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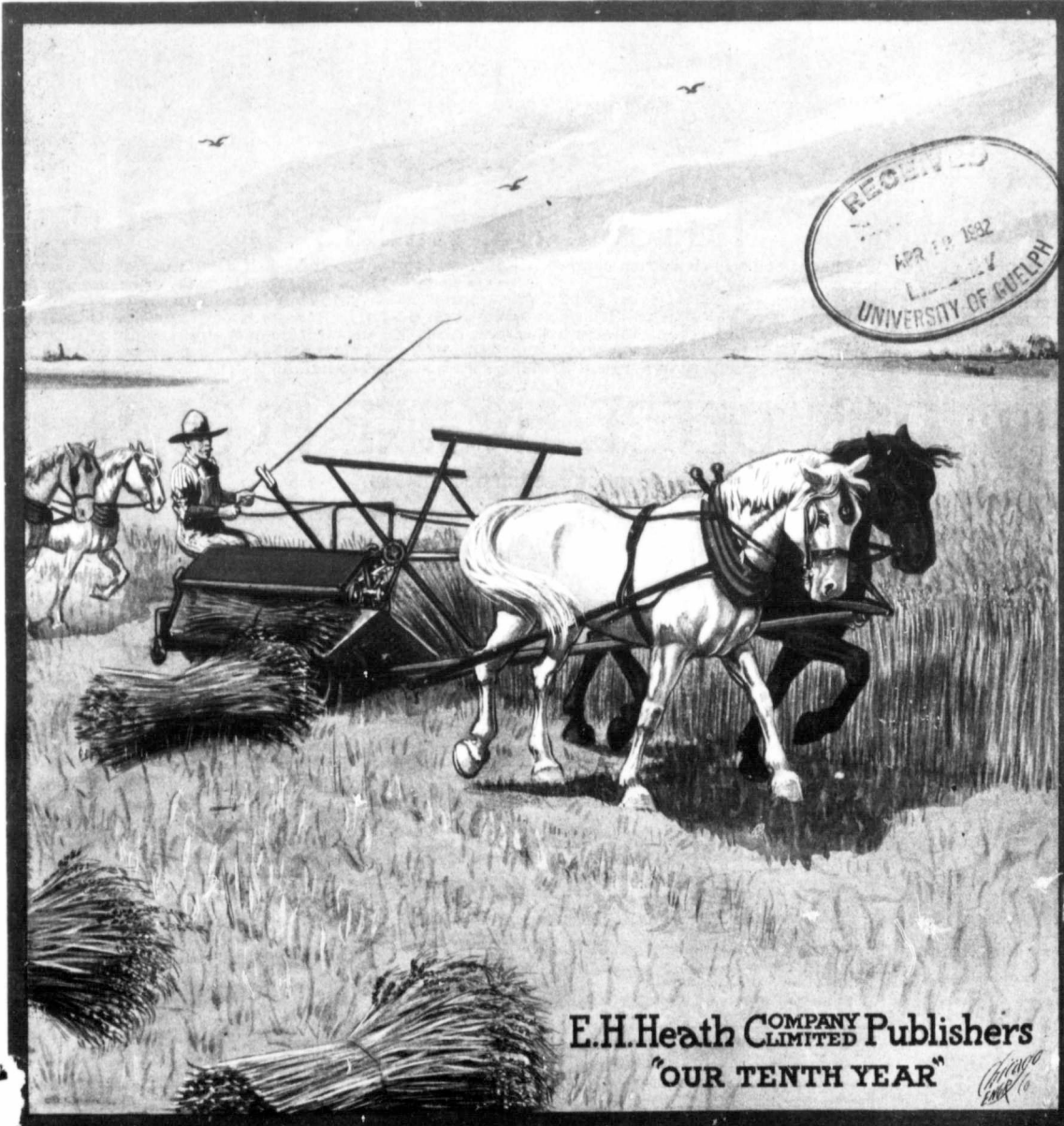
# THE CANADIAN THRESHERMAN & FARMER

CANADA'S FARM MACHINERY MAGAZINE

WINNIPEG

CANADA

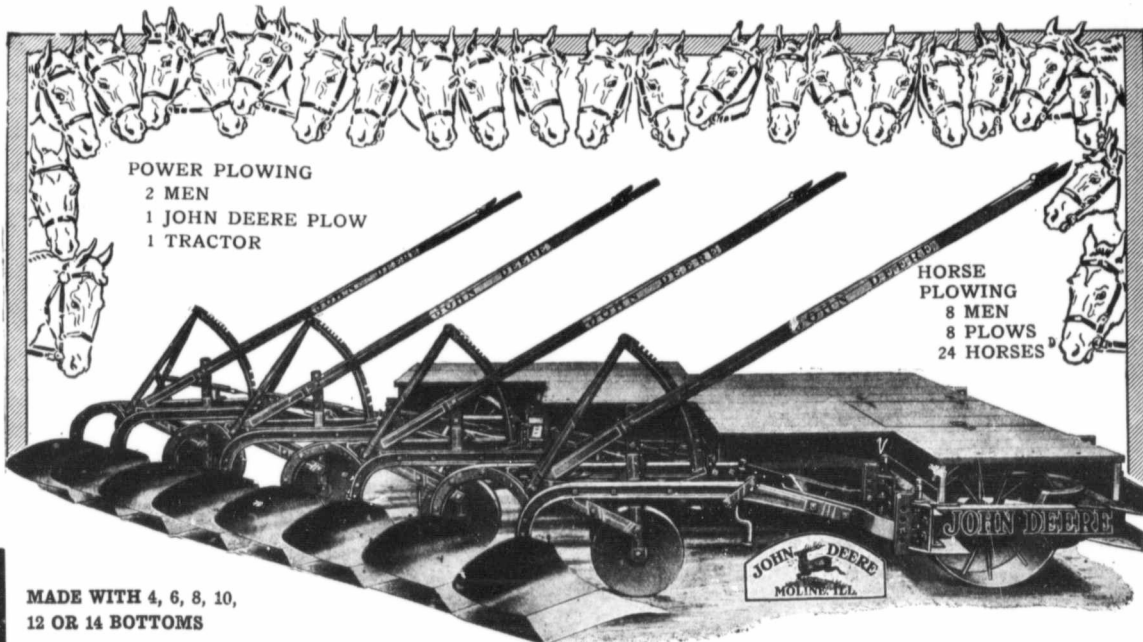
JULY, 1912



RECEIVED  
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E.H. Heath COMPANY LIMITED Publishers  
 "OUR TENTH YEAR"

*Handwritten signature and date*  
 1912



MADE WITH 4, 6, 8, 10,  
12 OR 14 BOTTOMS

## HERE ARE THE FIGURES

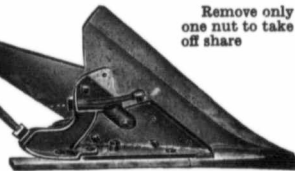
One man, with three horses and a single-bottom plow, will turn from two to two-and-a-half acres a day of ten hours. Figuring the man's time at \$2.00 a day (labor and board), the cost per day will range from \$1.90 to \$2.40—depending chiefly on the soil plowed. Data carefully compiled by the United States Department of Agriculture in regard to the cost of engine plowing shows an average expense of \$1.40 an acre for either steam or oil tractors. (In some extreme cases less than \$1.00 an acre.) This includes depreciation, interest on investments, repairs, labor, fuel and other items of expense ordinarily incurred. Plowing seasons are very often short, and it would take eight men, with eight plows and twenty-four horses, to do what one JOHN DEERE eight-bottom engine plow does. Even then the work would not be uniform.

# JOHN DEERE ENGINE PLOWS

WITH QUICK DETACHABLE SHARES

Think of all it means to have the plowing power of eight men and twenty-four horses in 2 men. Furthermore, your seed-bed will be evenly plowed and ready for planting on time. You know how much that means to you. Put on a "night-shift," and you do practically three times as much plowing as can be done with twenty-four horses. And the quick detachable shares save the last available moment.

John Deere  
Breaker  
Bottom with  
Adjustable Moldboard  
Extension and Quick  
Detachable Share.



Remove only  
one nut to take  
off share

**TWO-LIFT BOTTOM;** One man can readily lift all the bottoms—4 or 14—with the John Deere Two-Bottom Lift Engine Plow. Bottoms are raised without stopping the engine. Beams and bottoms are built in pairs and attached to the frame, so as to allow free up and down movement around the clevis pins as a center. This insures uniform work. Each pair of bottoms will raise over a hummock or go down into a depression without disturbing the others. Each bottom is braced and kept in alignment by its companion bottom. Attaching beams and bottoms in pairs permits plenty of spread between clevises, which prevent winging and passing around obstructions instead of over them. Plows cannot tip.

**ANY STYLE** of Stubble, Turf and Stubble or Breaker Bottom can be used. John Deere Engine Plows are equipped with quick detachable shares, that can be put on or taken off in a small fraction of the time required for ordinary shares. Only one nut to remove. An eyebolt attached to the share passes through a hole in the bracket, and one nut holds the share firmly in place. A lug in the share fits into a slot on the landside of the frog. This holds the share rigid and true. Remove one nut and give the share a kick, that's all that is necessary to take it off.

**SCREW CLEVISES**—There are 5 holes in the clevises for attaching to the plow beams. Each clevis on a John Deere Engine Plow is provided with a screw adjustment which raises or lowers the beam points just the amount needed. This can be easily done while the plow is in operation. Screw Clevises give the plow exactly the right set, are operated by an ordinary wrench, but a handy socket wrench goes with every plow. The plows are kept properly set by this simple screw adjustment at point beams.



### MANY OTHER ADVANTAGES

John Deere plows have many other features of merit, including universal hitch, structural steel frames, perfectly level platform with tool box built in, and two pivoted front wheels, which turn freely from right to left, and will not skid when the plow is being turned. **WRITE NOW** for John Deere Engine Plow Book—free to any address.

# JOHN DEERE PLOW CO. LTD.

Winnipeg

Regina

Calgary

Edmonton

Saskatoon

Lethbridge



## INVITATION TO FARMERS OF WESTERN CANADA

*The John Deere Plow Company, Limited, extend a most cordial invitation to the Farmers of Western Canada to visit them at their Warerooms while at the Winnipeg Industrial Exhibition.*

*We will not have an exhibit at the Fair, but will have a full and complete line of samples at our Warerooms, 110-120 Princess Street. Make this your headquarters, and have your mail addressed in our care.*

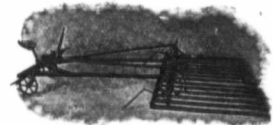
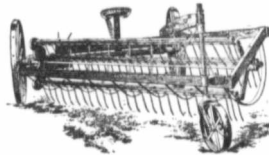
*John Deere Engine Gangs will be used in the Motor Contest, where a most practical demonstration will be given.*

**John Deere Plow Company, Limited.**



## THE GREAT DAIN LINE

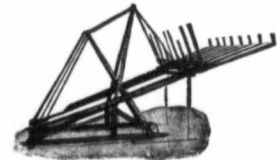
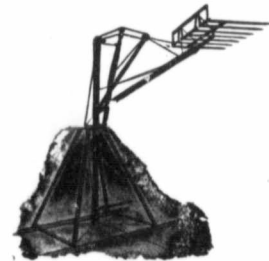
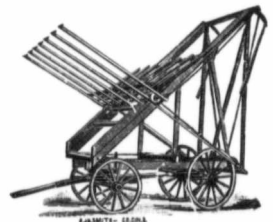
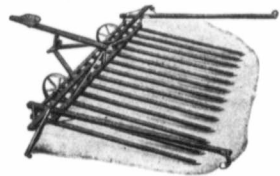
of HAY TOOLS



Hay is one of the most valuable crops raised on the farm, one of the most necessary commodities grown, and is getting to be more valuable each year. To make the most of it, you must have the right kind of tools, and good tools.

In the **GREAT DAIN LINE** we have a tool for every purpose. Each **Dain Tool** has special features that commend it for the use of the **Hay Grower** that wants to do the most and best work with the least labor.

**Dain Tools** are built "a little better than necessary" to stand the strain, that means lasting satisfaction, a pleased purchaser every time; it means tools that do the work without constant tinkering; it means money saved and more work done. Every **Hay Maker** ought to learn the advantages possessed by **Dain Hay Tools**; our descriptive literature is free, and we will gladly send it to you if you will inform us which tools you are interested in. Write to-day.



