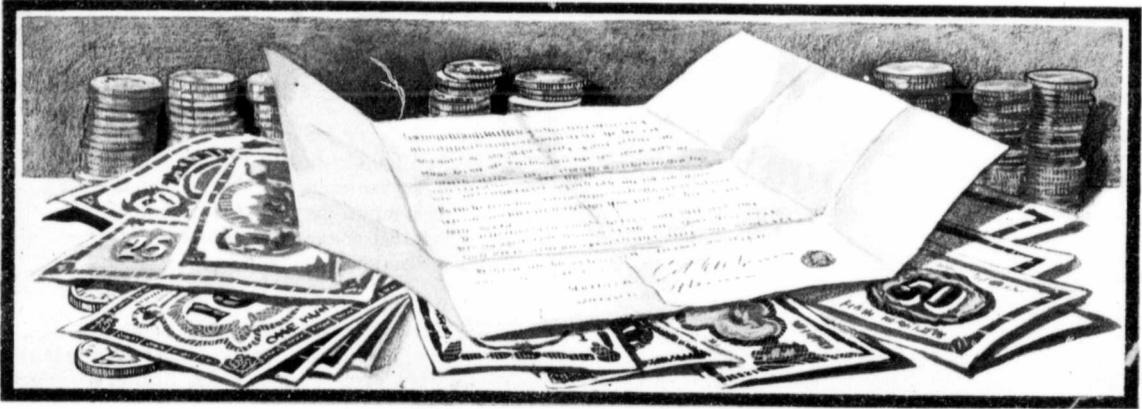
no indication of their parentage. To any man who is interested in breeding, the watching of these classes throughout the three days in which they were judged, was a liberal education, but the value of the horse classes did not end there.

The exhibition management put up excellent prizes for grade geldings and fillies. Now, these classes are the ones which are the most valuable to the individual farmer, because they show unmistakably what any farmer may do if he is careful to select a good type of grade brood mare and pay for the services of a first-class

flatly refused \$1000 cash for the swing team of his tandem. The best showing for quality and fitness in these classes was made by the men who were doing general farming and not by men who were confining themselves exclusively to breeding, a very powerful argument in favor of mixed farming.

#### Cattle Classes

The one weak place in the Brandon show, if any can be said to be weak, were the exhibits of fat cattle. Excellent prizes are offered in these classes, and the management declared unhesitat-



**"This Policy is as good as a Crop"**



**You Can Drive In  
To Make Good Your Loss!**

When the hail has done its worst and left your fields a sodden swamp of battered, worthless grain, hunt up your policy, hitch up and drive to town.

Your policy is as good as your crop would have been. Your loss is remedied in short order and you thank the foresight that led you to insure against the Western scourge.

Investigate our record. We stand for **SOUND, SATISFACTORY HAIL INSURANCE**. Write any of the Companies shown; see one of our 1,200 Local Agents; or address—

**Insurance Agencies Limited**

BRANDON, WINNIPEG, REGINA,  
SASKATOON, EDMONTON, CALGARY

**Best Service  
at Lowest  
Possible Cost**



ingly its disappointment that there were so few competitors. The cattle which were exhibited were of exceptional type, but with the exception of one or two exhibits, were all put in by the larger breeders of pure bred stock, in this way forming a very marked contrast to the exhibits of grade horses.

At the cattle breeders' meeting, where the managers and the president of the fair spoke of their disappointment at the lack of interest taken in these classes, one man made the excuse that help was hard to get in feeding, but President McGregor knocked this statement into a cocked hat by pointing out that the steer which was champion of the show and which had been champion in the classes in which he had been shown in Chicago, had been fed and cared for from the time he was dropped by a boy of sixteen years of age, and this steer is now in the running for the grand championship at Chicago next December.

Mr. McGregor has pointed out past all doubt that it is not a question of difficult feeding, as the grand champion of Chicago last December had never received anything that could not be grown on any and every Manitoba or Western farm with the greatest ease, viz., oats, barley and turnips, with a little flax thrown in.

The fair management has provided stabling for 150 steers, and they had only 45 entered this year. The time to begin to feed a steer for next spring competition is right now. If you want to have a two-year-old ready, get busy on him right away, and if you have a steer that is of a good type, make up your mind that he is going to be fed. If you have a calf just dropped, which can qualify in the yearling class keep after him.

Make it worth while to your boy or your girl to see that the calf is never allowed to go behind for a single week, and right here it may be said that there is no reason on earth why a girl shall not feed a steer for the fat stock show as well as any boy or man. If the work is done within the family there would be no outlay for the feeding of the steer. All that is necessary is great patience and regularity, and whether the steer so fed gets within the money or not at Brandon, he will pay for his keep.

The prices of cattle are high, and the supply is so short over the entire continent of America that they must remain high for some years to come. The taking of a steer to a winter fair is an excellent school in feeding. There is an opportunity to confer with others and to discuss feeding methods with the successful winners of prizes. To feed a steer

for the winter fair at Brandon in 1914 should be the ambition of every farmer with a decent steer in his possession at the present time.

If 150 or 200 farmers will signify their intention of having a steer ready, and will let Manager Small know within the next month that he may rely upon them for such an exhibit, there is no doubt that both the number and the size of the prizes in these classes will be increased. If any man has any doubt as to how to begin, a letter to President McGregor will bring him all the information he needs. President McGregor is an enthusiast on the feeding of steers on the ordinary products of the farm, and he will spare no pains in order to stimulate this industry.

#### Sheep and Swine

One of the most gratifying features of the Brandon show was the enormous increase in the sheep exhibits. There were many more exhibitors; there were larger numbers of sheep from each flock, and the quality was an immense advance on anything previously attempted. The prizes in the sheep classes are excellent, and the following figures, which were given by President McGregor in the course of an address, are a sufficient indication of how it pays to feed the mutton type of sheep:

"In the fall of 1911 I put on one of our farms 97 Suffolk grade ewes and used among them Suffolk Down rams. We raised 147 lambs which were sold for \$7.00 each. This, together with the wool, made a return of \$10.00 per ewe. The ewes were fed during the winter on a little sheaf oats and wheat straw until towards the spring when they were given half a pound of crush oats and barley. They were run on summer-fallow during the whole summer, plowed about every two weeks, and sowed to oats, about one bushel to the acre, to furnish them with green feed during the summer, and in that way they worked the whole of our summer-fallow. The lambs were sold to the local butchers who took them away as they required them."

In the swine classes the exhibit was good, but once more the question was raised as to the weight of hogs. Where there is only one litter in a season, it is difficult to hold hogs down to the regulation weight, and in many cases this can only be done by keeping them on short rations. This brings up the perennial question of one or two litters in a year.

Brief talks with some of the men indicated that they strongly favor the weight being increased. The packers, on the other hand, do not seem to favor the heavier

## GROW LARGER CROPS OF BETTER QUALITY

ALL up-to-date Farmers and Market Gardeners now realize that they must return the plant food, removed by repeated cropping, to the soil in order to farm successfully.

We have now in stock a limited supply of complete fertilizers for all **Crops and Soils**, also a small stock of **Muriate of Potash, Acid Phosphate and Nitrate of Soda**.

Write Now for Prices and Full Information.

## GARTON SEED COMPANY LTD.

Winnipeg :: :: Manitoba

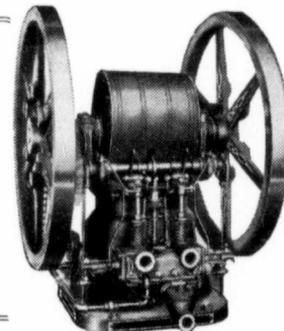
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## KEROSENE COSTS 15 Cents Per Gallon GASOLINE COSTS 27 Cents Per Gallon

WINNIPEG PRICES BULK

The Master Workman Burns Kerosene and Develops More Power—Gallon for Gallon—Than a Gasoline Engine,

CUT  
YOUR  
FUEL  
COST  
IN  
HALF



The Master Workman  
Made in sizes from 2 to 50 horse power.

DEVELOP  
MORE  
POWER  
ON SAME  
QUANTITY  
OF FUEL

An engine with a reputation of several years, sustained by a character for perfect and economic service unsurpassed if unequalled by any kerosene burning engine made today. "The Master Workman" has given complete satisfaction to a big clientele in the United States and we are now placing it on the Canadian Market.

EVERY ENGINE THOROUGHLY TESTED BEFORE SHIPMENT

Write at once for completely illustrated Catalogue C. T.

## HENRY RUSTAD

325 William Avenue :: :: WINNIPEG, MAN.

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Remember to renew your Subscription

hog, though in view of the high price of lard, it would seem that there should be more demand in the market for the thick, fat hog than there is in Canada. However, the bacon type has been established, and if the West goes in for hog raising, as it should do, it will, like Ontario did some years ago, have to seek a market for its surplus in Britain, and there the bacon type is absolutely essential.

It would seem, therefore, that the best solution of the difficulty is to arrange farm buildings, etc., so as to permit of the successful breeding of two litters a year. If this were done, there would be no trouble whatever in having hogs of the right weight for the spring show.

**Poultry**

The poultry exhibit at Brandon was a wonder, both as to numbers and quality of birds, and the judges agreed in declaring that the right balance was being maintained between the utility and the fancy end of the breeding, one being as essential as the other, if the standard is to be maintained.

**Breeders' Meetings**

The breeders' meetings have for a number of years been held in connection with the Brandon Spring and Winter Show, but more and more it is becoming a question as to whether this is a wise time for these meetings or not. This year many of the men did not hesitate to say that if they were to get the best out of the show, from an educational standpoint, they had not time to attend meetings and listen to addresses which, while valuable in themselves, were not as valuable as what they could learn in the show ring or in the stalls.

There were a number of matters which were of really great interest to most of the breeders which either were not discussed at all, or discussed by far too small a number to ensure the discussion being representative.

A matter which came before each of the breeders' meetings was that of having better representation on the Dominion Breed Associations and the best methods of securing the same. This is a most important matter to the breeders of pure bred stock, as the Dominion Breed Associations make rules under which animals must be registered. The fact that the West was not getting fair treatment in these associations has been admitted for years.

It was hoped for a time after the National Record was started at Ottawa, that this disability would gradually disappear, but it seems to be increasing, and the breeders of the West feel that they must be up and doing if they are to hold their own against Eastern Canada. This view will

# DON'T WORRY ANY MORE

## About Your Threshing



**THIS OUTFIT WILL ANSWER THE PURPOSE**

This is our No. 8 Thresher, 28 inch Cylinder, with Straw Carrier, Tailings Elevator and Grain Bagger

Thresherman like this size because it has a large capacity, does a first class job, does not throw any dust to the operator, is strongly made and easy to move

We manufacture this machine to run with 4, 5 and 8 H.P. Engines. We also manufacture the One and Two Horse Tread Powers

**WRITE TODAY FOR CATALOGUE**  
and prices to the manufacturers of the Genuine **AMERICAN CHAMPION** Threshing Machines

**WE WANT A GOOD RESPONSIBLE AGENT IN YOUR DISTRICT**

# P. T. LEGARÉ, LIMITÉE,

**273, 287 St. Paul Street, QUEBEC.**

You saw this advertisement in this magazine. Don't forget to say so when writing.

be held more strongly than ever now that the Live Stock Department has decided to go into the business of purchasing stallions, bulls, boars and rams, and placing them in the more sparsely settled districts of the West for the use of farmers at a practically nominal fee, as this will open up a possibility of favoritism to the Eastern breeder, and the still further disability of inferior animals being introduced into the West.

In conclusion, the Winter Fair at Brandon is a great educational institution. It should be the aim of every farmer worth the name to be represented at that gathering in one class at least, and if that is quite impossible it should be the aim of the farmer and the farmer's wife to not only attend the fair themselves, but to see that their sons and daughters have an opportunity for doing so also. Last, and all the time, feed a steer for the show of 1914.

**Growth of Sawyer-Massey  
Typical of Canadian Industrial Development**

"The wonderful industrial growth of Canada is exemplified right here in Hamilton by the growth of our factory pay roll from 220 three years ago to 649 today," said R. Harmer, president of the Sawyer-Massey Company, who was the guest of honor at the first annual banquet given by the employees of the Sawyer-Massey Company at Hamilton recently.

"Although our company has a history of over 75 years back of it," Mr. Harmer went on to say, "its growth up to three years ago was slow and in keeping with the earlier demand for threshing machinery. Now with the opening of the vast markets of the Can-

adian West the vitality of the company is well demonstrated in the quick response in increased production to meet the larger demands. I consider this occasion a significant one from an industrial standpoint in that it shows in a delightful way your feeling of loyalty to the company. Loyal co-operation is vital to the success of any concern. We are extending our markets into the West and into foreign lands, and when one of our machines is sent ten or fifteen thousand miles away, it is imperative that conscientious work has been given to every part of the machine. I am pleased to say that the same spirit which has resulted in this pleasant occasion is daily manifest in our factory, and the results are showing in a practical way in the company's growth and increased trade."

Hackney Manufacturing Company Entering the Canadian Field with the Hackney Auto Plow.



G. B. Wheeler  
Canadian Manager, Hackney Manufacturing Co.

The Hackney Manufacturing Company of St. Paul, Minn., manufacturers of the Hackney Auto Plow, are establishing a Canadian factory and selling organization in Canada to take care of the heavy demand for these machines in this country.

Power farming has been responsible for the invention and development of this tractor. While the farmers operating tracts over 1½ sections have their requirements well taken care of in the large standard oil or steam traction engine the Hackney is designed to give the men operating from ¼ to 1½ sections a general purpose tractor.

The record of the Hackney Company is one of remarkable growth and development. The Hackneys are widely known business men of the Twin Cities, and have an enviable reputation for honest business methods and straightforward dealing.

The Hackney Land Credit Company is controlled by them, and they have farmed on a very large scale for many years. The Hackney Auto Plow had its birth in the mind of Mr. L. S. Hackney, the idea being the outcome of his knowledge of farm requirements. Senator J. M. Hackney (general manager of the company), assisted his brother in the development of the idea; while the best consulting and practical engineers in the country were employed to develop and build the actual machine. After the first engines were constructed they were thoroughly tested out on the large farms of the Hackneys, and the results secured were so favorable it was decided to put the engine on the market. The manufacturing plant was established at St. Paul, and the demand for the machines has been so heavy that the plant has been tripled in size in two years, and an entirely new

plant to supply the American trade is now under consideration, as the present plant cannot keep pace with the orders.

This machine is thoroughly covered by patents in all countries, and wherever the engine is demonstrated the interest on the part of the farmer is intense. Some users claim it is the greatest labor and horse saving device invented since the self binder or reaper. It is built in many respects just like the heavy motor trucks, which are coming into such universal use in large cities. It is equipped with a four cylinder motor of large bore, and long stroke, capable of delivering 28 h.p. to the belt pulley. This motor is heavier than the automobile motor, and designed to carry the heavy strain of farm work. The transmission is of the sliding gear motor truck type, cut steel hardened gears running in hard oil, giving two speeds forward and one reverse; a plowing speed of from 2¼ to 2½ miles per hour, and a road speed of from 4 to 5 miles per hour.

The very unique feature is, of course, the manner of carrying plows. These are attached to a strong draw bar located almost directly under the main axle, and attached in main frame. The suction of the plows operating almost directly under the main drive wheels gives them traction grip, and compensates for absence of weight above. The machine, complete with plows, weighs only 8,000 lbs, and with plows detached the four cylinder, two speed general purpose tractor weighs only 3¼ ton. The plows are adjustable, the same as the horse or standard engine gang, and equipped with break pins for stony ground, and lifted by motor at the end of furrow.

The manner of attaching the plows with the method of lift makes the machine an absolutely one man plowing outfit. The weight of the machine carried on large diameter and wide face drive wheels makes it well adapted for spring plowing and seeding operations, as it will not pack the land when seeding and can be used for plowing when the ground is comparatively wet. A belt pulley is supplied for threshing and other work of a similar nature. Disc plows or disc harrows, also road grader, can be attached to machine. The road grader is making the machine very popular with the municipalities and Good Roads Associations for road improvement work, as one man on this engine will do the work of several men and a large number of horses.

The Canadian business is in charge of G. B. Wheeler, who has been with the Canadian Fairbanks Morse Company for several years and is well known to the trade

## A New Idea In Prize Giving

THE CUP no longer commands the appreciation it once did as a permanent recognition of winnings. Its stereotyped character does not satisfy everyone and there is a strong desire to have the money represented in a form which may serve some useful purpose, say in the household. We have had specially designed, and made for this purpose a fine collection of artistic pieces in **Cut Glass, Silver Table Ware**, etc., and invite inquiries for illustrated particulars of these. They are unequalled in

NOVELTY, QUALITY and VALUE

**Henry Birks & Sons Limited**

JEWELLERS & SILVERSMITHS

WINNIPEG

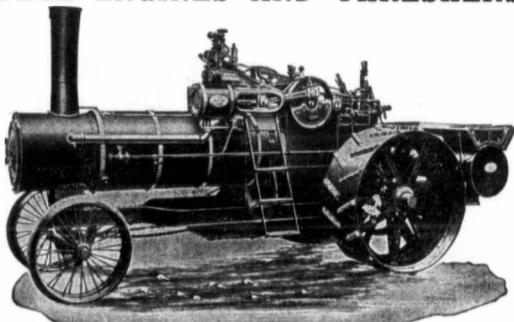
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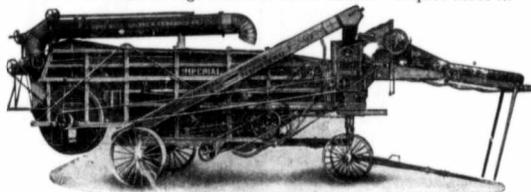
MANITOBA

You saw this advertisement in this magazine. Don't forget to say so when writing.

## BELL ENGINES AND THRESHERS



Our 26 and 30 h.p. Rear Mount Plowing Engine. 175 lbs. steam pressure under Alberta Specifications. No Brackets attached to boiler with Stud Bolts or Cap Screws. Engine and Gearing mounted on separate Steel Frame. No strain on the boiler. Gearing, open hearth Cast Steel, guaranteed against breakage until worn out. Made to Plow without lost time through breaks or boiler troubles. Enquire about it.



Imperial Separators. Sizes: 28 x 42, 32 x 54, 36 x 60. Improved for 1913. Good in all kinds of grain. A wonder in Flax. Handsome, Speedy and Durable. Write for further information.

**The ROBT. BELL ENGINE & THRESHER CO. LTD.**

Branches: Winnipeg, Man.  
Saskatoon, Sask.

Factory:  
Seaforth, Ont.

You saw this advertisement in this magazine. Don't forget to say so when writing.

and to the farmers of Canada. Mr. Wheeler has had a very wide experience, and knows the business thoroughly, having had the best of training in both the manufacturing and selling branches. He secured early training in the shops of the Waterous Engine Works Company at that great manufacturing centre, Brantford, Ontario.

Negotiations are now under way, and will probably be complete promptly, whereby the new Canadian factory will be estab-

lished at Chatham, Ont. The demand for the machines is very heavy in the wheat growing countries of Europe, and the company will supply this as well as the British colonial trade from the Canadian works. Mr. Wheeler expects to remove to the east very shortly, as the sales for export and Canada East will be handled from the factory office, and a line of distributing warehouses established in Western Canada to take care of Western Canadian business.

**Prevention of Weeds**  
By T. N. Willing

Now is the time to consider well the preventive methods of dealing with weeds. Probably in the great majority of cases the owner of a field is directly responsible for the presence of weeds in it. No doubt many will place the blame anywhere but on themselves. Let us consider for a moment how weeds may come.

Careless plowing of the prairie permits many native plants to survive and persist as weeds in the crop. The preventive method is better breaking and backsetting to totally kill the wild growth and rot the sod, so that the total area may be productive when sown.

Badly chosen grain is frequently sown containing weed seeds. More care in the choice of seed is needed and more time spent on cleaning and recleaning this before sowing may prevent more weeds than could be pulled in a month. A few thousand weed seeds in a bushel of grain might not be very noticeable, but if sown and allowed to grow the weeds would be perceptible and there at one seeding would be another problem for the farmer, the weed inspector, the municipality, the province—to worry over. The effects of a weed seed dropped into the soil may be likened to the ripples from the dropping of a pebble into the calm water.

The grain fed to the horses or cattle should not contain weed seeds, except they be finely crushed or otherwise prevented from germinating, as many seeds pass through stock in an unincubated condition, and may be dropped in the fields.

Wandering stock carry seeds from about the straw piles.

Threshing machines and wagons should be prevented from traveling over our fields from dirty farms.

There are many other ways by which weed seeds may be carried to our land, and therefore all farmers should keep in touch with the progress of their crops and by frequent inspection know what they are growing. The timely pulling of a few weeds may prevent unlimited trouble.

Be wise in time—the sowing of weed seeds is absolute foolishness. "Ye shall know them by their fruits. Do men gather grapes of thorns or figs of thistles?"

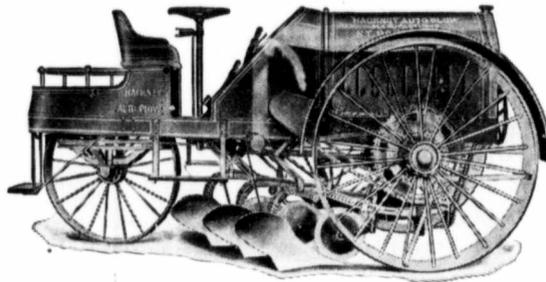


**As Advertised**

Teacher—"What is the stuff hopes are made of, Tommie?"

Tommie—"You'll have to excuse me, Teacher. I don't know what breakfast food you like best."

- Plowing
- Seeding
- Discing
- Harrowing
- Harvesting
- Threshing



- Wood Sawing
- Orchard Work
- Road Grading
- Feed Grinding
- Cutting Ensilage
- Hauling Loads, etc.

# Free Demonstration of Hackney Auto-Plow

So great has become the call from farmers of Canada for demonstrations of the Hackney Auto-Plow—the famous "One-Man" outfit—that we have opened branch houses and service stations in your territory, installing a full line of our machines and attachments for same.

This will give prospective buyers an opportunity to see the machine in action and make thorough tests, without being obliged to make long trips at a considerable expense and loss of time.

The Hackney Auto-Plow is the ONLY tractor that can be used ECONOMICALLY on small farms. It is equally successful on farms of large acreage. It is the ONLY "One-Man" outfit that will do the plowing, seeding, discing, harrowing, harvesting, threshing, wood sawing, ensilage cutting, road grading, etc.

If you are thinking of buying a power outfit don't fail to see the Hackney Auto-Plow. Write us at once and we will arrange for demonstration.

## Hackney Manufacturing Co.

579 Prior Avenue

St. Paul, Minn.

The Hackney Auto-Plow will be on Exhibition and Demonstrated at the Calgary Winter Show, April 8.

### Make Wash Day a Pleasure instead of a Drudgery with a CANADA POWER WASHER

**WASHER ONLY Complete with Ball Bearings Reversible Wringer**

**\$23.50**



Slip The Belt on Your Engine—No More Hard Work

**OUTFIT COMPLETE including Engine, Washer and Belt**

**\$65.00**

Simple in Design, Efficient in Operation, Belt to any Gasoline Engine or Line Shaft. A True, Faithful and Tireless Servant. Shipping weight 120 pounds. Pulley 10 1/2 x 2. Runs at 160 R.P.M. You can test this outfit for 30 Days in your own home to prove to your satisfaction it is one of the best labor saving outfits ever sold. Our Handy Boy 1 1/2 H.P. Gasoline Engine can be operated by any woman or boy, has speed-changing device, auxiliary speed pulley for running two machines at once or for operating slow speed machines like washers, churns, cream separators and fanning mills. Weight 325 pounds. Shipped complete ready to run \$42.50. Big Engine Catalog sent free. Write today for Catalog of Gasoline Engines, Grain Grinders, Wood Saws, and Farm Supplies.

**C. S. JUDSON CO. LTD.**

"From Factory To Farmer" 179-181 Market St., Winnipeg, Manitoba

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Remember to Renew Your Subscription**

Making High-Priced Pork while Grinding their own Feed.



**AGENTS WANTED in Every Town and District**

Shipments made from Galt, Ont and Winnipeg, Man.

Address to Head Office

**Canadian Hog Motor Co. Ltd.**  
372 Portage Ave. Winnipeg, Man.

Mention this magazine when writing advertisers.

### DR. WARNOCK'S ULCERKURE

The wound healing wonder. Heals without leaving a scar or the usual aftergrowth of white hairs. Ulcerkure is the surest and safest of all antiseptics.

Sold in bottles, 50 cents and \$1.00

**Western Veterinary Co.**

Sole Proprietors  
P.O. Box 2132. Winnipeg, Canada

### Questions and Answers For Gas Engine Operators

This is a department for gas engine operators similar to that which we have so successfully carried on for the past few years for those interested in steam. We invite your questions and will give them our best attention. Just tell us your troubles or ask us about any point upon which you desire information. We have secured the services of a competent expert who can handle gas engine queries intelligently and to the complete satisfaction of all concerned.

**Q. J.R.C.** I have a 25-horse power, model 38, four cylinder Overland car equipped with a Schebler carburetor and Renny magneto. The car will run well on a warm day but when it gets cold, say down around freezing, the engine will start all right, but as soon as I attempt to move the car it will begin to miss. Sometimes one, sometimes two, sometimes three cylinders at a time. If I try to pull up a slight grade it will stop on low speed where it will pull up the same hill on high speed on a warm day, everything being adjusted just the same. The engine usually acts better if it gets

through the valves or past the pistons.

**Q. O.A.P.** Have been a reader for fifteen months and find it a useful magazine for anyone who runs engines. What mixture of kerosene and gasoline gives the best satisfaction for starting on and running also, without first starting on gasoline alone? I see in the June issue you recommend kerosene and gasoline mixed. We have sixty gallon tank. How much kerosene can be added and how much gasoline? Any advice



Avery and Avery Power Lift.

thoroughly warmed but it will miss at all speeds when cold. Can you suggest the proper remedy?

**A.** From the data submitted we believe the difficulty lies largely with the adjustment of the carburetor. It appears to us that the engine is not getting the proper mixture. Probably it is a little too weak and we would expect back-firing through the carburetor. If this is the case it will be necessary to supply a little more fuel. We also suspect that ignition is weak but we cannot tell exactly where to look for the trouble. We would suggest going over all the wires very carefully first, making sure that every connection is secure, that the vibrators are properly adjusted and that there is no possibility for a short circuit. You should then observe if the engine is properly timed. Ignition should occur when the piston is within about three-eighths of an inch from the top of the cylinder on the compression stroke. We also suggest that you determine if there is any leak of compression either

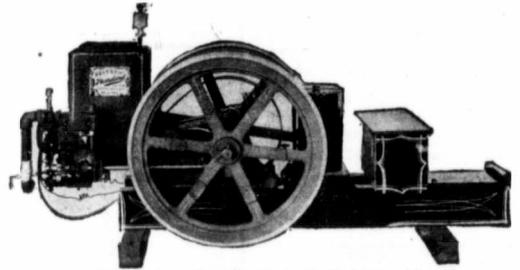
you may give us in regard to the mixing of the two fuels for gas engine use will be appreciated.

**A.** The object in using kerosene and gasoline in combination is to cheapen the fuel product, and also to use, if possible, only the kerosene alone. Some gasoline engines will do this quite successfully after starting and running for a few minutes on gasoline until the cylinder becomes well heated up. Others seem to do better on a mixture of the two products. A certain engine may require only a pint of gasoline to a gallon of kerosene, while another may require gallon for gallon. You might start with a mixture of a gallon of each, and note how your engine performs then reduce the gasoline each time you fill your tank until you have reached the point where your engine will give good results on the least proportion of gasoline, and if in this manipulation you learn to discard gasoline entirely, excepting possibly on starting, and run wholly on kerosene, we suppose that you will feel content.

## RENFREW STANDARD

### Starts Without Cranking

Mr. FARMER, the solution of the labor problem is entirely in your own hands. Men's wages are getting higher and higher and this is nothing to the difficulty of being able to get men when you want them.



2½ to 60 H.P. Semi-portable as illustrated. Also Stationary and Portable.

### This Great All Purpose Engine is CHEAPER THAN MAN POWER

will provide you with cheaper and more reliable power than the man-power you can hire. It will work for you day and night, in cold, snowy, rainy or hot weather. So simple in construction, so easy to start your boy can run it without difficulty. The latest and best type of engine for sale in Canada. Just as good a gasoline engine as our famous "STANDARD" Cream Separator is a separator. Write for Bulletin giving complete description.

### The Renfrew Machinery Co. Ltd.

Willoughby-Sumner Block

SASKATOON, SASK.

N.B.—Write us about the Gifford 1½ H.P. Engine, the handiest, most compact and most wonderful little engine made.

You saw this advertisement in this magazine. Don't forget to say so when writing.

## The "BIG CHIEF"

IS THE

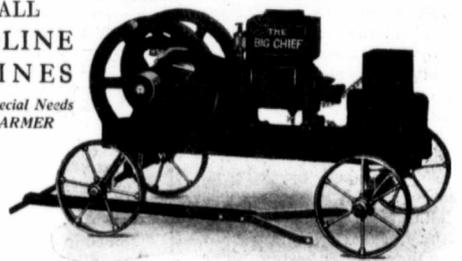
### BIGGEST SUCCESS

OF ALL  
GASOLINE  
ENGINES

For the Special Needs  
of the FARMER

A SIMPLE  
THING  
Easily  
Understood

No Unnecessary  
Costs



In Material and Structural Character it is  
THE HIGHEST QUALITY GAS ENGINE  
at Lowest Price

The makers of the "Big Chief" do nothing but build gasoline engines. They make them not by tens but by hundreds and buy all material IN QUANTITY that commands the very lowest market quotations. The experience of many years, not only in building but in constantly operating internal combustion engines is specialized on the "Big Chief" and we invite the most searching inquiry test, and comparison with anything of the kind now being sold.

Write for complete illustrated details to

The Harmer Implement Company  
181 Princess Street Winnipeg

**Q. I.E.G.** I have a 7 h.p. portable engine which is a hard starter and always was, due I believe to poor ignition device and carbureter. The ignition was made and break and I have changed it to jump spark, which works perfectly, but starting isn't much easier, unless I go at it and heat the whole cylinder or at least the carbureter. It won't start with the weather at freezing point on ordinary gasoline, and the gasoline pump is the meanest thing that I ever saw, as it makes a stroke every turn of the engine and wears the packing out every few days, which is extremely difficult to replace so it won't leak, despite the fact that I have a new polished plunger for it at the present time. It has always bothered.

Now what I wish to know is whether or not I can change this to a suction feed by putting on a good carbureter such as the Schebler; the bottom of the gasoline tank being 15 inches below the intake port, and whether this will be of advantage to me for starting?

Another question I would like to ask is whether the heavy balance wheel on a 4 roll Deering corn husker amounts to anything when being run with a 6 or 7 h.p. gasoline engine?

**A.** We are of the opinion that you can get away from your pump and starting trouble by applying the suction carbureter. There is no reason that we see why this could not be readily done. We feel so sure that it would serve to advantage that if it were a matter of our own we should certainly secure a carbureter on a test basis: that if it proves beneficial you will purchase, and if not you may have the privilege of returning it.



**Just Like Them**

"I suppose that when you left the convention you exclaimed, I came, I saw, I conquered?"

"Not exactly," replied the delegate who changed his mind. "That was what I was going to say, but I modified it to 'I came, I was seen, I concurred.'"

**Those Dear Girls Again**

Clara—"Rose told me that you told her that secret I told you not to tell her."

Belle—"She's a mean thing. I told her not to tell you."

Clara—"Well, I told her I wouldn't tell you she told me, so don't tell her I did."

**The Way It Looked**

A little friend of mine about 4 years old was watching her mother pin on her hat before the mirror, and said inquiringly:

"Mamma, when I am as big as you will my head be soft enough to stick hatpins through?"

## FLOUR CITY TRACTORS

### EXPERIENCE CONCENTRATION PERSEVERANCE

In these three words lies the key to the success of the "Flour City" Tractors. The result of fourteen years specialization, continually concentrating on improvements of mechanical design, has made the "Flour City" what it is today.

The four cylinder vertical motor admits of minimum weight without sacrificing power.

The large diameter drive wheels admit of minimum weight without sacrificing the draw-bar pull.

This combination embodied in the "Flour City" won the Gold Medals in the Winnipeg Contests and established a reputation in the field that no other tractor has equalled.

The 1913 model burns gasoline, kerosene or distillate.

It is correct in design, simplified in construction and the most complete in details.

Built in three sizes—20, 30 and 40 H.P.

If interested send for catalog.

828 44th Avenue North

KINNARD-HAINES CO. MINNEAPOLIS-MINN.

**An Efficient Engineer**

I hereby certify that Mr. A. C. Kastner, who has worked for me in the capacity of steam engineer for three seasons both for threshing and plowing, is a first class man in every respect, attending strictly to his duties. I can heartily recommend him to any person requiring an engineer.

(Sgd.) Colin Wells, Francis, Sask.

See Advertisement on Page 117

Having known Mr. Kastner and his excellent record for some 3 years, we have much pleasure in supporting the above testimony to his character and ability.

C. T. & F.

### ABSORBINE

Removes Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from any Bruise or Strain; Cures Spavin Lameness, Allays Pain. Does not blister, removes the hair or lay up the horse. \$2.00 a bottle, delivered. Book 125 Free.

**ABSORBINE, JR.** Liniment for manking. For Sprains, Strains, Gouty or Rheumatic Joints, Swollen, Painful Varicose Veins. Allays Pain. Will tell you more if you write. 25 and 50 per bottle at dealers or direct.

It is spelled **A-B-S-O-R-B-I-N-E** and Manufactured only by **W. F. Young, F.D.F.**  
112 Lyman's Building, Montreal, P.Q.  
Also furnished by Martin Ross & Wynne Co., Winnipeg. The National Drug and Chemical Co., Winnipeg and Calgary, and Henderson Bros. Co., Ltd., Vancouver.

**BARN**

and other buildings will now be occupying your attention. Do not forget that your building will only last as long as the roof, and you must therefore select a good

**ROOFING**

Experience has proven that the best that can be had is

**CORRUGATED IRON**

You can get it in either painted or galvanized with all trimmings made expressly and exclusively for Western Canada. Send your plans for free information and advice to

**Winnipeg Ceiling & Roofing Co.**

P.O. BOX 2187 WINNIPEG, MAN.

**Don't Fail to Renew Your Subscription  
Before it is Too Late.**



# How about that Oil Pump for your Plowing Engine ?

## DON'T DELAY

Because a delay may cost you many dollars. **MADISON - KIPP Oil Pumps** have no springs, valves, checks, or packing to get out of order and cause you trouble.

Write for Catalog Today

## MADISON - KIPP

LUBRICATOR CO.