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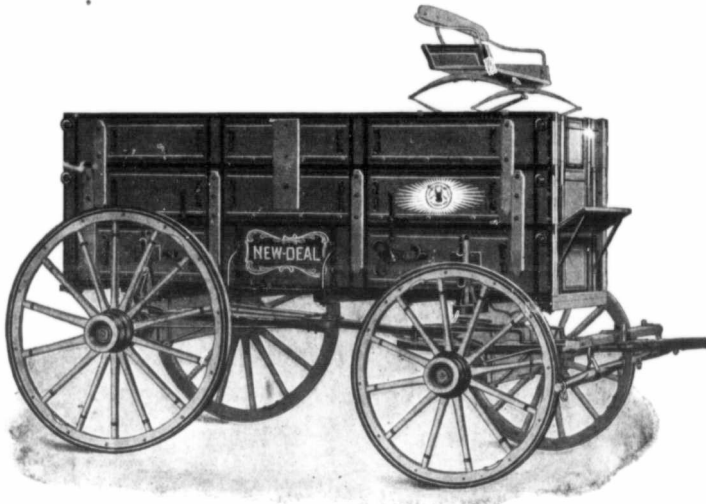
Edmonton

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Lethbridge

We are not exhibiting at the Fair, but will put up the Greatest Implement and Vehicle Display ever shown in Canada at 110-120 Princess Street. Call; you'll be welcome.

# NEW DEAL WAGON



## New-Deal Wagon

Is made of air-seasoned lumber.  
 Is equipped with double collar skein.  
 Skeins are dust-proof, therefore will hold grease longer and run easier than others.  
 Skeins are heavier; bell is longer and larger, taking more axle.  
 Has riveted grain cleats (not nailed or screwed).  
 Bottom of box is reinforced both front and rear.  
 Has clipped gear, both front and rear.  
 Box is made flax tight.  
 Spring seat with 3-leaf springs (not single leaf).  
 Steel bolster stake plates on side of box.  
 Neckyoke 48 in. long (not 42 in).  
 Has trussed tongue, cannot break or warp.  
 Has channel iron reach really indestructible.  
 Is extra well painted, striped and finished.  
 Possesses a great many distinctive features of merit.

# The John Deere Ironclad

## The Wagon

that has never belied its looks. Its face is fair, but its performances—its work—are at least fully equal to all it promises.

Remember that, unlike almost all other farm implements, the farm wagon is not in use only a week or two in the season.

It is on the go all the time doing the lion's share of the drudgery in winter and summer, rain or shine. Therefore, get a wagon with a strong constitution.

The Wagon with a **STRONG CONSTITUTION.**  
 The greatest armour-plated fighter among farm implements.



## The Wagon

that does the biggest job with the least draft on the horses; that stands the worst abuse without a word of complaint, and comes up smiling like a new thing when it has had its evening bath.

The John Deere "Ironclad" is made of selected air-seasoned oak and hickory, gears ironed to strengthen every joint and protect every place where severe strain or wear comes. The greatest armour-plated fighter among farm implements.

Men have told us that our wagon looks good after two or three years' of hard wear—better, in fact, than many cheap wagons after as many months. We **KNOW** this to be true, and that our "IRONCLAD"

## Lasts Longer Than Any Ordinary Wagon

Write for Descriptive Catalogue

# JOHN DEERE PLOW CO. LTD.

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**LUNKENHEIMER "RENEW" 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, keeping them free from scale or dirt and eliminating water-hammer. Made of a high grade bronze composition, with the exception of the seat and disc, which are made of a most durable steel.

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

**THE LUNKENHEIMER COMPANY,**  
Largest Manufacturers of High Grade Engine Valves in the World.  
General Offices and Works: CINCINNATI, OHIO, U. S. A.

# About Ourselves

50,000 IS THE SLOGAN

THIS is nothing new but it is the first time we have put it into type. It means simply this. The Canadian Thresherman and Farmer is going to have 50,000 subscribers among the farmers of Western Canada just as soon as money and energy can get them.

is a legitimate one we wish them God-speed.

Our aim is to furnish our readers each month with a magazine that will be helpful, instructive, unbiased, full of good cheer and worth five dollars for every dollar spent.

Western Canada is growing. It is in fact developing faster than any other section of the world today, which simply means that if any business or proposition is to stay in the game and render a creditable account of itself it must grow likewise.

Now a word about this increase in circulation. If every one of our readers would simply get one neighbor, who does not already take our magazine, to become a subscriber the slogan of 50,000 would be the most simple matter. We could double our circulation in one month and in so doing we could treble the quality of our magazine. Big circulation, if the publisher be fair, must result in better magazines and right here we want to put ourselves on record as guaranteeing to you a much better issue each month just as soon as our circulation warrants it. Today we are giving you more value than any other magazine published. Each copy is costing us simply for printing over 15 cents: In other words you get \$1.80 worth of actual printed matter for \$1.00. Can we do more?

Our progress in the past has been remarkable. Starting ten years ago and weathering the lean years and taking every advantage of the fat ones, we have reached a proportion where we can say that we are today the largest monthly farm publication on the North American continent.

The big fairs will be on by the time this issue reaches you and in this connection we want to say a word. You will undoubtedly visit one or more of these fairs and in all probability will be approached by our subscription solicitors. Give them a word of cheer. Give them your renewal and refer them to one or more of your neighbors. If the magazine has pleased you pass the good word along. You cannot realize how much good it will do us and incidentally you benefit yourself more than you know.

It has taken both money and labor to do all of this and now that we have reached an enviable position in agricultural journalism the fact confronts us that we have only begun and that the work ahead is bigger and harder than ever before.

During the past ten years we have done our best to keep in the van of progress. We have tried to feel the pulse of this leaping country and come forward with a magazine that our readers would read and appreciate. That we have not failed is evidenced by the fact that our readers have rallied round our banner year after year and through their hearty support have enabled us to command an unusual advertising patronage—the financial backbone of any publication.

We are the organ of no clique or organization. Not that we have any quarrel to pick with such bodies. They have their places and their missions to perform and providing their object

You'll find our representatives courteous and above all, gentlemen. They are engaged in a legitimate business and as our representatives, won't you extend them a glad hand?

REMEMBER

50,000 IS THE SLOGAN



## The Finishing Touch

may be beautiful or lasting—or it may be bright today, dull and fading tomorrow. Depends entirely on the quality of the paint used. To be sure the finishing touch on your home is right and lasting use

## Stephens' House Paint

It is tough, yet elastic; impervious to heat, cold, rain or snow—stands the weather better than other paints; lasts longer, looks better. A splendid line of beautiful colors gives you a wide range of choice. Sold by leading dealers. Write today for free book of "Suggestions"—for paint users.



## Salesmen Wanted

to act as our representative in Minnesota, Wisconsin and Iowa, selling our

## Northern Crown NURSERY STOCK

Address at once with reference.

**L. L. May & Company**  
Nurserymen St. Paul, Minn.

## If You Have a Motor Car Jaeger Motor Coats and Ulsters will Interest You

They are Very Comfortable! Very Stylish! Well Made! Durable!

A Jaeger Double Fleece Coat gives greater warmth and does not induce perspiration like a leather or fur coat.

See them at the Jaeger Stores in their attractive variety.

## Dr. JAEGER SANITARY WOOLLEN SYSTEM

364 Portage Avenue, Winnipeg, Man.  
316 St. Catherine St., West, Montreal  
231 Yonge Street, Toronto, Ont.  
And from JAEGER Agents throughout the Dominion

## Scotch Bagpipes

Have you longed for the stirring notes of the "Pipes"? Instead of being amused by others you can delight them in no time if you learn on one of our

Practising Chanters \$2.50  
Plain mounted. \$3.50  
Ivory mounted. \$3.50

Ours is the largest stock of high grade Bagpipes in America. Prices from \$30 to \$85. All Pipes tested by our own EXPERT piper before they leave the factory. We carry all extra parts and accessories. A completely equipped repair department promptly attends to any repairs—the charges are reasonable, too.

Illustrated Bagpipe and Band Catalogs Free on request. Write for them. 11

**C. W. LINDSAY, Ltd.,**  
Ottawa, Ont.

## SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS

Any person who is the sole head of a family or any male over 18 years of age may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Land Agency or Sub-Agency for the district. Entry by proxy may be made in a agency, on certain conditions, by a father, mother, son, daughter, brother or sister of the intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 30 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 \$3.00 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.

## 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

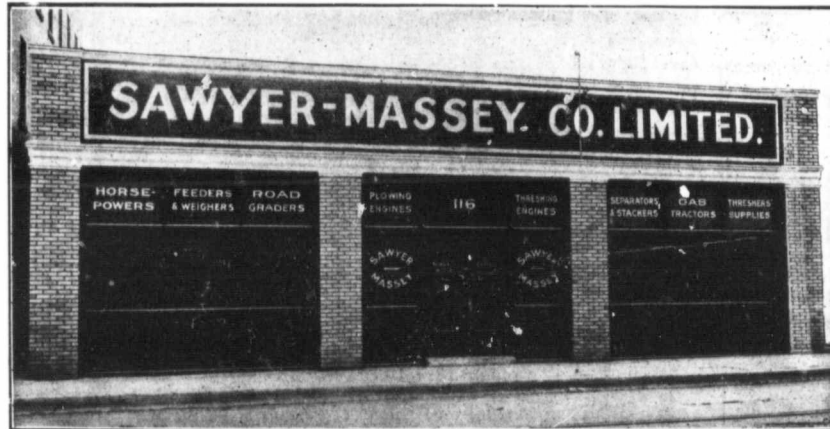
**Dominion Tack and Nail Co.,**

Limited,

GALT, ONTARIO



# A New Home - But the Same Threshing Machinery



Our New Offices in Winnipeg, at 116 Higgins Avenue East

## Competition Confirms and Strengthens Assertion

We have entered both our Steam and Gasoline Tractors for the Agricultural Motor Contest at the Canadian Industrial Exhibition at Winnipeg, July 10-20.

Our tent will be upon the Plowing Field, and to all Farmers and their friends—to all our Customers—we extend a hearty and cordial invitation to visit us and see our exhibits. Come and see us at our new offices on Higgins Avenue East, while you are in town.

**S. and M.**  
*Stands for*  
**Strength,**  
*Simplicity,*  
**Economy**

We Will Make Exhibits of Our Full Line at the Following Fairs		
CALGARY	- - -	June 28 to July 5
WINNIPEG	- - -	July 10 to 20
BRANDON	- - -	July 20 to 26
REGINA	- - -	July 29 to Aug. 3
SASKATOON	- - -	August 6 to 9

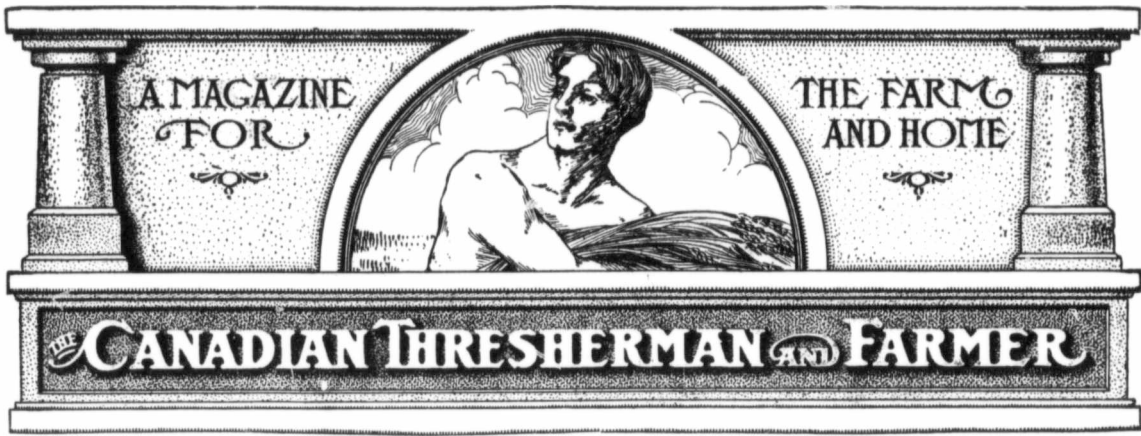
**Gas Tractors**  
**Plowing Engines**  
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**Separators**  
**Road Machinery**

For further information and Catalog write  
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BRANCHES - WINNIPEG MAN. AND REGINA SASK.





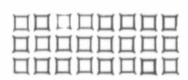
Vol. XVII.

WINNIPEG, CANADA, JULY, 1912.

No. 7.