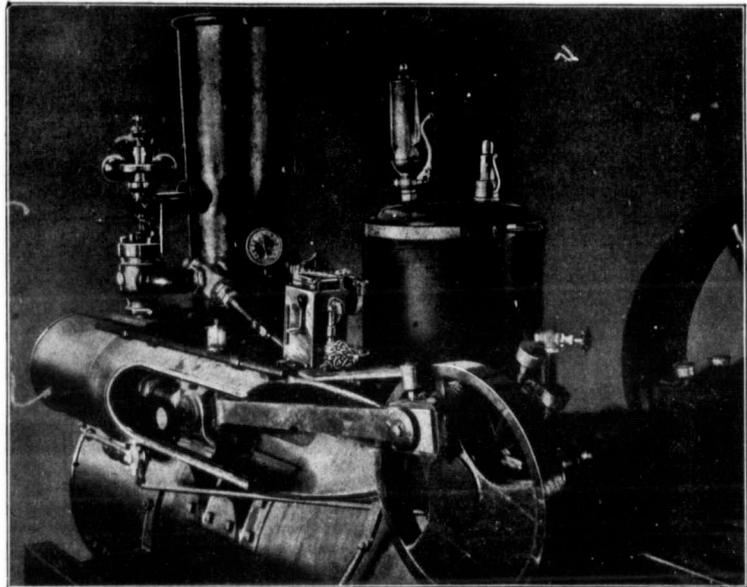
MADISON WISCONSIN

CANADIAN AGENT

## MAYTAG COMPANY

WINNIPEG

MANITOBA



for its reception just as carefully as a good farmer will provide a shed or covering of some sort for his implements when they are not in use.

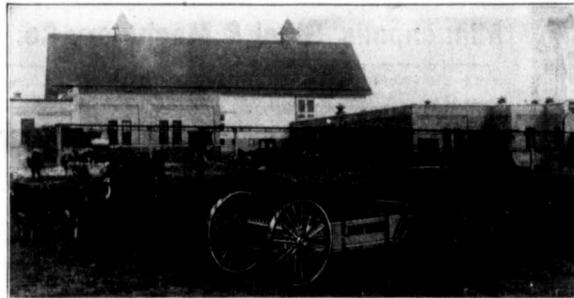
The special circumstances of the farmer will of course be the determining factor as to certain details, but there are general principles which it seems must be complied with if we are to be guided by the consensus of experience now on record, as well as the result of tests made in the course of scientific inquiry as to the character of different manures, and the use of these under differing conditions.

There are two ways in which the fertilizing value of natural manure is lost; heating and leaching. If manure is left in piles, it quickly begins to heat, especially if it is horse manure. When it heats, it decomposes and the nitrogen is lost in the form of gas.

In the spring and early part of the summer, if manure is allowed to be in lots exposed to the rain, much of the fertility is leached out and carried away. If it is hauled direct from the barn to the field and spread, heating is prevented until the manure is plowed under. Then those elements which are exposed by decomposition are at once taken up by the soil and held in reserve as

plant food until absorbed by the growing crop.

The old time method of hauling manure to the field and dumping in piles makes more work with much poorer results. This plan, however, has become obsolete. The general experience is that where the manure piles are, the ground is over fertilized.



The Spreader on the Dairy Farm.

When the manure is spread on the field a long time ahead of plowing, it dries out, and as the larger part is in an insoluble form, it cannot become soluble until covered up in the ground.

### Barnyard Manure: Its Nature, Composition and Application

The word manure is derived from the French manoeuvrer, to

work with the hand. The significance is worth noting, since it points to the benefit—chiefly in the liberation of assimilable plant food—to be derived from tillage operations generally. Cultivation, any mechanical process that increase soil fertility, would by this derivation be called manuring. This old meaning, however, has

nitrate of soda, superphosphate, kainit, etc., and the word manure has become practically synonymous with "Barnyard Manure."

By barnyard manure we understand a mixture of the solid and liquid excreta of farm animals together with straw or other litter used in their bedding.

The agricultural value of any sample of manure will depend primarily and chiefly upon the amounts of nitrogen, phosphoric acid and potash it contains, and, secondly, upon the solubility or availability of these fertilizing constituents and the amount of organic matter (which will form humus in the soil) it possesses.

The solid excreta (dung) consists of the undigested portion of the food; the liquid excreta (urine) contains products resulting from the digestion of the food, in fact, that portion of the digested food that has done its work in the animal, but is not retained in the production of flesh, milk, wool, etc.

Urine, weight for weight, has a greater manurial value than solid excrement, not only by reason of its larger percentage of plant food constituents (more especially nitrogen and potash), but also from the fact that constituents are soluble, that is, are practically immediately available for the nutrition of crops. The nitrogen

of urine (present as urea) is quickly converted into a valuable form of plant food, whereas the nitrogen of the undigested food in the solid excrement is but slowly changed into such compounds.

In speaking of the relative values of solid and liquid excrement, it may be pointed out that "one-half, and frequently more" of the total nitrogen excreted by the animal is to be found in the urine. More than 90 per cent. of the total potash is also present in the liquid excrement. The phosphoric acid and lime, save in the case of the horse, on the other hand, are practically all in the dung. The composition and digestibility of the food will have much to do with the relative proportion of the fertilizing constituents in solid and liquid excreta. On this point Warrington speaks as follows: "If the food is nitrogenous, and easily digested, the nitrogen in the urine will greatly preponderate; if, on the other hand, the food is one imperfectly digested, the nitrogen in the solid excrement may form the larger quantity. When poor hay is given to horses, the nitrogen in the solid excrement will somewhat exceed that contained in urine."

#### Manure as a Surface Mulch

Any organic material applied to the surface of the land in quantities sufficient to prevent the rays of the sun from coming in direct contact with the soil, tends to prevent baking and cracking of the surface, thereby preventing the escape of moisture.

Straw, manure, leaves and matted weeds are all effective in conserving moisture, and at the same time keeping the surface in a condition to readily absorb rain.

Thorough gardeners have for many years regarded surface mulches as indispensable, especially berry raisers, and during recent years potato growers have obtained remarkable results from the use of the surface mulch.

During last season, which was extremely dry, an experiment was made on a sandy loam soil. The space between four rows of potatoes was covered with a coarse manure mulch, and four adjoining rows were cultivated in the usual way.

The cultivated rows produced no potatoes, whilst the mulched row made a yield of 200 bushels per acre. The cultivated ground was as dry as ashes to the depth of three feet, but the mulched plot was moist to the same depth.

Manure makes a splendid surface mulch, and can be profitably applied between rows of corn or any cultivated crop. Such a mulch, when applied evenly by using a manure spreader, serves a double purpose.

First. It effectually prevents

the escape of moisture and at the same time holds the dampness near the surface.

Second. A thick mulch prevents the growth of weeds, and in the event of rains, the fertility in the mulch percolates into the seed-bed.

Many trials have demonstrated that a coarse manure mulch between potato rows doubles the yield.

Again, if manure is applied on cultivated crops, even after the second or third cultivation, the soil received the benefit of all the plant food in the manure and when the organic material is plowed under, it is in a well ad-

vanced stage of rotting, a condition that does not form air spaces, but is readily converted into humus.

It is also apparent that land previously top-dressed is less affected by drought.

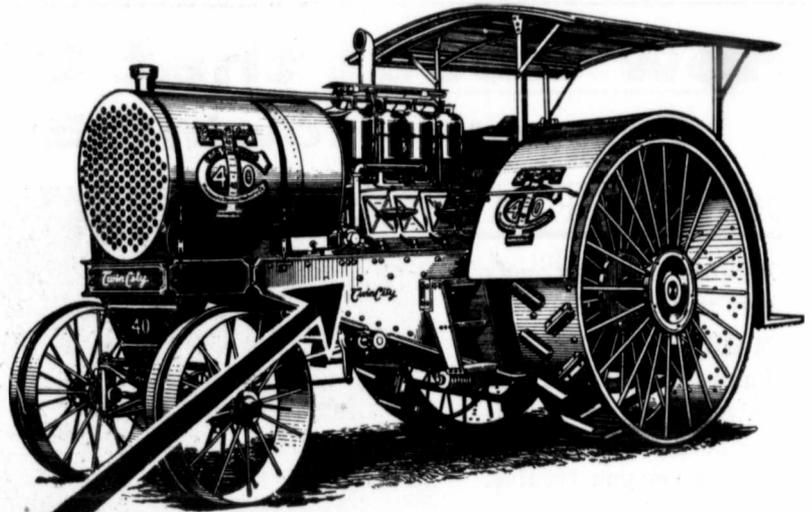
Whether manure should be applied fresh or rotted must be determined in part by the nature of the soil, and by the crop.

For cold, heavy soils, coarse, quick fermenting manure are to be preferred. They increase the porosity of such soils, and their decay in the soils improves its mechanical condition.

For the lighter soils, the finely-rotted or cold manures should be

preferred. Market garden crops must usually be manured with fine, well rotted, quick acting manures, while for crops like grass and corn, the slower acting manures may be selected.

If the manure is well rotted, however, so that it will not interfere with cultivation, it should be applied as soon as the corn is planted. Subsequent cultivation works it into the ground and the plant roots receive the full benefit of both humus and plant food. Farmers! If you will try the experiment on a few acres, you will be fully convinced of the great benefit to be derived.



## That Steel Frame

is the sturdiest piece of construction ever put into a traction engine. It is made of steel ship channels and steel plates—"built like a bridge"—riveted, not bolted together, and braced with steel angles. It's impossible for even the most excessive vibrations of the engine to loosen it, impossible for the severest pulling strains to break it. This rigidity reduces wear on the bearings and gears by preventing vibration from the motor.

And yet even with its unusual strength and steel construction it is a lighter tractor per horse power than any other tractor. Uses less of its power to pull its own weight—has a greater pulling power.

## Twin City Tractors

Two Sizes—25 and 40 Tractive H. P.  
Burn Kerosene or Gasoline.

The general design—motor in centre of frame, three point suspension, rear wheels turning on a live axle, gives the Twin City Tractor a durability and a well balanced steadiness of motion not found in any other type of construction; permits easy

"traveling" over both rough and smooth ground.

It has many other qualities which are worth your most careful consideration. They are explained in our Tractor Book 10-J. Write for it.

**Minneapolis Steel & Machinery Co. of Canada, Ltd.**

Caddy self-steering device operates on Twin City Tractor

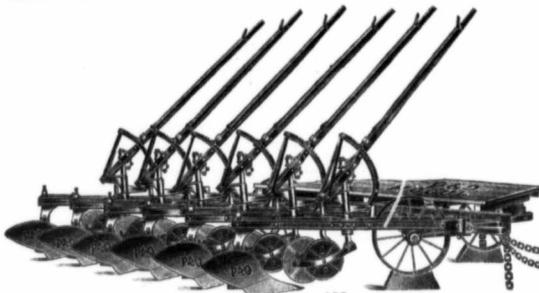
Regina,  
Saskatchewan

We also conduct a Tractor School.



## Why We Are Proud of the Mogul

The testimonials given herewith echo the opinions of hundreds of other users of Mogul Plows. We haven't on record a single dissatisfied purchaser of a Mogul Outfit. Always, no matter under what conditions, it has demonstrated its ability to make good, even when others have failed.



P. & O. SIX-FURROW MOGUL ENGINE GANG PLOW

P. & O. Mogul Engine Plows are made in 5, 6, 8, 10 and 12-furrow sizes, with 14 inch bottoms. Each bottom is independently controlled, and every adjustment is provided for producing the finest work possible in all conditions of soil. If you are interested write for booklet describing these plows.

**International Harvester Co. of Canada**  
LIMITED  
Sales Agents for Canada

You saw this advertisement in this magazine. Don't forget to say so when writing.

**No Other Plow Would Stand the Strain**

We bought one of your eight-furrow Mogul Plows last June and wish to inform you that it surprised everybody that saw it work. We broke 350 acres of heavy scrub and did much better work than we expected. We do not think any plow on the market would stand the strain that the Mogul has done for us.—C. C. Kelbough, Canora, Sask.

**Far Ahead of Any Other Engine Gang**

I have one of your Mogul Engine Plows that I have used a year. It does the very best work both in breaking and stubble. I consider it far ahead of any other engine plow on the market in every way. I have also used your some plows and am willing to go into any plowing match with my P. & O. plows, either engine or horse plows, as no plow can do better work than the P. & O.—J. J. Davidson, Mozart, Sask.

**Seven Years' Experience with Engine Plows and Prefers the Mogul**

I wish to say in regard to the six and eight bottom Mogul Plows that we bought of J. D. Hunt & Co. this spring that they are giving good satisfaction, doing good work in the most difficult soil that I have ever plowed. I have been plowing for the last seven years in Minnesota, North Dakota, and Montana and have used several different kinds of plows but the P. & O. does the best work of any plow that I have ever used and if I was to buy another plow it would be a P. & O. I am using the fourteen plow with a 30 h. p. engine and have plenty of power to plow four to five inches deep.—Miner Grest, Conrad, Mont.

**"Perfect Satisfaction" tells the Whole Story**

I bought a five-furrow Mogul Engine Gang which is giving perfect satisfaction in every way, both in stubble and breaking.—Albert Kerr, Elgin, Man.

**Turns the Sod Perfectly**

We purchased one of your eight-furrow Mogul Gangs, and wish to express ourselves as to its work. It does excellent work, it turns the sod perfectly and we are highly pleased with it.—Folkland & Roberts, Lethbridge, Alta.

**No Man Could Do Better Plowing**

The P. & O. Mogul Engine Gang bought of your agent at Grayson gives perfect satisfaction in every way. I have used it both in breaking and summer fallowing and no man could do better work with any horse plow, walking or riding. It is the strongest engine plow I have ever seen.—Frank Mann, Grayson, Sask.

**Don't Want Any Other Kind**

I am using a 10-furrow Mogul Engine Gang and wouldn't want any other kind. We are using one and wherever we go we take the lead with the P. & O.—Wm. L. Kakesch, Macklin, Sask.

**Bunching the Levers a Great Advantage**

I purchased one of your six-furrow Mogul Engine Gangs with stubble and breaker bottoms and I am well pleased with its every moment's respect. Can cheerfully recommend the plow to anyone needing an engine gang. It is easy to operate on account of levers being bunched. One man can handle engine and gang nicely. I like the master gauge wheels.—S. E. McManus, North Battleford, Sask.

**Never Had a Moment's Trouble With the Mogul**

I purchased a ten-furrow Mogul Gang and commenced breaking about 20 miles northeast of this place. I found the plow all that you claim for it. It has not given me one moment's trouble, and certainly does the best job of breaking I have ever seen. The draft is light and the plow is convenient to handle. The pin-break for stony or brush land is a great feature. I can recommend it most highly. I plowed 100 acres in three days right from the start, and can do better when I become used to handling it.—Alex McMillon, Lashburn, Sask.

**Prefers the Mogul After a Field Trial with Another Style**

Having used and tested the P. & O. five-bottom Mogul Plow for some time I have no hesitation in saying that the plow will do as good work as any plow can do. I have plowed among rocks and find that the plow will take hold and lay over a furrow if it has a fair show. After testing the P. & O. and the plows in the field together I decided in favor of the P. & O. I preferred the individual plow.—J. S. Whitehead, Chinook, Mont.

**Light Draft; Easy to Handle; Delighted With It**

About the first of May I purchased a 5-furrow Mogul Plow and am certainly delighted with it. No such plow has ever been offered to the farmers before, and I take great pleasure in recommending it to all who contemplate purchasing an engine gang. The draft is light. It is easy to operate and does beautiful work. The pin-break feature for stony and brush land is a strong point in favor of your plow. I cannot recommend it too highly.—John Gillybean, Lloydminster, Sask.

**Wood Break Pins Save Cost of Repairs**

After using one of your Mogul Engine Gangs this spring in breaking and stubble plowing I wish to say that it gives perfect satisfaction in every way. I have used other makes of engine plows and I find the P. & O. far more durable. The wooden break pin feature saves at least \$100.00 worth of repairs each season. It can be adjusted to all conditions of soil and in fact for strength, durability and the work it does it cannot be beat.—Alex Auekland, Semans, Sask.

**How Manure Should be Kept**

The best plan is to remove the manure direct from the stables to the fields while it is fresh. When that is done there is practically no loss.

Covered yards prevent leaching and washing away during rains. Many dairymen find it profitable to cover the barnyard soil the cows and use an extra amount of bedding. By this means there is little loss, even if the manure is not removed oftener than once every five or six months.

Storage receptacles of concrete are excellent to preserve manure, especially if a small amount of gypsum (land plaster), or rock phosphate is sprinkled on the heap from time to time as it accumulates.

Gypsum is especially useful to keep down ammonia vapors, thereby preserving nitrogen. Many farmers use it in the horse barn, back of stalled cattle and on manure piles very profitably.

Cow and horse manure mixed, made compact and protected, shows a slight loss in six months of 3.2 per cent. of nitrogen and 4.7 per cent. of phosphoric acid.

The experiments show that, if manure is not placed on land while it is fresh, it pays to protect it.

The farmer should remember that it is not what he makes, but what he saves that gives him a profit.

Schiffer experimented with gypsum with the following results. Where gypsum was applied from time to time on the heap, and subsequently the pre-



The Spreader in Action on the Field

served manure was spread on the land, it yielded 247 bushels of potatoes.

Unpreserved manure on a similar piece yielded 232 bushels. The potatoes from the treated manure field, averaged 21.6 per cent. starch. The value of the increase of the acre of potatoes was placed at \$35.00. The increase in

barley in a similar trial was 7.6 bushels per acre.

**How Manure Should be Applied to the Land**

Time brings its inevitable changes, and in no department of agriculture has the trend of progress called more loudly for better

methods than in the application of manure to the land. Of all the drudgery on the farm, probably the collecting and distributing of the manure has been the greatest bugbear the farmer or his employee had to face.

Now it can be dealt with quickly, thoroughly, economically and easily, alike with regard to time and labor. The primitive

method (which has not yet gone to its grave) was to take it out to the field in small cart-loads drop it in small piles and spread it later by hand with a fork.

The modern method of the manure spreader is the only one which will be used in Western Canada where any surface in excess of a half-acre garden patch has to be covered. The pictures used to illustrate this article, speak in a small way to the fact that this implement is as far in advance of any old plan as the self-binder is ahead of the old grain cradle as a harvesting machine.



A sporting editor sat at his desk one Saturday evening, when a little boy in spectacles entered solemnly and handed him a report, written in an unformed hand, of a game between the Harkaway Juniors and the Young

The editor glanced over the report. It ended with the words: "The feature of the game was Mannering's superb playing. Mannering tackled faultlessly. He kicked two magnificent goals, and the four touch-downs Mannering scored were the finest ever seen on the field."

"Who's Mannering?" asked the editor.

The spectacled midget answered proudly, "Me."



**FARM BUILDING CONSTRUCTION.**

By PROFESSOR L. J. SMITH  
(3rd Article)

**Stone Walls.**

**T**HE stone wall for a house is made from 14 to 18 inches thick, depending upon the quality of the stone and the latitude where the work is done. The common stone wall is not as strong as a concrete wall of the same thickness. The price of the building materials in a locality is often such that the stone wall is cheaper than one of concrete, and it is therefore quite widely used. In such cases, large flat stones are commonly used for the footing (figure 7). These stones may be laid dry in the trenches, but should be well bedded in the ground. If the earth is such that the stones cannot be

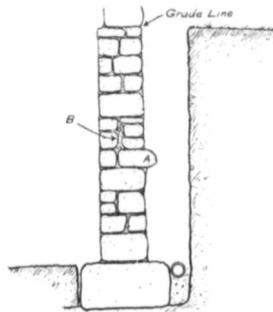


Fig. 7

well bedded they should be set in mortar.

In laying the stone, lines should be stretched in the proper batter board, notches representing the inside and outside of the wall, and plumb bobs hung from the lines to work by. Round stones should be broken before being put in the wall. In dry weather the stone pile should be wet down frequently and thoroughly to prevent their drawing moisture from the mortar. Too much emphasis cannot be laid on this point, for the ordinary dry stone will absorb a great deal of water to the detriment of the mortar, causing it to crumble and making it difficult to properly bed the stones in the mortar. Mortar thus weakened will not bind stones together into one solid wall.

The mason should be careful to break joints when laying the stone in order to give the greatest possible strength to the wall. This is especially essential at the corners. As often as possible, binding stones should be so placed as to extend entirely

in it as it is then easier to bed the stones. It is, therefore, advisable in inspecting this kind of work that one should closely watch the mixing of the mortar. This is especially necessary, as mortar is, in common practice, not carefully proportioned as are the mixes in

and throw away any lumps that are not readily breaking down.

After the slaking process is finished, the lime paste, which has expanded to about 2½ times the volume of the chunk lime, should be covered with sand and allowed to mature. Lime is commonly used too soon after slaking. It makes a much better and stronger mortar if it is allowed to lie for a week or ten days. This, however, is not possible to do in the crowded city streets or jobs where a good deal of mortar is being used in a day, but there is no good reason why lime should not be allowed to season until it is in its best condition when used in rural and suburban work.

Do not buy lime that has been stored for a long time, especially if it has stood in bulk instead of in barrels, and where the place of storage is damp. Such lime will gradually absorb moisture from the atmosphere, causing the lumps to crumble to powder, making what is called "air slaked lime," which is of little use for building purposes.

In mixing the mortar, add the cement to the sand and mix dry. Then add water to the lime paste and mix thoroughly with the cement and sand, adding more water if necessary to properly temper the mortar.

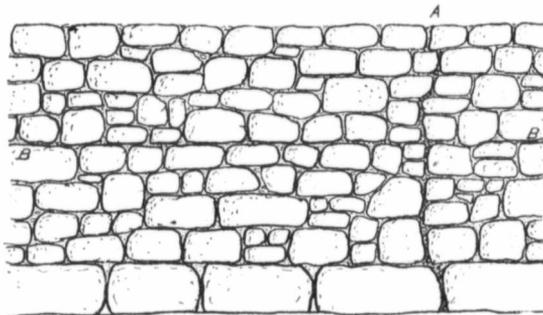


Fig. 8

through the wall from face to face. If the stones are small, there is a tendency to make the wall consist in an inside wall and an outside wall with mortar and small stones filled in between to keep up the width as shown at B, Figure 7. This makes a weak wall, as each surface is apt to buckle under a heavy load or in case there is a tendency toward unequal settling. It is, therefore, essential that the stones on the inside and outside surfaces of the wall should lap past each other as much as possible. If it is thought that the wall is being incorrectly laid as just described, it can be easily tested while the mortar is fresh by pushing a long pointed iron rod down into the centre of the wall.

Both good and bad practices of laying stone are shown in Figure 8. Above A the joints have not been properly broken. If the wall has a tendency to settle unevenly, it would be almost sure to crack at that point. The mason should bring the wall to a level every two or three feet as shown at BB.

A good mortar for a stone wall consists of 1 part of cement, 1½ parts of lime paste, and 8 parts of screened sand. A lime-sand mortar was once almost entirely used for stone walls, but it does not make nearly so strong a wall as where cement is added. The masons prefer to work with a mortar having but little cement

concrete work. More is commonly left to the judgment of the tender and the men who lay the stone or brick, though there is no reason why more careless methods should be allowed here than for concrete work. Lime is slaked in a water-tight box 8 or 10 inches deep. When slaking the lime add the necessary amount of water (about ¼ the weight of lime) all at once rather than a little at a time. As the lime is slaking, pick out

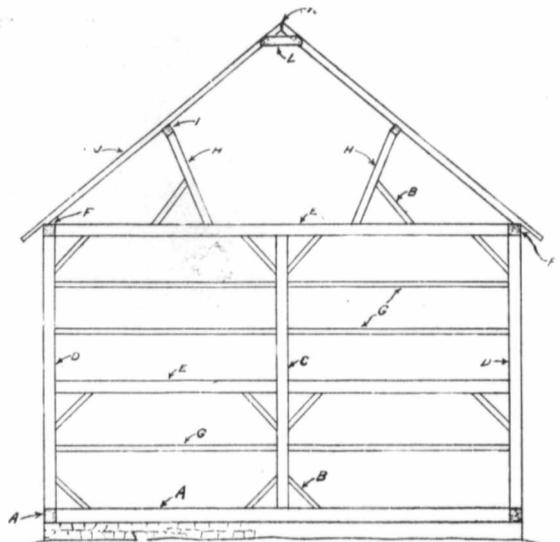
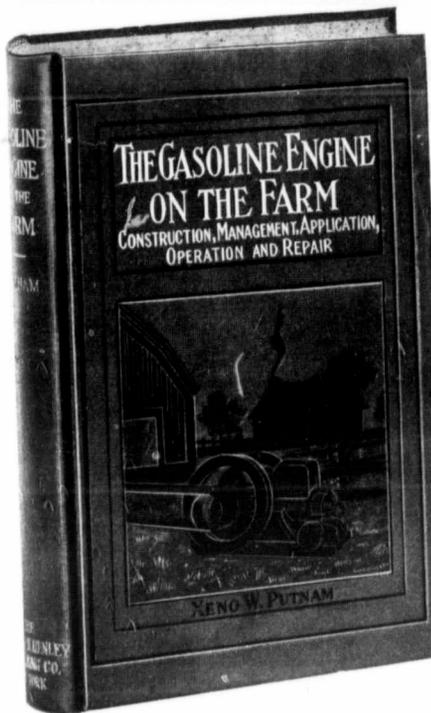


Fig. 9



# A COURSE IN GAS ENGINEERING

for \$2.50

Millions of dollars are spent annually in Western Canada and many thousands more are spent in attending Schools of Traction Engineering, etc. This latter expense was necessary owing to the fact that no real, up-to-date information was to be had on the care and operation of the internal combustion engine.

## YOU CAN NOW GET A REAL GAS ENGINE COURSE

After much search we have found it for you, and offer it to you at a price that is within the reach of every engine owner and operator, as well as every boy who is interested in the internal combustion engine.

### "The Gasoline Engine on the Farm"

It is the title of a new book of nearly 600 pages on gas engines. It is the most complete treatise on the engine that has come to our notice. It is really not a book but a complete course in gas engineering. We might cover several pages in telling you about it, but prefer to give you a partial table of contents and let you judge for yourself.

The book is handsomely bound in cloth, and is so conveniently indexed and cross indexed that any particular subject can be gotten at immediately.

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The surface joints of the stone work up to the underpinning should be filled solidly with mortar as the work progresses. The outside surface should be kept smooth as well as the inside in order that it may be easily made waterproof with tar, asphaltum, or mortar. No stones should be allowed to project beyond the surface of the wall as at A, Figure 7.

In the better class of buildings the stone above ground is more carefully selected and laid than in the case of the wall below grade line. A number of distinct styles of laying the wall is followed, giving it a fine appearance. In laying this portion of the wall, the mortar is not brought to the outer edge of the joints; but after the wall is finished the joints are pointed with mortar, colored or sometimes white in color to give a better appearance. The mortar

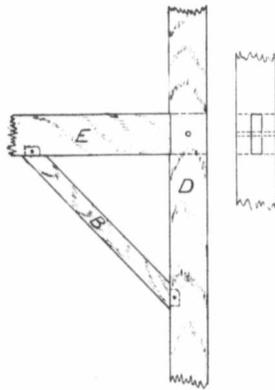


Fig. 10

may consist of one part of cement and one part lime, colored; or if a white finish is wanted, a mortar made of lime paste and plaster of Paris, and sometimes white lead.

For house foundations an open joint tile drain called a "weeping drain" should be laid around the wall just outside the footing, as shown in Figure 7. The tile should be laid with a straight edge, having a uniform slope to one corner of the foundation. It should there be connected by tile to some outlet at a still lower level. This will insure a dry wall and cellar, and the proper disposal of any surface water that may tend to collect about the building. Before covering the tile, the joints should be covered on top with a piece of sod or tarred building paper to prevent the dirt clogging the drain. By the time these protectives lose their value the fill above the tile will have become settled and well packed, and will then have no tendency to stop the drain. In filling outside the foundation wall, coarse gravel should be

used to cover the tile; fine gravel and sand should be used until the fill is pretty well up to grade, when any kind of dirt can be used. The object of so doing is so that the water that does work its way into the ground near the wall will pass rapidly down through these porous materials and out of the tile instead of lying about the walls of the building. If this method is followed, no builder should have trouble with damp cellars.

**Framing**

While the foundations are being finished, the carpenters are busily engaged with the frame work of the building. There are two common methods of framing, namely, the braced frame and the balloon frame, or plank frame, as it is sometimes called

when spoken of in connection with barns. Figure 9 shows a type of the braced or timber frame. It is rapidly giving place to the more modern type, largely because of changed conditions. In the earlier days when timber was more abundant and sawmills close at hand, the heavy square timbers, common to the braced frame construction, were easy to secure. Before the sawmills came, and often afterwards, the pioneer squared his timbers from the log by hand and used poles for rafters. In well-timbered localities this was, and is yet to some extent, the common practice. But now the heavy timbers are harder to get; the ordinary lumber yard does not stack large square stuff; lumber is more expensive, and the method of building has changed. In some ways we have

lost by the change, and in others we have gained. The average balloon framed building is not as strong as the older type of frame, not because the balloon frame cannot be made amply strong, but rather because of the greater rarity of methods used, and because the builder often tries to save too much on material. The braced frame was generally unnecessary strong as timber was cheap. With the passing of the braced frame, we are using better foundations, and quite generally are building warmer and better barns.

The letters in Figure 9 designate the names of the various parts as follows:

- A—Sill.
- B—Brace.
- C—Center Post.
- D—Corner Post.
- E—Beams.

# EMERSON Flexible-Section Engine Plow



This is the plow for double service, as either disc or moldboard bottoms may be used on the same frame.

Change from discs to moldboards, or the other way, quickly and easily made, even though the moldboard plow is more in use than the disc, there are times when a farmer must have the disc. It is mighty convenient, when such need comes, to have

## The Ideal All-Purpose Plow

This EMERSON Flexible-Section Engine Gang Plow carries the weight on thoroughly lubricated wheel bearings on the sulky and gang plow principle. The frame is very strong, but there is no surplus weight, and bottoms are so set as to keep plows in the ground all the time without making a heavy pull. We do not hesitate to say that this is the *lightest draft* engine plow ever built.

ground—even or uneven. Each section works up and down perfectly, according to the surface of the ground. Any number of sections can be used.

**Pivot hitch** makes clean work around the ends certain. You can plow right along without lifting plows from the ground. Inside plow always has proper width of cut, as the furrow wheel makes a perfect guide and keeps the plow in proper position.

**Discs easily adjusted**—sloping or abrupt; bearings absolutely dust-proof; spring trips for moldboards if needed; dust-proof boxing for axle bearings.

**Built of steel and malleable iron**—braced for great strength.

**Flexible section** feature insures most accurate work in any kind of

**Free Book** telling all about this great plow. Write for it today.

**EMERSON-BRANTINGHAM IMPLEMENT CO., Rockford, Ill.**

(Incorporated)

**Good Farm Machinery**

**Tudhope, Anderson Co., 1192 Princess St., Canadian Sales Agents, Winnipeg**

Branches: **Winnipeg, Man., Brandon, Man., Calgary, Alta., Edmonton, Alta., Lethbridge, Alta., Regina, Sask., Saskatoon, Sask., Swift Current, Sask., Yorktown, Sask.**

312/2

**For Discs or Moldboards**

You saw this advertisement in this magazine. Don't forget to say so when writing.

- F—Plate.
- G—Girders or Girts.
- H—Purlin Post.
- I—Purlin Plate.
- J—Rafter.
- K—Ridge Pole.
- L—Collar Tie.

There was generally no studding in the braced frame, though they can be used if desired. One-inch boarding of any width was put on the outside of the frame, being nailed vertically to the beams and girders, the joints being covered with batten boards about 1 x 2 inches. Often these batten boards were bevelled on the edges or had the edges on a curved bevel which gave a better appearance.

The timbers are securely fastened at all points, except the sill and plate corners, by mortise and tenon joint (Figure 10). The braces are also mortised into

- 1—Sill.
- 2—Studding.
- 3—Ledger Board or Ribbon.
- 4—Joist.
- 5—Plate.
- 6—Rafter.
- 7—Collar Tie.
- 8—Ridge Pole.

All the material can be gotten at any small lumber yard. The studding is 2 x 4's, put in 16 inches from a side of one stud to the same side of the next one, or 16 inches on centres, and designated in drawings as 16" O.C. In larger buildings 2 x 6 studding is used and they are often set 18, and even 24" O.C. The corner posts are built up square; if 2 x 4 studding is used, two 2 x 4's spiked together form the corners; in case 2 x 6's are used, three 2 x 6's make the corner posts. The ledger board is 1 x 4 or 1 x 6, depending on the size of the build-

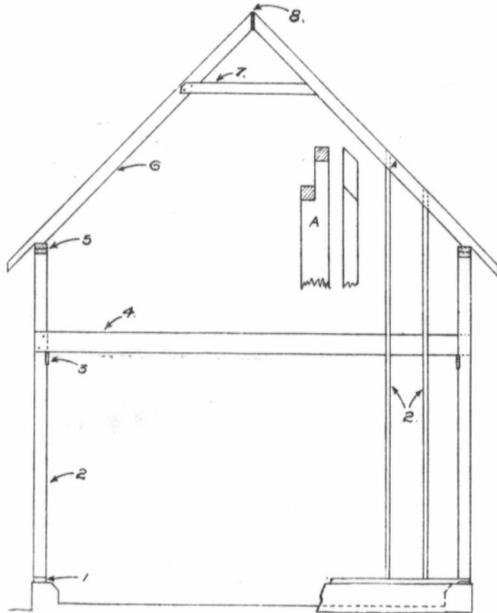


Fig. 11

the timbers. This joint is probably used more in framing and cabinet work than any other. The mortised piece is the one in which the rectangular hob is cut. The tenon should fit tightly into the mortise, the two being fastened securely by means of a pin. The hole for the pin is bored a little closer to the shoulder of the tenon tightly against the mortised piece. This is called "draw-boring." In Figure 10, D is a post, E the beam, and B the brace. The beam is tenoned and the post mortised.

Figure 11 illustrates a simple frame of the balloon type used for small buildings having no cellar, all the parts being one or two inch stuff. The names of the parts are as follows:

ing. It should be notched into each stud, though it is sometimes only nailed, a very poor practice which should not be allowed in any kind of a building, however small. Sometimes the studding is notched 1/4 of an inch and sometimes the thickness of the ledger board, either way being satisfactory, though the latter method weakens the studding unnecessarily.

The plate consists of a double run of 2 x 4's or 2 x 6's, according to the studding. The rafters are often put in 24" O.C. when the studding is 16" O.C.

The upper end of the studding is cut, as shown at A, notched against the under side of the end pairs of rafters, bringing the outer edge of the studding even with the outer face of the rafter.

The ridge is not always used, though it makes a better job.



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Lily White Engine Kerosene is free from carbon and is extremely volatile. Goes further, thus costs less to use.

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Perfect Adjustments  
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We Invite Comparison  
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## EASTLAKE METALLIC SHINGLES FOR YOUR HOME ROOF

**A Leaky Roof**  
is the despair of every householder. It costs money to repair and frequently causes extensive damage. You can avoid this by the use of "EASTLAKE" METALLIC SHINGLES. Absolutely water-tight—more durable than wood or slate and look better—last a life-time with no repairs. 696  
Write us to-day for free booklet.

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# Better Farming in Manitoba

From Forest Condition to Crop in Seven Months

How the Manitoba Government Cleared the St. Vital Building Site.

By Hopkins Moorhouse.

DOWN in Western Ontario many years ago there was a "half cracked" old fellow who was subject to "visions." They came upon him one night, and lit the fires of prophecy in his head—fires which glowed and burned in his eyes in a most uncanny manner. So vivid were these visions of his that he straightway quit working for a living, drove a wooden pin in the door of his forest cabin, and took to wandering from settlement to settlement, telling the old pioneers of what was going to happen in the years to come. He was such an entertaining old enigma that many a lonely settler was glad to take him in for a few nights to hear the old man talk when the embers were casting weird shadows on the rafters and throwing ruddy light upon the eager faces of the listening circle.

They called him "Rabbit Foot Ned," partly because he always wore, winter or summer, a cap, which was made from the paws of young rabbits, and partly because of the noiseless manner in which he came and went.

Old "Rabbit Foot" declared that he had visions of ships that sailed over the land, and that the time was coming when people would talk to each other though many miles apart, besides flying through the air, and doing many other "impossible" things which to-day find realization in aeroplanes, telephones and railroad trains. "Rabbit Foot Ned," in the light of what has transpired in the intervening years, was perhaps more lazy than crazy—a backwoods genius, a born storyteller, a genuine prophet.

But even he scarcely dared to tell those hewers of wood in the old Ontario clearings that the day would come when it was possible to sow a crop of oats on a given piece of ground seven months from the forest state!

Yet that is exactly what has taken place out at the St. Vital building site and farm of the new Manitoba Agricultural College!

The Public Works Department of the Provincial Government has now practically finished clearing all the western portion of the site,

which was originally covered with scrub and more or less heavy timber. Under the ordinary system of cutting down the trees two or three feet above the surface of the ground, it would have taken four or five years for the stumps to rot out. Under the more expeditious system adopted, it was possible to sow a crop of grain on a portion of the St. Vital farm in seven months. Land prepared in 1911 produced a magnificent crop of oats in 1912.

A couple of powerful jumbo plows behind a forty or forty-five horse-power gasoline engine is the answer.

So great was the improvement in the appearance of the property, owing to the clearing and plowing, that it was many times the subject of comment by the numerous visitors who took in the excursion to the site last week. A great many of the students from the Agricultural College were present, together with President Black, the College professors, Prof. S. A. Bedford, Deputy Minister of Agriculture, and others. The work accomplished was a great object lesson to the students from Manitoba farms, and they were much impressed with the fact that timber land could be brought into subjection so rapidly when one usually expects it to take at least four or five years before a successful crop can be raised under the conditions.

The work of clearing and plowing on the St. Vital farm was undertaken by the Public Works Department, assisted by Prof. Bedford, of the Agricultural Department. That the work is satisfactory is proved conclusively by the fine stand and large yield of oats during the past summer. It is expected that the whole farm west of the buildings will be prepared for crop during the coming season.

"First the scrub and heavy timber was cut off close to the surface of the ground," explained Prof. Bedford in answer to a question. "The timber was then cut into firewood and the scrub and branches burnt. Immediately afterwards, and without removing the roots, the land was plowed. This was made possible by the use of a powerful gasoline engine and a jumbo plow.

This plow is made of wrought steel, and is very much larger and heavier than the ordinary implement. Roots of trees a foot or more in diameter can be plowed

## Belting Made to Withstand Weather

It takes a good, tough belting to run without slipping or stretching in rainy, mucky weather such as you often encounter in Threshing season. That's one reason why 20,000 Threshermen prefer

### THE GANDY THRESHER BELT

It is built for hard service, and will stand the roughest weather. It grips like grim death even when wet.

The success of THE GANDY THRESHER BELT has tempted unscrupulous manufacturers to flood the market with imitation belts resembling the GANDY in general appearance. To protect you from these inferior belts we have adopted three identifying marks:

- First: The Green Edge.
- Second: The trade mark. A roll of belting with a bale of belting laid across it.
- Third: The brand THE GANDY THRESHER BELT.

Samples and full information gladly mailed on request.

### THE GANDY BELTING COMPANY

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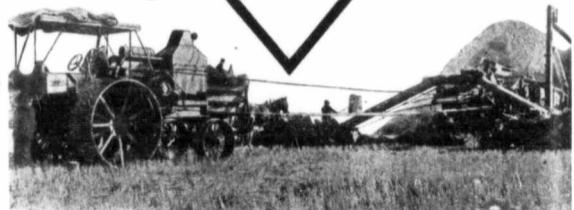
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Just a few left in sizes 20 H.P., 30 H.P., 40 H.P., NEW - REBUILT - and EXCHANGED

As the manufacturers are taking this line over themselves, we are slaughtering our prices to clean up our stock.

Seize this opportunity to get a BIG SNAP on an engine. We have only a few left. Write us to-day for our special proposition and catalogue No. 7.

ONTARIO WIND ENGINE & PUMP CO. LTD. Winnipeg - Calgary

## Send for the Standard Fence Catalogue To-day

Don't buy fence until you have seen it.

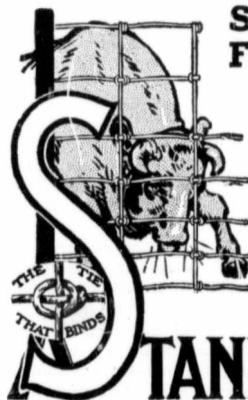
It tells you how to build fence, how to pick the best fence for your purpose—how to measure up the amount you need and how to order to your best advantage.

It also tells you how to save money by using Standard Steel Line and Anchor posts instead of the old-fashioned cumbersome cedar posts.

You certainly should get a copy of this highly interesting and informative catalogue. Write for it now. A postal will do. Address

Standard Tube & Fence Co. Limited Dept. R WOODSTOCK, ONT

Live agents wanted for Standard Fence, Posts and Gates. Write for special terms to-day.



# STANDARD FENCE

## Make Your Work Count

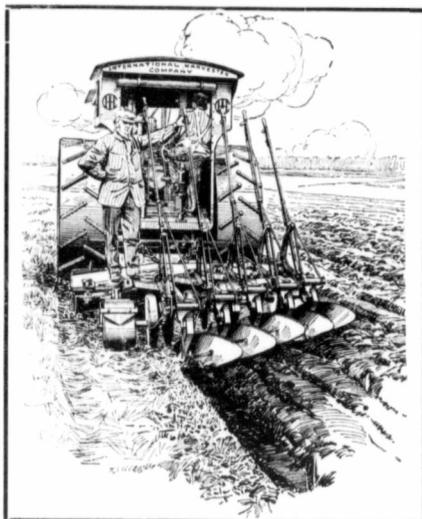
When you start your spring work this season—plowing, harrowing, rolling, seeding, etc.—you can make your work easier, do it faster and better, and save money besides, putting an I H C tractor on the job. If your farm is small, buy a small tractor, 12, 15, 20 or perhaps 25 horse power; if large you can use a 25, 30, 45, or 60 horse power machine to advantage. An I H C tractor makes your work count. With it you can plow from two to ten times as much ground in the same time as with a horse plow. You can plow, harrow and roll at the same operation; you can draw two to four drills; at harvest time you can use it to draw the binders. It saves time and money in every operation. Make your work count.

## Buy an I H C Oil Tractor

Besides doing the other work at a saving, you can use it also for threshing, hauling grain to market, grinding, road making, irrigating, or any other belt power and draw bar work to which it is adapted. When used for all the work that it will do, the I H C tractor is one of the handiest machines, also one of the most economical, that you can have on your farm.

I H C tractors are made in all styles, and in 12, 15, 20, 25, 30, 45 and 60 horse power sizes. They operate on low or high grade fuel oils. I H C general purpose oil and gas engines, which can be used to run any farm machine to which power can be applied, are made in 1 to 50 horse power sizes. These engines furnish the steady power required for use in shop, mill and factory. They operate on gas, gasoline, naphtha, kerosene, distillate or alcohol.

The I H C local agent will be pleased to give you catalogues of



I H C tractors and engines, and to furnish you with full information about the whole line. Or, if you prefer, write the nearest branch house for catalogues and any information desired.

## INTERNATIONAL HARVESTER COMPANY OF CANADA LTD.

At Brandon, Man.

Calgary, Alta.  
Regina, Sask.

Edmonton, Alta.  
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Western Branch Houses:  
Estevan, Sask.  
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to the surface without the use of grub hoes or axes."

"But supposing a great big tree root comes right in the centre of the furrow, Mr Bedford. Does the plow go clean through it?"

"Like a knife cutting cheese" the deputy minister laughed. "It cuts the root into two parts, and owing to the momentum of the gasoline engine there is no checking of speed because of it. These plows are usually set to go from six to eight inches deep. They are quite steady at this depth, and turn over a two-foot furrow. A forty horse-power or forty-five horse-power gasoline engine will drag two of these jumbo plows at one time quite easily, while a thirty horse-power engine is quite capable of handling one plow. Two men can operate, one with the engine and one with the plow."

"What about the cost?"

"You mean of the plow? About \$200. They are so constructed that there is very little outlay for repairs."

"No, the cost of plowing is what?"

"The actual cost of plowing this land was \$5.50 per acre without reckoning the interest on or depreciation of the outfit. It is the usual practice to allow the

land to dry out slightly after plowing. It is then thoroughly disc-harrowed, which brings a large proportion of the roots to the surface to be gathered up and burnt. The disc harrow is used in cultivation on land of this kind for the first year or two."



Clearing Ground for Campus at the New Agricultural College, St. Vital.

Hundreds of thousands of acres of land in Manitoba are more or less covered with scrub or timber. Some of this land represents the most fertile soil in the whole province, and the plan used in clearing the new Agricultural College site is therefore of considerable interest. The old plan of allowing the stumps to rot out takes considerable time, and this fact has no doubt deterred many a settler of means from selecting scrub-covered land. The result

is that many exceptionally choice areas are available in Manitoba for settlement.

In some respects scrub and timber land is superior to open prairie. Among other things it contains more humus. This enables the land to retain moisture

until required by the crop, and it is scarcely necessary to state that the soil is exceptionally fertile

Steam and gas tractors, threshers, road-making machinery, etc., are taken up in detail, and their principles of construction and manufacture fully described. The catalogue is profusely illustrated with photographs of the machines fully assembled and in parts, and contains numerous views of the Sawyer-Massey factory and farm scenes with the machines at work. The front cover is handsomely printed in four colors, and makes the book as ornamental as it is instructive.



### Economy

In a certain town in Nebraska lives a man who has been so unfortunate as to lose three wives, who were buried side by side. For a long time the economical Nebraskan deliberated as to whether he should erect a separate headstone for each, commemorating her virtues, but the expense deterred him.

Finally a happy solution of the difficulty presented itself. He had the Christian name of each engraved on a small stone—"Mary," "Elizabeth," "Matilda"—a hand cut on each stone pointing to a large stone in the centre of the lot, and under each hand the words: "For epitaph see large stone."

### Sawyer-Massey New Catalogue

The Sawyer-Massey catalogue for 1913, both from the standpoint of artistic execution and logical presentation of their line of farm power machinery, is a distinct acquisition to the trade.

### Better Farming in Saskatchewan

By JOHN BRACKEN

#### What Varieties and How Many Should a Member Select for a Farm in Saskatchewan

An Extract from an Address Before the Saskatchewan Canadian Seed Growers' Convention in February.

THE crops that Saskatchewan members of the C.S.G.A. are now working to improve are wheat, oats, barley and potatoes. The characteristics most desired in wheat in this province are: High yield, good milling and baking quality, early maturity, disease resistance, non-shattering power, and in the more humid parts stiffness of straw. Yield and quality are of far greater importance than the others, and only two wheats can at present be said to rank high in both respects—Red Fife and Marquis. All the other wheats that have so far been tested are inferior to these in one or other of these particulars. Red Fife is a high quality, medium high yielding wheat, rather late in maturing, fairly resistant to rust, but subject to shattering if well matured, and rather weak in the straw if grown on heavy land in moist seasons. Marquis is a high quality, quite high yielding wheat, a week earlier than Red Fife, more resistant to rust on account of its earliness, subject to as much shattering as its parent, stiffer in the straw owing to its being shorter, but the straw is quite short for use on light soils or for second crop in the drier southwest. It would seem that the choice of varieties of wheat for Saskatchewan should be between these two. Prelude, a new, very early, light yielding, bearded wheat, having very short straw, may prove of some value north of the present wheat area, but operating members in the present wheat belt will find in it only the advantage of earliness combined with several disadvantages such as low yield, short straw, and bearded heads.

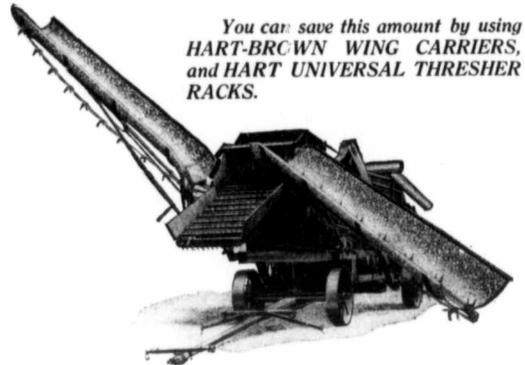
It is the speaker's opinion that for northern and eastern Saskatchewan where the rainfall is greater and the danger from frost therefore increased, Marquis has amply demonstrated its superiority over all other varieties. In the south and west, which is warmer and drier, time alone will decide whether Red Fife or Marquis shall be grown. On heavy soils in that area Marquis will probably be found best, particularly on fallows; but on light lands and for second crop, Red Fife on account of its longer

straw, may be found most suitable.

In choosing a variety of oats, high yield, thin hulls, stiff straw, early maturity and disease resistance are among the most important of the qualities desired. Disease or rust resistance has not been studied as carefully in Saskatchewan as have the other qualities mentioned. Banner, Danish Island, White Giant, Improved American and Abundance are all good oats. Banner and Danish Island are very similar and have been pronounced the same variety. Indeed, White Giant and Improved American are not unlike the other two. None of these, however, have any claim to superiority over Banner, the merits of which have been known for many years. Abundance is a shorter, plumper oat, rather thicker in the hull, weaker in the straw, but having the doubtful advantage of a heavier weight per measured bushel. It is reported to be earlier than Banner, but this has not been our experience at Saskatoon, except when a greater weight of seed has been sown. Its short, plump character adds to its appearance and therefore to its market price, but nothing whatever to its intrinsic value. A new pedigree oat called "Victory" recently brought in by the C.S.G.A. from Sweden seems from the few trials it has been given to be equal to Banner in all respects, and with us, differs from it in no essential particular. Gold Rain, a sister sort to Victory, is our heaviest yielding early oat. It is yellow in color and very thin in the hull. For the prairie area, Banner, Victory, and possibly Abundance, in the order named, are considered best. Gold Rain, although yellow in color, will probably become a valuable oat in northern and northeastern Saskatchewan and is very worthy of consideration by C.S.G.A. men operating in those areas.

In Saskatchewan the six-rowed varieties of barley are earlier, stiffer in the straw, and generally heavier yielders than the two-rowed sorts. They are also asked for by the maltsters, and being richer in protein, are of more value for feeding purposes. In the southwest the two-rowed varieties may be grown with greater success than elsewhere in the province, on account of the warmer, longer season. Generally speaking, the choice should rest with the six-rowed type in all except the southwest, and

## Would You Like to Have \$20.00 TO \$35.00 More a Day for Threshing?



You can save this amount by using HART-BROWN WING CARRIERS, and HART UNIVERSAL THRESHER RACKS.

HART-BROWN WING CARRIER Attaches to ANY Separator with ANY Feeder.

No alterations or re-building necessary.

The carrier attaches to the main sills and main frame of separator; no weight on feeder. By using this machine, you can thresh more grain in a given length of time, as the delivery is so arranged that practically every bundle goes to the band knives straight and evenly, eliminating slugging and choking and the consequent delays.

Saves \$26.00 a Day



Cupar, Sask., Dec. 9th, 1912

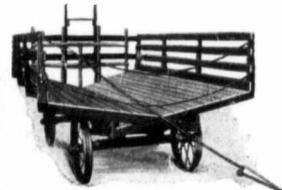
Gentlemen:—Am pleased to say that the Hart-Brown Wing Carriers and Dump Racks purchased through you this fall have given entire satisfaction.

By using these wings on my separator (a 40-inch cylinder), I saved \$26.00 a day and the separator does better work, being fed more evenly than is possible without the wings.

Yours truly,

JAMES ORMISTON.

## HART UNIVERSAL THRESHER RACKS



In shock threshing, a big saving can be made by using the racks with the carriers. One Hart Universal and driver will do as much work as two ordinary racks, two drivers and one field pitcher.

If you want to build the rack, we will furnish the hardware and parts.

Let us tell you how you can save from \$25.00 to \$40.00 a day.

WRITE TODAY FOR CATALOG AND FULL PARTICULARS, STATING KIND OF SEPARATOR AND FEEDER YOU USE.

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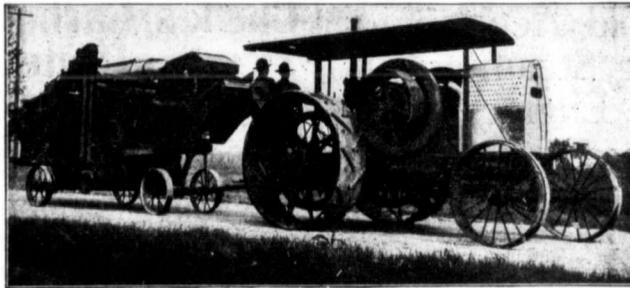
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Hart Grain Weigher Co.  
PEORIA, ILL., U.S.A.

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# Buy When You Know You're Right

When you come to buy a threshing outfit you need all the good judgment and common sense you can summon to your assistance. You alone know all the conditions your outfit must meet. Knowing these conditions, your problem is to buy the outfit which best meets them all.

We can be of real assistance to you in making your decision. As you look over and study our line of I H C Oil Tractors and Engines, you will find one engine which meets your needs exactly in size, weight, style and quality. The

threshers we sell offer a wide variety of size, capacity and efficiency under any conditions you may have to meet.

If you tell us what work you want an outfit for, we can show you an outfit guaranteed to do it well and at low cost.

With us, no outfit is sold until the buyer is thoroughly satisfied. You cannot lose anything, and you may gain a great deal in efficiency and economy by letting us know what your working conditions are. See the I H C local agent, or write the nearest branch house.

## International Harvester Company of Canada, Ltd.

WESTERN BRANCH HOUSES:  
 At Brandon, Man.      Calgary, Alta.      Edmonton, Alta.      Estevan, Sask.      Lethbridge, Alta.      North Battleford, Sask.  
                                  Regina, Sask.      Saskatoon, Sask.      Winnipeg, Man.      Yorkton, Sask.

You saw this advertisement in this magazine. Don't forget to say so when writing.

even there this type will probably be found as suitable as the two-rowed. Manchurian and O.A.C. No. 21 are among the best known and most popular varieties of six-rowed. Mensury, Mansfield, Odessa and Yale are other good six-rowed varieties, but the two mentioned above are at least as good and are better known. Haunchen has easily led the two-rowed varieties for a number of years, but Duckbill is rather stiffer in the straw. The former has a long, loose head, the latter a short, compact one.

It is a very difficult matter to say what varieties of potatoes are best for an area of 120,000 square miles, the approximate area of southern Saskatchewan. It is probable that there is no "best." The soil and climatic conditions affect the yield and quality of potatoes very much more than they do the cereals, and varieties that are best for one locality may not be the most desirable for another. The most one can do, therefore, is to name some of the leading varieties and leave it with the members to choose such as they prefer, after satisfying themselves of the suitability of the variety to the soil and climate of their respective localities. High yield, good cooking quality, good keeping quality, resistance to disease, shallow eyes and flat

round or flat oblong shape, are all desirable qualities in potatoes. Late potatoes should be white; early ones may be pink skinned. With us Early Andees, Early Triumph, Early Ohio, all pink skinned, are the earliest sorts so far tested here. They all have rather deep eyes, and Early Ohio is the only good yielder among them. Everett, a pink-skinned, medium early sort, with medium eyes, is a good yielder, but not an excellent keeper. Of the later white skinned varieties having medium to good eyes and round to oblong flattened shape, Table Talk, Carman No. 3, Wee MacGregor, and Vermont Gold Coin are good. These are all excellent keepers and fairly good in cooking value, particularly late in the year. Irish Cobbler is an excellent cooker, but rather low in yield. Burbank, Pingree, Barnaby Mammoth are heavy yielders, late, rather coarse and often of inferior cooking value. These are among the best of fifty varieties tested at Saskatoon and it should be understood that they are recommended only in this vicinity. They will probably be found good elsewhere, but one cannot recommend them generally until they have been tried out under other conditions. At Rosthern, Reeve's Rose, Rochester Rose, Dalmeny Beauty and Carman

No. 1, in addition to some of those named above, have been recommended. Empire State and Vick's Extra Early, and some of those above mentioned, are considered best at Indian Head.

As to the matter of varieties a member should work with, there is little to be said in favor of more than one. Danger of mixing at threshing time, and shortage of labor at harvest, render it very difficult to look after the hand selected seed plot, the multiplying plot and the general crop of more than one variety in the careful manner it deserves. In addition to this, it is generally true that one variety or one kind of crop is more suited to a certain soil and climatic conditions than most others, while other varieties and classes do better under other conditions. The article that can be produced most perfectly under a certain set of conditions is the article that will demand recognition and therefore the one that should be used. An operator should aim to do one thing well before endangering his chances of success by attempting to do more than one. Potatoes furnish a possible exception. These do not have to be "threshed" and require but little extra care to keep them from getting mixed. In the vicinity of cities, it is quite conceivable that a man might use an

early, a medium and a late variety without endangering his success and with considerable profit to himself. In such a case, varieties, the tubers of which are easily distinguished from one another, should be used so that in case of accidental mixture they could easily be separated.



### Brotherly Candor

Katherine, twenty-five, charming and popular, remarked in the presence of a number of friends that when she became betrothed the engagement ring would be a matter of very small interest to her. "Indeed, I shouldn't really care whether I had a solitary diamond or not," she said. "I'm not at all fond of diamonds, and I don't like to wear rings."

"You'd better let that be known, Katie," said her fifteen-year-old brother. "It might help some."



A number of clergymen were going to a luncheon after some ecclesiastical function one day, when one of the party observed, "Now to put a bridle on our appetites."

"No," at once protested a witty churchman. "Rather to put a bit between our teeth."

# How to Avoid Accidents in Operating Steam and Gasoline Engines

By PROF. A. R. GREIG

STATISTICS show that over eighty per cent. of the accidents are due not to the machine, but to the operator or owner. That is to say, that accidents due to mismanagement and avoidable wear and tear, etc., form eighty per cent of the total number. If this, then, is the case, by far the greatest proportion of the accidents can be avoided by getting a good engineer, by educating our men to make careful engineers. The government has long recognized this fact, and for that reason has made it compulsory that men running engines should pass an examination and obtain a license. These men have to be educated not only along theoretical lines, but also along practical lines. My first point is, then, if our engineers fulfil their duties properly, eighty per cent of the accidents will be avoided.

In the steam engine a boiler explosion is the most destructive of all accidents due to the enormous amount of energy stored in the heated water and steam. Prof. Thurston in a paper on boiler explosions said that if the ordinary cylindrical boiler of the fire tube type was heated up to 75 lbs. pressure, there would be 52,000,000 foot pounds of energy stored up in it or enough if all directed upwards to send it one mile up in the air.

Now, all boiler explosions are due to one of the following causes:

- 1st—Weak design of the boiler.
- 2nd—Poor material or workmanship.
- 3rd—Corrosion or general wear and tear.
- 4th—Mismanagement.

The government protect the purchaser as far as cause Nos. 1 and 2 are concerned by a very rigid specification to which all boilers entering the province must conform. The third—corrosion-and-wear-and-tear—is in the hands of the engineer to a large extent. This is to say, the life of a boiler can be greatly extended by careful management. Any engineer that will allow scale to accumulate on the inside of the heating surface of a boiler and to become baked thereon is allowing the wear to be greatly accelerated. One-sixteenth inch of scale means a consumption of fifteen per cent more fuel and one-half inch scale means sixty per cent more fuel, but it means more than this. It allows the

sheets to become hotter by the placing of a blanket of scale between the water and the sheet. This leads to greater expansion of the sheet, with its effect of a leaky boiler, it reduces the strength of the sheet, so that sometimes you will see the sheets bulged between the stay-bolts. This scale may suddenly crack and allow the water to come in contact with a portion of the sheet, causing a sudden cooling of that portion of the plate which may cause it to crack. I know of one case where a farmer and his sons operated an engine for eight years and the only repairs being a new set of tubes, while their neighbor had had two engines in that time and the last one had a new set of tubes. They were using the same water and doing the same class of work, only one took care of his boiler and the other one did not.

We may have to use water that corrodes or pits the plates and tubes and, strange to say, pure water seems to have this effect. I know of a boiler used for heating purposes only, where all the water of condensation is returned and every year or two they have to renew the tubes. Some of the tubes are perfectly good except for two or three spots where they are eaten through. A thin coating of scale in this case is a good thing, or the use of corrosion plates are good. I read not long ago of some boilers in marine service being destroyed by being allowed to go out of port without the corrosion plates being renewed. These plates consist of blocks of zinc hung from the bracing in the boiler so as to just clear the tubes. The acid or galvanic action, or whatever it is, that causes the pitting, seems to attack the zinc and leave the steel alone. Having a dirty boiler, then, is a sign of negligence as is also having a boiler that is pitted. A farmer wrote me last year, asking how he could get the scale out of the water legs of his boiler. It was solid for three or four rows of stay-bolts up from the foundation ring. A man who allows a boiler to get into that state is grossly careless. All boilers should be equipped with two means of feeding the water into the boiler, and both of them should at all times be in good working order. A pump and an injector make a good combination. I wonder what per-

## Clark's Carbolized Wheat Protector

The Leading Dressing for Wheat, Oats, Barley, Flax, etc.

Prevents Smut and also destruction of seeds by Gophers or Wise Worms. Price 25 cents per package.

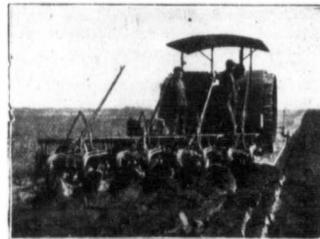
### THE GARTON PEDIGREE SEED CO. Ltd.

(Sole Distributors for Western Canada) WINNIPEG :: MANITOBA

Inquiries Solicited from Storekeepers for Exclusive Agency Terms

You saw this advertisement in this magazine. Don't forget to say so when writing.

## The Cuddy Patent Steering Device



### READ THIS

A LETTER TO THE DESIGNER OF THE CUDDY PATENT STEERING DEVICE

Mr. T. H. CUDDY, Sanford, Man.

Dear Sir,—In plowing with engine gang plows—I find that it is very necessary in guiding an engine, to do good plowing, to have a steering device. As far as I have seen, the one you have is the best.

Yours truly, (Signed) GEO. A. LITZENBERGER, Field Man. Parlin-Orendorf Plow Co., Canton, Ill., U.S.A.

### The Western Steel and Iron Co. Ltd.

SOLE MANUFACTURERS

Winnipeg

Write us for prices

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Be Sure of Your Separator Oil

## STANDARD

### Hand Separator Oil



Standard Hand Separator Oil is the perfect lubricant for cream separators. Reduces friction and jarring to a minimum, so that greatest cream yield is insured.

Never gums, rusts or corrodes. Lengthens the life of the separator.

One gallon cans. All dealers.

**THE IMPERIAL OIL CO., Limited**  
Main Office: WINNIPEG  
Regina, Moose Jaw, Saskatoon, Calgary, Edmonton, Lethbridge, Vancouver.




You saw this advertisement in this magazine. Don't forget to say so when writing.

centage of the engines in the prairie provinces have both in good working order. I think our boiler inspectors could give us many instances of where this is not the case. I visited a farmer shortly after a boiler explosion had occurred on his farm; in fact, I went purposely out to see it. He told me that the engineer had been trying to get water into the boiler for some time after it had disappeared out of the glass. He had driven up just before the explosion had occurred and had said to his engineer: "Why, Jack, there is no water in the glass," and his reply was that it was there a few minutes ago and he would have the injector working in a minute. Minutes go very fast in cases of this kind. Those were his last words. He was killed instantly and others were seriously injured. I believe it should be part of the boiler inspector's duties to test the boiler feeding apparatus and not to issue a certificate until it is in perfect running order. How many cases do we come in contact with where the injectors are played out and there are no spare parts in the tool box. As soon as the tubes and nozzles show signs of wear, there should be spare parts on hand, so that when they do play out the repairs are ready. They give you lots of warning by dribbling at the overflow and by not starting promptly. Often the loss of hot water from day to day at the overflow would pay for a number of nozzles. A great many accidents have occurred through low water, and an engineer that takes chances with not only his own life, but the life and property of others should not be allowed to run an engine. No matter how much he knows about it, he is not safe. In event of low water being discovered, it is not advisable to draw the fire if it is coal, it will cause a greater heat for the time being. Bank the fire with ashes, earth or green coal if it is the only thing handy, close the drafts, do not start or stop the engine, but wait for it to gradually cool off. Do not start the injector or open the safety valve. The U.S. Government tested a boiler to 300 lbs. which afterwards exploded at 250 lbs. because some one suddenly pulled the safety valve open and closed it again, causing a rush of steam to it.

No boiler that has been subject to low water should be fired up again without a very careful inspection to see that the sheets are in good condition and have not been strained. It is one of the first principles that no boiler repairs should be attempted while the boiler is under pressure. Many a man has been seriously injured by trying to stop a leak about a boiler while it was working, the strain put

## Spring Threshing is Neither Pleasant nor Profitable

And yet every fall the scarcity of labor in Western Canada means that hundreds of farmers are unable to thresh their crop. Were you one of those farmers who had to carry the 1912 grain through the winter in the stook? If so, you know what it has cost you. You may have resolved that it will never happen again, but under the same prevailing conditions you are helpless unless you use a

### Stewart Sheaf Loader

But assuming that you got your crop threshed, the chances are that it took so long that your fall plowing was seriously shortened, which will lessen your acreage in 1913. Look at it from any standpoint you like, whether it be

Getting the work done on time—Done in the cheapest way—  
Getting it thoroughly done in every way.

The STEWART SHEAF LOADER Commends Itself To You.

You Half Section Farmer—You Bonanza Farmer—You Owner of a Threshing Outfit—You Need a



### Stewart Sheaf Loader

THESE EXTRACTS are from a few of the hundreds of men who have worked a Stewart Sheaf Loader. Let us send you our booklet containing the letters in full with many others and we ask you to see or correspond with any of the writers.

**HOW IT WORKS IN A ROUGH FIELD**

"It leaves the field perfectly clean. I expected to see it leave considerable on the ground in a rough field, but I believe a man could carry all the waste in that field away in his arms."—L. N. Swartz, Bow Island, Alta.

**HOW IT PROVES ITS DURABILITY**

"Your Loader has again given me perfect satisfaction, this being my second season. It has not cost me anything for repairs, and again demonstrated its efficiency."—Elmer Graham, Dominion City, Man.

**HOW IT PLEASES PURCHASERS**  
"I am more than pleased with it as it has done all you claimed. I would not be without one now for a good deal, as the saving of grain and men counts for more than mere dollars."—Jas. Russell, Craven, Sask.

**HOLDS GANG TOGETHER**  
"We would not be without the Loader for a good deal more than we paid for it. We think if all threshers were to have one of these loaders, men would be more plentiful as we did not lose a man last fall."—Fenwick Bros., Milestone, Sask.

**MERITS INVESTIGATION**  
"The Sheaf Loader has worked to our entire satisfaction. The picking up of loose grain is a feature which adds a great deal to the usefulness of the machine."

Those looking for labor-saving machinery cannot do better than investigate its merits."—Jos. Chapman & Son, Beresford, Man.

**SOLVES LABOR PROBLEM**  
"Your Sheaf Loader is doing its work splendidly. It can load a wagon in less than a minute if necessary, and will also save money for both farmer and thrasher. It fills the difficulty of securing labor during threshing time."—Jas. Doyle, Yorkton, Sask.

**HOW IT ACTS THE SECOND SEASON**  
Nov. 29, 1912  
"After having used your Loader the second season, I must say I am more pleased with it than ever. It has not cost me anything for repairs, and has given no trouble

whatever. I would not want to be without one for threshing, as it foots its own expense bill every time."—J. E. Bergey, Rosser, Man.

**WHERE IT DIFFERS FROM "HIRE HELP"**  
"The Sheaf Loader gave us entire satisfaction. During wet weather and on Sundays the machine eats nothing, and what is better, it never gets drunk."—A. H. MacLean, Regina, Sask.



**STEWART SHEAF LOADER COMPANY Ltd.**  
804 Trust & Loan Bldg.      ::      ::      WINNIPEG

The Stewart Sheaf Loader Co. Ltd.  
Please send full details of the Stewart Sheaf Loader to the following address:  
C.T.F.

on the mounting or bolt in addition to the strain already on it being enough to cause it to strip the thread or break off. There is a time for all repairs, both on the engine and boiler, and that is after you shut down. The man that expects to make a success of running an engine must make up his mind to inspect carefully his engine after shutting down, and not when he should be ready to start up. He can detect the bearings that are hot, the cotters, keys or bolts that are working loose, detect any signs of wear. He should also use waste freely and clean off all surplus oil and grease. Grease tends to gather all the dust that is blowing on to the engine and hold it there. An engineer that cleans his engine every night, examining all the parts both with the eye and

hand, is usually a pretty safe man. When a farmer does his work with horses, if he is careful, he will spend some time with them after they are in the stable, looking after their comforts and cleaning and otherwise tending to them, but we often see it that as soon as an engine is shut down, no more attention is paid to it until it is wanted to work again. This is particularly true of the gasoline engine. The man who simply runs his engine, i.e., starts and stops it, and has no real knowledge of its action, to him anything that goes wrong is viewed in the light of a mysterious calamity, the only remedy being to shut down and send for the nearest expert, when generally a little common sense and common observation would have saved all the trouble. Any

mechanic knows that the disarrangement of a small part of a machine will often render the whole machine inoperative or greatly impair its efficiency. As a rule, these troubles can be avoided by a careful systematic inspection. All troubles should be anticipated. For example, an engine may have an eccentric sheave, or some other part less easily replaced, broken by a bolt working loose. The safety valves should be tested daily. If a bearing is running hot, do not come to the conclusion all at once that it is too tight; it may be due to faulty lubrication. Or the oil grooves may not be such as will give the oil a chance. A great deal of what has been said about the steam engine applies equally well to the gasoline engine.

# A JOB OF WORK

By P. G. WOODHOUSE

I HAVE always admired the "Synopsis of Preceding Chapters" which tops each instalment of a serial in a daily paper. It is so curt, so compelling. It takes you by the scruff of the neck and hurls you into the middle of the story before you have time to remember that what you were really intending to read was "How to Make A Dainty Winter Coat for Baby Out of Father's Motor-Goggles" on the next page. I can hardly, I think, do better than adopt the same method in serving up the present narrative.