# THE HARVESTERS. IN HISTORY



**E**VER since Ruth went gleaning in Boaz's field, the gathering of grain has occupied a very important position in the history of mankind, and even before this time, long centuries ago, perhaps ten thousand years before history began; the men gathered the seed of wild grass, the women rubbed it out between their hands, and crushed it between rude stones, making it into an edible product. They ate and were satisfied, and little did they care for the future, but as the population of the earth increased, and the leisured class sprang up to feed and feast upon the many, there arose a demand for the edible grain that could not be supplied with the means then at hand. Man further found that he did not have to depend upon nature to plant the seed, but that he could sow it himself, and thereby increase in yield in an artificial way. It is easy to sow but it was not so easy to reap. The season for planting consisted of many days, but the harvesting season was short, and they that would gather any considerable quantity of grain must do it quickly or lose the greater part of it. Accordingly the more

business like of the grain growers, even in the ancient times saw that for the ever-growing wheat crops they must have something better than the slow, inefficient method of hand labor whereby the stocks were pulled from the ground, and the wheat rubbed out by the hand. Just what this would be they had absolutely no idea, in fact the man with an inventive craze had not

The first step towards a harvesting implement is found in the invention of the sickle itself. One must not for a moment compare the sickle of today with the old crude tool of the ancients, far from it, for we had no steel mills in those days to turn out a razor-like product, but on the other hand every piece of iron must be shaped in the rudest way, and it was impossible to get

a crude contrivance that could be made to gather the yield of wheat. The reports of Roman writers then living show that the machine consisted of a broad and shallow two-wheeled cart having a series of two-edged pointed knives fastened side by side on the front edge of a cart. The cart had two shafts placed behind, and with an ox hitched to the cart, could be pushed through a field of standing wheat as the car was pushed forward, the ears of wheat caught between the knives, torn off and swept into the cart. The machine could not have been a success. It was too roughly made to be of real service and it was soon abandoned and would have been forgotten were it not for the reports of the Roman travellers in Gaul who saw it and thought it worth describing as a curiosity seen on their travels. That it was a failure is amply demonstrated by the fact that it was scarce-



Dinner Time in Old Devon.

yet appeared upon the scene, and even if he had it would have been utterly impossible for him to have shaped even the rudest tool with the means then at hand. Those were times when men ate to live and not to satisfy a gluttonous appetite.

a temper that would permit of its being drawn out to anything like a sharp edge. The sickle however, did its work, and did it well, but a desire for something better grew apace, and in the year 70 A. D. we find the wheat growers in ancient Gaul using

ly ever used and for 1600 years after this, for man must have bread, we find the harvester cutting his grain with a sickle in the usual hand way.

We seldom at the present time, in fact never on the American continent, see the hand sickle be-

ing used for the gathering of grain, and as we gaze upon our modern harvester cutting its wide swath through the field of waving grain, little do we realize the importance of such a machine, and the great part it is playing in the world's industry and trade. If every machine in existence today were to be wiped off from the face of the earth, and the patents themselves were to be destroyed, one statistician has calculated that it would result in the death of one-third of the world's population and the rest would be barely able to eke out an existence.

The old sickle was a peculiar tool, and it required no considerable amount of skill to use it to advantage, in fact if one of our modern farm hands were to attempt to use it he would find himself seriously handicapped. The man held the sickle in his right hand and gathered a bunch of stalks in his left, then with a sweeping semi-circular stroke he cut the stalks, then laid the bunch of stalks together with the ears on the ground, and then prepared for the next stroke. As the stalks were comparatively low, the man had to stoop to work, even if he left considerable of the stalk on the ground. The work required hands and between every stalk or two the reaper must stoop nearer to the wheat. At its best it was hard, wearisome labor, wasteful of time, strength and wheat, for much of it was lost, trampled upon, and destroyed. To prevent the loss and to make it easy to bind the wheat into sheaves the stalks were gathered together into little heaps, these heaps were then bound together and made the sheaves.

When we take into consideration the complexity of the operations themselves from the time the man took the sickle in his hand until the grain was finally bound into the sheaf, it is not to be wondered at that for nearly two thousand years little or no advance was made in harvesting machinery.

The first people to try to invent a real harvesting machine were the English. England was a great colonizer and demands were constantly made upon her for food stuffs, which she was not able to supply owing to the fact that there were no harvesting tools on hand to harvest any considerable crop. The English inventor had little or nothing to guide him, and so he naturally copied the old machine used in Gaul sixteen hundred years ago before, and then endeavored to improve it. About the only difference between the old Roman machine and the first English machine was the fact that the motive power consisted of a

horse instead of an ox, and that there was a reel in front of the machine to bring the grain into the cutting apparatus. The horse walked behind and pushed the wagon into the standing wheat. The forward motion of the wagon also turned into the revolving motion of its wheels and by means of a simple mechanism this rotary motion was transferred to the motion of the reel and this revolved just as long and as fast as the cart was pushed forward by the horse. At



A Team of Oxen in Sussex.

last the inventor had gotten something that contained the real basic principles of a harvester, in fact if we leave off the binder attachment of a self-binder of today we find we have the same principles employed. The very fact that the wheels could be made to drive the reel was conclusive evidence that they could be made to drive other mechanism, and thus perform the several operations which were gone through by the man with the sickle. For a long time the great



As They Still do it in Brittany.

difficulty was in getting something that would cut the grain, and the inventor spent many wearisome hours in trying to solve the problem by the use of a rotary knife that would cut the grain the same as the sickle in the hands of the harvester. The problem was finally solved about 1786, when a machine was invented in England which would cut off the heads of the wheat. The first of the machines that were made seemed to be of this header type. All were experi-

ments in character, however, and many years of testing and thought, of trial and experiment were put in before anything like a real practical machine was produced. It was finally seen that a mistake was being made by having the machine pushed through the grain and that it must be pulled, but up to 1826 we find harvesting machines that were propelled in this manner.

We may divide the history of the harvesting machine into three epochs. The first from the

eration after generation passed through the same stage of mechanical development in harvesting machinery. The second was a stage of hardship, an epoch when men realized intuitively that of necessity something must be invented to handle the grain crop, and every cog, bolt, bar and beam represented a certain portion of some human life. Like the potter of Versailles they threw their furniture into the fire and robbed themselves, their homes, and families of the necessities of life in order that they might give to mankind a machine that would supply the world with bread. Trial, failure, and loss seemed to be the only road to success, and on the American continent alone over 3500 patents were taken out on improvements of machinery. The harvesting machine is not the result of a Marconi, an Edison, or a Bell. It is not the work of any one individual, but it is a combination of the lives and the souls of these individuals who have contributed a share towards the completion of the grand whole. During this experimental stage there was a weeding out, a survival of the fittest, a period when the stable and the perfect were evolved from the unstable and incomplete. We might in detail go into the different steps in this great evolution. We might describe the invention of such parts as the elevator, the endless apron, the knoter, the butter, the chain drive, etc., but as these are all merely points in mechanical detail, they do not concern the proposition in hand, and even today the self-binder is undergoing a transformation.

From 1850 to 1912 is the period of refinement, and the perfection of details. The period when the world adopted the harvesting machine into its list of mechanical appliances. This is the shortest period of them all, but from the standpoint of development, the results are out of all proportion to the length of time that has elapsed. The tools of man's handiwork are complete in their every detail, and all that is needed is that the mind of the inventor shall plan out a certain piece of work and the mechanical part of it will shape itself into position. How different in the early days of harvesting machines, when the idea itself was merely the smallest part of the work. There were no large shops or factories nor fine machines nor tools to shape the iron and wood, and it is safe to say that had anyone in 1756 conceived of the idea of our modern self-binder it would have been impossible to construct it owing to the lack of mechanical skill and mechanical tools.

a certain amount of grain, for his own use, and as there was no market for surplus, his own hands were sufficient unto the gathering of a quantity that would sustain life. In these early days there was little or no individuality. The world itself was known by nations and tribes. Might made right and the laws of modern peace were then unknown. God-given as the land was, man deemed it sufficient unto his needs, with the result that for hundreds of years, gen-



The steps of invention in the development of the modern harvesting machine are really seven, viz., the sickle, the ox-cart reaper, the cradle, the mower made into a reaper, the reaper itself, the Marsh harvester and the self-binder.

The sickle which we have already discussed is the father of them all. Crude and in itself the very personification of simplicity, it is nevertheless a thing to be respected and revered. In combination with the hand of man it taught him the necessary movements that were required to harvest the grain and paved the way for a broader, later development. The ox-cart reaper represents another important stage in the development of the harvesting machine. It demonstrated conclusively that animal as well as human power could be brought into play, and while it amounted to very little at the time, who can say but that the principle involved did not ripen into our most modern harvesting tools.

The cradle, like the sickle, is an old invention yet its utility was so great that it has come down through the pages of implement history almost as a fixture. Its long wooden fingers gathered in the grain which the sickle so deftly cut and the experienced cradler could lay a swath even almost to a hair's breadth. What a load of back-ache it saved in comparison with the sickle. It is still used in a great many sections where the land is full of stumps, and for the purpose of cutting around them, thereby saving a great deal of grain that would otherwise be wasted. Cradling in itself was an art, and the old cradler was a man with the arm and back of a Hercules, and the swish, swish of the sharp blade as it cut its way into the golden forest of wheat, was music in his ears.

The next step in the development of the harvesting machine was in using the mower for a reaper. The mower itself followed out the old principle of the ox-cart in some respects, in that the bar was pushed ahead of the machine, the horses being, however, to one side of the grass. Using this as a basis we found the farmer utilizing his mower as a temporary reaper. He put on an extra seat, added a small platform of wooden slats to the back of the bar carrying the knives, and with these attachments he proceeded to cut his grain. On the extra seat was to be found a boy with a large wooden rake. The machine entered the wheat and cut it just as if it were grass, the boy using the rake to draw the wheat towards the fingers and

knives after being cut, and were collected on it as the machine moved along. As soon as the platform became loaded with wheat, a lever was moved which upset the platform, and the wheat slid off in a heap, the platform was then restored to its former position and the work proceeded as before. There is a connection between this and the old harvester, the boy with the rake doing the work as the man did when he caught hold of a bunch of wheat in order to

begin to think of a machine that would tie the sheaves in order to do away with the drudgery of binding them up by hand. It was a long step in advance, and entirely without precedence, but there were people that believed that the solution of this great problem was possible. It was known conclusively that ample power could be developed for the operation of any mechanical contrivance and furthermore the shops and factories had grown to such size and completeness that

made known that a machine had actually been invented that would cut and tie the grain into sheaves all ready to be stooked. It was indeed a momentous invention, it meant a complete transformation of the farmer himself, and made him a man of science who uses a wonderful invention for his great business of harvesting wheat, that the people may have a larger and a cheaper loaf of bread.

Going into the country during harvest on a summer day we stop in wonder at the transformation that is going on continuously in our wheat fields. Where morning found the golden grain waving in all its splendor, the shades of night close in upon a stooked field. Indeed the modern grain binder represents the highest attainment in the history of the harvesting machine. The man with the sickle could not cut an acre of wheat in a day. The man with the modern harvesting machine cuts fifteen acres and over in the same time. One man with a binder now is as good as where a whole army of men slowly moved across the fields a half century ago. The great strides that have been made in our industrial progress in the past ten years is due very largely to the harvesting machine, and this colossal achievement has not been equalled in any other department of human activity. The harvesting machine has emancipated the farmer and raised farming to the high plain of a scientific business. Every machine is perfected for the purpose of assigning man to a vocation more worthy of his mission in life, and in this respect the modern self-binder fulfills its purpose perfectly.

One of the economies resulting from the use of the harvesting machine is set forth in a recent report of the Department of Agriculture of the United States. In 1830 it took over three hours' labor to raise a bushel of wheat, today it takes less than ten minutes. In 1830 the labor in producing one bushel of wheat cost 17½ cents, today the cost is 3½ cents per bushel. It is thus easy to see what the harvesting machine really means to the world. The farmer has a long time to plow and sow his fields, but with the exception of a few localities they must be harvested in a few days, otherwise the grain would go to loss. Were we to go back even to the period of 1830 the fact is plain that nearly our entire population would be engaged in planting the seed and gathering the harvest, and that they would have little or no time for business of any other sort. But the end is not yet, the inventor is still living, and is doing his work daily.



All Done by Hand.

force the sickle through it. The difference lay in the fact that the boy could do at one stroke of his rake ten times as much as the reaper could do with both hands, and do it much better and a hundred times as fast.

From this machine it was but a short step to the self-rake reaper. This was an implement drawn upon two wheels with a

any idea of the inventor could be carried out in detail.

The Marsh harvester was the next machine to make its appearance, and while it occupies no very great place in the history of harvesting machines, yet it served as a breathing spell between the long years of toil and struggle that marked the development of harvesting machinery



Harvesting the "Spuds."

platform between them, and a series of swinging rakes that worked round in a circle and automatically, or at the will of the operator brushed the wheat off into sheaves. This was indeed considered a remarkable contrivance as it solved the cutting problem completely, but as time went on, and the world's battle for bread became more fierce, there arose a demand for something that would do the work much more quickly than the reaper. Accordingly man

and the complete and perfect self-binder. The invention of the Marsh harvester saw everything in readiness; the grain was carried by means of an endless apron up and beyond the wheels and out of the reach of the machine on its next round, but there was nothing that could tie a knot when the string was pressed around the sheaf. It remained for one, John Appelly to solve this problem, and the agricultural world fairly trembled with excitement when it was



"Everything Begins and Ends with the Soil"

JULY, 1912

## THE CANADIAN THRESHERMAN AND FARMER

CANADA'S LEADING AGRICULTURAL MAGAZINE

PUBLISHED MONTHLY BY

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## A WORD FOR THE FAIR

### SUBSCRIPTION RATES

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**W**ESTERN CANADA bereft of her annual fairs would be like the bride without her orange blossoms or a wedding without the music. We could well afford to drop out one or more of the red letter days in our calendar when men meet to celebrate, but what like would life now be if the mandate went forth "There shall be no Fair this year?" To the young blood (which is the only blood that does not stagnate in Canada) it would sound the death knell to the best and brightest in its outlook.