As follows:

### Begin Today

Lord Freddie Bowen, visiting New York, has met, fallen in love with, proposed to, and been accepted by

Margaret, daughter of Franklyn Bivatt, an unpleasant little millionaire with a weak digestion.

Lord Freddie has called on Mr. Bivatt, told him the news and asked for his consent.

### Now go on with the Story

Mr. Bivatt looked at Lord Freddie in silence. He belonged to the second and more offensive class of American millionaire. There are only two kinds. One has a mauve face and a 250 pound body, and grinds the face of the poor on a diet of champagne and lobster; the other—Mr. Bivatt's type—is small and shrivelled, weighs exactly ninety-five pounds, and fortifies himself, before clubbing the stuffing out of the widow and the orphan, with a light repast of hot water, triturated biscuit, and pepsin tabloids.

Lord Freddie also looked at Mr. Bivatt in silence. It was hard to believe that this curious little being could be the father of a girl who did not look really repulsive, even in a photograph in a New York Sunday paper.

Mr. Bivatt broke the silence by taking a pepsine tabloid. Before speaking he took another look at Freddie—a nasty look. The fact was that Freddie had chosen an unfortunate moment for his visit. Not only had Mr. Bivatt a bad attack of indigestion, but he had received that very morning from Margaret's elder sister, who some two years before had married the Earl of Datchet, a letter which would have prejudiced the editor of "Debrett" against the British Peerage. Lord Datchett was not an ideal husband. Among other things, he was practically a lunatic, which is always a nuisance

to the home. This letter was the latest of a number of dispatches from the seat of war, and the series, taken as a whole, had done much to diminish Mr. Bivatt's simple faith in Norman blood. One titled son-in-law struck him as sufficient. He was not bitten by a craze for becoming a collector.

Consequently he looked at Lord Freddie and said "H'm!"

Freddie was somewhat disturbed. In the circumstances "H'm!" was scarcely an encouraging remark.

"You mean—?" he said.

"I mean just this. When Margaret marries, she's going to marry a real person, not"—his mind wandered to the absent Datchet—"not a poy-eyed spindle-shanked jack-rabbit, all nose and front teeth and eyeglass, with hair the color of butter, and no chin or forehead. See?"

Freddie started, and his eye moved hastily to the mirror over the mantelpiece. What he saw partly reassured him. True, he was no Apollo. He was square and bullet-headed. Chin? If anything, he had too much. Teeth? Not at all prominent. Hair? Light, certainly (at school he had been called "Ginger.") But what of that? No, the description puzzled him.

"Am I a jack-rabbit?" he inquired, curiously.

"I don't know," said Mr. Bivatt. "I don't know anything about you. I've never heard your name before. I've forgotten it now. What is your name? I only know it's got a 'Lord' tacked on to it."

"By Nature. Not by me. It runs in the blood. Don't you like lords?"

Mr. Bivatt eyed him fixedly and swallowed another tabloid. "Do you know the Earl of Datchet?" he asked.

"Only by reputation."

"Oh, you do know him by reputation? What have you heard about him?"

"Well, only in a general way that he's a pretty average sort of rotter. A bit off his chump, I've heard. One of the filberts, don't you know, and all that sort of thing. Nothing more."

"You didn't hear that he was my son-in-law? Well he is. So now perhaps you undersand why I didn't leap at you and fold you in my arms when you suggested marrying Margaret. I don't want another Datchet in the family."

## The Walker Starter

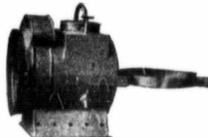
FOR INTERNAL COMBUSTION TRACTORS

Owners of gasoline and kerosene engines will do well to investigate the Walker Starter—a device guaranteed to start any make or size of internal combustion engine. It is not a cranky tool but a starting device conceived on an entirely new principle. Your engine can be started as easily as any steamer is started from the foot-board. If you are buying a new plow engine this spring, have it equipped with the Walker Starter and eliminate the danger and physical strain of cranking. Can be attached to any oil tractor, old or new. Write for booklet.

A. C. GAMPBELL, 112 Phoenix Bldg., WINNIPEG

You saw this advertisement in this magazine. Don't forget to say so when writing.

## Acetylene Headlights for Traction Engines



Complete in one apparatus. The best on the market. Indispensable for plowing at night or moving over rough fields, and bad roads. Attachments for all makes of engines. Projects a light 400 feet. Will not jar out. Runs ten hours with one charge. Write for catalog. Agents wanted.

AMERICAN ACETYLENE STOVE CO.

510 Masonic Temple - - - MINNEAPOLIS, MINN.

You saw this advertisement in this magazine. Don't forget to say so when writing.

## The "Eagle" Steel Scrub Cutter

(Built in 3 sizes.)

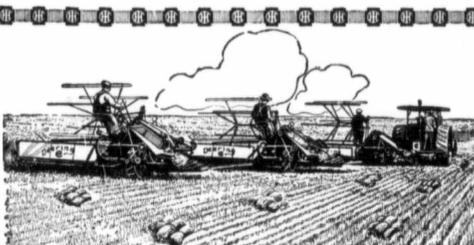
No. 1 cuts 4 feet swath for use with 4 to 6 horses.

No. 2 cuts 5 1/2 feet swath for use with tractor of 20-25 h. p.

No. 3 cuts 6 1/2 feet swath for use with the heaviest tractor.

The best solution of the problem of cleaning scrub land in a cheap, rapid and satisfactory manner, saving at least 75% of the cost of hand labor.

The Eagle Manufacturing Company  
Dauphin, Man.



## Deering New Ideal Binder

The Master of the Grain Field

DEERING harvesting and haying machines have established a world-wide standard. Wherever grain is grown, the Deering binder is known as a reliable machine, one that is always ready to go into any field of grain, short or tall; standing, down or tangled, and cut and bind it all.

Deering quality has a name the world over, but the machines themselves are changed to meet the conditions of various countries. For the work in Western Canadian harvest fields certain features are added which make the New Ideal binder particularly efficient.

The Z-shaped cutter bar allows short grain to pass without lodging on the cutter bar. The reel is easily adjustable to exactly the desired height. It is always held parallel with the cutter bar, whether working high or low. Smooth section knives can be used in place of usual serrated knives when desired. The change can be made in a few minutes. The three packers and three discharge arms help greatly in doing efficient work. The wonderful Deering knottter needs only to be mentioned—you know what it does.

Other strong features as well as these will be explained to you fully by the I H C local agent. Drop in and see him, or, write for a catalogue to the nearest branch house.

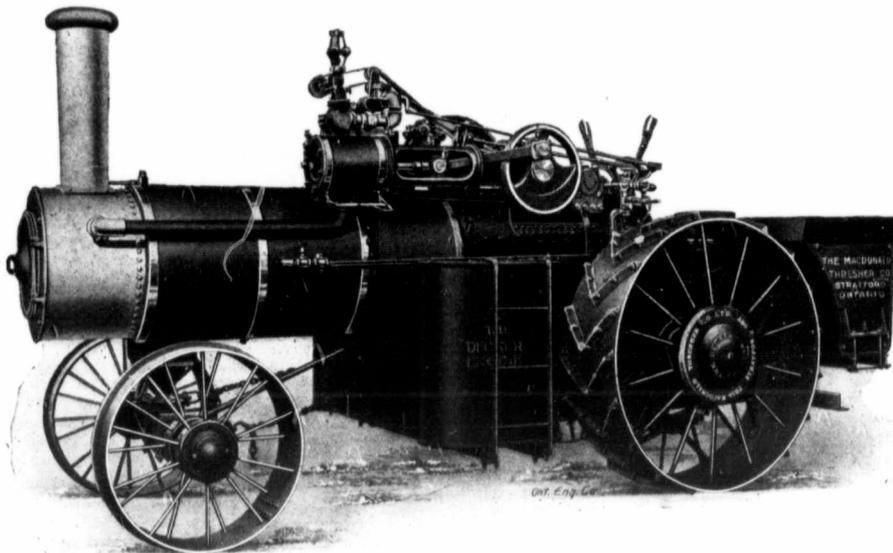
International Harvester Company of Canada, Ltd.  
WESTERN BRANCH HOUSES

At Brandon, Man.; Calgary, Alta.; Edmonton, Alta.; Estevan, Sask.;  
Lethbridge, Alta.; North Battleford, Sask.; Regina, Sask.; Saskatoon,  
Sask.; Winnipeg, Man.; Yorkton, Sask.

These machines are built at Hamilton, Ont.



# THIRTY-EIGHT YEARS' EXPERIENCE



Manufacturing the famous "Decker" line of Threshing Machinery.

## "Decker" Separators

Made in the following sizes:  
24-46, 28-50, 32-54 and 36-60.

Well adapted for gas power, being easy to drive. A marvel of simplicity, efficient in separation and convenient to handle.

Wind [Stackers, Feeders, Baggers and a full line of Thresher Supplies.]

## "Decker" Engines

in the following sizes:—18, 20, 22 and 25 h.p. Boilers command 175 lbs. steam pressure. "Decker" valve gear superior to all devices used for the purpose; heavy gear suitable for hard work. Plowing engines a speciality.

# THE MACDONALD THRESHER CO. Limited

Western Branch: Winnipeg, Man.

Box 1296

Head Office and Factory: Stratford, Ontario, Canada.

You saw this advertisement in this magazine. Don't forget to say so when writing.

"Good Lord! I'm hope I'm not like Datchet!"

"I hope you're not, for your sake, if you want to marry Margaret. Well, let's get down to it. Datchet's specialty was aristocratic idleness. He had never done a day's work in his life. No Datchet ever had, apparently. The last time any of the bunch had ever shown any signs of perspiring at the brow was when the first Earl carried William the Conqueror's bag down the gangway. Is that your long suit, too—trembling when you see a job of work? Well, keep it to the last six years, if you like. What have you done since you came of age?"

"Well, I suppose if you put it that way—"

"I do put it just that way. Have you earned a cent in your life?"

"No. But—"

"It isn't a case of but. I know exactly what you're trying to say, that there wasn't any need for you to work, and so on. I know all that. That's not the point. The point is that the man who marries Margaret has got to be capable of work. There's only one way of telling the difference between a man and a jack-rabbit till you get to know them, and that is that the man will work." Mr. Bivatt took another tabloid. "You remember Jacob?" he said.

"Jacob? I've met a man called Jacob at the National Sporting Club."

"I mean the one in the Bible, the one who worked seven years for the girl, got the wrong one, and started in right away to do

me an idea, talking of Jacob. That's the sort of man I want for Margaret. See? I don't ask him to wait seven years, let alone fourteen. But I will have him show that there's something in him. Now, I'll make a proposi-

tion to you. You go and hunt for a job, and get it, and hold it long enough to make five hundred dollars, and you can marry Margaret as soon as you like afterwards. But you've got to make it by work. No going out and winning it by poker, or putting

your month's allowance on something to win and for a place. See?"

"It seems to me," said Freddie, "that you bar every avenue of legitimate enterprise. But I shall romp home all the same. You mean earn five hundred, not save it?"

"Earn will do. But let's get this fixed right. When I say earn, I mean earn. I don't mean sit up and beg, and have it fall into your mouth. Manual work or brain work it's got to be—one of the two. I shall check your statement pretty sharply. And you'll drop your title while you're at it. You've got to get this job on your merits, if you have any. Is that plain?"

"Offensively."

"You mean to try it. You won't like it."

"I don't suppose Jacob liked it—what?"

"I suppose not. Good morning."

And Mr. Bivatt, swallowing another tabloid, turned his attention once more to harrying the widow and the orphan.

Freddie, when he set out on his pilgrimage, had his eyes open for something soft and easy. But there are no really easy jobs. Even the man who fastened a snake into a length of hose-pipe with a washer, and stood in the



"Say" he said severely, as he held out his hand, "You don't reckon I'd take a bribe I hope?"

another seven years. He wasn't a jack-rabbit!"

"Wonderful Johnny," agreed Lord Freddie, admiringly.

"They managed things mighty sensibly in those days. You didn't catch them getting stung by any pop-eyed Datchets. It's given

you a job, and get it, and hold it long enough to make five hundred dollars, and you can marry Margaret as soon as you like afterwards. But you've got to make it by work. No going out and winning it by poker, or putting

background working a police-rattle—the whole outfit being presented to the public in a dim light as the largest rattlesnake in captivity—had to run for his life when the washer worked loose and the snake escaped.

It amazed Freddie, the difficulty of getting work. Work had always seemed to him so peculiarly unpleasant that he had supposed that the supply must exceed the demand. The contrary appeared to be the case.

Eventually, after wearing a groove in the pavements, he found himself, through a combination of lucky chances, in charge of twelve dollars a week was the of the news-stand at a large hotel. Stipend. Working it out on a slip of paper, he perceived that his ordeal was to be a mere few months' canter of unexact work in quite comfortable surroundings. Datchet himself could have done it on his butter-colored head.

There is always a catch in these good things. For four days all went well. He found his duties pleasant. But on the fifth day came reaction. From the moment he began work a feeling of utter loathing for this particular form of money-making enveloped him as in a cloud. The customers irritated him. He was hopelessly bored.

The end was in sight. It came early on the afternoon of the sixth day, through the medium of one of the regular customers, a man who, even in happier moments, had always got on his nerves. He was a man with a rasping voice and a peremptory manner, who demanded a daily paper or a two cent stamp with the air of one cursing an enemy.

Freddie had fallen into gloomy meditation, business being slack at the time, when this man appeared before him and shouted:—  
"Stamp!"

Freddie started, but made no reply.

"Stamp!"  
Freddie's gaze circled round the lobby and eventually rested on the object before him.

"Stamp!"  
Freddie inspected him with frigid scorn.

"Why should I?" he asked, coldly.

The hotel in which Freddie had found employment was a sporting hotel in the heart of that section of New York known as the Tenderloin. Its patrons were mainly racing men, gamblers and commercial travellers, men of action rather than words. This particular patron was essentially the man of action. Freddie's question offending him, he hit him in the eye, and a minute later Freddie, breathing slaughter, had vaulted the barrier of newspapers, and the battle was raging all over the lobby, to the huge content-

ment of a mixed assortment of patrons, bell-boys, bar-keepers, pages, and waiters from the adjoining cafe. Six minutes after, when Freddie, panting a little and blinking to ease the pain of his injured eye, was waiting for his opponent to rise, which he did not do, the manager entered the arena. The manager was a man with sporting blood and a sense of the proprieties. The former had kept him an interested spectator during the late proceedings; the latter now had him step forward, tap Freddie on the shoulder, and inform him that his connection with the hotel was at an end.

Freddie went out into the world with twelve dollars and a black eye. As he passed through the swing door a slight cheer was raised in his honor by the grateful audience.

I would enlarge on Freddie's emotions at losing his situation, were it not for the fact that two days later he found another. There was a bell-boy at his late hotel to whom he had endeared himself by allowing him to read the baseball news free of charge; a red-headed, world-weary, prematurely aged boy, to whom New York was an open book. He met Freddie in the street.

"Halloo, you!" he said. "I been huntin' after you. Lookin' fer a job? My cousin runs a cafe on Fourteenth Street. He's wantin' a new waiter. I seen the card in the window yesterday. You try there and say I sent you. It's a tough joint, though."

"After what had happened the day before yesterday, it seems to me that the tougher the joint the more likely I am to hold my job. I seem to lack polish."

"The Fast Side Delmnocio's is the name."

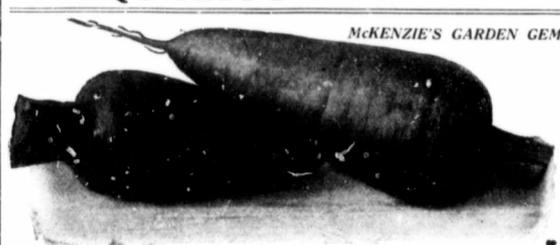
"It sounds too refined for me."  
"It may sound that way," said the bell-boy, "but it ain't." Nor was it.

It appeared that the bell-boy, who had been deeply impressed by Freddie's handling of the irritable news-stand customer, had given him an excellent character in advance; and he found, on arrival, that he was no stranger to Mr. "Blinky" Anderson, the proprietor. The bell-boy's cousin welcomed him, if not with open arms, with quite marked satisfaction. He examined the injured eye, stamped it with the seal of his approval as "some lamp," and, having informed him that his weekly envelope would contain five dollars and that his food was presented free by the management, requested him to slip out of his coat, grab an apron, and get busy.

Freddie was a young man who took life as it came. He was a sociable being, and could be happy anywhere so long as he was not bored. The solitude of the

THE QUALITY SEED HOUSE OF CANADA

MCKENZIE'S QUALITY SEEDS



MCKENZIE'S GARDEN GEM

There are MANY LINKS in the CHAIN LEADING UP to a BOUNTIFUL HARVEST. THE ONE CONTRIBUTING MOST TO SUCCESS IS UNQUESTIONABLY "PURE SEED."  
The VERY PUREST and BEST STRAINS of SEED that MONEY can BUY is POSITIVELY THE CHEAPEST.  
When you try to ECONOMIZE by SAVING A FEW CENTS on the PURCHASE PRICE OF SEED, you SIMPLY ROB YOURSELF OF THE FULL REWARDS OF HARVEST.

McKenzie's Selected Garden Seeds				\$510.00
PRICES POSTPAID	Pkts.	Oz.	Lb.	
BEAN - Black Wax	\$0.05		\$0.25	
BEET - Flat Egyptian	.05	20	1.65	
CABBAGE - Premium Flat Dutch	.05	20	1.65	
CARROT - Nantes	.05	20	2.00	
CALIFLOWER - Dwarf Erfurt	.15	25		
CELERY - Golden Self Blanching	.10	\$1.25		
CORN - Golden Bantam	.05	25	.35	
CUCUMBER - McKenzie's Prolific	.10	25	1.75	
LETTUCE - Hanson	.05	20		
ONION - McKenzie's Northland	.10	20	1.85	
ONION - McKenzie's Red Wethers-head	.05	25	2.25	
PEA - Heroine	.05	45		
PEA - American Wonder	.05	50		
PEA - McKenzie's Prosperity	.05	50		
RABBIT - French Breakfast	.05	15	1.00	
TOMATO - Early Atlantic	.05	30		

IN CASH PRIZES OFFERED FOR BEST MARQUIS. SEE OUR 1913 CATALOG. PAGE 47.

300 PRIZES ONE EACH TO EVERY AGRICULTURE FAIR IN THE WEST. SEE CATALOG.

WRITE FOR OUR CATALOG AND PRICES ON GARDEN SEEDS - FLOWER SEEDS - WHEAT - OATS - BARLEY - FLAX - RYE - SPELTZ - ALFALFA - CLOVERS - MILLETS - FIELD PEAS - TIMOTHY - BROME - WESTERN RYE.

CYPHERS INCUBATORS - CYPHERS BROADCASTERS - PLANET JR. GARDEN TOOLS, BONE CUTTERS, ETC.

ZENOLEUM - WORLD FAMOUS COAL TAR ANIMAL DIP. 8 OZ. TIN 25c. 2 QT. 90c. 2 GAL. TIN \$2.65 1 QT. TIN 50c. 1 GAL. \$1.80 4 GAL. TIN 8.00 1 QUART MAKES 25 GALLONS FLUID

**A. E. McKenzie Co. Ltd.**  
Brandon, Man. Calgary, Alta.

SEEDSMEN TO WESTERN CANADA

**FRUIT LANDS!**

We have a tract of orchard land in the famous Bitter Root Valley, Montana. This land is divided into ten-acre tracts and set to trees of approved commercial varieties. These trees are two and three years old and will soon be in bearing. The Bitter Root Valley is known as the home of the famous McIntosh Red.

This Valley is destined to be one of the most beautiful valleys in the West. Pure water, bracing air, pleasant and mild climate.

In order to get our fruit lands introduced in your country we would consider one exchange for good agricultural land in Canada.

Write us for full particulars and illustrated booklet.

**STONDALL-TOFTOY COMPANY, Madison, Wis.**

**SPARK ARRESTER**

One that gets all the sparks without clogging or interfering with the draft. Fits any engine. Screens adapted to any fuel.

**ACETYLENE GAS HEADLIGHT**

Turns night into day. Bracket to fit any make of engine. Throws light 400 feet. Operating expense about 1c. per hour.

**FLUE CUTTER**

You need this tool to get ready for your Spring Plowing. Is adjustable in length and size. Cuts the flue without burring the end. Try it.

Estate of E. M. POPE, Watertown, S. Dakota, U. S. A.  
Send for Catalogue and Price List to

**THE MAYTAG COMPANY, LIMITED, Winnipeg, Man.**

SELECTED SEEDS OF HIGHEST QUALITY

news-stand had bored him, but at the East Side Delmonico's life was too full of movement to permit of ennui. He soon perceived that there was more in this curious establishment than met the eye, and this by design rather than accident. On the first floor, for instance, provided that you could convince the management of the excellence of your motives you could "buck the tiger"—a feat which sounds perilous but is not, except to the purse. On the floor above, again, if you were that kind of idiot, you might play roulette. And in the basement, in a large cellar-like room, lit with countless electric lights, boxing contests were held on Saturday nights before audiences financially, if not morally, select.

In fact, the East Side Delmonico's was nothing more or less than a den of iniquity. But nobody could call it dull, and Freddie revelled in his duties. He booked orders, served drinks, smashed plates, bullied the cook, chaffed the customers when they were merry, seized them by the neck and ran them into the street when they were too merry, and in every other way comported himself like one who has at last found his true vocation. And time rolled on.

We will leave time rolling for the moment and return to Mr. Bivatt, raising the curtain at the beginning of his tete-a-tete dinner with his fellow-plutocrat, T. Mortimer Dunlop. T. Mortimer was the other sort of millionaire. You could have told he was a millionaire just by looking at him. He bulged. Wherever a man can bulge, there did T. Mortimer Dunlop bulge. His head was bald, his face purple, his hands red. He was accustomed to refer to himself somewhat frequently as a "dead game sport." He wheezed when he spoke.

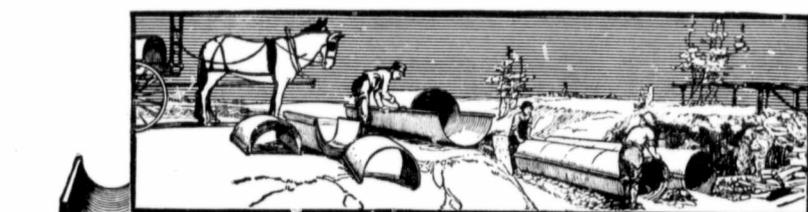
I raise the curtain on Mr. Bivatt at the beginning of dinner because it was at the beginning of dinner that he allowed Mr. Dunlop to persuade him to drink a Dawn of Hope cocktail—so called because it cheers you up. It cheered Mr. Bivatt up.

Mr. Bivatt needed cheering up. That very afternoon his only son Twombly had struck him for a thousand dollars to pay a poker debt. A thousand dollars is not a large sum to a man of Mr. Bivatt's wealth, but it is your really rich man who unbelted least joyously.

T. Mortimer Dunlop, summoning the waiter, ordered two more Dawn of Hope cocktails.

"Nonsense!" he wheezed, in response to Mr. Bivatt's protest. "It's a sport! I'm a dead game sport. Hurry up waiter. Two Dawn of Hope."

Mr. Bivatt weakly surrendered. He was there entirely to please Mr. Dunlop, for there was a big



## Pedlar Culverts Make the Township Roads "O.K."



**I**NSTEAD of wood, brick or concrete culverts, taking days to make, simply use Pedlar Culvert in nestable bundles, set it up at the job, roll it into place, and build your road across it. In a few hours you make a roadway good for years, frost-proof, strong, and freshet-proof. It can't wash out. You save weeks of statute labor. Use it on your place. See your Reeve gets it for 1913.

**P**EDLAR Culvert is made in corrosion-proof "Toncan" metal instead of iron or steel. Just as strong. It clamps tightly into a solid tube that cannot be washed out. Immense saving in road labor and repairs, and perfect culverts as well, at lowest cost. Examine a miniature "Pedlar Culvert—sent free."



### You Can Use It on Your Farm

**Y**OUR township ought to use Pedlar Culvert, as most of your statute labor can then go in graveling and grading highways, instead of repairing rotten wood culvert and bridges, or excavating for cement culverts which frost will crack. A few hours' work installs a Pedlar Culvert. Use it on your farm for bridging ditches and gate entrances or lining wells. All sizes from 8 ins. to 7 ft in diameter. See your township adopts it. It means miles of good roads made with the labor now wasted on culvert repairs.

# FREE

**A Sample of Pedlar Culvert and a Special Book about it to every Farmer or Reeve or Municipal Officer —**



Est. 1861

- TORONTO 113 Bay Street
- MONTREAL 321-3 Craig St.
- ST. JOHN, N.B. 42-46 Fr. William St.
- OTTAWA 432 Sussex St.
- LONDON 86 King St.
- CHATHAM 127 Rue du Pont 209 King St. W.
- PORT ARTHUR MOOSE JAW WINNIPEG 65 Cumberland St. 202 Fairford St. 76 Lombard St.



- EDMONTON 563 3rd St. W.
- HALIFAX 16 Prince St.
- SYDNEY 194-208 George St.
- CALGARY Rm. 7, Crown Block
- MEDICINE HAT SASKATOON -- Toronto St. Box 1045
- LETHBRIDGE VANCOUVER 1262 1st Ave. So. 108 Alexander St.
- VICTORIA 434 Kingston St. 416

Remember, we also make Metal Shingle, Concrete Reinforcement, Metal Flume and Troughs, Metal Lath, Art Metal for Walls and Ceilings.

**Send for Culvert Book No. 255 to Nearest Branch**

You saw this advertisement in this magazine. Don't forget to say so when writing.

deal in the air, to which Mr. Dunlop's co-operation was essential. This was no time to think about one's digestion or the habits of a lifetime.

Mr. Bivatt for thirty years had confined his potions to hot water, and the effect on him was remarkable. He no longer felt depressed. Hope, so to speak, had dawned with a jerk. Life was a thing of wonderful joy and infinite possibilities.

We therefore find him, at the end of dinner, leaning across the table, thumping it with clenched fist, and addressing Mr. Dunlop through the smoke of the latter's cigar thus:—

"Dunlop, old man, how would it be to go and see a show? I'm ready for anything, old man, Dunlop, I'm a dead game sport, Dunlop, old fellow! That's what I am."

One thing leads to another. The curtain falls on Mr. Bivatt smoking a Turkish cigarette in a

manner than can only be described as absolutely reckless.

These things, I should mention, happened on a Saturday night. About an hour after Mr. Bivatt had lit his cigarette, Freddie, in the cafe at the East Side Delmonico's, was aware of a thick-set, short-haired, tough-looking young man settling himself at one of the tables and hammering a glass with the blade of his knife. In the other hand he waved the bill of fare. He was also shouting, "Hey!" Taking aim for all in all, Freddie set him down as a hungry young man. He moved towards him to minister to his needs.

"Well, cully," he said, affably, "and what will you wrap yourself around?"

You were supposed to unbend and be chummy with the customers if you were a waiter at "Blinky's." The customers expected it. If you called a patron of the East Side Belmonico's

"sir," he scented sarcasm, and was apt to throw things.

The young man had a grievance.

"Say, can you beat it? Me signed up to fight a guy here at a hundred and thirty-three, ring-side, and starving myself for weeks to make the weight. Say, I ain't had a square meal since Ponto was a pup—and, gee! along comes word that he's sprained a foot and will we kindly not expect him. And all I get is the forfeit money."

He snorted. "Forfeit money! Keep it! It ain't but a hundred plunks, and the loser's end was three hundred. And there wouldn't have been any loser's end in mine at that. Why, say, I'd have licked that guy with me eyes shut!"

He kicked the table morosely. "Your story moves me much," said Freddie. "And now, what shall we shoot into you?"

To be concluded next month



## Do Power Plowing This Way— Run the Entire Outfit Alone

Power Plowing means more profits for you whether you do the plowing for yourself or for your neighbors.

It means that you can plow deeper, cultivate oftener and better and do your work just when it ought to be done which means raising bigger crops. It means plowing cheaper than with horses by about half, and saving hard work for yourself.

Then you can plow for others after you are through with your own work. There's a big demand now for plowing by Traction Power at a good price per acre.

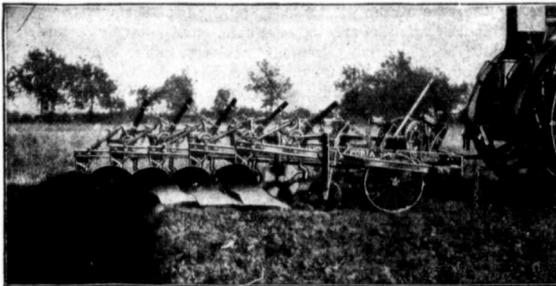
**You can run an Avery Plow Outfit all alone.** The Avery "Self-Lift" Plow lifts and lowers itself. No plowman needed. Saves his wages and board.

Simply pull a cord and the plows lift and lower by power taken from the plow wheels. No hard back-breaking work lifting and lowering plows by hand levers at the end of each furrow.

There's no other plow like the Avery "Self-Lift." Entirely outclasses all hand lever plows.

With a "Self-Guide" attachment the Avery Tractor will also automatically follow the furrow without your touching the steering wheel.

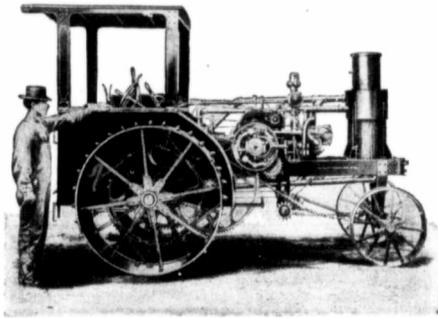
Think how easy work plowing would be with an Avery "Self-Guide" Tractor and "Self-Lift" Plow, besides the expense you can save, the bigger crops you can raise and the extra profits you can make plowing for your neighbors.



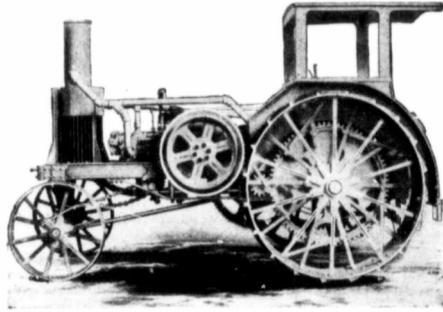
In this view the cord has been pulled and the "Power-Lift" Device has lifted the first three of the plows out of the ground. No hard back-breaking work lifting them out by hand levers. Notice also how they lift in a straight line. And you never need to stop or even slack up in turning around at the ends when you use an Avery Plow. Just pull the cord and keep right on going.



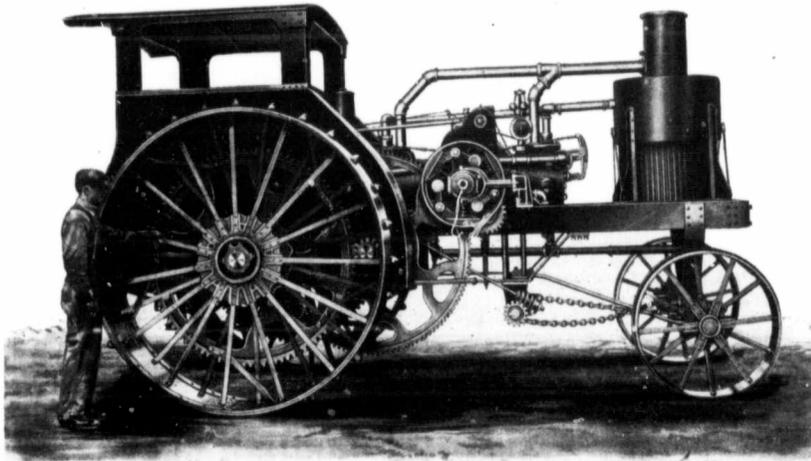
In this view the operator has just pulled the cord and part of the plows have dropped into the ground. This shows plainly how they drop in one at a time in a straight line, making clean, even ends.



12 Traction—25 Brake H. P. Avery "Light-Weight" Tractor



20 Tractor—35 Brake H. P. Avery "Light-Weight" Tractor



40—Traction—80 Brake H. P. Avery "Light-Weight" Tractor

## Now You Can Get a Size Avery Tractor to Just Fit Your Needs

In addition to the 20-35 H. P. size Avery Tractor, we built last year, you can now get a "Baby Brother," 12-25 H. P. size, or a "Big Brother," 40-80 H. P. size.

This makes a complete line—a size Tractor to fit any thresherman or any farmer.

The 12-25 H. P. pulls 3 to 4 plows and our small "Yellow Kid" Separator; the 20-35 H. P. pulls 5 to 6 plows and any size Avery Separator up to 32-54 inch; the 40-80 H. P. pulls 8 to 10 plows and any large size Avery Separator.

### THE RIGHT SIZE—AND "LIGHT-WEIGHT"—

Avery Tractors are the Lightest-Weight Tractors built, considering their power and strength of construction. The 12-25 H. P. weighs less than 7,500 pounds, the 20-35 H. P. less than 11,500 pounds, and the 40-80 H. P. only 20,000 pounds.

Consider what this means to you when you get a "Light-Weight" Avery Tractor.

It won't pack your ground to injure it in any way.

It will travel over softer ground.

You can get into the field earlier in the spring or after a rain.

It won't waste fuel moving useless dead weight.

It will work on any ground that is in condition to be worked with horses.

The day of the "Heavy-Weight" Tractor is past. There were actually hundreds of the "Heavy-Weight" Tractors that could not be used at all last Spring because they could hardly move themselves, let alone pull plows and other machinery. At the Fairs Avery "Light-Weight" Tractors have followed behind the "Heavy-Weights" and plowed right along over ground where the "Heavy-Weights" mired down or had to unhitch from their plows. A good comparison of weight was shown in the 1912 Winnipeg Motor Contest, where the Avery "Light-Weight" Tractor weighed 2,885 pounds (or almost a ton and a half) less than the average of the Tractors against which it competed.

We cannot emphasize the advantages of this "Light-Weight" feature of Avery Tractors too strongly. It means these most important things to you—saving expense for fuel—saving trouble—and raising bigger crops because you are able to do the work when it ought to be done. Don't fail to fully investigate this question of weight before you buy—it will mean a whole lot to you afterwards.

### The Right Size—"Light-Weight" and the Simplest Tractors Built

A comparison of Tractors shows clearly that the Averages are the Simplest Tractors built.

That's what everybody wants—a Tractor that is easy to keep in running order and that any man or boy with reasonable care can operate—a Tractor that doesn't have a lot of cluttered up, delicate parts that are always getting out of order or breaking.

That's just why we built a simple Tractor.

No other Tractor ever has been, or, we believe, ever can be, designed with less gearing and shafting.