**AND YET SOME FOLKS** will take their pleasures seriously. The funereal gloom that was imported in 1812 when those stern sons of northern Albion raised their Ebenezer at Fort Garry has not yet altogether been removed. We still find a broad patch here and there of the old world Scottish dourness upon the sun-lit prairie that sees more real "enjoyment" in a fast-day than in the festivities of a twentieth century merry-making.

**AT ONE TIME** (and that not so long ago) a funeral was as great an occasion for convivial outburst as a wedding—in Scotland.

"Punch," quite recently, revived the prehistoric joke of the old village grave-digger who was interrupted in his digging by the query of the young man: "Why weren't you at Mac-Spleuchin's wedding last night, Sandy?" "O weel, ye see, weddins are a' verra weel for young chaps like you, but for a man at my time o' life, noo, gie me a guid solid funeral!"

**WHAT A FUNERAL MEANT** to him will be thoroughly appreciated by many still living; to those of a more recent generation who have been reared under the association of sober joys, the orgies of an old time country burial had better remain a dead letter in the history of the race, a phase of friendly interchange that had better be allowed to lie as dead to the world of our day as the genius and spirit of the Spanish Inquisition now is to the comprehension of any man living.

**"THE PITH O' SENSE, THE PRIDE O' WORTH"** is never found in drunken orgies or in any form of festivity in which the animal instinct takes the bit in its mouth. There is no point in legitimate frolic at which we would call a halt when we are out to "let things go" and really enjoy ourselves, but with the man under the influence of liquor and the exhibition that depends for its existence on an appeal to the sordid element in human nature we have not one scrap of toleration or excuse.

**THERE HAS BEEN MUCH TO COMPLAIN ABOUT** in years gone by, but the tendency is to do the clean thing. Certainly no Fair board we know of has ever intentionally permitted anything to come within its jurisdiction that would violate the accepted principles of good taste, far less that might lay

itself open to the application of the criminal code. Still many things of the kind have crept in, and once in, the very circumstance of their brazen effrontery within the Fair grounds saved their hides when nothing else outside of them would have delivered them from the arm of the law.

**YOUR FAIR WILL BE WHAT YOU MAKE IT.** The backbone of western Fairs, of course, is the idea of a competitive exhibit of Industrial progress—particularly in the department of Agriculture, and in this respect at least our experience of executives is that they have done much to earn the highest praise. They are often to be pitied but have rarely left themselves open to censure. Their zeal has been beyond criticism, their judgment invariably good, and their works might have been without blemish had they always received that loyal support of the crowd they had reasonably counted on.

**YOU OWE IT TO YOURSELF** if you have anything worth showing—to trot it out. It is a duty you owe to your district, and for that matter to the Dominion in this era of startling progress. You owe it no less to the young folks to move heaven and earth to let them have one day at least in the whole year in which they may drink in the strong tonic of inspiration a good stock and machinery exhibit does mean, and to have a "whale of a time" in all the fun you can provide "that harms not distinctive manhood and womanhood."

**"WE WILL BEAT ALL RECORDS IN 1912"** is the key-note of all the western Fair announcements, and it seems in the air that, with ordinary luck in weather conditions, this bold determination will become a reality all along the line. The spirit is willing in every city and municipality, and there's the making of a world's record in Western Canada this year. Let's all get out not merely to celebrate but to emulate. If anything is worth touching at all, it is worth doing well and if we have not the purpose to make the Fair **THE BEST YET**, we have no right to hold it.

**WINNIPEG WILL NATURALLY HEAD OFF** with something altogether superb in the way of attractions. We say this with the most enthusiastic hope that every other function to the west will be no less of a triumph. Winnipeg is using the occasion to celebrate its century. There are a number of reasons why every patriotic Canadian should be there who can by any means get there. Not the least of these is the incident of the visit of the Governor General of Canada in the person of one who, not only by the fortuitous circumstance of birth, is a prince of Royal blood, but whose inherent character and genius does honor to the motherhood of the noblest and the greatest woman the British Empire has ever known.

### OUR GUARANTEE

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

# Visitors of the Winnipeg Exhibition

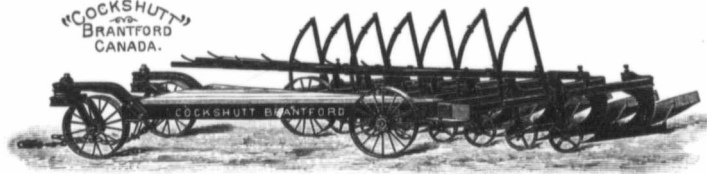
ARE CORDIALLY INVITED TO MAKE THEIR HEADQUARTERS DURING THE EXHIBITION AT THE COMPANY'S OFFICES AND SHOW ROOMS, CORNER OF PRINCESS STREET AND ALEXANDER AVENUE. BRING YOUR FRIENDS WITH YOU. THEY WILL BE WELCOME. WE SHALL BE PLEASED TO RECEIVE YOUR MAIL ADDRESSED IN OUR CARE. YOUR VISIT WILL INTEREST YOU.

## The Cockshutt Engine Gang

In a Book we have prepared on our Engine Gang, you can see some very fine Plowing scenes taken from farms all over the West and testimonials that should convince any impartial man that the Cockshutt Engine Gang is

## The Best Plow in the World

Write for the book today. We will be glad to send it.



SIDE VIEW OF COCKSHUTT ENGINE GANG. 7-FURROW SIZE.

The frame of the Cockshutt Engine Gang is built of very heavy angle steel, making it extra strong and rigid, and well able to stand the strain of any engine.

It is made on the right principle—**independent plows**, each with its own beam. This beam can be made very strong. It has only the drag of a single plow to resist. On the Cockshutt Engine Gang this beam is **STRAIGHT**—the least length of metal results in the least amount of possible bending from strain. Not only that, but this strong Cockshutt beam has a second beam beside it to each plow. These beams separate to make a wide-bearing hinge,—impossible to slew the plow sideways out of line so it will wing.

Has a strong channel-beam triangular platform frame, with large, roomy platform. Wide-tired wheels close to the slanting beam which carries the hinges keep all plow beams at the set height above sod or stubble. This means that the last plow always plows at set depth, makes an equally perfect furrow with the leading plow. No matter whether ground is over-soft or hard-baked, all plows turn furrows at the set depth and in the same way.

The Cockshutt Engine Gang plows fit your ground automatically. If there is a rock, the plow mounts it and resets itself. The other plows are not affected. The plows sink and rise automatically as the land sinks and rises, plowing a uniform depth. The outer plows, on a crown or ridge, plow full depth instead of scraping the surface. The plows sink to proper depth if in the rut of the tractor wheel.

This flexibility between all the plows, and the low line of draft from tractor, mean **SPEED**. The long levers mean an **EASY** and **QUICK LIFT** of all plows at furrow ends. The swivelled platform wheels mean a **QUICK TURN** at furrow ends. There are **NO STOPS** of tractor needed during work. This means **ECONOMY**. It means **QUICKER PLOWING** by covering **MORE GROUND** each working day.

The Cockshutt Engine Gang stands up to **ALL KINDS** of work. It does sod breaking and stubble plowing, swiftly and cleanly, turning even furrows **STEADILY** and **PERFECTLY**.

## Cockshutt Plow Company, Limited

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BEG to submit to the Canadian Thresherman the statement that members of the first year class in college who form by far the largest proportion of students cannot hope to have their views colored, or their width of outlook broadened to any appreciable extent by the few weeks' tuition already received at this institution.

Therefore, when they write on this subject their views are likely to be crude in structure, merely local in application and lacking in breadth of view. True, we are asked to write from our own standpoint, but the article should also be capable of wide application to be of any interest to the general public. We commend this view of the case to the charity of the Canadian Thresherman, and at the same time beg to take this opportunity of thanking the officials of that important paper for their disinterested and gratuitous thoughtfulness in providing such subjects to write upon, and in providing valuable prizes as an incentive to effort on the part of the student.

Farming is a huge proposition for any man to tackle, even though he be possessed with brains, brawn and experience. And we must not overlook capital, even though that is the least important consideration. However, I do not intend to handicap myself in that respect, as nature has been niggardly in the bestowal of the first two requisites. Therefore, I refuse to enter this contest against primeval earth single handed, and beg leave to say that for the subdividing of this half section of land I have called into partnership my brother and sister. That there be no disruption of the home during this period, we have agreed not to merge our identity and fortunes with another. Of course, that leaves Providence with unlimited space to knock our venture in futures to smithereens if He so will.

In the next paragraph I propose to go into detail more as to the course we mean to pursue, where the land is situated, approximate capital, and so on.

As to the course we mean to pursue, I may say that it will be in the broadest sense of the term "mixed farming." "Mixed farming" offers a wider field for the application of a man's native ability, it offers a surer income, it secures a more permanent industry, and on these three counts forms the basis of a healthy, vigorous, national life. The land is situated north of the main line of the C.P.R., 100 miles west of Winnipeg. Anyone who takes the trouble of looking up the map will find this address near enough for all practical purposes. This particular half section is good black, loamy soil with a clay subsoil, and mainly open prairie. A creek cuts off about 20 acres at one corner, and a portion of the land is bluffy, chiefly wil-

## Farming in Futures—In Conformity with Common Sense.

T. H. Coltart, First Year, Class "B." M.A.C.

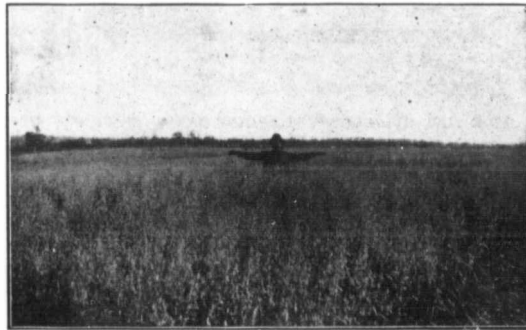
low and small poplar. The land has a western exposure, if anything.

Now for the amount of capital which is brought to bear on the buying of this farm, the purchase of stock and implements, and the erection of suitable buildings. Combined we bring into the business \$3,000 in cash, 4 horses, and 15 head of cattle, including 6 cows. The land we buy at \$18 per acre, paying down \$2,000, leaving a balance of \$3,760 to be paid off in ten years in ten equal payments of \$376 on the first day of November of each year with interest at 6 per cent. per annum.

The erection of a house is the first item. When the frost gets out of the air, we proceed with the erection of a frame building, 24 feet by 26 feet, with a big cellar underneath, which we de-

cows are doing well. The cream is shipped to Brandon, sweet, and worth 30 cents per lb., butterfat. With a weekly output of 12 gallons testing 30 per cent. butterfat, this brings in around \$11 weekly, which, along with the poultry, keeps the house going. Towards the end of May we sowed 40 acres to flax, and planted a few potatoes. From that time on we turned up the prairie for all we were worth. At the end of June we had 3 days plowing with a steam outfit, which turned over 75 acres. This cost us \$45 cash outside of the fuel, which we provided, and we also drew the water. Towards the middle of July, we had our 150 acres broken and we then proceeded to disk and pack to assist in the conservation of moisture.

Beginning on August 1st, we



Waist High in July Makes a Bumper Crop in August.

side to build around with concrete. This costs \$55, the balance of the house costs \$500, thus making a total cost of \$555, which made a very comfortable home. The next in order is a horse stable, 30 feet by 16 feet, erected at a cost of \$120. These are all the buildings required for the present.

The time occupied raising these buildings is 10 days, some help being received from the neighbors. Safely settled down, we commence to disk the 20 acres that had been broken the previous season. This we sow on the 24th of April to wheat, using 25 bushels for seed. Then the process of breaking is engaged in with vigor. It is our intention to break 150 acres the first season with the aid of a steam outfit for 3 days, the balance to be done with our own outfit of horses. This work proceeds smoothly, and there is seldom any variation in the usual routine. Some time is spent in fencing the 20 acres of wheat, and also in fixing up a place for keeping hogs, which we have added to our farm stock. The

hired out to help a neighbor with the plowing of his timothy sod, plowing with two single plows at \$3 each per day. This lasted for a week, as the wheat was nearly ripe. We decided to buy a new 8-foot binder instead of borrowing from a neighbor. In this way we would be able to hire out, and make some money during harvest and threshing.

It did not take long to cut down the wheat, and as the flax was not ripe, we assisted all around for a week, charging \$5 per day for the binder and horses, and \$2 for the odd man. By that time our wheat was ready to stack, which we did, and then went stook threshing with our two teams, cleaning up some money incidentally. In this way we saved a lot of feed. The flax ripened finely towards the middle of September, and we decided to tie it up in sheaves and not follow the practice of gathering it in rows loose, and leaving it lying there at the mercy of the rain, or anything else that might come along. We had our threshing at the end of

September, and results were satisfactory.