It has the fewest gears of any Tractor—no intermediate gear is used in traveling ahead—the crankshaft pinion meshes directly into the compensating gear. There are no idle gears in mesh and running either when belt driving or pulling. This saves useless friction and increases the power at the drawbar, besides making less gears to wear out.

It has no intermediate shaft—there are but two main engine shafts, crankshaft and countershaft.

It has but one friction clutch, which serves for traveling forward or backward, or when working in the belt. This is a fine thing in a tractor, saving a lot of unnecessary parts.

It has no cooling fan to waste power or cause trouble — the exhaust draws the cool air past the tubes for cooling.

It has no water pump to leak and require packing.

It has no fuel pump.

It has a simple double opposed motor with no counterweights on the crankshaft and no outside lubricator.

It doesn't take an expert to operate an Avery Tractor or keep it in good running order. It is so simple that anyone can operate it who is large enough to handle the levers.

### Sold on Approval and Fully Guaranteed

Avery Tractors and Plows lead all the rest in Design and Construction, and besides all these Improved Features, they are Sold on Approval and Fully Guaranteed.

Write us at once for Free Power Farming Facts, 1913 complete Tractor and Plow Catalog, and Avery Mutual Benefit Selling Plan.

**AVERY COMPANY**  
675 Iowa Street Peoria, Illinois

Haug Bros. & Nellermore Co., Ltd., Winnipeg, Regina, Calgary  
Western Canadian Distributors



The beginning of this month, when a renewal of navigation is likely, but three weeks away, finds stocks in Canadian Terminal Elevators about their maximum. To such must be added the stocks lying in boats ready for sailing, (completed cargoes only). Statistics covering these combined stocks are to the point:

Wheat	21,040,401
Oats	5,894,063
Barley	2,594,842
Flax	4,688,870

The foregoing figures show that the stocks of flax are about four times those of a year ago. These stocks will also be largely augmented before the opening, as the C.N.R. has just opened 2,500,000 bushels new elevator space.

A retrospective glance over March markets discloses a net gain for the month in wheat of two cents, and in barley a cent. Oats held almost unchanged, while flax after numerous fluctuations, lost about three cents. The tight money conditions which obtained almost to the end of the month, doubtless retarded the demand, as fewer buyers were in the Trade.

The American markets have been for many weeks past, intensely bearish, and with a big reserve, a slackened speculative buying, and the prospect of the April report on Winter wheat being very favorable, evidence has not been lacking that Chicago really controls the World's market this spring. A glance at the figures below will explain why our wheat and oats have not been in such keen demand as usual this crop year.

United States Grain Exports, July 1st, 1912 to February 28th, 1913:

	1913	1912	1911
	Bushels	Bushels	Bushels
Wheat	67,392,410	25,623,745	18,349,202
Oats	31,996,836	1,142,277	908,130
Barley	13,843,428	1,359,255	8,361,836

The above figures disclose the tremendous competition our grain has had to meet from a country usually not a heavy exporter.

Foreign crop advices from Europe are mostly favorable, while the Argentine marketings are falling off. India reports excess of moisture. Winter wheat in the United States promises well generally.

The flour demand across the Line has been quite dull, and exports to date are barely over those

of last year, but the wheat exports above set out are worthy of review here. Canadian millers report a very good demand, our Canadian flour being an easy competitor of American flour, and with a considerable percentage of dry milling wheat still in country storage, they fear no shortage.

Now the big shipments to be made on the opening of navigation toward the close of the present month, will undoubtedly set free a vast sum of money and stimulate buying power, yet the very appearance of that grain afloat in the World's visible will have its bearish effect upon continental markets. The end of the Balkan war seems near—a feature helpful in the grain trade.

On the other hand, a considerable long interest in the Winnipeg May option, widely held in weak hands, will likely be liquidated in the next fortnight or three weeks—this is a bearish feature. Considerable cash grain still held by farmers will be sold about the opening. Summing up, the prospects indicate a probable continuance of the small gain of March throughout April, and wheat should be sold on any good bulge.

**COARSE GRAINS**

The near approach of pasturage in the United States of America, their huge stocks of oats and corn, as well as our own big stocks at terminals can mean no marked advance in oats, although an upward turn of a cent or so might reasonably follow the lessening of the crop movement. All off grade oats should be sold.

**FLAX**

Until the big terminal stocks are reduced and partially consumed, not much change for the better need be anticipated. There are also several hundred cars of flax past Winnipeg under load, and they must so remain till stocks are removed at "the opening."



After a certain teacher had recited "The Landing of the Pilgrims" for her pupils she requested each one to draw from his or her imagination a picture of Plymouth Rock. Most of the children set to work blithely, but one little fellow raised a hesitating hand:

"Please, ma'am, is it a hen or a rooster you want us to draw?"

### The World's Greatest CREAM SEPARATOR

RESULTS at the Kerwood Cheese Factory

We are constantly receiving test reports of the "Standard" from Creameries, Cheese and Butter Factories. From the Kerwood we receive the following—

PER CENT. OF BUTTER

Test No. 1	Fat in Cream 30	In Skim Milk .02
" 2	" "	43.5 "
" 3	" "	45 "
" 4	" "	.03 "

In each of the above tests the milk was fed to the machine at the rate of 684 lbs. per hour (machine listed at 900 lbs.), and the bowl was flushed and when taken apart was free from cream and in good condition. The milk skimmed was not new milk but had been kept over, some of it two days old. You will note by the above figures that the milk was fed to the machine nearly 100 lbs. per hour faster than its rated capacity, and that the cream skimmed contained a high per cent. of butter fat, so that I consider the work done in the test, exceptionally good.

(Signed) W WADDELL  
Proprietor, Kerwood Cheese and Butter Factory.

There is no other than the Standard can give you these results  
Send for Descriptive Catalogue.

**The RENFREW MACHINERY CO. Ltd.**  
Wiloughby-Sumner Block, SASKATOON, SASK.

You saw this advertisement in this magazine. Don't forget to say so when writing.

### Donald Morrison & Co.

ESTABLISHED 1904

**GRAIN COMMISSION**

**711 T Grain Exchange WINNIPEG**

WE handle Wheat, Oats, Flax and Barley on commission, obtaining best possible grades and prices. Our work is prompt, accurate and reliable. Let us handle YOUR shipments this season. Daily or weekly market letter on application.

REFERENCES: Bank of Toronto, Northern Crown Bank and Commercial Agencies.

You saw this advertisement in this magazine. Don't forget to say so when writing.

### FARMERS! SHIP YOUR GRAIN

TO THE

### CANADIAN ELEVATOR CO. LTD.

GRAIN COMMISSION MERCHANTS, WINNIPEG

It is as much our business to give satisfaction as to secure grain shipments. We watch the grading of each car and allow liberal advances on all bills of lading.

You saw this advertisement in this magazine. Don't forget to say so when writing.

### You May Ship to Port Arthur Now

Once again all grain except Flax on the C.P.R. may go ahead to Canadian Terminals. By shipping you put your grain out where there is real competition. For special shipment we can get you premiums on wheat, oats, and barley. Write or phone for particulars. Get our bids anyway when you load.

### BLACKBURN & MILLS

(A. M. Blackburn)  
(D. K. Mills)

**531 Grain Exchange Winnipeg, Man.**

Licensed TELEPHONE MAIN 48  
Reference: The Royal Bank of Canada Bonded

You saw this advertisement in this magazine. Don't forget to say so when writing.

### A Fence That Will Outlast Its Posts

The Leader Fence Lock is making history. It has solved the problem of durability in a woven wire fence. The Leader fence will last a lifetime for not a single joint can slip, the Leader Lock tightening with any pressure and practically interlocking itself.

The Leader fence is made in a great variety of styles. Write for catalogue "E," showing our different styles of fences, gates, etc.

**Anchor Fence Co. Ltd.**  
P. O. Box 1382  
Corner Henry & Beacon Streets :: Winnipeg, Man.

La Compagnie Desjardins Famous Small Threshing Machines

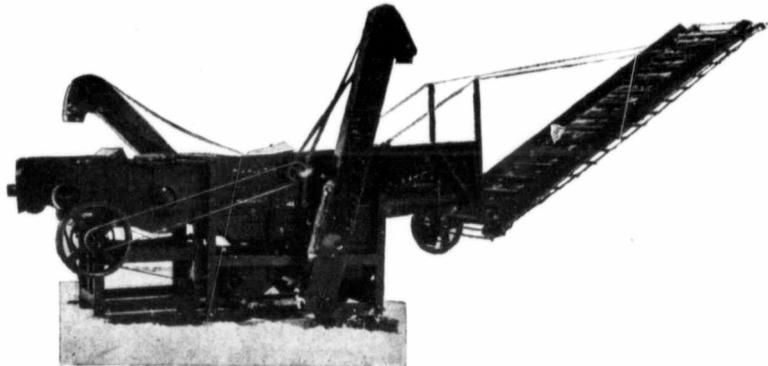
"THE CALL OF THE WEST" Sold by

**A. STANLEY JONES :: North Battleford, Saskatchewan**

General Sales Agent for Saskatchewan and Manitoba

Offices: "The Industrial Spur East" Phone 223 and 220

Prices from \$425.00 to \$680.00 including engine, separator and all belts, carriage paid to any point in SASKATCHEWAN. It can all be mounted on one good wagon complete. Capacity from 400 of wheat to 600 or 700, and of oats from 700 to 1500 and more according to size taken. The \$680.00 outfit will easily thresh 600 of wheat and as much as 1500 of oats if in average grain and fed properly, although only sold to thresh 600 to 800 of grain. If you have any size farm your usual threshing bill will be more than your payment on this machine. La Compagnie Desjardins have made these machines since 1864 and were the original makers of the Champion, but owing to the makers of other machines calling theirs Champions we have called ours by what it proved to be last year—



"THE CALL OF THE WEST"

Don't buy any other machine or any sort of small outfit till you have had my prices; you deal direct with the Factory, and we make every bit of it. Drop a card RIGHT NOW.

You saw this advertisement in this magazine. Don't forget to say so when writing.

Continued from page 89

The gasoline engine should certainly be cleaned after shutting down and all the bearings examined both by sight and touch. Clean it from the base to the exhaust pipe. Give some attention to the batteries and see that they are kept in a dry, cool place. See that the wiring is not working loose and that the pipes, etc., are not vibrating too much when the engine is running. The engine is sometimes blamed for accidents for which it is in no way responsible. I read of one case where the engine was said to have exploded, but the facts were that the engineer had gone out to draw off some gasoline in a can. The day was very cold and he had come in and set the can down beside a hot stove and started to warm himself. The gasoline also got warm and started to vaporize, causing an explosion and fire.

My message to you is: Anticipate your troubles by careful inspection and keep your engine clean.



The "Come-Back"

He—"Madam, you promised to obey me. Do you do it?"

She—"Sir, you promised me your worldly goods. Do I get 'em?"

Massey-Harris Buys Another U.S. Plant

Another United States manufacturing concern has been bought out by the Massey-Harris Company, Toronto, which has decided to engage in the manufacture of gasoline engines, and will establish in Canada during the present year a factory especially equipped for that purpose.

The Deyo-Macey Engine Company of Binghamton, N.Y., is the concern in which the Toronto company has just secured absolute control. The officers and managers of the Binghamton company will continue in their positions, and the plant will be enlarged, in order that both the United States and Canadian trades may be taken care of.

The Deyo-Macey Engine Company has a complete line of gasoline agricultural power engines, both stationary and portable, ranging from 1½ to 20 horse power and, in addition, manufactures a well known orchard spraying outfit.

These products in future will be manufactured and sold under the name of the Massey-Harris Company, which is planning to introduce them into every grain growing country in the world.

Has a Plant at Batavia

The Massey-Harris Company, a few years ago, purchased a con-

trolling interest in the Johnston Harvester Company of Batavia, N.Y. The company, at the time of the purchase, was employing about 1,000 men. The plant has been increased by between six and seven acres of floor space, all the buildings being constructed of reinforced concrete, and made absolutely fireproof, and the force increased to 2,000 men. In addition to the large factories in Toronto and Brantford, the Massey-Harris Company has also large interests in the Verity Plow Works, of Brantford, and the Bain Wagon Company of Woodstock.

The building of a new engine works in Canada will mean that the company will be operating five factories in Canada and two in the United States.



"What's your fare?" asked the hard-fisted old gentleman of a cabby, who had driven him as fast as his horse would go. "Well, sir," replied the cabby, who, unlike most of his class, hesitated at naming his figure, "I'll leave that to you." "Ah, thank you, said the stingy old gentleman, "you're very kind, I'm sure. I wish there were more like you." As he walked off he added, as a parting word "You're the first person who ever left me anything yet."



FRED CRANE

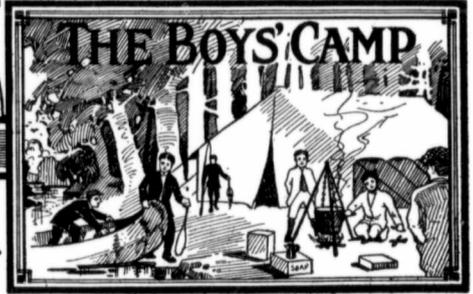
Manager, Canadian Fairbanks-Morse, Saskatoon. Recently appointed President of Wholesale Implement Men's Association, Saskatoon

Her Wedding Invitations

At the wedding reception the young man remarked:

"Wasn't it annoying the way that baby cried during the whole ceremony?"

"It was simply dreadful," replied the prim little maid of honour; "and when I get married I'm going to have engraved right in the corner of the invitations: 'No babies expected.'"



## Girls' Cozy Corner

### THE AWAKENING OF THE FLOWERS

An Easter Play

By Edmonia Madison Christian

Characters—Spring, Snowdrop, Primrose, Johnny-Jump-Up, Lily-of-the-Valley, Buttercup, Rose, Daisy.

#### Directions.

The children, wearing costumes of crepe paper with bonnets representing the flowers, are hidden behind a bank of green until Spring awakes them with her wand.

Spring should have a costume of pale green and a green crown. She carries a silver wand ornamented with green.

While Mendelssohn's "Spring Song" is being played softly, Spring appears with her wand.

#### Spring

Wake, wake, little flowers!  
Come, open your eyes!  
The bright sun is shining  
And blue are the skies.

The birds are all singing  
To herald your birth—  
Wake, wake, little flowers,  
And gladden the earth.

(Touching Snowdrop with wand)  
Unfold, little Snowdrop!  
The March winds are past  
And April's soft breezes  
Are with us at last.

The green earth is waiting  
To see you arise—  
Wake, wake, little Snowdrop!  
Come, open your eyes!

Snowdrop (waking up)  
Hark! who is that calling?  
Dear Spring, is it you?  
Perhaps I am dreaming,  
Or, can it be true?

So fast I've been sleeping,  
I scarce can believe  
That Spring is quite ready  
Her child to receive.

#### Spring

Yes, yes, little Snowdrop,  
Your old friend is here,  
Come forth in the sunshine,  
You've nothing to fear.

And now I must hasten  
The Primrose to call,  
Lest you should be lonely  
With no mate at all.

(Touching Primrose with her wand)  
Come, come, pretty Primrose!  
Arise from your bed!  
Already the Snowdrop  
Is lifting her head.

She waits in the garden  
Her sister to greet;  
Then wake, little Primrose,  
So fair and so sweet.

#### Primrose (waking up)

Good-morning sweet Springtime!  
When did you arrive?  
I'd almost forgotten  
That I was alive.

While hidden so snugly  
Down here in the ground,  
I've felt not a motion,  
I've heard not a sound.

#### Spring

Then listen, sweet Primrose,  
The birds you will hear,  
And softly the trees  
Are whispering near.

While you are unfurling  
Your banner so gay,  
I'll call Johnny-Jump-Up  
To come out and play.

(Touching Johnny-Jump-Up with her wand)

Jump up, Johnny-Jump-Up!  
The skies are all blue,  
And two little sisters  
Are waiting for you.

The birds, too, are singing  
Their merriest song;  
Jump up, Johnny-Jump-Up!  
And hurry along.

#### Johnny-Jump-Up (waking up)

Here, here, Spring, I'm ready!  
And right glad am I  
To leave this dark prison  
And see the blue sky.

I'll stay out all winter;  
I know 'twill be fun  
To play with the snow-flakes,  
When summer is done.

#### Spring

Ah! no, Johnny-Jump-Up!  
You're getting too bold;  
For all little children  
Must do as they're told.  
Just stay here all summer,  
And sport in the breeze,  
But through the long winter,  
You'll sleep, if you please.

(Touching Lily-of-the-Valley with her wand)

Now, dear little Lily,  
Come, open your cup!  
Here's Snowdrop, here's Primrose,  
Here's Johnny-Jump-Up!  
All lifting their heads in  
The soft balmy air;  
Then, wake, little Lily!  
So pure and so fair.

#### Lily-of-the-Valley (waking up)

Methinks I hear music  
And song in my sleep,  
Perhaps Spring is coming—  
I'll just take a peep.

You've come, Spring, already!  
You look like a queen,  
All decked in your garments  
Of shimmering green.

#### Spring

And so I am, Lily,  
This sceptre I sway  
To wake all the flowers,  
And make the world gay.

I've many a subject;  
The earth is my throne—  
Each year for a season  
I reign, I, alone.

(Touching Buttercup with her wand)

Dear Buttercup, awaken!  
The meadow is waiting  
Long past is the cold;  
To clothe her in gold.

Then, open your petals  
And come to the light,  
The sun himself envies  
Your color so bright.

#### Buttercup (waking up)

Ah, Spring, how you flatter!  
I'm so very small,  
I doubt if he ever  
Will see me at all.

Were I a bit taller  
He might, but, alas!  
I just have to blossom  
Down here in the grass.

#### Spring

The sun knows you're coming;  
'Tis whispered about  
His beams should you rival,  
'Twill quite put him out.

Then haste, little flower!ret,  
Your petals unfold;  
Though you are so tiny,  
Your heart is pure gold.

(Touching Rosebud with her wand)

What, Rosebud, still sleeping!  
You've had a long rest;  
See, all your companions  
Are out in their best.

So closely you're wrapped 'n  
Your mantle of green,  
Your lovely pink petals  
Can scarcely be seen.

#### Rosebud (waking up)

Heigh ho! I was dreaming  
Of sunshine and Spring,  
Of flowers all blooming,  
And birds on the wing.

I fear I have awakened  
Too soon from my dreams  
Of birds, and of sunshine,  
And murmuring streams.

#### Spring

Not so, lovely Rosebud!  
Your dreams have come true  
All Nature is smiling  
A welcome to you.

Then spread wide your petals!  
Your beauty so rare  
Will charm away sadness  
And drive away care.

(Touching Daisy with her wand.)

Awake, little Daisy!  
You're sleeping too late,  
Fond lovers await you  
To tell them their fate.

The children are longing  
To fashion a chain;  
Awake, little Daisy!  
And come back again.

#### Daisy (waking up)

Yes, Spring, I am coming,  
I've waited quite long,  
To hear your soft accents,  
To hear the birds' song.

To feel the warm sunshine,  
To see the blue skies—  
I'm mighty glad, Springtime,  
To open my eyes.

Spring (pointing with her wand to each flower in turn)

Come, Snowdrop! Come, Primrose!  
And Johnny-Jump-Up!  
Come, fair little Lily!  
And bright Buttercup!

Come, Rosebud! Come, Daisy!  
And burst into song,  
For winter is over,  
And summer is long.

Chorus—"Voices of the Woods,"  
Written and adapted by Michael Nat-  
son, to a melody by Rubenstein in F.

#### Tableau

Spring and her subjects,  
Spring, holding her wand, is seated on  
throne of green, while the flowers are  
grouped about her.

## Girls' Prize Letter

Dear Doris—This is my first letter to  
the Girls' Cozy Corner. I will write and  
tell you about "Lobo" a story which  
the teacher read us.

Lobo was the king wolf of the Cur-  
ranpaw Canyons. He had not a very  
large pack, but what few he did have  
were good followers. His mate was a  
white wolf known as Blanca.

Lobo was a very wise and brave wolf.  
He would call his band together when  
they wanted some more to eat and sin-  
gle out from the ranchers' cattle a  
young heifer and kill her. They would  
not eat anything only what was killed  
by their own pack.

Lobo got so well known in the Cur-  
ranpaw Canyons as a cattle thief, there  
was a big reward sent out to any one  
who would kill him. Some men from  
town set out to get the reward but  
were unsuccessful as the cowboys had  
been.

At last there was a sad day for Lobo.  
A man had killed one of his cattle and  
thrown the head aside so as to look  
like it was of no use. He then placed  
his strongest traps all around the car-  
cass. Poor Blanca had fallen into one  
of these traps and was killed. Lobo  
was determined to find his mate and  
searched recklessly. But at last he was  
caught into one of the traps where the  
man had dragged the body of Blanca.  
Lobo sent a roar down the canyon for  
his band. Not one came to help him,  
he would never call again. The men  
took him home alive but he was dead  
in the morning. They took him out and  
hid him aside of Blanca where they  
were once more together.

My story is rather long but I hope  
it will miss the W. P. B. Wishing the  
paper much success will close. Yours  
truly,

Hazel Lamberton.

#### Rosenort, Man.

Dear Cousin Doris.—This is my first  
letter to your interesting club, I like to  
read the letters. Would you please let  
me be one of your members. My broth-  
er takes the Canadian Thresherman and  
Farmer. We take great interest in it.  
We live on a farm. We have seven  
horses, ten pigs, one hundred and fifty  
hens, five ducks, three cows, two calves.  
We raised seventy-five ducklings last  
summer. I have to go to school about  
three hundred yards. As this is about  
all I know so I will tell you of one of  
my adventures.

One fine day in summer my brother  
and I were walking across the prairie  
driving our cattle home. When we were  
about one half mile from home we were

surprised to see a huge animal jump up about three yards from us. My brother was startled, lifted his stick to hit the animal. Our faithful dog Jim ran after it, and chased it a little distance, then they both stopped and sneered at each other, so we found time to escape. When we reached home, we told the story to our father. So my brother and father shot the lynx.

My letter is getting rather long. I must close, hoping to see this letter in print. Wishing th's letter jumps the W. P. B. Wishing cousin Doris success, I am your loving cousin,  
Age 12 years Teenie Hoffman.

Rosenort, Man., Feb. 22, 1913.

Dear Cousin Doris,—I have been a silent reader of your Cozy Corner. My brother takes the Thresherman and Farmer, we all think it very nice. As we have a mild winter here the young folks enjoyed the outside weather so much that a great number are laid up with very bad colds. But I hope this will soon retire from our Pleasant Valley. I am going to school, which is about three hundred yards from us. My studies are: Arithmetic, Reading, Spelling, Geography, History, Grammar, Drawing, Agriculture, Physiology and Penmanship. I take great interest in all, especially in reading. In my spare time I do a little cooking, baking, sewing, and a little fancy work. We have a Literary Society in our school every three weeks. At our last Society a debate was held about Gas and Steam Engines where, of course the steam party won. We had a couple of Recitations, Dialogues, Readings, and Songs, which all turned out fine.

We have seven horses, eight heads of cattle, ten pigs, five ducks, and one hundred and fifty chickens. The situation of our farm is the nicest in all the district of Pleasant Valley, for we have a nice new school on the south-east corner of our land, and the northwest branch of the Morris river crosses the south east corner of our farm. My letter is getting long. I would like to correspond with any member of the Club, if the would write first. Hoping to see this letter in print, wishing this letter will jump the W. P. B. Wishing C. D. every success, I remain,  
Cousin Ida Hoffman.  
Age 11 years.

P. O. Rosenort, Man.

Beatty, Sask.

Dear Cousin Doris.—As my last letter was not in print I will try again. I would like to get another prize, and also see my letter in print. I go to school every day and like it very much. My brother is drawing wood these days, and sometimes he brings home very big loads. I would like to go where the pine and spruce grow to see the great big trees. It will soon be Spring again, and then we shall see the lovely flowers again.

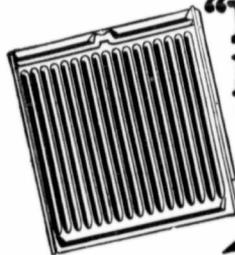
Since news is rather scarce I will send you a cake receipt—

Take one cup of milk, one cup of flour, one egg, half a cup of sweetened milk, one teaspoonful of baking powder, one teaspoonful of lemon juice. Bake to a dark brown. As I am fond of baking I thought some of the other girls were too and would like to have a receipt. As I have nothing more to say I will close with a riddle. When is a door not a door. Ans.—When it is ajar. Well Good-by for this time and please excuse writing. Hoping my letter will escape the W. P. B. Yours truly,  
Ages E. Bohn.

Ages E. Bohn.

Starbuck, Man., March 3, 1913.

Dear Cousin Doris.—My father takes the Canadian Thresherman and Farmer. I always turn to the Girls' Cozy Corner when it comes, and I think the letters are very nice. I am ten years old and live two miles and a half from town. We go to a consolidated school. It is very nice. I am not going to school because I have a bad cold. At school I am in Grade six. I take up Reading, Writing, Arithmetic, Geography, History, Drawing and Literature. I am in the second room. I have three brothers and two sisters. I will go up stairs



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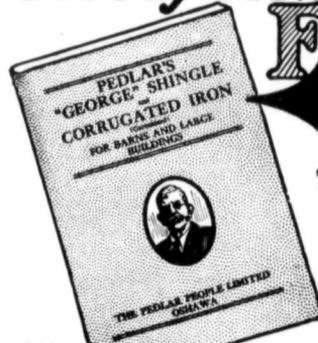
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You saw this advertisement in this magazine. Don't forget to say so when writing.

after Easter. I like my teacher, her name is Miss Burt. We have a lot of cattle, horses and chickens. We have three colts, and one of them will play with you and follow you all over the pasture. Will you please excuse my writing and hope it will pass the wastepaper basket. I remain our Cousin,  
Floris Olsen.

Penkill, Sask., March 11, 1913.

Dear Cousin Doris.—I like to read the letters from the Girls' Cozy Corner. I am seven years old. I don't go to school for we have no school near us, but I can write and read in the second reader. I have two brothers and a baby sister three months old, and I like to take care of her. I also help my mother with the house work. I have two big dolls and I take them out for a ride when it is nice. The snow is nearly gone and it is very nice out. I will close with a riddle. A man was sitting and writing and yet walked. Ans.—The dog's name was Yet. Yours truly,  
Marie Brust.

Burnt Lake, Alta., March 12, 1913.

Dear Cousin Doris.—I have thought of writing to the Girls' Cozy Corner for a long time but never did till now.

My brother takes the Canadian Thresherman and likes it very well. I have one brother and no sisters. I am twelve years old and am in the fifth grade at school. There are only six going to our school. There is only one other girl of my own age who goes to school. I live twelve miles from Red Deer, and four miles south of Burnt Lake. I would like to correspond with any of the girls. Well I guess I must close as I can think of nothing else to say. Hoping to receive a book, I remain your loving Cousin,  
Marjoie Martin.

Roseville, Delmas, Sask., Jan., 1913.

My Dear Cousin,—I was very pleased to see my last letter in our nice warm Cozy Corner. What awful cold weather we are having now, ain't we girls, I just simply hate to go out of the house. I sincerely hope we shall have a change soon, don't you? We have not had much snow here yet. What is it like where you are? Don't you think it

would be nice to have competitions and stories, puzzles, etc., and a prize for the best. I think it would make our little corner more interesting, and it would give us a little bit of excitement some times. I do not see many letters in the boy's corner I think they must have retired, what do you say? My dear Cousin I do wish you would put your photo in our corner, or please send me one for I should like to see you very much. I think I shall send some riddles to begin with, here are some jumbled names of countries; Ahnic, Ciafra, Wsitrevndla, Erlena, Taasi, Pujan, Sai-rep, Lawse, Gladinne, Taiyl, Adenan. Riddles.—What burns to keep a secret? Ans.—Sea. What became of the man who stole the calendar? Where were the first doughnuts fried? What age do hogs attain? When was Adam married? When does a person resemble an oak? Where can money always be found? My first is a lie, my second is a lie, my whole is the emblem of innocence? Why does a cow look over a mountain? I will send the answers next time, hoping you all agree to my suggestion. I remain your loving Cousin,  
Prairie Flower.



## Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



### And I Have You

If you had never come into my life—  
Had never let me look into your eyes.

Reading therein the hope that never dies  
But glows resplendent through all bitter strife—

Then I had never known what Fate had in store—  
Had I not you!

If you had never walked close by my side,

And with those wondrous eyes, seen in my breast

The tiny flame that I had never guessed

Burned there, what little good I do, had died!

You had such faith, you faltered not.  
You knew,—

And I—had you!

If you had never shown me life is just  
Living this day today—not far ahead;  
That love is best, when all is done and said,

Then would I still be trudging through  
The dust,

Lifting your own pure soul, you lift  
me, too,

While I—have you!

### Some Memories of My Grandmother

By Mrs. G. S. M. Beattie.

The farthest back my memory goes is to my childhood days with my grandmother. She took me to her heart and home when I was a little over a year old and I remained with her until I was eleven years of age. During that time she and grandfather had left the farm and moved to town where soon after grandfather died.

She then broke up house-keeping, and I returned home. Grandmother was always good and kind to me, almost too indulgent, in fact. I can never remember her using any harsher punishment than the sending me to pick up chips in the wood-yard or making me stand at the table to eat my meals when I had been particularly bad. I loved to hear her tell stories of her girlhood days in Old Ireland. At night when I was ready for bed we would usually sit before the great open fire-place which held such a large back-log that it took two men to carry it in and put it in place, not to speak of the fore-log and all the other sticks of hard maple and beech. I would sit and poke the fire with the tongs and watch the sparks fly up the chimney and listen perfectly enthralled, while she told of the banshees and witches in her native land, and imitated the wild Irish cry, the lament for the dead, or told of the habits of their household, how the maids took the linen to the edge of the river and beat them on the stones and rinsed them in the running water until they were clean then laid them on the beach green till they were snowy white.

She often told me that their butter was the best that went into Belfast market and that her sister was called

the prettiest girl that crossed Belfast Bridge, etc., etc. She usually wound up with the following little rhyme;

Company, company, come to me,  
If I had company, oh how happy I would be

And down the chimney came a pair of feet

And sat down on the hearth.

Company, company, come to me,  
If I had company, oh how happy I would be

And down the chimney came a pair of legs

And sat down on the feet, etc., etc.

till the whole body was built up, when down the chimney came a puff of wind and blew it all away. After this I was tucked away in bed.

And oh, the memory of that four-poster bed with its curtains, counterpane, valance tester and bolster. Tonight I can imagine myself in that bed, peering out between the curtains, and watching the light from the fire-place in the sitting room dancing on floor and wall and weaving itself into my dreams, as I wandered off into slumberland.



Women Who Work

The wife and daughter of our Governor-General visiting the cottage homes of Old England in which they take a deep interest

Such splendid things as grandmother kept in boxes under the bed, and in a great chest with a secret drawer which stood at the head of her bed. These things she brought out periodically, to look over and then set them carefully away again until the next time. Once when visiting some friends with her, I got as a present a lovely wax doll, but I can never remember playing with that doll, it was carefully locked away in that closet from my untoward hands, and only brought out occasionally to be admired from a distance. Perhaps one reason that I have always had a strong desire to play with dolls is that the longing I had for that one was never gratified. What lovely things she could produce from her tall corner cupboard at short notice. Such fragrant home-made wine, such lovely seed-cakes, gingerbread, doughnuts, etc. Sometimes they were kept a little long and were either dry or musty or both, but to childish hearts they were treats because they

came from grandmother's cupboard. Oh, the wonderful old mulberry and lilac dinner sets that were in the top of that cupboard behind the glass doors, with their never-to-be-forgotten pictures of the beautiful lady running away from her father to meet her lover, over an impossible bridge with either end resting on nothing at all, and her father pursuing her from the Castle that seemed to be all keep. Everything grandmother had seemed wonderful from the funny little pipe-clay figures of sheep and shepherdesses, cows, boys and girls that adorned the kitchen shelf and the rows of shining milk pans that hung on the wall with a thumb-mark at regular intervals that made them look like engraved silver (many a time did I look at my distorted visage in those pans, sometimes they made my face look long and thin and sometimes it was as broad as a full moon) to the heavy horse-hair upholstered furniture, that pervaded the drawing-room which was only used on state occasions. Her old-fashioned flower-garden with its rows of tall hollyhocks of red, white and pink great clumps of clove-pink and scarlet poppies, tulips, jonquils, great red peonies, bachelor buttons, orange and tiger lilies, ribbon grass with no two blades alike, sweet clover, snow drops, syringa and lilac-bushes and leonard trees, wild honeysuckle and tea plant which grew up the side of the house and roses, old-man and sweet Mary, which filled the air with fragrance. These were all surrounded by the privet-hedge and again surrounded by a high board fence that kept out all intruders. Then the kitchen-garden which furnished everything from sage and saffron and thyme to the bitterest of wormwood and alacompaine. The orchard with its myriad of apple, plum, cherry and pear trees, gooseberry and currant bushes, red, white and black, rhubarb, etc., in fact everything in season and out of season.

Then there was the cellar with its shelves of shining pans of milk, and trays of golden yellow butter in summer and its bins of apples, potatoes and every other kind of vegetable, and barrels of cider in winter. Many a time did I slide down that cellar door, and also down the stair bannister, notwithstanding the many cautionings I received, that I would get killed or badly hurt. The great buffalo robe which hung over the bottom of the canister alone prevented the prophecy from being fulfilled.

Verily I used to stand in open-mouthed wonder when Grandmother was dressed and ready to visit a friend or for church. Her dress of soft-silk, heavy black lace veil, beautiful China crape, or silk brocaded shawl, jewellery and lace mitts, all combined in my mind to make a creature fearfully and wonderfully made. Her large hoop skirts took up so much room in the burlap that Grandfather and I were scarcely visible.

I was the only one ever allowed in her room while she was dressing so that very few knew that her nice brown hair that never got grey was put on every morning and taken off at night. Her day cap of lace, ribbon and flowers and her night cap of muslin with its frill kept the secret well.

One thing that used to puzzle me was a habit she had of holding all the pins she used in dressing in her mouth, and champing them between her teeth like a fractious horse champing its bit until the last pin was used.

It was in vain to speak to her during this time as she never stopped long

enough to say anything for fear, I suppose, of swallowing a pin.

I used to try the feat with the result that I nearly committed suicide by swallowing several pins at once or became lockjawed by getting pins cross-wise in my mouth between my teeth or in my tongue and gums.

In church we sat in the old-fashioned high-backed pew with the seat running around three sides and a door that locked us in and the minister stood in a pulpit that seemed somewhere near the ceiling. I usually got restless and began sliding around from one side to the other, then Grandmother would produce a candy stick or bull's eye from among her voluminous skirts and if these failed to quiet me she would bring out the taws and shake them very meaningfully but surreptitiously at me. I never remember feeling the weight of them though. The climax of the services as far as I was concerned always came when the long-handled collection box was poked into our pew and I was held up to drop in a big double copper. Or when the preacher twanged his tuning fork and intoned the tune. He always sang a line or two of his psalm or paraphrase before the congregation got fairly started but everybody sang heartily some of the old songs, the last word of the line or verse so long, that it seemed almost a miracle that they caught the first one of the next in time.