Wheat yielded to the acre 25 bushels, and flax 15 bushels. This made a total of 500 bushels of wheat, and 600 bushels of flax.

Now, my brother, having evinced a desire to take a course at the Manitoba Agricultural College for the winter, left on the first of November for that institution, thus causing a rupture in our home. However, the work was all done, and there was not a great deal to do during the winter. We had sold off 6 steers, and the hogs, owing to lack of feed to keep them in good shape during the winter.

There is not much to chronicle during the winter time. We were laying up a store of vigor for the next season's work. To proceed rapidly, by April 12th, we were ready to go on the land to sow. This year we had 150 acres of wheat and 20 acres of oats, a pretty good acreage. Breaking was renewed by the second week in May. We left out a couple of bluffs on the farm which we thought would enhance the value of the farm in the years to come—rendering it more home-like, and providing a wind-break. The previous year we had made application to the Government at Indian Head for a quantity of maple, ash and cottonwood seedlings, which we planted on the north of the farmhouse, and buildings. My sister also took a great interest in gardening, and things took on a home-like appearance.

Meanwhile, breaking was progressing, the prairie was receding before the relentless and irresistible plow, and the stipulated quantity of land was broken in good time, leaving of the half section about 25 acres, including bluffs and meadow land through which the creek ran. This meadow land offered excellent pasture for our cows, and sometimes the horses were turned in for a short spell of rest.

Now, it must not be thought that we worked like black men all the time. We had our periods of relaxation, and then the Sabbaths were blessed days of rest, when both soul and body were refreshed, and we realized that the things sordid and seen were not the real by any manner of means. These days spent in harmony with the Infinite are precious, and of inestimable value in the scramble for place and power. On such days as these we were somewhat able to approximate nearer to the realization of the true value of things. A difficult philosophy it is that insists on doing with all our might the duties of this life and yet setting our affections on things eternal and unseen. A practical mysticism, as Lord Roseberry has reminded us, is the most terrible thing in the world, and he cites the case of Cromwell, that gigantic figure which we see tramping through Great Britain with his great top

# Hear Ye! Hear Ye!

Ye olde and world-wide knowne firme of Massey-Harris Company, Limited, ye makers of ye best Binder in all creation, have a message for ye Progressive Western Farmer.

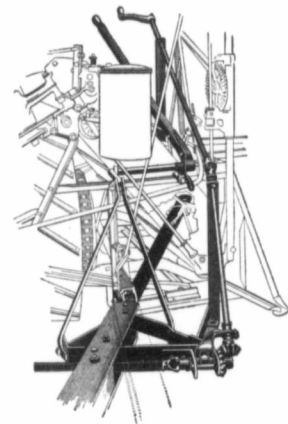
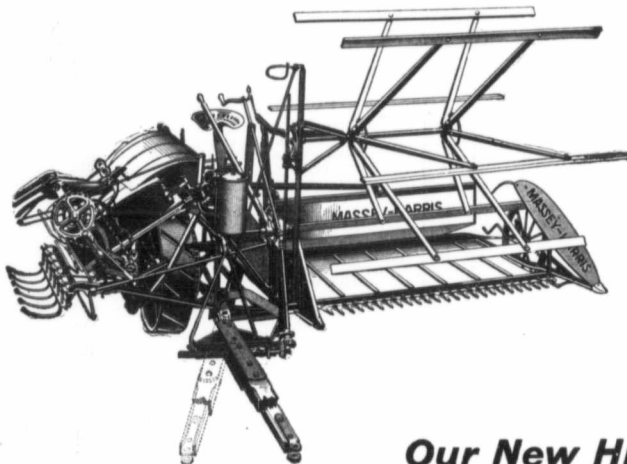
## A Binder Engine Hitch

Absolutely the most up-to-date in the West, constructed on Principles which are Right in Every Detail, and made of the Best Material

is now offered to the demand of the Western Market. By most extended experiments under any and all conditions which will be met in Canada, we now offer this NEW BINDER ENGINE HITCH to the trade, fully assured that it is most surely worthy, as an attachment of our Binder, to the unqualified praise which is extended the MASSEY-HARRIS BINDER all over the world.

### Massey-Harris New No. 5 Binder

the Binder which has set the standard of highest quality for more than half a century, is again offered to the Western Farmer, with the same assurance that perfect service will be given. There is no crop grown that cannot be cut satisfactorily with a Massey-Harris Binder, and there's no skeptic living who will not admit that the machine he buys should have our well known trade mark upon it.



### Our New Hitch

Is practically All Steel, Greatest Strength with Least Weight. Adjusting Screw is High Grade Steel. Square Thread and Steel Nut--giving Long Service.

Attach your Tractor to a Massey-Harris Binder equipped with our New Hitch, and everything will be done in excellent shape.

Adjustable Steering Crank brings Steering Device always within easy reach of the operator.

Adjustable to any width of Binder.

### A Very Cordial Invitation

is extended to all visitors to the Winnipeg Exhibition, July 10th to 20th, to call at our Show Rooms on the Market Square, and inspect our most up-to-date line of Farm Machinery, which embraces: Grain and Corn Binders, Reapers, Mowers, Rakes, Tedders, Hay Loaders, Drills, Disc Harrows, Drag Harrows, Harrow Carts, Manure Spreaders, Feed Cutters, Field Cultivators, Corn Cultivators, Cream Separators, Wagons, Metal Wheel Trucks, Sleighs, Gang Plows, Sulky Plows, Breaking Plows, Engine Gang Plows, Scufflers, Packers, Gasoline Engines, etc.

Write the Branch Office or call upon our Local Agent for copy of "Engine Hitch Circular"

# Massey-Harris Company, Limited

Branches at Winnipeg, Regina, Saskatoon, Calgary, Edmonton

boots bringing order out of chaos and making England's name revered over all the continent of Europe.

This is a digression, but then something like that is required to keep us from becoming sordid and materialistic, and farming in the vast solitudes of the Canadian Northwest has or should have a deepening influence on those who are engaged in the work.

To proceed, we commenced cutting our second harvest on the 12th of August. Suitable weather accompanied the operation. This year we stook-threshed, thus saving much laborious toil in stacking.

From 150 acres, we threshed 3,500 bushels of wheat and from 8 acres of oats we threshed 500 bushels. Immediately after stook threshing, we commenced plowing with two single plows. They make a better job in turning the furrow.

Now, a word or two in regard to the live stock operations during the year. We had a crop of 8 calves, and 2 sows produced 18 pigs. In addition, we had invested in a dozen two-year-old steers, which pastured in a homestead near at hand. The poultry department flourished exceedingly under capable management. With the advent of November, my brother set out for the Manitoba Agricultural College. While in no way distinguishing himself or gaining notoriety by wounding the delicate susceptibilities of his fellow students, he yet considered that it afforded an admirable opportunity for self-improvement which he calculated would not pay him to disregard.

Beginning with the last year, we would try to put into practice some of the principles of mixed farming already enunciated at the beginning of this article.

In the first two years it was necessary to bring the land into subjection before attempting mixed farming on any extensive scale, although we did a little at it. The last year we intend to sow a considerable acreage to barley so that we may have feed for cattle and hogs. We propose sowing fifty acres to timothy. Summer-fallowing will not have a place in the rotation, unless under special circumstances,

as it is not attended with great success generally in this district. We intend to sow 225 acres of wheat, 35 of oats, and 30 of barley. That will leave five acres for potatoes and turnips. We shall build an improved horse and cattle barn, using the first stable as a pig pen. This building will occupy considerable time between seeding and harvest, but when completed will effect a large improvement and add materially to the value of the farm. We propose installing a 4 h.p. gasoline engine on the ground floor and use it for pumping water, grinding feed and chaffing straw or sheaves. The grinder and chaff cutter shall be placed on the loft with chutes down into a feed room on the ground floor. This will be the easiest and most effective way of providing an abundance of feed during the winter. During the winter, we shall feed a dozen steers, and have them ready for the market in May, when stall fed cattle command the highest prices going. This will return much valuable manure to the land, and will help to maintain soil fertility, and promote a more permanent agriculture.

In giving the probable estimates, we started on April 1st with a capital of \$1,700. Expense incurred would be the purchasing of timothy seed 400 lbs., at 10 cents per lb.—\$40; also seed barley and seed oats. The erection of a suitable barn would cost \$1,200, engine, grinder, chaff cutter, would cost about \$375. The value of the wheat crop for the year is estimated at \$3,200, leaving, however, a sufficient quantity for seed the next year. Milk products are valued at \$400, 12 steers are estimated to sell at \$600 in the spring, hogs will total up to \$200, and miscellaneous articles would bring \$100, thus making an actual direct income of \$4,500 for the year. The expenses are estimated to be nearly \$3,500, leaving a surplus of \$2,700. This, it will be noticed, is \$300 per year each, which may be considered satisfactory. This would leave a balance unpaid on farm of \$2,632. At the end of the three years we estimated that the farm would be worth \$9,600, which shows quite an indirect increase in our finances.

1911 Cash Book.		Dr.	Cr.
Apr. 1	Cash on hand.....	\$3,000.00	
2	Farm bought for \$5,760 depositing \$2,000 on same.....		\$2,000.00
14	House and barn.....		675.00
14	Pump and lumber to line well.....		25.00
20	Wheat bought, 25 bus. at \$1 per bus.....		25.00
25	Breaking plow (second hand).....		15.00
May 1	Wire for fencing in wheat and pig fence.....		30.00
6	6 young pigs.....		12.00
7	Cheque from Crescent Creamery Co. for one month's cream.....	45.00	
8	Cream Separator (Tubular) second hand.....		40.00
20	Flax, 40 bus. at \$2.50 per bus.....		100.00
25	House—given to Miss Coltart.....		35.00
June 7	Cheque from C. C. Co.....	45.00	
24	3 tons coal at \$5 per ton.....		15.00
30	Plowing with steam outfit, 3 days.....		45.00
July 7	Cheque from C.C.Co.....	42.00	
20	House—gave Miss Coltart.....		20.00
24	Disks (second hand).....		25.00
To Balance.....		\$3,132.00	\$3,062.00
			70.00
		\$3,132.00	\$3,132.00

# A RELIABLE PUMP

REPRESENTS A VALUE TO ANY FARMER THAT CANNOT BE MEASURED IN DOLLARS

## Traherm Pumps

represent the very last attainment in human skill in devising suction machinery that is at once simple in construction, easily operated and that will give invariable results in

### PERFECT SERVICE

THEY WOULD NOT BE REPLACED BY ANYTHING ELSE WHEREVER THEY ARE USED



Fig. 178

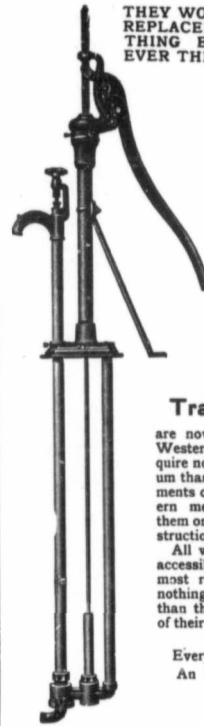


Fig. 27

### Traherm Pumps

are now filling a big place in Western Canada and they require no other advertising medium than that of the honest statements of the hundreds of Western men who have installed them on their farms and in construction outfits.

All working parts are easily accessible; valves are of the most reliable type and there is nothing finer in hydrostatics than the constancy and facility of their service.

Every Pump is Sold Under An Unlimited Guarantee.



Fig. 404

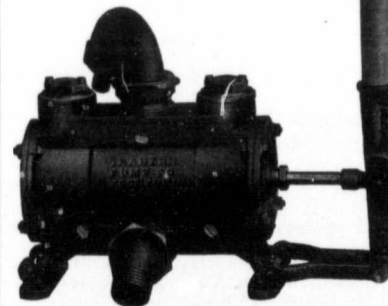


Fig. 200

# Crane & Ordway Co.

LOMBARD STREET, WINNIPEG, MAN. WESTERN DISTRIBUTORS





# MAYTAG Co. LTD



## Ruth Feeder 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 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 Company.**

HOT STUFF THAT, EH? SO HOT THAT NONE HAVE EVER DARED TO COPY IT. They will take hold of other things once in a while and attempt to use them, but when it comes to the "Ruth Warranty," which, by the way, is right in your order and therefore a part of our contract with you, it is too hot for them to handle.

## THE MAYTAG COMPANY, LIMITED, WINNIPEG.

Aug. 1	Cash on hand	\$ 70.00	
7	Cheque from C.C.Co.	40.00	
10	Feed from William Cowan		100.00
12	Cheque from John Manion for plowing, one week	30.00	
12	Bought twine, 200 lbs. at 11c per lb.		22.00
Sept 7	Cheque from C.C.Co.	38.00	
8	House—gave Miss Coltart		30.00
Oct. 1	Harvesting to neighbors for one week	42.00	
7	Cheque from C.C.Co.	35.00	
20	Threshing, paid for wheat and flax		100.00
	Received payment for two weeks' stook-threshing		90.00
	Paid for Binder		165.00
	Received payment for 300 bus. at 90c.	270.00	
22	Received cheque from Thompson Sons & Co. for car flax at \$2 per bus.	1,200.00	
		<b>\$1,725.00</b>	<b>\$ 507.00</b>
	To balance		1,218.00
		<b>\$1,725.00</b>	<b>\$1,725.00</b>
Nov. 1	Cash on hand	\$1,218.00	
2	Cheque, Imperial Life Assurance re mortgage on the farm, first payment of \$376.00 with interest on \$3,760.00 at 6% per annum		\$ 601.60
	Cheque, Imperial Life Assurance on Policies		80.00
3	2 second hand wagons		80.00
4	Cheque from Jack Thorn for 6 steers at \$30.00 each, and 6 hogs at \$15 each	270.00	
	Cheque for \$150.00 to W. G. Coltart re College expenses		150.00
	Cheque from C.C.Co.	25.00	
20	Sleighs and cutter (second hand)		35.00
24	Lumber for shed for implements		125.00
Dec. 4	Gave Miss Coltart for house		50.00
7	Cheque from C.C.Co.	20.00	
30	To Balance		411.40
		<b>\$1,533.00</b>	<b>\$1,533.00</b>

Sept. 7	Three months' cream at 30c per lb. butter fat	150.00	
	Three months' expenses		50.00
Oct. 7	Cheque from Creamery Co.	40.00	
	Cheque from Grain Growers' Grain Co., value of 3,100 bus. of wheat at 85c per bus.	2,635.00	
8	Threshing paid for to Tom Braden		265.00
9	John Cornwell for twine, 425 lb. at 10c per lb.		42.50
Nov. 1	Imperial Life Assurance Co. re loan on farm (second payment)		579.04
	Premiums on Life Insurance Policies		80.00
	Taxes on one half section		35.00
4	W. G. Coltart, college expenses		150.00
Nov. 7	Cheque from Creamery	30.00	
8	Cheque from Jack Thorn on carload of 12 cattle, 4 calves, and 15 hogs, also some poultry	620.00	
10	Paid G. B. Murphy \$240 value of note, including interest given by me on cattle		240.00
	Paid H. E. Hamilton for gang plow		80.00
	House—Gave Miss Coltart		50.00
Dec. 7	Cheque from Creamery	28.00	
8	For the erection of a church in the village		25.00
	Contribution towards Minister's salary		25.00
		<b>\$2,878.00</b>	<b>\$2,024.54</b>
	To balance		1,853.46
		<b>\$3,878.00</b>	<b>\$3,878.00</b>
Apr. 1	Cash on hand	\$1,700.00	

1912.			
Apr. 1	Cash on hand after deducting expenses incurred during the winter months, and also allowing for a little cash coming in	\$ 300.00	
12	Cheque to William Cowan for feed		\$ 100.00
13	Cheque to Tom Braden for 2 sows		40.00
14	H. E. Hamilton for seeder (22 double disk)		140.00
May 1	House, gave Miss Coltart		10.00
7	Cheque for cream	35.00	
10	Blacksmith's account		40.00
June 7	Cheque from Creamery Co.	40.00	
22	4 tons coal at \$7 per ton		28.00
27	To plowing with steam outfit, 3 days		45.00



### And Now Come The YOUNG GOPHERS To Steal Your Grain



Every pair of gophers breed about 36 young ones every year. Thousands of young ones are on your farm right now, feasting on your grain—robbing your profits. What are you going to do about it? Are you going to lose \$300 every 80 acres or are you going to spend 75c or \$1.25 now for a box of Mickelson's—

#### Kill-Em-Quick Gopher Poison

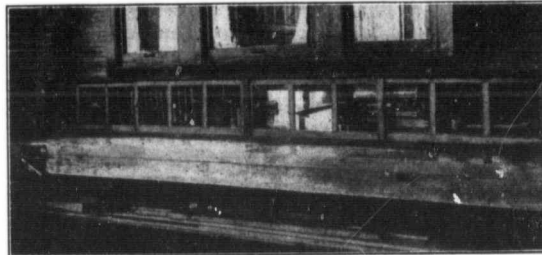
—the poison that is guaranteed to kill gophers, squirrels, field mice and prairie dogs for less than 1c per acre. Go to your druggist at once. If he won't supply you, order direct and I'll send postage prepaid. If Kill-Em-Quick fails to do the work, I personally will refund your money. The odor and taste of Kill-Em-Quick draws them like a magnet and one poisoned grain kills a gopher. It's easy to buy, easy to use, and quick-acting. Write me a postal for more facts and my free book. Address: Anton Mickelson, President, MICKELSON KILL-EM-QUICK COMPANY, Dept. C, Winnipeg, Manitoba, Canada.

**E**VERY farmer should have a shop equipped with a forge and a complete set of blacksmith tools. These need not be the most expensive, but should be of the right kind. On rainy days and times when outdoor work is not very urgent, time can be spent in the shop to good advantage. Parts of broken or worn machinery can be repaired, wagons put in running order, and many articles useful and convenient on the farm can be made. During harvest and threshing time, if anything about the machinery should break, a great deal of time would be saved if the parts could be repaired in the farm shop. It does not take long for a farmer and his boys to get interested in shop work if they have a place to do the work, and to keep in practice; for practice is necessary to learn to do things. Many farmer boys have become skilled blacksmiths by having a place to work at the forge.

The forge is the most important part of the shop. It should be so large that a pair of tongs will support themselves when holding a piece of iron to be heated, without falling to the floor. This will give the workman a chance to run the fan with one hand and tend to the fire with the other, for the fire needs constant attention; the coal should be kept close to the iron. A forge for all purposes should be about three feet square. The tuyere iron should be placed in the center, with its top four inches below the level of the forge. The tuyere should be provided with a damper so the ashes can be cleaned out below in the ash pit. The forge can be built of brick or limestone; concrete has proven to be very good material for a forge. If concrete is used a box can be built in at one side to keep coal in for convenience in working. The blower should be of good size so as to get plenty of blast; it does not require much blast for heating small irons, but it takes a good deal for heavy work. Therefore it is better to have one of ample size than one that is too small. The pipe from blower to tuyere iron should be not less than three inches in diameter; the blower should be the kind that is operated with a lever, so as to give the operator a chance to watch the iron and still be able to run the blower without having to stand back of the hood. If the workman has a helper it does not make much difference what kind of blower is used, but most of the time a helper may not always be at hand.

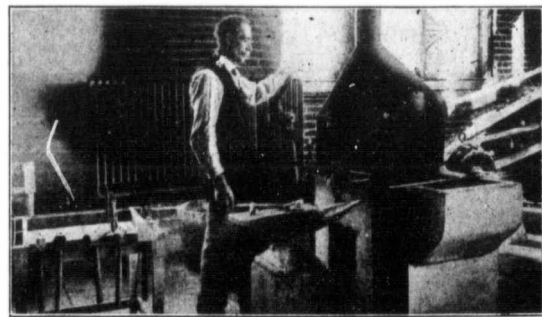
**The Fire**—In building a fire in a forge, it is not necessary to get an armful of wood, as the wood will make a great deal of ashes,

and that is detrimental in working iron and in welding. The ashes should be worked down through the tuyere iron and let out as fast as accumulated. Keep nothing but clean coke around the iron. A few shavings or some small dry sticks will start a fire in a forge very easily if a few pieces of small coke are put on top of the kindling and a slow blast turned on at first till the coke has caught fire; then in-



A Convenient Rack for Holding Tools.

crease the blast and put on some more coke or coal as may be necessary. The bed around the fire is generally composed of particles of burnt coal and should be kept well watered so as to keep it from burning into ashes and to keep the fire from spreading. Good blacksmith coal should be used and kept wet, it will make hardened coke and is more economical. When through with the fire for the day or for the job, break up the coke with the fire shovel and let cool off or



A Handy Forge Arrangement.

sprinkle it with water. If left on in fire it will burn into ashes, and the next time the forge is used there will be a heap of ashes on top of the tuyere iron.

It is difficult to describe all details of forge work in writing; it has to be practiced to gain results. But a few points may be of interest, such as welding, dressing, cold chisels, painting cultivator shovels, setting tines, and sharpening plow shares.

## THE FARMER'S WORKSHOP

By Andrew Thornquist.

**Welding**—Mild steel or iron is not so difficult to weld as many think. After a few trials one will soon learn to get the right welding without burning. If two round rods or square irons are to be welded together and kept the same size, upset the ends so as to make them larger than the original size, and after welding draw down to the same size as before. In welding steel of any kind that takes temper, use

Use borax in welding. Point and temper same as any other chisel or punch. Old iron shafting can be made into crowbars the same way.

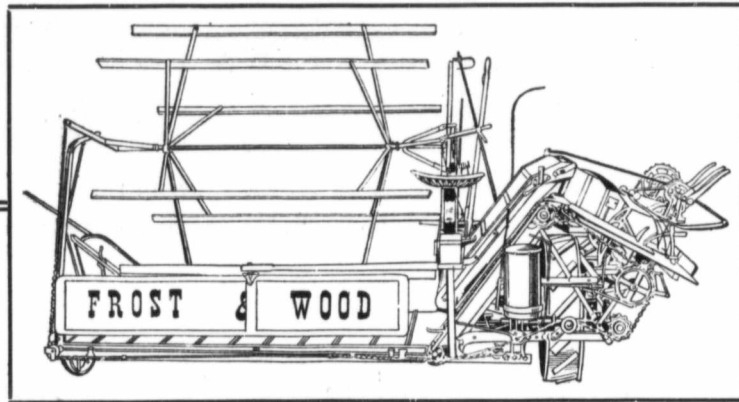
**Redressing Tools**—Good results depend a good deal on working the steel. In sharpening old chisels they should not be kept too long in the fire, or as it is called, baked. Heat evenly to a cherry red, sprinkle common salt on the steel in working it; it will refine it to a great extent and make it tough. If it is too wide and needs to be made narrower always hammer on the edge when first taken out of the fire. Never hammer on the edge after it commences to get cold, it will break the texture and will cause cracks in tempering. The flat side can be hammered quite cold without injury.

To sharpen a punch or to draw it down smaller than it has been, or to make a new one, draw the point out square to an even taper the size wanted, and then make into an octagon and finally to a round with light blows. By drawing is meant that the hammer should be slightly drawn toward the point as the blow takes place. It applies to pointing iron also. If the point is split, cut off till it is solid at the end; dress round with fine file before tempering.

**Tempering Cold Chisels and Punches**—File bright on the sides and heat back of the cutting edge so that the heat will pass from the thick part to the cutting edge; this insures an even temperature. Heat to a cherry red; put in clean, cool water; move up and down about two inches; always keep cutting edge under water. The time to keep it in the water depends upon how much heat there is in the chisel itself. If too much heat is left in the stock the temper will run too fast and will be uncertain. After taken out of the water brighten the sides with emery paper and watch the colors. A light blue will make a good cutting edge. A slow running temper makes the best tool; cool quickly as soon as the desired shade appears on the cutting edge. On a farm two kinds of chisels should be kept, a chisel that will stand chipping mild steel and cast iron, but will not stand when cutting off bolts or rivets between two irons or in wood where the cutting edge has a chance to twist or the bolts turn loose. A chisel for that purpose should be much softer, the temper of a dark blue color. Having the two kinds of chisels will save a great deal of redressing.

**Setting Wagon Tires**—In setting wagon tires it is best to have a tire upsetter, a machine that will shrink the tire after be-

the end  $1\frac{1}{2}$  or 2 inches, paint each end of the prongs, make a wedge of tool steel, an old cold chisel of good steel can be cut up and used. If the slot in the rod is two inches long make the wedge  $2\frac{1}{2}$  inches long, and leave it full size at the large end. While the wedge is still hot take a sharp chisel and cut a few beards on one side, it will keep it in position after being hammered together till it is welded.



## The Frost & Wood Binder

### Works with Watch-like Precision

Are YOU in the market for a Binder?

Before you select one, allow a Cockshutt Dealer to demonstrate the FROST & WOOD BINDER to you and to show you WITHOUT confusing technicalities but WITH exact mechanical knowledge that every detail and every part is there for the purpose of

## Perfect Binder Service

Remember, then, that "FROST & WOOD" is one of the names that the last two generations has written LARGE in the history of Canadian business. The Binder bearing that name is not an EXPERIEMENT, but a TRIED and TESTED SUCCESS.

## The Best Binder Today

Let this thought guide YOU when you go out to buy a Binder.

The Frost & Wood Binder is a wonderful automatic machine which performs all its operations with great precision.