Then the homegoing. I can imagine I hear the echo of the horses feet yet as they resounded on the old plank road.

And the long summer Sunday afternoons spent playing around the smoke-house which hung full of hams, shoulders of bacon and dried beef or ganging at my visage in the well with its long sweep that brought the old oaken bucket up full of sparkling water. Swinging in the old elm tree or eating sumach bobs; going away down the lane with someone for the cows at evening. Listening to Grandmother read her bible which she usually did in a half audible whisper and then being put to bed before the sun went down, as Grandmother firmly believed in the old saying, "Early to bed and early to rise, makes one healthy, wealthy and wise."

All such memories of Grandmother days are dear to me.

After Grandfather's death Grandmother lived part of the time with us where, although the children were a trial to her, she took a great interest in helping to train them. At night after the children's supper she would usually get them around her knee in a circle dressed in their nighties and with hands and faces shining clean, and teach them bible stories and question them in what she had taught them before always beginning with, Who made you? Who was the first man? The first woman? Who killed his brother? Who was the wisest man? Who was the man after God's own heart? And so on through the whole category. I am sure we all owe to Grandmother our knowledge of Scripture characters and incidents.

Sometimes she got very comical answers from the little ones. One night a little sister who was very sleepy, when Grandmother asked her who was the strongest man answered after a prolonged yawn "Thamphthon and Billy." After the questioning was all over each said a little prayer and then they all scampered off to bed.

Grandmother had a very peculiar habit of talking to herself when she was alone or when only little children were in the room. She would hold regular conversations with invisible parties, always imitating the one supposed to be



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speaking, laughing or scolding as the case might be. As she was a good mimic one listening could follow the conversation very well. Sometimes we older ones would listen at the door and once in a while even I have been guilty of answering her as though I thought she was addressing me. The only effect this ever had was to temporarily stop the conversation.

When I was about 18 a great sorrow came into her life in the death by drowning of one of my brothers, a boy of 15 who had lived with her a good deal and whom she loved more than any one else.

About a year after, I accompanied her on one of her periodical visits to her girlhood home where she was taken ill and died soon after our arrival. She was buried beside her father and mother in the old cemetery at Bowmanville.

Tonight as I think over her life as I knew her, I realize that hers was one of the strongest influences in forming my character, as it would necessarily be since I spent the time of my life with her in which the mind is most impressionable. (This is my apology for writing this article.)

I feel sorry for one who has not the memory of a grandmother with which to enrich their life. I would not care to change places with such a one. There can be no more lovely home picture than that which includes a grandmother enjoying her grandchildren and being an honored guest or member of the family among them.

There is an old song which begins: "What's my mother there you see,

With a grandchild on her knee singing a song the whole day long Filling the baby with glee. Etc.

I have seen a motto framed on some wall which reads:

"What is home without a Grandmother?" My heart echoes the query and answers: "A semi-desert to the children the barrenness of which they will never realize until they become grandparents themselves." G. S. M. B.

**Mothers' Corner**

It has long been recognized that women who rear finest sons and daughters must sometimes turn away from the cradle to refresh their lives with the touch of other interests.

Our booklet entitled "Helps for expectant mothers" we will send free to any wife who requests it.

**INTERVALS BETWEEN NURSINGS**

Dear Family Doctor—My milk does not seem to agree with my little baby. She is only six weeks old. She vomits a great deal. I give her the breast every two hours. I have an abundance of milk. I would like to know what you think about the matter.

Yours truly, A. L. T.

I think your baby is getting too much milk. Nurse her less frequently and not so long at a time. Some doctors think that the intervals between the nursings should be longer than those which have been generally recommended. In Berlin, for the first six weeks, babies are nursed every four hours—that is, they have six feedings in twenty-four hours. After that the intervals between the feedings are longer, and they have five feedings in the twenty-four hours. I think mothers should try different intervals and find out just what agrees with each individual baby. A nursing mother should have a plain substantial diet.

**THE NERVOUS CHILD**

Dear Doctor—My milk does not seem to agree with my baby. It looks rich enough, but the baby vomits frequently. He is six months old. I nurse him every three hours, and twice in the night. He does not seem to sleep very well. He tosses and cries out in his sleep. He is a nervous child. Yours truly, Nancy S.

Your milk may be too rich for the child. You should eat plain food, avoiding fats. Do you exercise much? Before you nurse the baby, give him a drink of water. You are doubtless over-feeding the baby. A baby of that age should sleep through the night. He should be fed at ten o'clock for the last nursing and then not again until he wakes in the morning or about six o'clock. Ask your doctor to give the baby some simple thing to make him sleep better, and he will soon get the habit. A child that is inclined to be nervous should be kept very quiet before going to bed. In fact, you should be careful that he does not get over-excited at any time. It is best, too, that he should not see too many people until he gets older and his nerves are more stable. The Family Doctor.

**DEEP BREATHING**

So many children suffer from chest ailments and are liable to weakness of the lungs and chest, that play which can be used to develop the respiratory apparatus is exceedingly valuable. To this end an excellent exercise is blowing soap-bubbles. Some clay pipes, a basin of water, and a piece of soap to make a lather, can very easily be obtained, and most children love the proceedings intensely. Teach the child to take a deep breath and then blow the bubbles carefully through the pipe, and, when this is done in the sunlight, the effect of colored light on the soap-bubble is an added joy and interest to the child.

**SOME HEALTH HINTS**

Too much excitement during play is not a good thing, and the children who get excited, over-heated, and fatigued, may have to pay the penalty in restless nights and lassitude next day.

For this reason, exciting games should not be played at bedtime, because a child's brain is very sensitive and easily upset, owing to its instability compared

with the adult brain. But the clever mother will recognise these points, and will learn from experience to regulate play, and organize games so that the children will derive the maximum benefit with the minimum fatigue.

**IDEAL MOTHERS**

People who travel in New Zealand say that the feature that impresses them most is the New Zealand woman. She is an ideal type of womanly strength morally, intellectually and physically and is the type of an ideal mother.

In speaking of his experiences in New Zealand last month Mr. G. J. Bruce paid splendid tribute to the influence of women's suffrage in his native country. He said that women had turned their attention to life questions such as infant mortality, education, liquor traffic and the social evil and in every instance had made marked reform. They have practically wiped out the social evil. They have educated their girls to be home makers, are making New Zealand a clean country.

**Home Economics**

Will the societies kindly send in their reports before the tenth of each month? This department has to be at the printer's by the fifteenth and when reports are held over a month it is a disappointment to the societies that send them. Sincerely, P. R. H.

**VALLEY RIVER**

At our last meeting of the H. E. S. on Mar. 6, several of our members expressed the pleasure they were getting from the Canadian Thresherman and Farmer, and one lady thinks that the Women's Dept. has greatly improved during the year. A small country so-

city cannot accomplish quite so much public work as the more populous centres, but we usually succeed in having enthusiastic, loyal, and cheery meetings. Extremely bad weather, and also a little sickness have prevented several of our winter meetings.

Our main object has always been the providing of a social evening for women alone, following as far as possible, the lines of the Central Society but in the attainment of public improvements, we find it better to co-operate with the whole community. For instance the Grain Growers' Association very kindly invite us as a body to their special meetings, and when we are fortunate enough to get a good speaker we return the compliment, sometimes adding a lunch. It will interest you to know that all our more active members are also workers in Sunday School and Church work. This increases our opportunities for intercourse and also keeps more sides of our nature "trimmed and burning." At our next meeting four ladies have promised short talks or papers on "Meals" the subdivisions being taken as suggested in the handbook on p. 21. Yours Faithfully,

M. E. Taylor,  
Sec. H. E. S., Valley River.

**EMERSON**

The Emerson H. E. S. is holding regular meetings and going on encouragingly. Four delegates attended the Convention and came home full of interest and enthusiasm.

Three of these gave very interesting reports to our local society and all felt something of the inspiration and zeal aroused by the Prov. Convention. At our March meeting we are to have an address on Votes for Women by the Rev. John Pate, and a paper on Home Economics Societies by Mrs. Turtney. The society has arranged a prize list to add to the list of our Agricultural Association. We are devoting over forty dollars to prizes for H. E. S. members. We hope hereby to increase our membership and encourage good cooking, fine needlework and beautiful flowerbeds, also certain lines of juvenile work. Our society (or our Executive) have suggested a sale of home cooking to aid our finances.

The Emerson Home Economics Society has been having some good meetings lately. In the Fall we had a good practical paper on The Storing of Vegetables for Winter and then followed a Roll Call to which the members responded by recipes for pickles. In Dec. we had no meeting but an "At Home" was held. Each member was requested to bring her fancy work and "Christmas Ideas" were interchanged. Five o'clock tea was served at the close.

In January we had a visit from the Provincial President and Miss Jones. Owing to the letter from Agricultural College being addressed to a former Secretary and then being forwarded to Lethbridge we did not know of the coming of our visitors until three days before their arrival. This was too late to have it published in our local paper, so that our attendance was not so good as it might have been, but those present, highly appreciated the helpful addresses. Mrs. McCharles, in a vivid and enthusiastic manner, described the entries at the Congress, and showed by diagrams on the blackboard the position of the exhibits. She also told of the work of the individual societies in Manitoba and explained the idea of the erection of a monument to the Pioneer Women of the Plains. Miss Jones spoke on the Value of a Domestic Science Course, dwelling especially on the benefits to young girls and describing the course as given at the M. A. C. Both speakers were listened to with interest and pleasure.

E. F. R.

**MINNEDOSA**

The February meeting of the Minnedosa Home Economics Society was held at the home of Miss Shaw. Owing to the inclemency of the weather the attendance was not very large. After the usual "Cup that Cheers" the meeting was opened and the minutes of the last meeting read and passed. This was followed by the appointment of a Programme Committee to prepare suitable programmes for each meeting during the

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**EVEN GLASS SPICE AND CEREAL JARS** on left door, so arranged for easy access to their contents.

**MEAL COVERED SLIDING EXTENSION TOP** of the base is constructed that there is no friction at any point. Covered with heavy sheet metal known as nickeloid with highly polished surface, drawn tightly over the wood top and securely fastened beneath edges. Pulls forward over base, enlarging table surface to 38 x 42 inches. When closed it passes beneath the lower shelf at bottom of top section. Always clean and sanitary.

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year. A vest-room committee was then formed for the purpose of collecting funds and furnishings needful for starting a rest room.

Mrs. Boyd read a bright report of some of the speeches given on the first day of the Convention at the Agricultural College, Winnipeg, mentioning the chief points of interest in them. Miss Ewens gave a resume of the first day's proceedings also. This was followed by some discussion of the various addresses, and also on Mrs. Hamilton's paper, "The Business Wife"—about which opinion seemed to be divided—some members thinking that farm women already had too much to do, and could not find time to keep the accounts, whilst others thought it would be an excellent thing, but rather doubted their ability in the book-keeping line. The report of Mrs. McClung's paper caused some amusement, as did also Miss Kennedy's suggestion that children might be dressed in Turkey red and Dutch blue rather than in black as Mrs. Dayton advised, in order to save laundry work in the hot summer and also to give the mothers more time for attending to their children's spiritual needs.

The members are looking forward to having all the addresses published so that they can read the whole of them. It was decided to have full reports published in the local paper. The report of the second day's proceedings at the Convention will be given at the March meeting.

The meeting closed with the singing of the National Anthem.

E. M. Ewens, Sec. Treas.  
Lakeside Farm, Bethany, Man.

**SWAN LAKE**

The meeting held by the Swan Lake H. E. S. on Saturday, February 22nd, was conduced by every member there, to have been one of the most interesting ever held by the Society. There were 37 members present. The President opened the meeting by speaking of the pleasure she had felt at being placed on the Board of Directors and

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then invited discussion on the best time for holding the H. E. Conventions. The consensus of opinion was that it should be held during Bonspiel week itself, instead of either before or after.

Miss Beech, who acted as one of the delegates, gave a splendidly clear and interesting resume of the various speeches heard at the Convention. In every case she had picked out the salient part of the speech and was so able to bring back the spirit of the meeting to her home town.

As the original speeches are to be printed, in fact, we shall not give any detailed account of them here, but will emphasize again the increasing importance these societies are attaining all over the country. And everywhere the watchword is the same: "We look to the women, and the organization, the rapprochement between town and country brought into active being by these societies are two of the most potent factors towards success in many wide fields. Each H. E. S. is working towards the same ends:—The improvement of the home life—The better education and training of children, physically as well as mentally—The need for a closer tie between country and town—Emphasizing the dignity of the life and work on the farm and—The duty of every mother to surround the growing life of every future citizen, whether girl or boy, by all those influences which will enlarge, improve and encourage all that is best in them—that is some of the work which Canada has especially apportioned to her women and that is the work which the H. E. Societies are helping her to do.

Miss Beech was given a round of applause as well as the more formal vote of thanks; she had evidently attended the Convention, not only as a delegate, but as a really eager and interested member and so had been able to bring to the home stayers just those points which were of most use and interest to them.

The President, who had also attended as delegate, acknowledged that the account given by Miss Beech was so comprehensive that she had really nothing left to tell, but she deepened the interest by introducing the personalities of the various speakers at the Convention and so making them living people instead of only strangers of whom one had heard.

Two questions were then put to the meeting. The first was as to the serving of lunch, it having been thought unnecessary by one or two. It being put to the vote, the "ayes" in favor of lunch carried it by a large majority and the Secretary was asked to read out at each meeting the names of the four ladies chosen to provide refreshments for the next session.

The question of the programme for the current year was then raised and after a good deal of discussion it was again proposed that four ladies should be responsible, the Secretary again to read in open meeting the names of those chosen for the following month, and that the Board of Directors should choose the subject; but this matter was not carried unanimously and is to be tried experimentally.

The National Anthem was then sung and the serving of a dainty lunch terminated a very interesting meeting.

**OAK LAKE**

The regular monthly meeting of the Home Economics Society of Oak Lake was held in the rest room on Feb. 15. The president occupied the chair, and there was a good attendance.

The principal item of interest in the meeting was the report given by Mrs. Cochrane, delegate to the Convention held at the M. A. C. Feb. 4th and 5th. The ladies were pleased that the papers given at this Convention would be published and distributed by the M. A. C. They were interested in the report, and expressed themselves much benefited by the practical thoughts in the convention papers.

The Society arranged for a Benefit Entertainment, taking the form of a debate, and several musical selections. This was a real success and the Society thinks it is a profitable line of work, because it develops home talent and is so well patronized.

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**ORNAMENTAL TREES and SHRUBS** of all hardy varieties: Paeonies, Iris, Hollyhocks, and other outdoor plants. All hardy varieties of apple, crab, plums, gooseberries, currants, rhubarb, etc.

**SPECIAL FRUIT OFFER**—For \$10.00 we will send 50 Currant and Gooseberry bushes, 3 years old; 100 Raspberry Plants, 12 Young Fruit Trees, Plums, etc., 2-3 ft. Will this not induce you to start a fruit garden?

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**GRASSES and CLOVERS**—We offer an Annual Clover and an Annual Grass, which, if sown early in May, will give a crop in July and the late growth plowed under will restore the fertility of the soil.

**TIMOTHY and WESTERN RYE** are low in price this season. A good time to use these grasses. Clovers, Alfalfa and Nitrogen (for inoculation).

**BETHANY**

The Sec. of the Bethany society writes that their January meeting was a great success when Mrs. Lipssett-Skinner and Miss Playfair addressed their meetings.

**PILOT MOUND**

There was a good attendance at the meeting on Saturday last to meet the two special speakers invited to speak on "Education." Rev. T. W. Bailey and Principal Wyness. After the preliminary business was despatched Mr. Wyness opened with a statement of the ideals and aims of the public school system and gave several of the difficulties under which the staff have to work. Home-work, examinations and other features were thoroughly discussed later, and in this discussion Rev. Bailey and other gentlemen speakers took part. A winter playground for the children appears to be a great want at the present time. In bad weather the children spend their recess time in the schoolroom, which is not only bad from a healthy point of view, but very unsatisfactory as far as discipline is concerned. After the meeting had adjourned a pleasant time was spent in discussing the points raised by the speakers.

There was a good attendance at the H. E. S. meeting last Saturday, when the members foregathered to transact

the usual business and to listen to an address on Hygiene by Dr. Coloe. The subject was handled in a very interesting way by the speaker who traced the growth of a public opinion in favor of sanitary conditions as the result of the study of the Science of Public Health. The Dr. then touched on matters of hygiene that were within the province of the H. E. S., that is, ventilation, dust, sunshine, etc., and proved the value of fresh air as a powerful factor in the battle with disease and death. At the close of the meeting refreshments were served, and a pleasant social time spent by all present.

**MANITOU**

The Manitou society held a St. Patrick social and made enough to buy a vacuum cleaner for their members to use. This is a practical way of helping one another. Next month we shall have a complete report of the Manitou society. Their members are progressive women and are doing a splendid work. P. R. H.

The following clipping shows how a Home Economics department is solving the cost of high living.

Madison, Wis., March 21—Four adults leading fairly active lives can be supplied with well balanced meals at \$2.50 a week each.

This has been proved at the practice cottage of the University of Wisconsin home economic department, where young women are taught practical home making. Four women students take entire charge of the preparation of meals at the cottage each week.

A sample menu of the girls for one day is: Oranges, bacon, poached eggs, toast and coffee for breakfast; cream of tomato soup, spaghetti with onion sauce, hot rolls, baked apples and chocolate for luncheon, and bouilli a, beef pot roast, browned potatoes, fruit salad, fresh cake with whipped cream and coffee for dinner.

**BIRTLÉ**

Your postcard came safely to hand some days ago and I am now sending a list of our members for 1913 also a report of our last meeting.

The February meeting of the Birtle Home Economics Society was very interesting as we had with us Miss Elliott of the Winnipeg Y. W. C. A. and Miss MacCuaig representing the Agricultural College. Miss MacCuaig told us about the work of the college in relation to the home and gave us an outline of the course referring to the cooking, laundry and dress-making departments. She also spoke of the lectures on nursing and how useful it is to know enough to be prepared for emergencies

and to know something of sanitation as an aid in preventing diseases.

Miss Elliot drew our attention to the great work of the Y. W. C. A. and its helpfulness in so many directions, in giving assistance to girls who leave home to take positions in the city and elsewhere. She advised the appointment of a Secretary for the district who would get the names and keep in touch with any girls who might come to the town or surrounding country.

We varied the meeting by solos from two of our members and served tea at the close.

Recipes Used by Miss S. Bawden in Her Demonstrations at the Second International Congress of Farm Women

The editor of this department asked Mrs. McCharles of Manitow for these as they will be helpful to our readers.

**Nut Bread**

2 cups of flour,  
2 teaspoonfuls baking powder,  
½ cup sugar,  
¼ teaspoonful salt,  
1 cup milk,  
½ cup walnut meats, cut fine.

Mix and sift dry ingredients, add nut meats and milk. Beat well, pour into greased pan. Let stand thirty minutes, then bake 1 hour in a moderate oven.

**Cold Water Sponge Cake**

2 eggs,  
¾ cups sugar,  
¼ cup cold water,  
1 cup sifted flour,  
2 teaspoonfuls baking powder,  
1 teaspoonful lemon juice,  
grated orange rind.

Separate eggs, beat yolks until thick and lemon-colored. Add sugar and water gradually, continue beating, add lemon juice and flour sifted with baking powder and a little grated orange rind. Carefully fold in whites, pour into a greased pan and bake in a slow oven 25 minutes.

**Orange Frosting**

One teaspoonful lemon juice and juice of 1 orange and pulverized sugar to mix to right consistency.

**Boiled Cake**

1 cup cold water,  
1 cup sugar,  
1 cup raisins,  
½ cup butter,  
1 teaspoonful cinnamon,  
1 teaspoonful cloves,  
1 teaspoonful soda,  
2 cups flour.

Put first six ingredients in a saucepan and bring to boiling point. Remove from fire. Cool, stir in sifted flour, sifted with soda. Beat well. Bake 40 to 60 minutes in a moderate oven.

This cake may have mixed peel and currants added for variety.

**Caramel Custard**

4 cups scalded milk,  
5 eggs,  
½ teaspoonful salt,  
1 teaspoonful vanilla,  
½ cup sugar.

Put sugar in pan, stir constantly over hot part of range until melted to a syrup of light brown color. Add gradually to milk being careful that milk does not bubble over. As soon as sugar is melted in milk, add mixture gradually to eggs slightly beaten; add salt and flavoring and strain in buttered cups or dish. Set in pan of hot water and bake in a slow oven until firm. Test by sticking a silver knife into custard; if knife comes out clean custard is done. Do not let water boil. Eggs and milk must be cooked at a low temperature. Serve with caramel sauce.

**Caramel Sauce**

½ cup sugar,  
½ cup boiling water.  
Melt sugar as for caramel custard, add water and simmer 10 minutes. Cool before serving.

**Jellied Beef or Veal**

Have half of meat cut in three or four pieces, put in steel kettle with salt, pepper and a couple of onions cut fine. Pour over boiling water to cover, let simmer from 6-8 hours until liquor has boiled down to 1-2 cups. Remove meat from kettle and pick out bones, fat, skin and gristle. Chop meat fine

and put in a pan or bowl and pour over remaining liquor. Chill before serving, turn out in platter. This may be garnished by placing slices of hard-boiled eggs or cooked beets around edge of dish before putting in meat.

**Salmon Loaf**

Made with either fresh or canned salmon.

1 can salmon,  
salt, pepper to taste,  
1 egg,  
½ cup bread crumbs,  
1 cup milk.

Mix to form a loaf, sprinkle with flour or bread crumbs, pour over 1 teaspoonful melted butter, to which has been added the juice of half a lemon. Bake ½ an hour in a greased pan. Serve hot or cold.

**Norwegian Prune Pudding**

½ lb. prunes,  
2 cups cold water,  
1 cup sugar,  
1 inch piece stick cinnamon,  
1½ cup boiling water,  
¼ cup corn starch.

Pick over and wash prunes, soak over night in cold water, and boil until soft, remove stones, obtain meat from stones and add to prunes; then add sugar, cinnamon, boiling water and simmer ten minutes. Dilute corn starch with enough cold water to pour easily, add to prune minutes. Dilute corn starch with enough cinnamon, mould, then chill, and serve with cream.

**Caramel Pudding**

1 cup brown sugar,  
¼ cup butter,  
3 cups boiling water,  
5 teaspoonfuls corn starch,  
f. g. salt,  
1 teaspoonful vanilla,  
½ cup chopped walnuts.

Put sugar and butter in saucepan on stove, stir until well browned, add boiling water, when sugar is dissolved, add corn starch moistened with enough cold water to allow it to pour, and salt. Cook 15 minutes, stirring often. Remove from fire, add vanilla and chopped nuts. Rinse mould with cold water, pour in pudding. Chill and serve with rich milk or cream.

**Orange Foam**

2 cups hot water,  
1 cup sugar,  
3 teaspoonfuls corn starch,  
1 orange,  
½ lemon,  
3 egg whites.

Put hot water and sugar in saucepan, when boiling add corn starch mixed with a little cold water. Cook five minutes. Add juice of orange and lemon, remove from fire and cool. Beat whites of eggs until stiff and dry, then pour cooled corn starch over whites of eggs and beat rapidly for a few minutes, when mixture will be light and foamy. Serve with boiled custard.

**Soft Custard**

2 cups milk,  
2 teaspoonfuls sugar,  
3 egg yolks,  
1 teaspoonful vanilla.

Scald milk, add sugar and egg beaten together. Cook until smooth and spoon is coated, cool add vanilla. When cold pour over Foam.

**Chocolate Bread Pudding**

2 cups stale bread crumbs,  
4 cups scalded milk,  
2 squares Baker's Chocolate,  
2/3 cups sugar,  
2 eggs,  
½ teaspoonful salt,  
1 teaspoonful vanilla.

Soak bread in milk thirty minutes. Melt chocolate over hot water, add one-half sugar and enough milk taken from bread and milk to make of consistency to pour. Add to mixture with remaining sugar, salt, vanilla and eggs slightly beaten; turn into buttered pudding dish and bake one hour in a moderate oven. Serve with cream or Hard Sauce.

**Hard Sauce**

½ cup butter,  
1 cup powdered sugar,  
½ teaspoonful lemon extract,  
2/3 teaspoonful vanilla.

Cream the butter, add sugar gradually and flavoring. Chill. Fruit juices, raw fruit, or caramel syrup may be added for flavoring.



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WINNIPEG

**Steamed Apple Pudding**

- 2 cups of flour,
- 4 teaspoonfuls baking powder,
- ½ teaspoonful salt,
- 2 teaspoonfuls butter,
- ¾ cup milk,
- apple sauce.

Mix and sift dry ingredients; work in butter with tips of fingers, add milk gradually mixing with a knife; toss on floured board and roll out. Put two or three teaspoonfuls apple sauce in greased cups, and a cut out biscuit on top—steam for ½ an hour; turn out on plate when apple sauce will be on top and serve for sauce.

Any preserved fruit or jam may be used in place of apple sauce.

**Salad Dressing**

- 2 teaspoonfuls mustard,
- 1 teaspoonful salt,
- 2 teaspoonfuls sugar,
- ¼ cup vinegar,
- 2 eggs,
- 1 teaspoonful butter.

Put first four ingredients on fire to heat. Beat eggs with Dover egg beater until light, set bowl in a pan of hot water, pour on ingredients from saucepan and continue beating until thick and smooth. Remove from fire and stir in butter. Milk or cream may be added when needed. Double this quantity may be made and kept on ice.

**Banana Salad**

Skin and scrape banana, pour over some salad dressing, let stand to marinate for ten minutes. Chop peanuts or walnuts fine, roll banana in this and serve on lettuce leaves.

**Potato and Celery Salad**

Cut cold boiled potatoes in small cubes and celery in shreds using one-quarter as much celery as potato. Add a few drops onion juice. Moisten with salad dressing just before serving and garnish with celery tips and hard-boiled eggs.

Onion juice is procured by cutting an onion in half and grating it.

Salads may often take the place of the dessert in the spring when the appetite needs stimulating.

Salads made of greens should always be served crisp and cold and the dressing added at table or just before serving.

**Chocolate Junket**

- 1 junket tablet,
- 1 teaspoonful cold water,
- 1 oz. chocolate,
- ¾ cup sugar,
- 3 teaspoonfuls water,
- 1 quart milk,
- 1 teaspoonful vanilla.

Dissolve tablet in cold water. Melt chocolate over hot water, add sugar and water and heat to boiling point, add milk and vanilla. When mixture is at 90 degrees F. add the dissolved tablet and pour the preparation into a fancy dish or fancy cups, let stand in a warm place until it jellies, then chill.

**SOUPS**

**Cream of Crecy Soup**

- 2 cups carrots, cut in small pieces,
- 2 slices onion,
- 2 teaspoonfuls butter,
- 2 teaspoonfuls flour,
- 1 cup milk,
- f. g. salt,
- f. g. pepper.

Cook carrots and onion until soft in boiling salted water to cover. Rub through a sieve. Melt butter, add flour then milk slowly, stirring all the time, when smooth and thick add pepper and salt and combine with carrot water. Stir over fire one minute and serve.

Cream soups may be made from any vegetables, using one-half as much white sauce as vegetable pulp and water. They are nutritious and combined with bread and butter, furnish a satisfactory meal.

**Corn Chowder**

- 1 can corn,
- 4 cups potatoes, cut in ¼ inch slices,
- 1½ inch cube fat salt pork,
- 1 sliced onion,
- 4 cups scalded milk,
- 8 crackers,
- 3 teaspoonfuls butter,
- salt and pepper.

Cut pork in small pieces and fry out; add onion and cook five minutes, stir-

ring often that onion may not burn; strain fat into a stewpan. Parboil potatoes five minutes in boiling water to cover; drain, and add potatoes to fat; then add 2 cups boiling water; cook until potatoes are soft, add corn and milk, then heat to boiling point. Season with salt and pepper; add butter and crackers. In one minute remove from fire, lift out crackers carefully, pour chowder into a tureen and put crackers on top.

**Stewed Potatoes**

Pare, wash and cut the potatoes into cubes. Put 2 teaspoonfuls butter in a frying-pan, add 1 teaspoonful finely chopped onion. Fry until a golden brown, add 1 teaspoonful flour, stir and when well blended with the onion and butter, add ¾ of a pint of water. When it boils add 1 teaspoonful salt, ½ teaspoonful parsley, 1 tablespoonful chopped parsley.

Mix in one quart of potato cubes, draw the saucepan to the back of the stove cover closely and simmer gently until the potatoes are cooked. Serve hot. These are nice with dry meats, steaks and boiled fish.

**Beets With Sauce Piquante**

Wash beets very thoroughly and cook in boiling salted water until soft. Drain

**Milled from the best of the West's best wheat.**

**Takes more water, makes more loaves. Ask your dealer.**



**PURITY FLOUR**

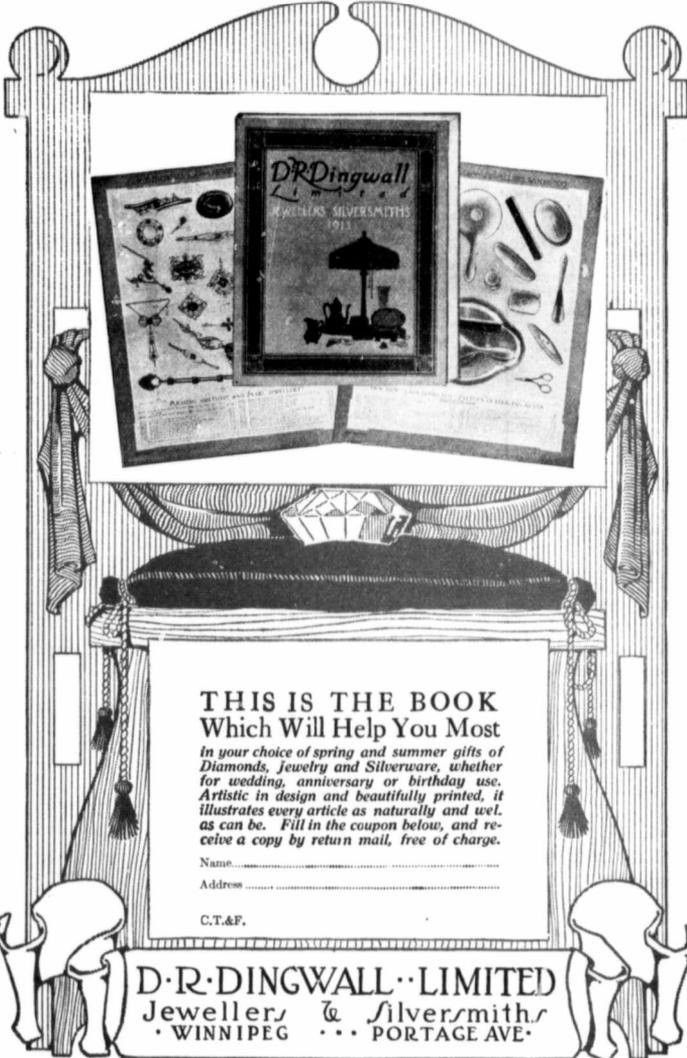
**PURITY FLOUR**

**More Bread and Better Bread**



**PURITY FLOUR**

reserving some of the water. Plunge into cold water when skins may be rubbed off easily, then cut in cubes. Rebeat in the following sauce:  
 2 tablespoonfuls butter,  
 2 tablespoonfuls flour,  
 ½ cup beet water,  
 ¼ cup milk,  
 ¼ cup vinegar,  
 1 teaspoonful sugar,  
 ½ teaspoonful salt,  
 f. g. pepper.  
 Melt butter add flour, then ingredients in order. Stir well.



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Washes Anything and Everything From a Horse-Blanket and Overalls to the Finest Laces with No Injury.

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**Canadian Thresherman and Farmer COUPON**

Present or mail this Coupon and \$1.50 to Dominion Utilities Mfg. Co. Ltd., 482 1/2 Main Street, Winnipeg, Man., and you will receive one I.X.L. VACUUM WASHER.

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Receive by return mail post paid Two pretty Fall and Winter Dresses for little girls age 1 to 10. Material is soft warm goods for winter wear in checks and stripes in various pretty colorings made just as pictured. Add 10c for postage. Order at once.

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Mention this magazine when writing advertisers

**Escaloped Onions**

Put onions in cold water and remove skins while under water. Drain, put in a saucepan and cover with boiling salted water; boil 10 minutes, drain and again cover with boiling salted water. Cook until soft. Cut in quarters and put in a buttered baking-dish, cover with a white sauce, sprinkle with buttered crumbs and place in oven to brown.

**Dried Lima Beans**

1 1/2 cups dried beans,  
3/4 cup rich milk,  
1 teaspoonful butter,  
salt,  
pepper.

Soak beans over night in cold water. Drain, add cold water to cover and bring slowly to boiling point. Let simmer until tender, drain, add milk, butter, salt and pepper.

**One Egg Muffins**

3 1/2 cups flour,  
6 teaspoons baking powder,  
1 teaspoonful salt,  
3 teaspoonfuls sugar,  
1 1/2 cups milk,  
3 tablespoonfuls melted butter,  
1 egg, 1 cup dates.

Mix and sift dry ingredients; add gradually milk, egg well beaten, and melted butter. Stir in chopped dates. Bake in buttered gem pans 25 minutes. This quantity makes 25 muffins.

**Tea**

3 teaspoons tea,  
2 cups boiling water.  
Scald teapot. Put in tea and pour on boiling water. Let stand on back of range or in a warm place 5 minutes. Strain and serve at once.

**Wheat Germ with Dates**

3/4 cup Wheat Germ,  
3/4 cup cold water,  
2 cups boiling water,  
1 teaspoonful salt,  
1/2 lb. dates stoned and cut in pieces.  
Mix cereal salt and cold water; add to boiling water. Boil 5 minutes, steam in double boiler for one hour, stir in dates. Serve for breakfast, or as a simple dessert for children.

Finely ground cereals should be mixed with cold water before adding to boiling water to prevent lumping. Allow one teaspoonful of salt to one cup of cereal. Cook over hot water after first 5 minutes.

**Macaroni With Cheese**

3/4 cup macaroni broken in small pieces,  
2 quarts boiling water,  
1 tablespoon salt,  
Cook macaroni in boiling salted water 20 minutes, or until soft, drain in strainer and pour over it cold water to prevent pieces from adhering.

Make a white sauce as follows:  
Melt 2 tablespoonful butter, add 2 tablespoonfuls flour with 1/2 teaspoonful salt, and pour on slowly while stirring constantly 1 1/2 cups milk. Stir in 1 1/2 cups grated cheese. Macaroni may be reheated in this sauce, or place macaroni in a buttered dish, pour over white sauce, and cover with buttered crumbs, allowing 2 tablespoonfuls melted butter to one cup fine crumbs. Bake until crumbs are brown.

**Tomato Sauce**

1 1/2 cups tomatoes,  
2 tablespoonfuls butter,  
2 tablespoonfuls flour,  
1 sliced onion,  
salt,  
pepper.