It operates Knotter and sheaf ejector with an eccentric sprocket instead of a standard sprocket. This saves POWER by using leverage instead of extra power to tie and drop the sheaf.

As a consequence, your horses do not slow down at each sheaf-delivery, but maintain even speed. This means larger acreage covered per day and less wear and strain on horses and Binder.

The long spokes of the eccentric sprocket tie the sheaf with INCREASED compression, making a TIGHT sheaf

that SAVES TWINE, and is UNHULLED by gentle ejection.

The SHORT Spokes of the eccentric sprocket carry needle SWIFTLY back below the deck, allowing the packers to bring down the next sheaf. This prevents clogging and threshing of grain on the deck,—prevents choked elevators.

For HEAVY cutting, the Frost & Wood Binder is perfect and LIGHT running, thus it meets the hardest conditions of cutting. Bearings are held permanently in self-aligned boxings in a strong main-frame. Roller bearings of large size mean EASIEST running under HEAVIEST load—impossible to BIND by rough usage.

For this FROST WOOD & Binder, see the Cockshutt Dealer, or write us for the Binder Book.

## Cockshutt Plow Company, Limited

BRANCHES:

Winnipeg Calgary Regina Saskatoon

DISTRIBUTING WAREHOUSES:

Red Deer Lethbridge Edmonton Brandon Portage la Prairie

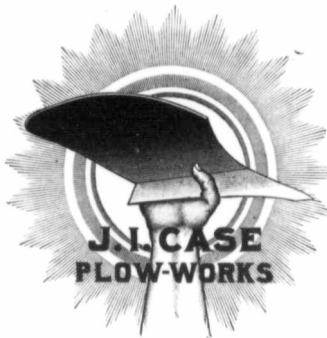
ing heated in one place to a red heat and put in the machine. Cutting and welding tires is a thing of the past. There are a good many different kinds of tire upsetters on the market, and there are some that are not very expensive and will almost pay for themselves in one season. Before taking the tire off the wheel, mark the tire and the felloe at the same place on the back side of wheel. Take tire off toward the back of wheel and put back same way and to the marks. First see that the spokes are all up tight in the hub; if felloes are loose drive them up against the shoulder of the spokes; wedge the tire on tight in the felloes, and if too long after being keyed up cut off to  $\frac{1}{8}$  or  $\frac{1}{4}$  inch below face of felloe. If the felloes should come together at the joints and not bring up against the spokes, saw out so there is an opening of  $\frac{1}{8}$  inch. In measuring wheel and tire use a measuring wheel, or it is sometimes called a traveler. Make a mark on traveler and start from one side of the opening in the felloe and go around the wheel to the other side of opening in felloe and make a mark on traveler; count the number of revolutions. Next measure tire. Make a mark and start with starting mark on traveler; go around the inside of tire; at the ending mark on traveler make a mark on tire; the difference between the two marks indicates how much the tire is too large. It should be upset till the two marks correspond and it is best to make it  $\frac{1}{8}$  inch smaller unless the tire is very warm when measured; if it is not it can be made same size as the wheel and the contraction when cool will be sufficient to key the tire on if the wheel is solid. Place the wheel on two pieces, 4x4, a little longer than the wheel is high; put the wheel on them front side down. Place tire on the ground, put old piece of iron under tire to clear about one inch. Build a cob fire around the tires, for four tires can be heated at same time if kept numbered so they can be put back on the same wheel they came off. Do not heat so hot as to burn the felloes; that will form charcoal and in a short time it will work out, so the tire becomes loose. When tire is so hot that it will burn, water must be used. Water will swell the felloes, which, when drying out will shrink so the tire will become loose. The tire should be warm enough to go on the wheel without burning and without the use of water. In replacing tire, put marks on tire and felloe together; let tire down half way on felloe at marks and press on with a pair of large tongs; finish

# THE ENGINE GANG

That will give Best Results behind your TRACTOR  
should have FIVE essential features

## Genuine

J. I. Case Plows have a high reputation. No Case Plow is genuine without this plow-in-hand trademark.



Watch the 6 and 8 bottom J. I. Case Engine Plows entered in the Winnipeg plowing contest.

THE J. I. CASE IS THE  
LEADING GANG TODAY

These features have placed  
it in that enviable position.

Patents Pending.

The rear furrow wheel and lining-up chain take the side thrust, holding the plows to a straight-ahead position. The bumpers insure furrows of uniform width, while the independent depth lever for each plow insures furrows of uniform depth. The break pin saves share breakage and makes a change of shares or bottoms easy.



Get

our engine gang circular 235. A postal card addressed to Desk A will bring it by return mail.

## J. I. Case Plow Works, Racine, Wis.

up with a hammer to get tire even on the felloes. Buggy tires can be set the same way only they can be heated in the forge by turning slowly around on top of the fire, as they require but very little heat.

### Pointing Cultivator Shovels—

If the shovels are very much worn, heat and thin down the edges; that will make a smoother job in welding on the point. On a shovel that is not much worn a point can be made from a solid piece of steel. Old buggy springs are as good as anything

and will make a very hard point. If the shovels are very much worn make two pieces, and weld together. That will make a stronger point and will make the shovel much stiffer. Weld the point on the under side, use borax, the same as for toolsteel, and the same temperature. Draw the edges down thin and trim off with a sharp chisel to a point. Do not make the point too thin; leave a ridge in the center on back of shovel to give it strength. Make it as near as possible the shape of a new one,

with the same curve as it had before painting. If the soil requires shovels that will scour they should be ground and polished on an emery wheel before tempering; in gravelly soil, grinding is not needed.

**Tempering**—Make a tempering bath of one-half gallon salt to twelve gallons soft water, add one tablespoonful powdered sal-ammoniac, stir till all is dissolved. Heat shovels, face down on the fire to a cherry red, turn over and sprinkle powdered prus-





# MAYTAG<sup>CO</sup> LTD



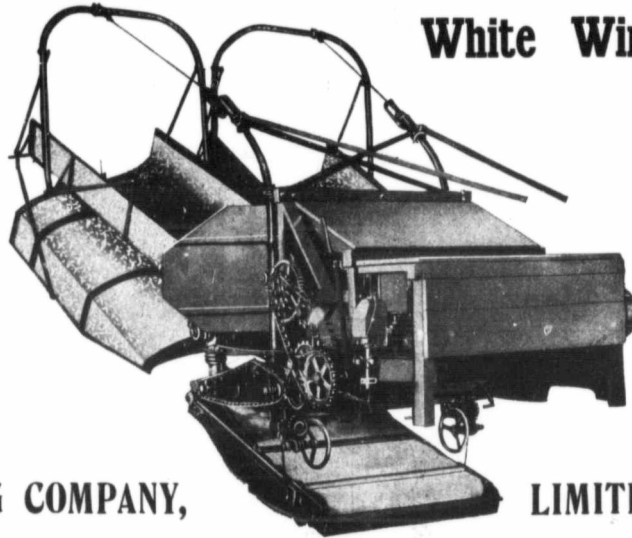
**The Ruth**

**White Wings Feeder**

The regular RUTH WARRANTY applies to the White Wings. Read the warranty on page 23 of this issue.

We have some good literature telling about the White Wings. It is free for the asking. Drop us a card to-day.

All of our claims have been proven to thousands of Canadian threshers for the past ten years. Ask your neighbor.



We were the first to make a White Wings feeder that did perfect work. All others are imitations. Buy the genuine and get the best. Notice that the "wing" on the Ruth is hinged in the middle and can be folded up when moving. Do any others have this improvement? It has many other advantages that are exclusive.

The "White Wings" saves pitchers and that means money. If you want to make some extra money buy a

**RUTH WHITE WINGS**

**THE MAYTAG COMPANY,**

**LIMITED, WINNIPEG.**

siate of potash all over the front; heat again and sprinkle some more on them; heat to an even red. Immerse in the bath, holding to the casting on back with the tongs; move it around rapidly so as to cool as quick as possible; if taken out before thoroughly cool they will crack. Rinse off in fresh water, polish on cushion wheel, if wanted to scour.

**Sharpening Plow Shares—**

Plow shares can very easily be sharpened in a farmer's shop. The plow share should be sharpened as soon as it commences to get dull. It will make the plow run lighter and do better work. If the point has worn round, upset it some from the end, and shape it as near as possible like the point on a new share. Make the heel straight on the under side, bend the point slightly downward to give the plow suction. Sharpen the point from the top, but do not draw out thin and sharp. If the wing should be worn off so it is behind the straight line of the cutting edge weld a piece of steel on the under side of the wing and draw out so as to make the cutting edge on a straight line to the point of wing. Place the share on the floor or on a board so that the underside of the wing is level on the board and the whole edge of the share is close to the

board. It is best not to try to temper the whole share, as it will warp, and when put back on the plow will not have the right shape. Temper the point and the wing in the same solution as cultivator shovels are tempered, but the temper should be run to a straw color at the cutting edge. Between the tempered parts hammer the edge cold on the top side of the share; this will make a very good temper and will not warp the share. In sharpening the share, hammer on the underside and keep the anvil clean from scale, or it will work in the steel and make the top side of the share rough. It is not necessary to polish a share if it is only sharpened, as it will not take long for it to scour. In replacing share on the plow be sure to get the edge of the share even with the edge of the mould board; if it is not even it will interfere with scouring.

The above cut shows the exhibit of the Ontario Wind Engine & Pump Co., as arranged on the Made-in-Canada exhibition train, which is at present touring the West, and meeting with such phenomenal success at all points scheduled to call at.

The above exhibit is in charge of the new manager of the com-

pany's gasoline engine and well-drill department at Dundas, Mr. J. C. Bevan, formerly sales manager and secretary for the Chas. A. Stickney Co., of St. Paul.

The feature of the above exhibit that appeals to the visitors that go through the train is the

Pump Co., also exhibit Toronto grain grinders, pumps of various styles, Aylmer pumps and scales, while numerous photographs showing both the inside and outside of their various factories at Toronto, Dundas and Aylmer, Ont., help to make a very pleas-



model of the new Chapman well-drill in operation. The model is quarter the size of the regular machine, and all gears are practically eliminated in this new type of well drill, making it almost noiseless in its operation.

The Ontario Wind Engine &

ing, interesting and instructive display in their booth, which occupies one-third of a car.

They are more than pleased with the results of the trip so far, having booked numerous orders as a result of this novel method of advertising.

# The Care of Farm Machinery

BY L. W. CHASE

It might seem that this is an old and worn-out subject, one which any sane writer should avoid, but there is such great need of more efficient care of farm machinery for the sake of economy in time and money and appearances that it is well for those who have ideas of this work to apply them freely whenever opportunity is given.

In order to get at the truth let us consider our subject from the view-points: First, is there any excuse for neglecting to properly house machinery, and second, does it pay to care for it. Some will say in discussing this that data should be at hand showing in dollars and cents the profit or loss in caring for the farm implements, but because of the difficulty of gathering in other thoughts will have to be produced in the discussion of the subject at hand.

Taking up the subject from the point of the man who does not

machinery to the house whenever a field is completed or better, every night when the workman comes in, but machinery properly arranged about the farmstead makes it much easier to perform those duties which necessitate the moving among the buildings. As small an implement as a cultivator left in the center of a well arranged wagon yard will often make it necessary for a driver to get down from a load of hay, remove the cultivator and climb back again. It is not an uncommon thing to see a harrow left lying in the weeds so that when the weeds are mowed the sickle of the mower is ruined by cutting into the harrow teeth or ratchets.

The factors which enter into a

hence if a machine is left out during twelve months of the year the bearing parts will become so badly corroded that the products of corrosion flake off in the form of rust, and a few years of such exposure soon make the parts so loose that they must be replaced. The saving of time in the use of machinery by keeping it in order and place as previously stated, is an item overlooked by many. Many people unhitch from their machines just where they finish work, feeling that they will come out some more suitable time and take it in. This time never comes until the farmer must go to another field to work and then he must trail out of his way, through several gates and with other hindrances until finally a couple of hours of the best part of the day are lost. Again the leaving of the implement in the field often necessitates a trip out across the yards and lots to bring in a neckyoke or pair of double-trees.

Do we ever stop to think how much time is wasted turning out around a harvester which has been left in the field from the previous harvest. Only three observations of this are at hand, but their average shows the following for time consumed as stated above:

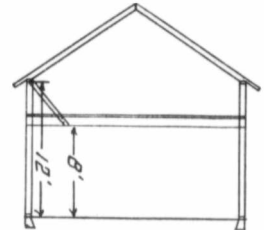
Plowing (sulky) 5½ minutes.  
Disking, 2 1-3 minutes.  
Rolling (1 observation) 2 minutes.

Drilling, 7 minutes.  
Total 165-6 minutes.