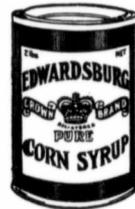
Cook onion and tomato together 15 minutes, strain. Mix flour, salt and pepper with a little cold water, and add to the strained tomato. Cook for 5 minutes and add butter.

**English Monkey**

1 cup stale breadcrumbs,  
1 cup milk,  
1 tablespoonful butter,  
1/2 cup cheese,  
1 egg,  
1/2 teaspoonful salt,  
f. g. cayenne.

Soak crumbs in milk 15 minutes. Melt butter, add cheese and stir until melted, then add soaked crumbs, and as soon as heated add egg slightly beaten, salt and cayenne. Serve very hot on crackers or toast.

Lend Variety to the Daily Menu  
And add to the enjoyment of home cooking by using



**Crown Brand Corn Syrup**

The purest and most delicious table syrup obtainable.

Crown Brand—clear as strained honey—gives a delightful flavor to dumplings, puddings, pastry, etc., and is especially desirable for serving with Buckwheat and Griddle Cakes, Cookies and Biscuits.

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Buy a pound packet and if you don't find it superior to the tea you have been using you can return it and your grocer will refund purchase price.

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**Welsh Rarebit**

1 tablespoonful butter,  
1 teaspoonful corn-starch, ss.  
1/2 cup milk,  
1 lb. milk butter,  
1/2 teaspoonful salt,  
1/4 teaspoonful mustard,  
1/2 g. cayenne.

Melt butter, add corn-starch, then add milk and cook two minutes. Add cheese, salt, mustard and cayenne. Stir until the cheese has melted, and the mixture is of creamy consistency. Pour over crackers or slices of bread toasted on one side, the rarebit being poured over the untoasted side.

**Cheese Fondue**

1 cup scalded milk,  
1 cup soft stale bread crumbs,  
1 cup cheese cut in small pieces,  
1 tablespoonful butter,  
1/2 teaspoonful salt,  
yokes 3 eggs,  
whites 3 eggs.

Mix first five ingredients, add yokes of eggs beaten until lemon-colored. Cut and fold in whites of eggs beaten until stiff.

7486—Seven Gored Princess Slip for Misses and Small Women, 14, 16 and 18 years. With Square or Round, Low or Dutch Neck, with High Neck, Sleeveless, or with Plain, Elbow Three-Quarter or Long Sleeves, or with Full Elbow Sleeves with Inverted Plait or Habit Back, with or without Flounce.

6972—Empire Night Gown for Misses and Small Women, 14, 16 and 18 years.  
6933—Three-Piece Adjustable Chemise, Small 32 or 34, Medium 36 or 38, Large 40 or 42 bust.

7322—Girl's One-Piece Night Gown, 6 to 12 years. With High or Low Neck, Short or Long Sleeves.

7501—Girl's Five Gored Petticoat, 8 to 12 years. To be Attached to Under Waist or Finished Separately, with Inverted Plait or Habit Back.

The above patterns will be mailed to any address by the Fashion Department

of this paper, on receipt of ten cents for each.

7752—Girl's Dress, 6 to 12 years. With Three-Quarter or Short Sleeves.

7763—Girl's Norfolk Dress, 6 to 10 years. With Four-Piece Skirt, High or Low Shield, Long, Three-Quarter or Short Sleeves.

7709—Girl's Russian Costume, 10 to 14 years. With Four-Piece Skirt, with or without Tunic, with Overlap Edges of Skirt and Tunic Having Curved or Straight Corners, Long or Short Sleeves.

7762—Child's Dress, 4 to 8 years. With Round Yoke Extended to Form a Panel, Straight Skirt, Round or High Neck, Short or Three-Quarter Sleeves.

7608—Child's Rompers, 2 to 6 years. With Long or Short Sleeves, Leg Portions that can be Drawn Up at the Knees or Left Loose.

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7753—Tucked Blouse or Shirt Waist, 34 to 44 bust. With rolled-Over or Straight Cuffs.

7605—Surplice Blouse with Robespierre Collar, 34 to 42 bust. With Set-In Sleeves in Full or Three-Quarter Length, with or without Jabot, Revers and Chemise-ite.

7458—One Button Semi-Princess Dress, 34 to 44 bust. With Five Gored Skirt and Over Lapping Fronts that may be Closed at Either Side.

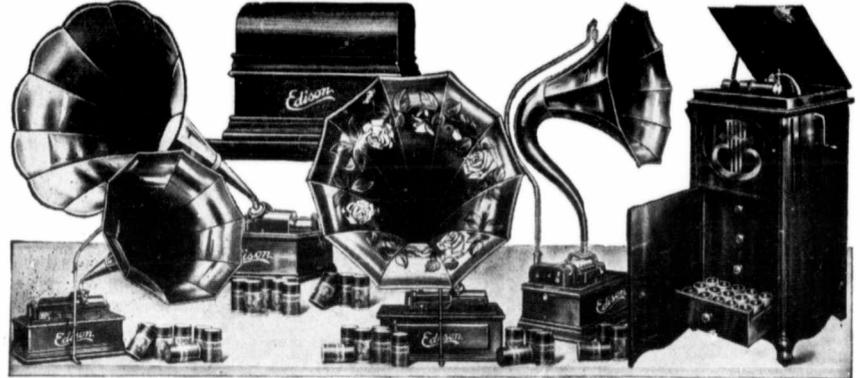
7768—Four Gored Skirt for Misses and Small Women, 14, 16 and 18 years.

7749—Six Gored Skirt for Misses and Small Women, 16 and 18 years. With or without Extensions on Front Gore with High or Natural Waist Line.

The above patterns will be mailed to

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He realizes the wonderful value of his phonograph as a center of home ties and as a maker of happy homes. And for this reason he worked for years striving to produce the most perfect phonograph. At last he has produced this new model, and his friends have induced him to take the first vacation he has had in over a quarter of a century. Just think of it: over twenty-five years of unremitting work on many new inventions—then his pet hobby perfected—then a vacation.

Write today for our New Edison Catalog that tells you all about the wonderful new model Edison with Mr. Edison's new model R Reproducer and the new parlor grand equipment. With this catalog we also send full explanation of our free shipment offer.

**The Offer** We will send you the new model Edison Phonograph and your choice of over a thousand records on an absolutely free loan. We want you to have all the waltzes, two steps, vaudeville, minstrels, grand operas, also the sacred music, etc., etc., by the world's greatest artists. Entertain your family and your friends. **Give plays and concerts right in your own parlor.** Hear the songs, solos, duets, and quartettes, the pealing organ, the brass bands, the symphony orchestras, the choirs of Europe's greatest cathedrals, the piano and violin concerts, virtuoso—all these we want you to hear free as reproduced on the new Edison. Then, when you are through with the outfit you may send it back to us.

**Mr. Edison Says**

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**Read** this remarkable free shipment offer on the first lot of the new style Edison Phonographs—these new Phonographs to be shipped free on this special offer now.

**The Reason**

Why should we make such an ultra-liberal offer? Why should we go to all this expense and trouble just so you can have all of these free concerts? Well, we'll tell you. We are tremendously proud of this magnificent new instrument. When you get it in your town we know everybody will say that nothing like it has ever been heard—so wonderful, so grand, so beautiful, such a king of entertainers—so we are pretty sure that at least some one, if not you, then somebody else, will want to buy one of these new style Edisons (especially as they are being offered now at the most astounding rock-bottom price and on easy terms as low as \$2.00 a month.) But even if nobody buys there is no obligation and we'll be just as glad anyway that we sent you the New Edison on our free loan; for that is our way of advertising quickly everywhere the wonderful superiority of the New Edison. But don't delay sending the coupon today.

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Write today for our New Edison catalog and learn all about the wonderful New Edison. Learn how thousands of people are entertaining their friends by giving Edison concerts—learn how the boys and girls are kept at home and all the family made happy by the wonderful Edison. No obligations whatsoever in asking for this **MAGNIFICENTLY ILLUSTRATED** catalog, so send the free coupon now—today.

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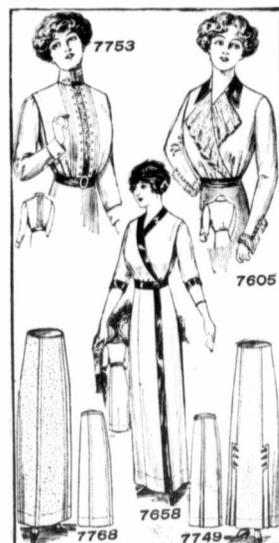
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**BABSON BROS.**

Edison Phonograph Distributor  
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Dear Sir: Please send me your New Edison Catalog and full particulars of your free loan offer on the first lot of the new model Edison Phonograph.

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7760—Empire Coat for Misses and Small Women, 16 and 18 years. With or without Cuffs.

7750—Girl's coat, 10 to 14 years. With Straight or Cutaway Fronts, Collar that can be made Round or Square at the Back.

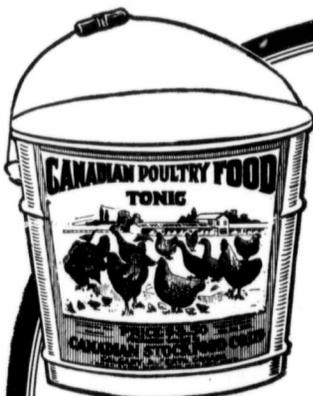
7770—Two or Four-Piece Skirt, 22 to 30 waist. With Narrow Panels at the Sides, with High or Natural Waist Line.



7780—Four-Piece Draped Skirt, 22 to 30 waist. With High or Natural Waist Line.

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**WHITE ROSE**  
**GASOLINE**  
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It will pay. In this advertisement is illustrated the standard form of pail used for **CANADIAN FOOD TONIC**—the best and most meritorious tonic offered for poultry.

Now is the time to feed **CANADIAN POULTRY FOOD TONIC** to your poultry. After the severe winter your fowl require a food that will tone them and encourage activity.

We claim for **CANADIAN STOCK FOOD POULTRY TONIC** that it will save from 20

to 25 per cent of your feed for fattening fowl.

We also have proof from hundreds of unsolicited testimonials from Western poultry raisers who use **CANADIAN POULTRY FOOD TONIC** that it has increased, and even doubled, the production of eggs.

The use of this Tonic will put your poultry in the best possible shape for spring profit.

All domestic animals require to be in the pink of condition for work and profit. **CANADIAN STOCK FOOD TONIC** will put your animals in condition and will keep them there. Its use saves you money in the feed bin.

**CANADIAN STOCK FOOD TONIC** is especially adapted for food rations to meet the conditions of the Western Farmer. It has been thoroughly tested and proven the best tonic of its kind ever tried for animals.

Ask your merchant for **Canadian Stock Food Tonic** or **Canadian Poultry Food Tonic**. Allow no substitute. If your nearest dealer cannot supply you write direct to us.

Canadian Stock Food line of tonics and remedies includes Stock Food Tonic, Poultry Food Tonic, Cough Powder, Worm Powder, Diuretic Powder, Colic Cure, Pine Healing Oil, Embrocation Lotion, Cough and Fever Remedy, Hoof Oil and Bonicure.

**Canadian Stock Food Co., Ltd.**  
Manufacturers  
CALGARY, ALTA.



You saw this advertisement in this magazine. Don't forget to say so when writing.

**WASHING MADE EASY**

Go to any housekeeper and ask her which of all her varied tasks is the hardest and most thankless, which one she would choose to have simplified and made easy. Nine hundred and ninety-nine out of every thousand would reply, "The family washing." Practically every woman dreads wash day. In anticipation it darkens the preceding days, and in realization it brings utter exhaustion and weariness of the flesh and rebellion of the spirit. Consider the routine of an ordinary wash day under unimproved conditions. Rising early, very early in the morning, the housewife builds a big fire, and puts on a huge boiler of water to heat; sorts the clothes, prepares the tubs and then begins to cleanse a seemingly endless procession of pieces of soiled clothing and linen, washing each piece individually, wearing the fabric to pieces against a washboard and wearing out her own vitality in tedious, nerve-racking, muscle-wearing labor. It has been estimated that a table cloth requires 15

minutes of rubbing; if it is washed once a week, in the course of a year it will have been subjected to 13 hours of vigorous friction against a corrugated surface. Setting aside the really important question of the conservation of human energy, this method of rubbing clothes to pieces is extravagantly wasteful. Modern standards of personal cleanliness demand that the clothes be washed, however, and as long as there was no better way, women and fabrics were compelled to suffer in a good cause.

The introduction of washing machines effected improvement in the labor conditions, but, as the method was still the old one of friction, the fabrics continued to wear out with alarming rapidity. The finer the garment the sooner it wore out. Some manufacturers have reduced the friction to a small minimum.

This has been called the "Vacuum Age." The principle of vacuum suction enters into practically every industry and now it is revolutionizing housework. We no longer clean house by agitating the dirt, driving it from one spot to settle in another. We remove the dirt completely by the use of the

vacuum cleaner. This principle has now been applied to laundry work and by the use of the I. X. L. washer we are enabled to wash, rinse and blue clothes with a minimum of expenditure of time and energy and with absolutely no rubbing or friction. This washer is scientifically sound in principle, efficient in practice, so low in price that none need deny themselves in order to possess it: it is so simple in construction that it does not wear out.

The method of use is as follows: The soap is cut up and thrown in the tub or vessel in which the washing is to be done; the water is poured in, very hot for white clothes, cooler for colored and cooler still for woolsens. The I. X. L. washer is then operated for three minutes, never any longer unless with very hard water, as there is absolutely no reason to continue to wash clothes that are already clean. The rinsing is performed in the same manner using the washer for 30 seconds, and the clothes are really rinsed, there is no soap left in the fabric to discolor and rot the threads. The clothes are then blued evenly and thoroughly, this operation also requiring 30 seconds, and the washing is finished.

There is no more vital question to the farm woman than the simplifying of laundry work. With this simple little device to help her, washday will lose its old-time terrors and instead of the misery of inefficient, strength-destroying labor, she will have the pleasure of work and easily performed.

**Apple Dumplings**

Make a very rich biscuit dough, roll out pieces large enough to cover an apple; pare and core tart apples and place one in each piece of dough, fill the hole with sugar and fold the dough over the apple. Place them in a pan with the smooth side of dumpling up, put a small piece of butter and a tablespoonful of sugar on each and turn a cupful of boiling water into the pan. Bake in a moderate oven and baste once with the liquid while baking.

**Brown Betty**

Two cups bread crumbs, four tablespoonfuls melted butter, two teaspoonfuls cinnamon, four cups of chopped apples and one cup of sugar; arrange in layers alternately, spreading the sugar and cinnamon between—the first and last layers are bread—add three cups of hot water. Butter may be spread on top or not, or on each slice before cutting into crumbs. Bake one hour or a little more, covered. Uncover to brown on top. Other fruits may be used in place of apples, if desired.

**Gold Cake**

Two cups sugar, a scant cup of butter, one cup of sweet milk, three cups of flour, yolks of four eggs, two teaspoonfuls of baking powder, flavor with vanilla.

**Strange Butterflies**

The entomological explorer, Mock, who serves the Hon. Walter Rothschild in providing specimens for his private museum, recently arrived in London, bringing with him a jet black butterfly valued at five thousand dollars.

It is almost as large as a robin, its wings measuring eleven and a half inches from tip to tip. It is almost furry, so thick is its covering, a necessary protection from the intense cold of its habitat, the Snow Mountains in New Guinea.

Aside from the furry butterfly, the discoverer found several new varieties of huge butterflies. "The natives shoot them with the four-pronged arrows which they use in killing birds," he says. "The female giant butterflies are black or brown or white, but the males are splendidly marked in green and gold."

**Ten Thousand Dollars for a Flower**

Ten thousand dollars is an extraordinary price for a single plant, yet it was recently paid by English horticulturists for an orchid raised in America, the *Cattleya gigas alba*. More singular still, the great value of this orchid is due to the simple fact that it is pure white, instead of a beautiful variegated purple, like the other members of the family to which it belongs. In an interesting letter to *The Guide to Nature*, Mr. Lager, who raised the flower, writes:

"We flowered this *Cattleya* in 1910, and exhibited it at the orchid show in Boston, where we were rewarded by a gold medal. The plant was found by chance, and came to us late in 1909 in a lot of other specimens of *Cattleya gigas*. It was only by accident that the plant was not sold for a dollar or two. The only reason was that, after most of its companions had been disposed of, this one, with some others that were not in very good condition, was set aside for treatment, and laid out on a wire netting. Finally we potted them all.

Imagine our surprise when the next spring this plant came up with pure white flowers—the only white flower ever found in *Cattleya gigas*. The plant was sold in 1911 in London, at the highest figure that an orchid ever brought. And one of the English papers proudly remarked that it was "refreshing to know that while so many masterpieces of painting and so many rare works of art were finding their way across to America, a plant of such rarity and beauty was acquired for Great Britain."

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THE response of the buying public throughout the Dominion to our offer to prepay charges to destination costs us at the rate of \$1,000.00 a day for every working day.

Our customers do not actually get this money, but they save it, which is the same thing.

**DO YOU GET  
A SHARE?**

If not, write to-day for our new Spring and Summer Catalogue. Compare the prices and note the savings. Compare the goods themselves if you will. If not what you expected, if not better value than you can buy elsewhere, send them back at our expense, and get your money refunded.

The fact that we are parties to a one-sided contract like this—bringing the goods to your door and taking them away again if you are not pleased—makes it imperative that only first-class values and up-to-date goods are offered.

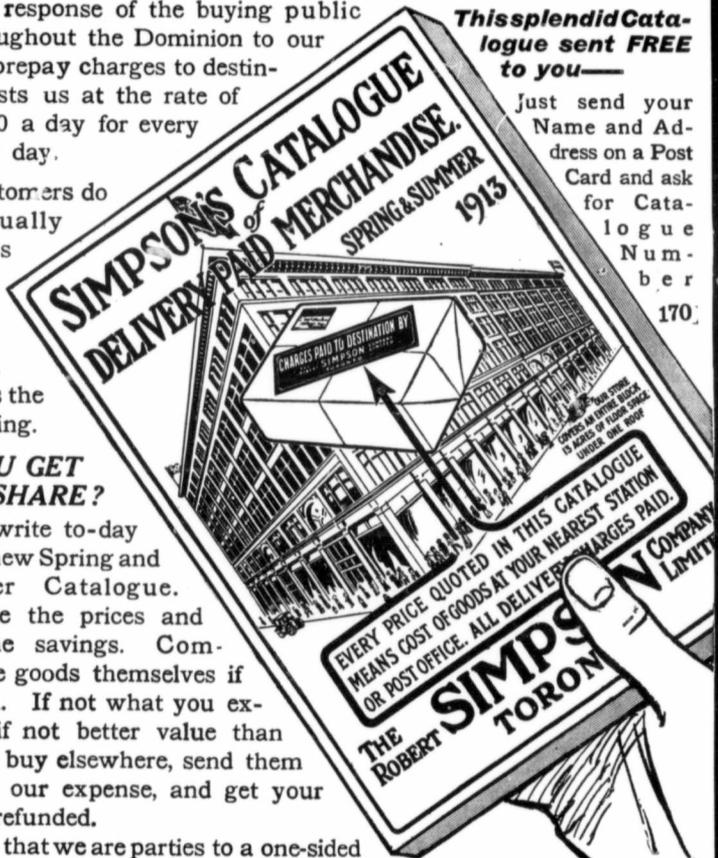
**For Most People Honesty is the Best Policy  
For Us Honesty is the Only Policy**

We must make honest statements in our Catalogue, we must send honest goods at honest prices and give you honest service or the expense would put us out of business.

The **SIMPSON** Company  
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TORONTO

This splendid Catalogue sent FREE to you—

Just send your Name and Address on a Post Card and ask for Catalogue Number 170.



Enough to Make a Cat Laugh



#### Quicker

"Why do you consider women superior to men in intelligence?"

"A bald-headed man buys hair-restorer by the quart, doesn't he?"

"Er—yes."

"Well, a woman doesn't waste time on hair-restorers; she buys hair."

#### The Trouble

"By Jove, I left my purse under my pillow!"

"Oh, well, your servant is honest, isn't she?"

"That's just it. She'll take it to my wife."

#### A Reason

Jonah entered the whale. "This is the original water-wagon!" he exclaimed.

Herewith none wondered that he remained aboard only three days.

#### Unexemplified Courage

He was the small son of a bishop, and his mother was teaching him the meaning of courage.

"Supposing," she said, "there were twelve boys in one bedroom, and eleven got into bed at once, while the other knelt down to say his prayers, that boy would show true courage."

"Oh," said the young hopeful, "I know something that would be more courageous than that! Supposing there were twelve bishops in one bedroom, and one got into bed without saying his prayers!"

#### Short and to the Point

A Kansas City young lady of few words went to a dentist to have a tooth extracted.

"Pull it!" she said to the dentist.

"All right," replied the dentist. He applied the cocaine, adjusted his forceps and out came the tooth.

"Want it?" he asked the young lady, holding the tooth before her.

"Want it!" she exclaimed. "Want it! What for? Do you think I'm an Elk?"

## It fits better

That perfect fit and comfort which you are assured when you ask for your size in Pen-Angle Underwear (the kind knit to fit) greatly improves the look of your outer garments, and gives you a feeling of being well-dressed from the skin out. Other underwear is more or less of a makeshift —it bulges, sags, loses shape, shrinks,—but

## Pen-Angle Underwear

hasn't even one of the faults you are used to paying good money to bother with. Just try Pen-Angle once and learn how it surely does solve the underwear question for man and woman and child. Ask the store you trade at.

**PENMANS LIMITED, PARIS, CANADA**  
HOSIERY, SWEATERS, UNDERWEAR

You saw this advertisement in this magazine. Don't forget to say so when writing.

Teacher—"What is a skeleton?"  
Little Tommy—"Bones with the people rubbed off."

#### The Real Saver

Mrs. Bromide (discussing child-training)—"A stitch in time saves nine."

Mrs. Sulphite (grimly)—"A switch in time saved mine."

#### She Was Observing

Representative Henry, of Texas, was praising a Washington heiress.

"She is the right sort," he said. "She went abroad last year, and on her return a friend asked her:

"Did you see many picturesque old ruins over there?"

"Yes," she answered, with a faint smile, 'and six of them proposed.'"

#### Stung!

"Confound it, sir! I've just been stung by one of your beastly bees. I demand reparation!"  
"Certainly, sir. Just show me which bee it was, and I'll punish the horrid thing severely."

#### No Good on Sheep

"Now, Harold," said the teacher, "if there were eleven sheep in a field and six jumped the fence, how man would there be left?"

"None," replied Harold.  
"Why, there would," replied she.

"No, ma'am, there wouldn't," persisted he. "You may know arithmetic, but you don't know sheep."

The man who is his own worst enemy usually carries on the fight to the bitter end.

#### Johnny Reb's Consolation

Quartermaster General Edwin A. Taylor of the United Sons of Confederate Veterans, told at a Memorial Day banquet in Memphis this story:

"A Southerner," he said, "sat in the lobby of a New York hotel discussing certain campaigns with a Northerner.

"Well," the Northerner ended, with a laugh, 'well, we licked you, anyhow.'"

"Yes, you did," the Southerner admitted; 'but it's plain from the size of your pension list that before we gave in we crippled every blessed one of you!'"

Inspector—"What is a fishing net made of?"

Smart boy—"A lot of little holes tied together with bits of string."



**CORRUGATED IRON SHEETING**

If you want a strong, durable, inexpensive Wall and Roof covering, use CORRUGATED IRON.

If you want the best quality corrugated galvanized iron, use that manufactured by us.

Write to-day for free booklet. 704

**THE METALLIC ROOFING CO. LIMITED**  
MANUFACTURERS  
**TORONTO & WINNIPEG**

Western Canada Factory  
797 Notre Dame Ave.  
**WINNIPEG - MAN.**

**WE WANT AGENTS**  
Everywhere in Western Canada

for  
C.O.W.L. Brand Ranch & Farm Remedies. (Preparations made from refined Coal-Tar and blended with suitable emollient oil).

**Liberal Commissions**  
Full particulars, prices etc., on application.

**The Carbon Oil Works, Limited**  
WINNIPEG - CANADA

Write to Dept. "T" Remedies.

Mention this magazine when writing advertisers.

**CHEW MAPLE SUGAR TOBACCO**

MILD, SWEET, MELLOW AND JUICY

Manufactured by  
**ROCK CITY TOBACCO CO.**

Quebec Winnipeg

Mention this magazine when writing advertisers.

**GRAND TRUNK RAILWAY SYSTEM**

**THE Double Track Route**  
TO  
Detroit, London, Hamilton,  
Toronto, Montreal and New  
York via Niagara Falls

Smooth road-bed, polite employees, unexcelled dining-car service, and latest standard equipment

**AGENTS, COOK'S TOURS AND ALL STEAMSHIP LINES**

Rates, reservations and all particulars at Ticket Office

Phone Main 7008 260 Portage  
**WINNIPEG**

Mention this magazine when writing advertisers.

**Fragile Father**

A man travelling in Maine met a middle-aged farmer, who told him his father, aged 90, was still on the farm where he was born.

"Ninety years old, eh?"

"Yep; pop's close on 90."

"Is his health good?"

"'Taint much now. He's been complainin' for a few months back."

"What's the matter with him?"

"I dunno; sometimes I think farmin' don't agree with him!"

**Distinction with a Difference**

"It does not always take brains to make money," observed the father of the college boy, as he looked over the young man's expense bill; "but it sure does take money to make brain."

**Woodrow Wilson as Lexicographer**

The American public speaker is not "heckled" by an audience as is his British cousin on the other side of the Atlantic, but the unexpected question is occasionally to be reckoned with. At such a moment ready wit is all that can save the day. Personal integrity, intellectual attainments and a righteous cause avail little or nothing.

President Woodrow Wilson is a past master of repartee, as he proved a score of times during his recent "stumping" tour, though never more effectively than in the South Jersey hamlet of Sea Isle. He had just referred to himself as "a political optimist," when someone called out, "And what's that?"

Instantly came the answer: "A political optimist, my friend, is a fellow who can make sweet pink lemonade out of the bitter yellow fruit which his opponents hand him."

On election day Sea Isle went strong for Wilson.

**From the City**

Mrs. Brown: "Mary, what a kitchen! Every pot, pan, and dish is soiled; the table looks like the day after a cyclone! What have you been doing?"

Mary: "Well, ma'am, the young ladies has just been snowing me how they bile a pertator at their cooking school."

May—"How did they ever come to marry?" Fay—"Oh, it's the same old story. They started out to be good friends, you know, and later on changed their minds."

Mother—"If you're very good, Edith, I'll take you to the circus. Little Girl—"Do you really mean it, mother, or is it just a promise?"

**Big Ben**



**The Men Who Make Big Ben**

About 26 years ago a German clockmaker came from the East to La Salle, Illinois.

His only baggage was an idea—the plan of an automatic process he had invented, and which would make more alarm clocks and better alarm clocks than hand labor could ever hope to turn out.

With the backing of some local merchants and with a handful of clockmakers, a small factory was started on the edge of the town. —Beginnings were hard, competition intense. They weathered storms that would have knocked the fight out of weaker hearted men.

But when success at last came in sight they had built one of the best equipped clock plants in the world and one of the greatest names in the

American clock industry—Westclox, La Salle, Illinois.

Today, the Westclox people number 1,200. Every week day of the year they turn out 10,000 alarm clocks—alarm clocks of every description and style—their name "Westclox" is on every one of them and *Big Ben* is the king of them all.

*Big Ben* is the ideal of the Westclox people. He is their conception of what a perfect alarm clock should be. He is only two years old, but in this short time 6,000 Canadian dealers have already adopted him.

Only the finest materials are used in his making—he is strong, massive and punctual. His face is frank, open, easy to read. His keys big, handy, easy to wind. He rings steadily for five minutes or intermittently for ten. He calls you every day at any time you say. If you have him ciled every other year, there is nothing how long he will last.

*Big Ben's* price is \$1.00 at any dealer's. If you cannot find him at your dealer's, a money order sent to *Westclox, La Salle, Illinois*, will bring him to you, carefully packed and express charges paid.

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Big Ben Alarm Clocks**

ARE ILLUSTRATED IN THE CATALOGUE OF

**D. R. DINGWALL, Limited**

JEWELLERS, WINNIPEG

WRITE FOR A COPY OF THIS BOOK

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Profits in Farming Come Through Yields above the Average**

Bigger and better crops cost no more to produce than ordinary ones

**Swift's Animal Fertilizers**

Give plants an early start and hasten maturity, thereby avoiding danger from early frosts. Write for prices and booklet, stating crops you are growing.

**Swift Canadian Company Ltd.**  
Winnipeg and Edmonton

You saw this advertisement in this magazine. Don't forget to say so when writing.



**KEEP THEM WORKING**

A horse in the field is worth two in the barn. You can't prevent Spavin, Ringbone, Splint, or Curb from putting your horse in the barn but you can prevent these troubles from keeping horses in the barn very long. You can get

**KENDALL'S SPAVIN CURE**

and cure all such ailments. For 35 years, Kendall's Spavin Cure has been the horse-man's standby.

AULTSVILLE, ONT. MARCH 24th, 1912.

"I have used Kendall's Spavin Cure for over 14 years curing two Bog Spavins, one curb, one Bone Spavin and a Ringbone, all bad cases. Your medicine is the best in the world."

JOSIAH REDICK.

Price \$1 per bottle—6 bottles \$5. Ask druggist for free book "Treatise on the Horse" or write direct to us 75

Dr. B. J. Kendall Company  
Enosburg Falls, Vermont. U. S. A.

**SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS**

Any person who is the sole head of a family or any male over 18 years old, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the district. Entry by proxy may be made at any agency, on certain conditions, by father, mother, son, daughter, brother or sister of intending homesteader.

Duties—Six month's residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$2.00 per acre. Duties—Must reside six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. W. CORY,  
Deputy of the Minister of the Interior  
N.B.—Unauthorized publication of this advertisement will not be paid for.

Mention this magazine when writing advertisers

**TACKS**

WE ARE MANUFACTURERS OF ALL KINDS OF  
**Guaranteed Tacks and Small Cut Nails**  
ALSO MAKE A SPECIAL FEATURE OF  
**Brass Plating and Electro Tinning.**  
Write for Quotations to  
**Dominion Tack and Nail Co.,**  
Limited,  
GALT, ONTARIO  
Mention this magazine when writing advertisers

USE  
**WHITE ROSE GASOLINE**  
More Power Less Carbon

**PATENTS TRADE MARKS AND DESIGNS**  
Write for booklet, circulars, terms, etc.  
**FETHERSTONHAUGH & CO.**  
FRED. B. FETHERSTONHAUGH, K. C. M. E.  
GERALD S. ROXBURGH, K. A. S.  
Portage Avenue, WINNIPEG,  
209-10 Bank of Nova Scotia

Mention this magazine when writing advertisers

**Power Farming**

Continued from page 10

12 horse tractor of the trailer type can be regarded as a practical plowing engine for even one or two plows under most conditions, while a 20 to 25 horse will undoubtedly give far better satisfaction and be found most economical.

Specially designed plowing engines with the plows a part of the engine are now in use, and it is possible that further development along these lines will bring out a gasoline plow of much lighter power, one that will be wholly available for small farm plowing. Until quite recently it was believed that something like a 7 h.p. engine was required for the construction of a self-moving tractor. Home-made affairs constructed out of binder wheels, mowing machine wheels and other remnants of the junk pile proved the fallacy of this belief, and many ingenious farmers have at small cost rigged as small as 2 and 3 h.p. engines up as available tractors. Now one engine house manufactures regularly working tractors of as little as 6 h.p., while self-moving engines of 1½ h.p. are now on the market.

Perhaps the reluctance of the manufacturers in taking up the problem of farm tractors has had as much to do as anything with the number of home-made tractors which have been constructed and put into practical use by farmers and their boys. Some of them have been made in the simplest manner and have cost very little that could not be supplied from the old machinery on the farm. More elaborate designs have also been attempted, in some instances disastrously expensive, the cost finally reaching more than the price of a regular market tractor and the results much less. Until the manufacturers awoke to some idea of the opportunity they were facing, these home experiments seemed about the only way the requirements of the farm could be served. Now that special study is being given the subject by practical machine men it is usually much cheaper in the end to purchase a tractor than to construct one. The home-made tractor is an entire practicability, however, and for those who are unable to afford a factory-made one, and who are willing to put up with less convenience in order to get something that will do the work, it is often worth while trying, and for such people several home-made tractors are illustrated in this volume. Most of them are belt transmission, a simpler and cheaper form and a far less durable one than gearing. Probably most of the performances reported represent work done when the tractor was first constructed. Some of them have,

**CHALLENGE**



**GOLLARS**

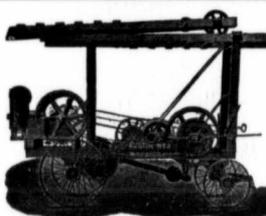
**THE ACME OF COMFORT**  
Is assured to every wearer of "CHALLENGE"  
**Collars and Cuffs**

They have the same dull finish, texture and fit as the best linen collar, and won't wilt or crack. "Challenge" Collars can be cleaned with a rub from a wet cloth. Always smart—always dressy.

If your dealer doesn't sell "Challenge" Brand, send us 25c for collar or 50c for pair of cuffs. You'll be delighted. New style book sent free on request.

**THE ARLINGTON COLLAR CO. OF CANADA LTD.**  
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**AUSTIN**  
**Well Digging and Prospecting Machinery**



Rock Drilling, Hydraulic Jetting, or Hydraulic Rotary Machines to drill any depth in any formation. Operated by steam or gasoline engines, or horse power.

Write for Illustrated Catalogue No. 15.

**AUSTIN MANUFACTURING COMPANY,**  
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Canadian Sales Agents—**BURRIDGE COOPER CO., LTD.,** Winnipeg

REGISTERED TRADE MARK



**JOSEPH RODGERS & SONS, Limited**  
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Avoid imitations of our CUTLERY by Seeing that This EXACT MARK is on Each Blade.

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**JAMES HUTTON & CO., MONTREAL**

**CAEW**  
**"BAT"**



**PLUG TOBACCO**

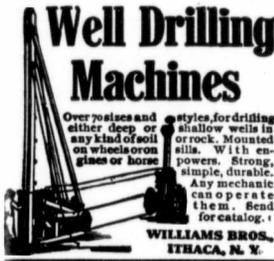
THE ROCK CITY TOBACCO CO. LIMITED - QUEBEC.



Join the "don't worry club!" Buy your Ford today. Thousands were disappointed last year. Don't take a chance this time. And remember that the more we make the better we make them. Insist on an immediate delivery.

There are more than 220,000 Fords on the world's highways—the best possible testimony to their unexcelled worth. Prices—runabout \$675—touring car \$750—town car \$1000—with all equipment, f. o. b. Walkerville, Ont. Get particulars from Ford Motor Company of Canada, Limited, Walkerville, Ont., Canada.

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Over 20 sizes and styles for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on glases or horse powers. Strong, simple, durable. Any mechanic can operate them. Send for catalogue.

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ITHACA, N. Y.

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Double-acting, Lift, Tank and Spray PUMPS

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**Myers Stayon Flexible Door Hangers** with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—Stays in the descriptive circular and price. Exclusive agency given to right party who will buy in quantity.

**P. E. MYERS & CO.,**  
ASTORIA, ORE.

## Boring Machine

THE ORIGINAL PECH  
THE OLD RELIABLE Easiest to operate Bore Faster Most Durable

Improved Up-to-date Drilling Machines

DESCRIPTIVE CATALOGUE FREE  
Cherokee Mfg. Co., Dept. A, Cherokee, Iowa

## ERZINGER'S No. 2 CUT PLUG

Leads them all. It's the Best Dollar Tobacco sold anywhere.

**JOHN ERZINGER**  
McIntyre Bldg. - 293 Portage Ave.  
Phone 69 Phone 2677

## WELL DRILLING

**GUS PECH FOUNDRY AND MANUFACTURING COMPANY**

Manufacturers of the Celebrated  
**MONITOR WELL AUGERS AND DRILLS**

Write for prices and Illustrated Catalogue.

**L. E. WARS, IOWA U.S.A.**  
Branch House: REGINA, SAS.

however, been made at a cost a little in excess of \$10 money outlay and were undoubtedly well worth what they cost, even though of short life.

For the lighter sort of tractors, mowing machine wheels are favorites as drive wheels, but for heavier work binder wheels are essential. Some of these have been made to do quite heavy work, and under favorable conditions have even been harnessed to the plow. Discarded steam tractor wheels have also been utilized and engines of 10, 20, and even as much as 40 horse-power tractors have been made at home which were capable of any sort of farm work at all likely to be put upon them, and including threshing and pulling the rig from barn to barn over hilly roads, ensilage cutting, corn husking, plowing, moving buildings and tearing out hedge fence. While such ambitious efforts have been frequently successful it is well to remember that the first attempt of an amateur in tractor-building is at best only an experiment, and it is well not to undertake it upon a scale that will sink too much time and money in the venture if it proves disappointing, until some experience is obtained by smaller ventures.

When running on good roads the gasoline tractor may be put upon the high speed without any serious risk, providing the operator has skill enough to guide it. As this is not over five or six miles an hour with most engines a little practice ought to give him this. Obstacles, lack of skill in the engineer, and increased vibration are about the only things that make it necessary to keep the speed of the engine down when travelling over fair roads. In plowing again the speed is determined more by the plow than by the engine. Usually 2½ to 3 miles per hour is considered about right.

Approximately the load a tractor of known power will draw with wagons as trailers may be figured from the fact that with 1½-inch tires a weight of one ton shows a resistance of 121 pounds on broken stone roads and of 466 pounds on freshly plowed land. With 6-inch tires the proportion is 98 to 323. A common earth road gives a resistance of 100 pounds per ton to the tractor power with an addition of twenty pounds extra for each per cent of grade.

Aside from the things we eat, the value of what the farmer produces is, after all, finally determined largely by the proximity of his markets and his means of reaching them. Distance alone is not the measure of remoteness. An unbridged river, with no boat at hand, might cut

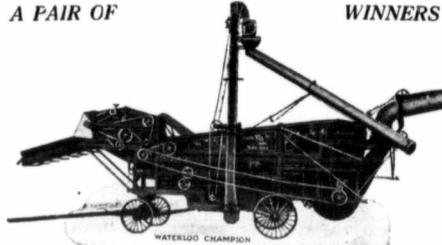
## Waterloo "Lion Brand" Machinery

(Made in Canada)

TRACTION ENGINES FOR THRESHING AND PLOWING PURPOSES		BUILT IN SIZES 16, 22, 25, 27, and 28 HORSE POWER
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Strongest Pullers on Earth  
High Pressure Boilers

A PAIR OF WINNERS



"Champion" and "Manitoba Champion" Separators  
Constructed in sizes from 28 x 42 to 40 x 62.

Headquarters for Threshers' Supplies

WRITE FOR CATALOGUE

**Waterloo Manufacturing Co. Ltd.**

Head Office and Factory:  
Waterloo, Ontario

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Portage la Prairie, Man. Regina, Sask.

You saw this advertisement in this magazine. Don't forget to say so when writing.

## THE "EMPIRE" BRANDS

of GYPSUM PRODUCTS are essential to FIRE-PROOF and FIRE-RETARDENT construction

STANDARD of quality is rigidly maintained in everything we manufacture

Write for Specification Booklets.

Sole Manufacturers

**Manitoba Gypsum Company Ltd.**

WINNIPEG

MANITOBA

You saw this advertisement in this magazine. Don't forget to say so when writing.

## 12-Gauge Hammerless "Pump" Guns



**The Marlin**

hammerless 12-gauge repeating shotgun, Model 28, is a fine-appearing, beautifully-balanced gun, without any objectionable humps or bumps; no holes on top for gas to blow out through or water to get in; can't freeze up with rain, snow, or sleet; it's solid steel breech (not a shell of wood) permits a thoroughly symmetrical gun without sacrificing strength or safety; it is the safest breech-loading shotgun ever built.

It is Hammerless with Solid Steel Breech (inside as well as out)—Solid Top—Side Ejection—Matted Barrel (which costs \$4.00 extra on other guns)—Press Button Cartridge Release—to remove loaded cartridges natively from magazine without working through action)—Double Extractors—Take-Down Feature—Trigger and Hammer Safety. Handles rapidly; guaranteed in shooting ability; price standard Grade "A" gun, \$22.60.

Send 3 stamps postage for big catalogue describing No. 28, A, B, C, D, T and Trap Special and all other Marlin repeating rifles and shotguns. Do it now!

**The Marlin Firearms Co.,**  
105 Willow Street, New Haven, Conn.

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Warranted to Give Satisfaction.**  
**Gombault's**  
**Caustic Balsam**



**Has Imitators But No Competitors.**  
 A Safe, Speedy and Positive Cure for  
 Curb, Splint, Sweeney, Capped Hock,  
 Strained Tendons, Founder, Wind  
 Puffs, and all lamenesses from Spavin,  
 Ringbone and other bony tumors.  
 Cures all skin diseases or Parasites,  
 Thrush, Diphtheria. Removes all  
 Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
 Sprains, Sore Throat, etc., it is invaluable.  
 Every bottle of Caustic Balsam sold is  
 warranted to give satisfaction. Price \$1.50  
 per bottle. Sold by druggists, or sent by ex-  
 press, charges paid, with full directions for  
 its use. If send for descriptive circulars,  
 testimonials, etc. Address  
 The Lawrence-Williams Co., Toronto, Ont.

Mention this magazine when writing advertisers



**\$1500 to \$5000 Per Year**

have been made by hundreds of peo-  
 ple operating the "American" Drill-  
 ing Machines. 40 years' experience,  
 50 regular styles and sizes and the  
 output of the world's largest manu-  
 facturers of this kind of machinery  
 make **"AMERICAN"**  
**MACHINES STANDARD**  
 Made in types for every kind  
 of earth and rock drilling or  
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**THE AMERICAN**  
**WELL WORKS**

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**MAKE YOUR OWN TILE**



Cost  
**\$4.00 to**  
**\$6.00**  
**Per 1,000**

Hand or  
 Power

Send for  
 Catalog

**FARMERS' CEMENT TILE MACHINE CO.**  
 WALKERVILLE, ONT.

Mention this magazine when writing advertisers

a serious amount of profit off from produce that would have a high commercial rating on the other side of the stream. The stream of mud, the channel of impassable roads between the farm and its nearest market has sometimes been an equal menace to profit, but now that the mud is being removed, and the bad roads in some measure done away with, actual mileage distance can be more directly reduced. Even this the gasoline engine has done much to overcome.

Taking the country over the average team haul of wheat, to place it on the market, is 12.5 miles, at a cost per ton of .22. After a limited distance the cost of hauling by team increases rapidly as the reasonable endurance limit of the horse is approached. The cost of hauling by motor decreases with the distance, the main expense being the handling of the load at either end of the trip. On the road the cost is very slight. This fact is an important one, both to the farmer and the man to whom he sells, because as the population of the cities increases faster than the producing capacity of the territory around them, a larger area must be levied upon for the same quantity of supplies for each person; that is, the haulage distance is becoming greater. It has now outgrown the capacity of the horse and requires that of some other power. To a great extent, railroads have taken, and will continue to take, this place; still there must be some means of connecting even the local station with the farm, and more and more is it becoming necessary for the farmer to handle his produce in the most economical manner, by taking it in larger quantities; by reducing the time required for each trip.

Again the gasoline engine has met this new farming condition. With the automobile at hand the road to town has been reduced at least 60 per cent, or, put in another way, the area of farming land now within reasonable market distance from the city is increased from four to eight times. "My recollections of the farm," declared a successful merchant several years ago, "consist of going barefooted through the frosty grass along about daylight after the cows; in having to carry the wash water up a steep hill from the spring before breakfast, in order to get time for gathering sheaves after the cradlers and binders in the stubby grain field the rest of the day; of having to go out after supper for another load of hay, and then of hunting up the cows again and helping to milk them until after bedtime; of seeing my mother, sober-faced and weary, dragging herself, day

**Removal Notice**  
**Canadian Port Huron Co. Limited**

To our friends and customers we wish to announce that we have removed our offices from 232 Chambers of Commerce Bldg., Winnipeg, to 147 Bannatyne Ave. East, Winnipeg. This is just one block east of Main St. and is directly opposite Ashdown's Wholesale Hardware Bldg.

Take a Main Street car and get off at Bannatyne and walk one block East.

**Canadian Port Huron Company Ltd.**  
 147 Bannatyne East  
 Winnipeg, Canada

**FIRE INSURANCE**

**The Liverpool-Manitoba Assurance Co.**  
 All Policies Guaranteed by  
**THE LIVERPOOL AND LONDON AND GLOBE INSURANCE COMPANY, LTD.**

Northwest Branch - WINNIPEG, Canada  
 Agents wanted in unrepresented districts. S. N. RICHARDS, Local Manager

You saw this advertisement in this magazine. Don't forget to say so when writing.

**The Occidental Fire Insurance Co.**  
 Head Office: WAWANESA, MAN.

A. NAISMITH, President R. M. MATHESON, Vice-President  
 A. F. KEMPTON, Sec. and Mgr. C. D. KERR, Treasurer

Subscribed Capital \$500,000.00  
 Security to Policy-holders 640,817.29

**Full Deposit with Dominion Government**  
**Agents wanted in unrepresented districts**

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Alex. Naismith, Pres. Wm. Paterson, Vice-Pres. C. D. Kerr, Treasurer

**The WAWANESA MUTUAL INSURANCE COMPANY**  
 HEAD OFFICE: WAWANESA, MAN.  
 A. F. KEMPTON, Secretary-Manager

Amount of Insurance in force Dec. 31st, 1911 \$31,243,598.00  
 Assets over Liabilities 522,944.15

THE NUMBER OF FARMERS INSURED 21,543

The Largest Farmers Mutual Fire Insurance Company in Canada. Agents wanted in unrepresented districts

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**INSURANCE—INSURANCE**  
 FRED W. PACE F. J. L. HARRISON F. GRANT MILLAR

**PACE, HARRISON & MILLAR**  
 Keewayden Building - Portage Ave. East

General Agents:

NATIONAL FIRE INSURANCE COMPANY of Hartford, Conn. Assets Exceed \$12,000,000.00  
 GENERAL FIRE ASSURANCE COMPANY of Paris, France. Assets Exceed 7,500,000.00

Adjustment and payment of losses arranged from our office. Liberal contracts to live agents. WRITE FOR AGENCY.

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**Mackenzie, Brown, Thom & McMorran**  
**Mackenzie, Brown, MacDonald & Bastedo**  
 Barristers, Solicitors, &c.  
**Regina, Saskatchewan, Canada**

Norman MacKenzie, K.C. Hon. George W. Brown Douglas J. Thom  
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General Solicitors in Canada for the National Thresher Manufacturers' Association of America  
 General Solicitors in Canada for the American Collectors' Association.  
 General Solicitors in Saskatchewan for Fifteen Canadian and American Thresher and Implement Companies.

**National Trust Company, Ltd.**  
 TORONTO, WINNIPEG, EDMONTON, MONTREAL, REGINA, SASKATOON  
 Capital and Reserve, \$2,800,000.00

The strain and worry of managing Estates will all be borne for you by this Company.

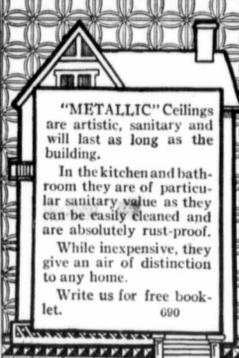
A PRIVATE Executor may die or become incapable of acting before the completion of the Trust. A Trust Company is PERMANENT and will survive the longest Trusts.

This Company's financial strength and expert staff ensure responsible and capable administration.

We act as Trustee, Executor, Administrator, Guardian, Liquidator, Assignee, Financial Agent.

**SAFE DEPOSIT VAULTS SAVINGS DEPARTMENT MONEY TO LOAN**  
**D. H. COOPER, Manager, Winnipeg Branch, 323-325 Main Street.**  
**C. Y. STAINER, Secretary.**

**METALLIC WALLS FOR THE HOME**



"METALLIC" Ceilings are artistic, sanitary and will last as long as the building.

In the kitchen and bathroom they are of particular sanitary value as they can be easily cleaned and are absolutely rust-proof.

While inexpensive, they give an air of distinction to any home.

Write us for free booklet. 690



**THE METALLIC ROOFING MANUFACTURERS CO. LIMITED TORONTO & WINNIPEG**

Western Canada Factory  
797 Notre Dame Ave.  
WINNIPEG MAN.

**3**

Leading Brands

Sold everywhere throughout Western Canada

**DREWRY'S Refined Ale**  
(Registered)

**Extra Stout AND Redwood Lager**

These well known malt beverages are brewed from barley malt and hops only. Always uniform in quality and flavor.

Mention this magazine when writing advertisers.

after day, about the house with her entire life centered upon the drudgery of her kitchen and all the rest of the world a closed book to her; of seeing my father, broken down with long hours and hard work, finally relieved of the task of paying for the old place—just a few months before he died. I know that those early discouragements hardened me to meet those I have since met; that the strenuous life I lived in my childhood did much to fit me out with habits of industry that have brought me success—that it equipped me with a bitter prejudice and an intense hatred of farm life.

"I know that the conditions there are different now, but my whole life, in spite of that, has been shadowed in a measure by certain memories which I cherish, against my will, of the old farm. The man or woman who has been deprived of sweet home memories in childhood has missed the best of life, and I still hate the farm for so depriving me."

That merchant was right and wrong; wrong in permitting a prejudice to distort the experience of an individual into a type condition; right in the extent to which old home memories may exert their influence and teach their lessons long after the home itself has nothing left but memory. No material results can ever equal the far-reaching influences they may be made to wield upon the man or woman all through life, if rightly exerted upon the child. Is not, then, all that will help materially in elevating those home memories, in lifting them out from the slums and ditches of drudgery more potent in the uplifting of the child than any material wealth that we can give him? So long as prejudice endures, the industrial status of farming will be judged by its influence upon the memories of our young people—whether it leaves with them impressions of a drudgery that is little above that of the animals of the field, or whether the recollections are linked up with intelligent application, a busy life, perhaps, but one wherein the superior brain power which has been given to the human race is not degraded into sheer brute force. On these old memories depends not only the industrial choice of the boy, but the respect of the man for farm work, country life, and the old home; and no other single phase of the standing of agriculture in the world of industry so surely determines her place in the realm of intelligence as does the story of the power that turns her wheels; whether it be expressed in terms of brute force or intelligence; of animal muscle or of that greatest achievement of the human race—mechanical power.

**Ontario Wind Engine & Pump Company's LINES ARE SUPREME**



"Stickney or Chapman"

**Progress**

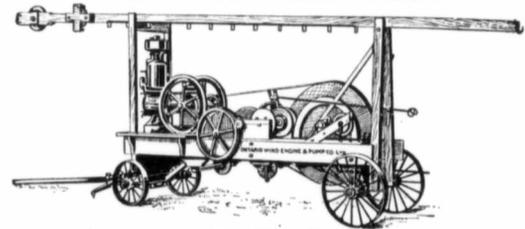
Statistics show that the corn belt is moving north about 20 miles a year.

This is due to the elements.

Government records show that the Ontario Wind Engine & Pump Co. have encircled the earth with their goods in the past ten years. This is made possible by the integrity, brains and intelligence of the men behind it, and the quality and superiority of the goods which they have produced.

If your Dealer does not handle our lines, write the

**ONTARIO WIND ENGINE & PUMP COMPANY Limited, at MONTREAL TORONTO WINNIPEG OR CALGARY**



"Chapman Well Drill"

You saw this advertisement in this magazine. Don't forget to say so when writing.

**Bruce's Big Four Field Root Specialties**

**BRUCE'S GIANT FEEDING BEET**—The most valuable Field Root on the market; combines the rich qualities of the Sugar Beet with the long-keeping, large size and heavy cropping qualities of the Mangel. We offer two colors, **WHITE** and **ROSE**. ¼ lb. 18c, ½ lb. 29c, 1 lb. 39c, postpaid.

**BRUCE'S MAMMOTH INTERMEDIATE SMOOTH WHITE CARROT**—The Best of all Field Carrots. ¼ lb. 53c, ½ lb. 94c, 1 lb. 91.50, postpaid.

**BRUCE'S GIANT YELLOW INTERMEDIATE MANGEL**—A very close second to our Giant Feeding Beet, and equally easy to harvest. ¼ lb. 18c, ½ lb. 29c, 1 lb. 39c, postpaid.

**BRUCE'S NEW CENTURY SWEDE TURNIP**—The best shipping variety, as well as the best for cooking; handsome shape, uniform growth, purple top. ¼ lb. 18c, ½ lb. 24c, 1 lb. 40c, postpaid.

**FREE**—Our handsomely illustrated 112-page Catalogue of Vegetable, Farm and Flower Seeds, Plants, Bulbs, Poultry Supplies, Garden Implements, etc., for 1913. Send for it.



**JOHN A. BRUCE & CO., Ltd. Hamilton, Ontario**  
Established Sixty-three years

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**PATENT NOTICE**

Anyone desiring to obtain the invention covered by Canadian Patent No. 132608, granted on the 25th of April, 1911, for Sub-surface Packers, to Peter F. Erb and Claus F. Bloom, both of the Village of Roseglen, in the State of N. Dakota, U.S.A., may do so upon application to the undersigned, who are prepared to supply all reasonable demands on the part of the public for the invention and from whom full information may be obtained.

**FETHERSTONHAUGH & CO.**

209 Bank of Nova Scotia, Portage Avenue, Winnipeg, Man.

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WESTERN CANADIAN IMPLEMENT DIRECTORY

EXPLANATION.—First find the Implement Wanted and the Number opposite will be the Number of the Concern, in the first column, that handles it.

1—AMERICAN SEEDING MACHINE CO., Winnipeg.
2—BEATTY BROS., Brandon.
3—BELL ROBEY ENGINE & THRESHER CO., Winnipeg.
4—BRANDON PUMP & WIND MILL WORKS, Brandon.
5—BRITISH CANADIAN AGRICULTURAL TRACTORS, Saskatoon.
6—BUFFALO PITTS CO., Moose Jaw.
7—BURRIDGE-COOPER CO., Winnipeg.
14—CANADIAN ARMSTRONG QUAM CO., Saskatoon.
18—CANADIAN FAIRBANKS CO., Winnipeg, Calgary, Saskatoon, Vancouver.
19—CANADIAN HOLT CO., Calgary.
20—CANADIAN MOLINE PLOW CO., Winnipeg.
21—CANADIAN RUBBER CO., Winnipeg, Vancouver.
22—CANADIAN STOVER CO., Brandon.
23—CANADIAN SWENSONS CO., Winnipeg.
24—CASE, J. I. T. M. CO., Winnipeg, Regina, Calgary.
25—COCKSHUTT PLOW CO., Winnipeg, Regina, Calgary, Edmonton.
26—CRANE & ORDWAY, Winnipeg.
27—DEERE, JNO. PLOW CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Lethbridge.
28—DE LAVAL SEPARATOR CO., Winnipeg.
29—DOMINION SPECIALTY CO., Winnipeg.
30—DUIS GEO. & CO., Winnipeg.
31—EMPIRE CREAM SEPARATOR CO., Winnipeg.
32—GARDEN CITY FEEDER CO., Regina.
33—GAR TRACTION CO., Winnipeg, Saskatoon, Calgary.
34—GENERAL SUPPLY CO., Winnipeg.
35—GOODYEAR TIRE & RUBBER CO., Winnipeg, Regina, Calgary.
36—GOULD, SHAPLEY & MUIR, Winnipeg, Regina.
37—GRAY-CAMPBELL CO., Winnipeg, Brandon, Moose Jaw, Calgary.
38—HAUG BROS. & NELLEMOE CO., Winnipeg, Calgary, Regina.
39—HARMER IMPLEMENT CO., Winnipeg.
40—HART PARR CO., P. la Prairie, Regina, Calgary, Saskatoon.
41—HERO IMPLEMENT CO., Winnipeg.
42—INT. HARVESTER CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Brandon.
43—LESTER B. A. & CO., Winnipeg.
44—LOUEN HARDWARE & SPECIALTY CO., Winnipeg.
45—MANITOBA WINDMILL AND PUMP CO., Brandon.
46—MASSEY-HARRIS CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon.
47—MAYTAG CO., Winnipeg.
48—McLAUGHLIN CARRIAGE CO., Winnipeg.
49—McRAE ALEX., Winnipeg.
50—MINNEAPOLIS STEEL AND MACH. CO., Regina.
51—MOODY MATHW & SONS, Winnipeg.
52—NEEPAWA MFG CO., Neepawa.
53—NICHOLS & SHEPARD CO., Regina, Winnipeg.
54—ARMSTRONG MANUFACTURING CO., Saskatoon.
55—PETRIE MFG. CO., Winnipeg, Regina, Calgary, Vancouver, Edmonton.
56—PIONEER TRACTOR CO., Calgary.
57—RAYMOND MFG. CO., Winnipeg.
58—REEVES & CO., Regina.
59—RENFREW MACH. CO., Winnipeg.
60—RIESBURY PUMP CO., LTD., Brandon.
61—RUMELY M. CO., Winnipeg, Calgary, Saskatoon, Regina.
62—SAWYER & MASSEY CO., LTD., Winnipeg.
63—SHARPLES SEPARATOR CO., Winnipeg.
64—STEVENS BRUSH CUTTER CO., Edmonton.
65—STEWART SHEAF LOADER CO., Winnipeg.
66—TUDHOPE-ANDERSON CO., Winnipeg, Regina, Calgary.
67—VIRDEN MFG. CO., Viriden.
68—VULCAN IRON WORKS, Winnipeg.
69—WATERLOO MFG. CO., P. la Prairie, Regina.

60—WATSON JNO MFG. CO. Winnipeg.
61—WESTERN FOUNDRY CO., Saskatoon.
62—WESTERN STEEL & IRON CO., Winnipeg.
63—WHITE, GEO. & SONS, Brandon.
64—WINNIPEG CEILING & ROOFING CO., Winnipeg.
64—WINNIPEG RUBBER CO., Winnipeg.
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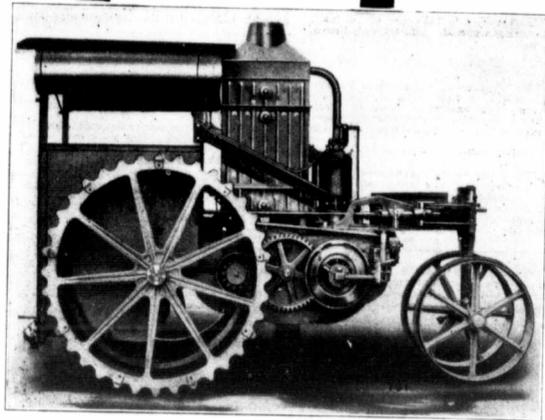
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Egan Potato Sprayer. 30
Evans Potato Planter. 1
Eureka Potato Planter. 27
Flury's Potato Digger. 55
Moline Knocker Potato Digger. 10
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RIDING ATTACHMENTS, HARROW CARTS, WHEEL BARROWS AND HAND CARTS.
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Cockshutt Harrow Cart. 15
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Eclipse High Harrow Cart. 27
Emerson Harrow Cart. 55
Flury's Wheel Barrow. 17
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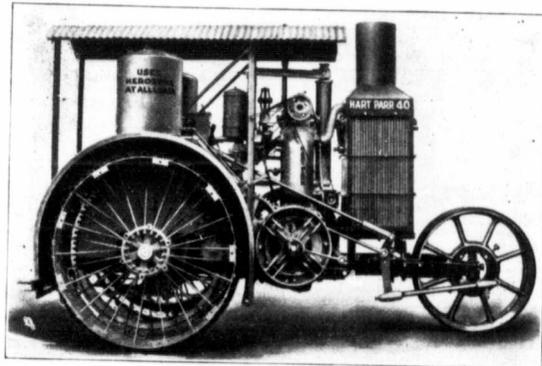
THRESHING MACHINERY, BELT FEEDERS, WIND STACKERS AND ATTACHMENTS.
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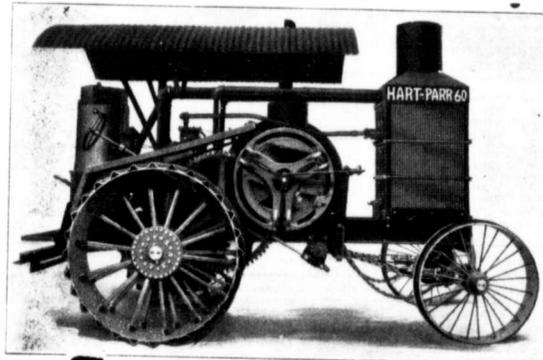
# HERE'S DEPENDABLE



Small, Light Hart-Parr Oil Tractor



40 B.H.P. Hart-Parr Oil Tractor



60 B.H.P. Hart-Parr Oil Tractor

With the big, reliable power of a Hart-Parr Oil Tractor to back you up, you need never fear the out-quickest and best.

As soon as spring opens up and your land is fit to take a turn or two on the fly wheel and your Hart-Parr you wish.

No time lost rounding horses into shape. No field. When you're ready to quit, just shut off the

## HART-PARR -OIL TRACTOR-

**TO DO ALL** your spring work in the shortest time, that saves you money. It plows, discs, harrows and seeds when soil and weather conditions are just right. It prepares an ideal, mellow seed bed—best for seed germination and growth.

Countless farmers everywhere have their Hart-Parr Oil Tractor to thank for the size and quality of their yearly crop yields. They cut down three or four operations with hoses to one or two with the tractor and save 30 to 50 per cent.

### Driver Lugs With a Bull Dog Grip, The Secret

A Hart-Parr Tractor beats them all to the job in spring. The drive wheels are equipped with wonderful wave form lugs, which afford 31 per cent greater surface contact than smooth-tired drivers with wedge shape lugs. Hart-Parr drivers do not injuriously pack the soil, but merely roll over it. Harrows and discs cut the lug marks at right angles, and thoroughly pulverize the soil.

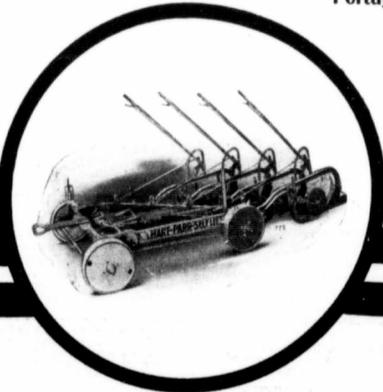
### A Size For Every Farm

Hart-Parr Oil Tractors are built in 27, 40 and 60 B.H.P. sizes. If you farm 160 or a 1000 or more acres, one of these sizes will exactly suit your requirements. Each is designed to operate successfully on the CHEAPEST GRADE OF KEROSENE. Each has an oil-cooled engine. Each is an all-year-round outfit, well adapted for various kinds of traction and belt work. The 27 and 40 B.H.P. sizes have two speeds, and the latter especially is fitted for haulage work.

## Hart-Parr

30 Main St.,  
Portage la Prairie, Man.  
57 West 23rd St.

The CHAPIN  
325 8th Ave. W.



# BIG POWER FOR YOU!

Tractor to back you up, you need never fear the out-quickest and best.

work, merely fill the fuel tank, switch on the current, is ready to work one hour or twenty-four hours, just as

irksome feeding and bedding after a hard day in the power. It's the marvelous ability of a

## HART-PARR -OIL TRACTOR-

### Here's Something New in a "Self Lift" Plow

If you are looking for a plow, investigate the new Hart-Parr "Self Lift." It is built in 4 and 6-bottom sizes and embodies some improved features found in no other plow. A Hart-Parr "Self Lift," in combination with a Hart-Parr Oil Tractor, forms a strictly One-Man Outfit. You can operate the plow right from the engine platform; merely pull a rope attached to the clutch lever and the plows lift automatically one after the other. When the clutch lever is released, the plows again dig into the ground. Self lift and hand lift attachments are entirely independent of each other. Should a bottom clog in thrashy ground, you can lift it with the hand lever without disturbing the adjustment of the rest of the plow. A special spring beam coupler enables each bottom to easily pass over or skid around stones or other obstructions and immediately return to the line of draft. Plow has one-third less parts and weighs one-third less than any other. Tractor and plow are so light they absolutely will not sink in and mire in soft soil.

### Consult Us on Your Power Requirements

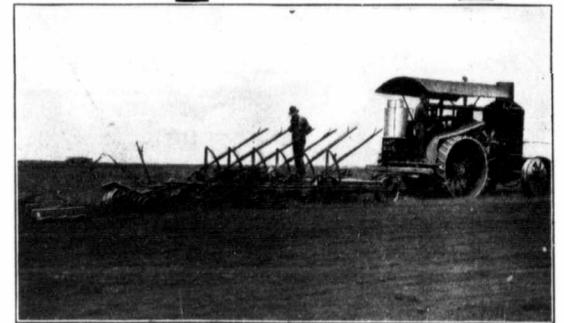
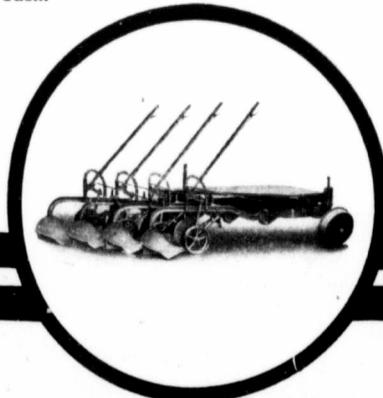
Drop us a line. Tell us how much land you farm—how many horses you use. Indicate the size tractor you are interested in. We'll send you our fine new catalog, finely illustrated with a score or more of field scenes. We'll tell you the size tractor best adapted for your needs—show you how it will make money for you on as little as 160 acres. We'll send you some mighty interesting literature on the cost of power farming and convincing endorsements from Hart-Parr users. Remember, it costs you nothing to investigate, so write us today.

## Company

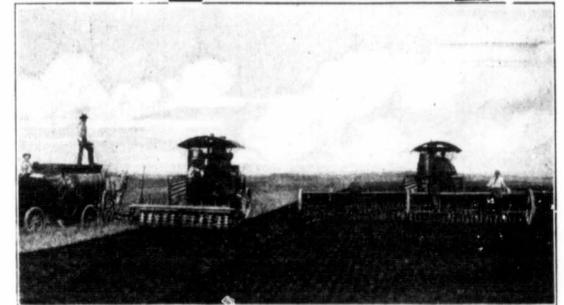
1616 8th Ave.,  
Regina, Sask.

Saskatoon, Sask.

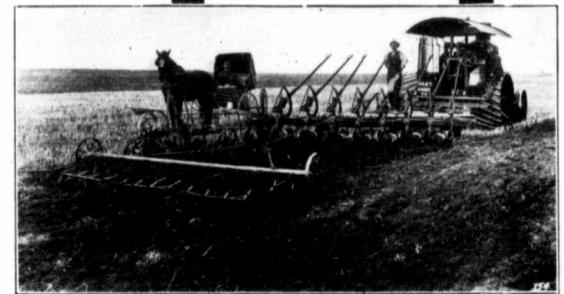
COMPANY  
St, Calgary, Alta.



60 B.H.P. Breaking Outfit used in Canadian Northwest. Horses Can't Equal this Work.



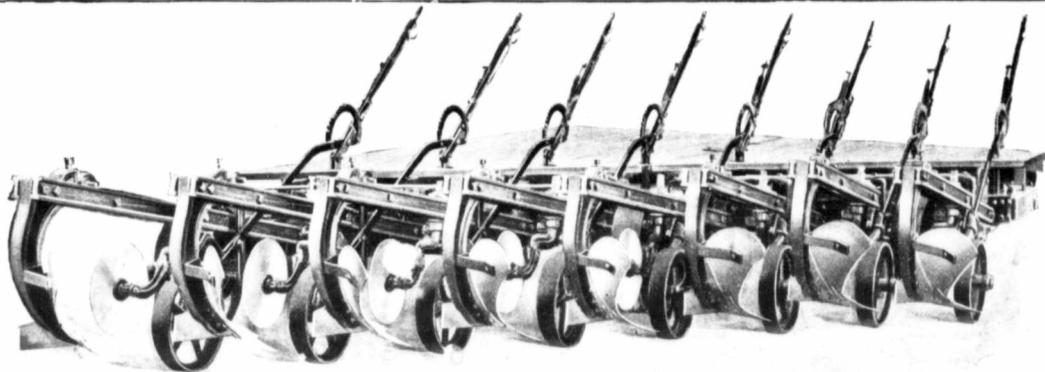
The Farmer in the Auto, in 1909 bought two 60 H.P. Hart-Parrs. Two More Were Added in 1911. Comment Unnecessary.



Light Hart-Parr Oil "Self Lift" Plow

# YOU WANT GOOD CROPS

Then Start With **GOOD PLOWING**



The most important consideration in buying a Power Plowing Outfit is the quality of the Plowing. An outfit that doesn't plow well, turning the soil, breaking up the ground and putting it in the best possible condition for seeding, isn't a good investment at any price no matter what other advantages it may have.

You can always count on good plowing with Case-Sattley Engine Gang Plows. They are so constructed that they always plow deep and with uniformity—completely turning the soil and thoroughly breaking up the ground, making the best possible seed-bed. Heavy work and hard field conditions have no terrors for Case-Sattley Engine Gang Plows. They are strong and heavily constructed to withstand the hard wear, at the same time, they pull wonderfully easy—and are easily controlled. An automatic arrangement is provided which operates when the bottoms strike an obstruction, effectually preventing injury to the bottoms and beams in stony ground.

Built in five sizes, 4, 6, 8, 10 and 12 Bottom, Stubble or Breaker. Can be used with Steam or Gasoline Tractor. Write for Catalog which describes them fully.

**J.I.CASE THRESHING MACHINE CO.**

INCORPORATED

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CANADIAN BRANCHES. TORONTO, WINNIPEG, SASKATOON, REGINA & CALGARY