If the farmer moves the harvester and plows, disks and drills the land uncovered fully an hour will be consumed. The above might seem only a trifle, but how much time is lost by climbing

agents, prospective purchasers, visitors and the traveling public in general will make a mental estimate of a man's farm by glancing at his roadside, his fences and his machinery. The roadside and condition of fences indicate the farmer's general ability for managing, while the care of the machinery indicates the care exercised in tilling the ground.

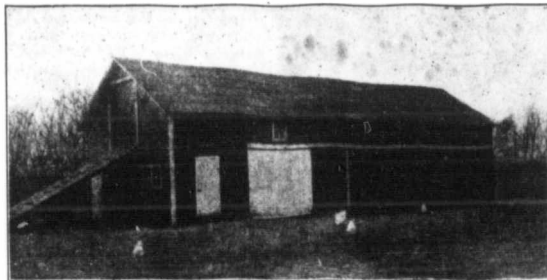
There are about five general methods of caring for the machinery about the farm: The



Cross Section

first and the one used most generally by the neglectful farmer is leaving the machinery in the fields during the seasons and between seasons. With four years' observation of this method of caring for machinery the writer has only found one instance where the method seemed to return to the farmer any grains, and in this instance the farmer was using a two-horse listed corn cultivator for a gate in a fence.

The second method is that of leaving the machinery in the fields during seasons. As an illustration of this a farmer would disk his ground in the spring for oats, then leave the disk in the field all summer so that it would be handy to use in the fall when he plowed and disked for fall wheat. The farmer of this class often uses some corner or tree about the farmstead for housing his machinery between seasons. The third method of caring for



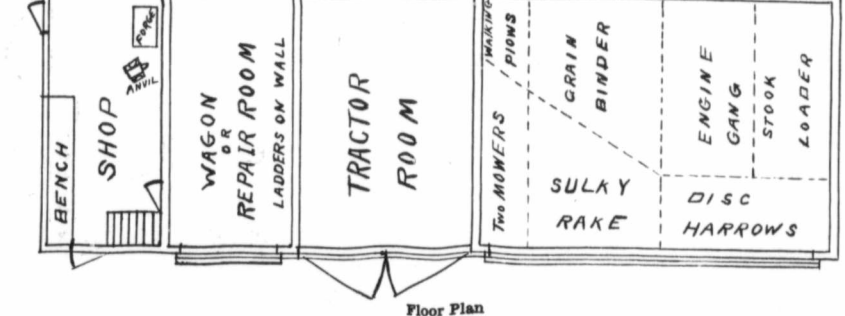
Finished Product

care for his machinery we have three points to be considered: In the opinion of such a man it takes time to arrange the machinery in the machine house; it takes time to take it to and from the fields; most present day machines are of metal, hence will not seemingly be affected by the weather, and further, if the machines are left in the fields where they have been used they will be handy to use again in that field.

The man who cares for his machinery will use nearly the same arguments showing that it is economy to have his machinery well housed, properly arranged and in its proper place at all times, hence it might be well to consider in detail his reasons. First, if machinery is always in its place the man who is to use it always knows where to find it and there is no time lost in going to another field to bring in a machine, which was not brought in when that field was completed. It usually does not take any longer to bring a machine from the field and unhitch it in the wagon-yard than it does to unhitch in the field and drive the team to the barn without the machine. Not only is there economy in time by bringing the

consideration of the life of machinery are corrosion of the metals due to atmospheric action, the disintegration of the paints and varnishes from the same cause and the decay of the woods due to heat and moisture. The data is not at hand which will give us the co-efficient of corrosion, but it suffices to say that the mouldboard of a plow

exposed to the dew for a few nights will corrode sufficiently to be rough until several rounds of the field have been made and undoubtedly such a hard metal is much slower to corrode than either cast iron or wrought iron,

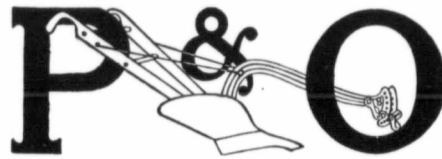


Floor Plan

over wagons or running around misplaced machinery when doing chores. The benefit from the appearance of the farm is another reason for keeping machinery in its proper place. Real estate

would be to use it in the fields and take it to the yards both during seasons and between seasons. This is probably the most economical method practiced by the average farmer providing that he has not a

would be to use it in the fields and take it to the yards both during seasons and between seasons. This is probably the most economical method practiced by the average farmer providing that he has not a



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### "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.—Fokland & Roberts, Lettbridge.

### Seven-Inch Plowing Without a Mishap.

Some time ago Brost & Grosz, Kulm, N. Dak., sold a ten-furrow Mogul to some farmers north of Kulm. They used it as an eight-furrow plow on 375 acres of hard breaking and they did not break a casting while plowing. Some of this ground was in a rocky condition which could not be broken with horses, although they plowed seven inches deep with the Mogul.—J. A. Petrie, Minneapolis, Minn.

### Plowing Almost Impossible Without the Break Pins

I bought one of your six bottom Mogul Engine Gangs last fall and plowed 780 acres near Inkster, N. Dak., where the ground is very stony and where it would be almost impossible to work an engine gang that did not use break pins. The plow is a complete success in every respect and will do good work either in stony land or where there are no stones, and I cannot speak too highly of it. H. W. Sims, Grand Forks, N. D.

### The "Grand Mogul" is O. K.

The P. & O. Mogul is O. K. It certainly does the work, and you need not be afraid to recommend it. It is the Grand Mogul among plows.—S. K. Mills, St. Louis, Mo.

### Conditions Unfavorable; Results Satisfactory

We are pleased to report that we have started the six-bottom Mogul Plow with most satisfactory results. The conditions surrounding the trial were by no means favorable, the ground being too soft and wet, but the 22 h.p. engine walked along with it very comfortably and the purchaser seemed well pleased. We think it a great engine plow.—Lundergan & Allison, Marion, Ohio.

### 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. Kakosch, Macklin, Sask.

### Buried the Sunflowers Out of Sight

Our last plowing was in sunflowers as thick as they could stand (land had not been cultivated for 3 or 4 years), and we plowed them up and turned them completely out of sight. I wish I had a photo of it to show you, for I know you do not know what the Mogul Plow will do. We like the Mogul better every day and would go into a plowing contest with any plow on earth. In our judgment it will beat any plow made.—J. Z. Adams & Son, Little Sioux, Ia.

### No Man Could Do Better Plowing

The P. & O. Mogul Engine Gang bought of your agents 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.

Every P. & O. Implement is Backed by An Unqualified Guarantee.

## INTERNATIONAL HARVESTER COMPANY OF AMERICA

SALES AGENTS FOR CANADA.



properly designed machine shed.

The fourth method of taking care of machinery would be to keep it in the machine shed between seasons and ordinarily a farmer who does this will bring his machinery to the farmstead during seasons, even though neglecting to shelter it every night.

The fifth and probably the most efficient method for caring for machinery is to have a machine shed so designed that such machinery as riding cultivators, mowers, rakes, etc., can be brought to the shed every night and left under cover all of the time when not in actual use. To a great many this might not seem practical, but the writer knows of one or two instances where this is being carried out and seemingly with success. The great drawback to such a method is the size and expense of the shed.

The method which is to be recommended to the average farmer is to have a machine shed so designed as to accommodate all of the machinery which is not in use for the time being, then the machinery which is used should be taken to the fields mornings and from the fields nights and a great deal of machinery can even be taken to and from the farmstead at noon. Some farmers do not like to take their riding cultivators to the house at noon because their horses are tired and they feel that they can walk more easily without pulling the cultivator. The draft of a cultivator on the road with a man is not more than 15 pounds, scarcely more than enough to tighten the tugs, hence it is better to ride to and from the house, then if desired put in the energy saved by giving extra care to the horses. By such an arrangement the cultivator is always at the house and if the garden needs to be cultivated or the potatoes, it is in the most convenient place. Then too, if a

rain should come up it would require only a minute's time to run out and wipe an oiled rag over the shovels and thus prevent rusting. On one farm that the writer has in mind there are four boys working. Each one has a place beside the wagon yard, where he leaves the machinery he is using, that is, if they are cultivating corn and each one has his own cultivator he also has a special place to put it so that every night the four cultivators are lined up abreast ready for what repairs they need before returning to the field or where they can be hitched to with the least trouble in the morning. This farmer has his machin-shed so arranged that all machinery is kept inside except that which is being used for the time being. This might seem to be a great deal of trouble, but I doubt if there is an Experimental Station or an Agricultural school in the country which has less litter around its buildings than this man does. Some will say that this is not a profitable method, nevertheless, this farmer is now a well-to-do man who has acquired all of his property during the past twelve or fourteen years, and strange to say, he was previously one of the most negligent in his community. He can lay his prosperity to his system and order without exception.

The accompanying figures show a plan of a machine shed which is, with its modification for each individual a good one. The shed has a second story, that is, the studding are 12 feet long, and the upper part is floored. This gives almost double the room at an added cost of only a few dollars. Heavy machinery must be kept below, and the light tools, such as planters, cultivators, plows, listers, etc., kept above.

Beside room for the small machinery above there will also be room for all seeds, grain graders, sorters, etc.

## Stray Thoughts of a Farmer Boy

BY E. H. HAWTHORNE

"We scatter seeds with careless hand,  
And dream we ne'er shall see them more;  
But for a thousand years  
Their fruit appears,  
In weeds that mar the land  
Or healthful store."

J. Keble.

When journeying through a country, a traveller may be enabled to judge the character of its farmers by the appearance of their farms. The farms of the careless, indifferent, and shiftless ones will be in general disorder—the yards strewn with all kinds

of trumpery, and the fields infested with noxious weeds; while the yards of the shrewd, thoughtful, and intelligent man will be clean, neat and tidy, and the fields in a condition that indicates care and industry on the part of their owners. In a suitable shed all the implements not in use will be nicely arranged in safety from the farm stock, and the weathering-agencies, that so quickly mar the appearance of all machinery exposed to it.

In the early days of our fair Dominion the question of "The Care and Handling of Tillage

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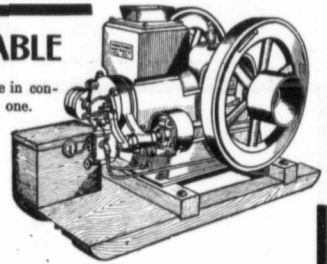
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Make your Bills of Lading read: Care of Gibbs and Robinson, Great West Life Building, Winnipeg, Man., and we will watch the grading of your car.

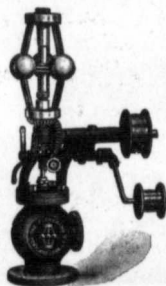
We are members of The Winnipeg Grain and Produce Exchange, The New York Produce Exchange, The Montreal Corn Exchange, The Calgary Grain Exchange.

It will pay you to watch this space for future announcements regarding CROPS and MARKETS

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will pump without adjustment the extremely thick oil of winter and the thin oil of summer and force the oil against any pressure required.

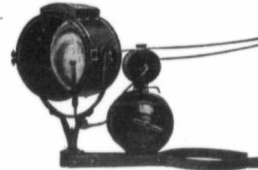
The Madison-Kipp pump positively will not freeze. It works equally well at 20 deg. below zero and 90 above zero. No valves, no springs or stuffing boxes to wear out.

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Bracket to fit any make of engine. Throws light 400 feet. Operating expense about 1c. per hour.



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One that gets all the sparks without clogging or interfering with the draft. Fits any engine. Screens adapted to any fuel.

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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.

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Machinery," caused the farmers scarcely a second thought, but today it is a vital one to them. When the land was new and there was no great difficulty in obtaining suitable returns from the soil, the farmers went serenely on cropping the fields and paying no attention to the fertilization of them; but now that the land is becoming drained of its supply of plant food, the tillers of the soil realize that they have reached a critical stage in the history of the country. Some men say that we must apply more artificial fertilizers to the fields; others claim that it is more improved machinery for cultivation we require; while still others maintain that better methods of handling the machinery are necessary. To me it seems that a judicious combination of these, along with the workings of nature will bring about the desired results—forty bushels per acre of number one hard wheat.

What do we mean by the word "tillage?" Do we not mean the process of preparing a suitable seed bed in which the seeds may germinate? I think this is the meaning of the word, and the machinery, such as the various kinds of plows, harrows, cultivators, drills, rollers and landpackers, used in the process is called "tillage machinery." Since the above mentioned farm

implements are the source of so much discussion, I will try and express a few of my ideas with regard to the care and handling of that much abused piece of machinery—the plow.

Now there are many classes and makes of this implement. There is the slat mouldboard, the common mouldboard, and the rotary or disc plow. Of the first kind mentioned I know practically nothing, but I have had considerable to do with the two latter, and it is of them, the stubble gang in particular, I purpose writing.

From my experience with the rotary plow, I have learned to believe that its main function is to plow in fields, where the mouldboard plow fails to do satisfactory work. By this I do not mean to say that the rotary is to my mind the better plow. On the contrary, I think it is much the inferior especially when used in old land. Some farmers claim that less power is required in plowing with it, but I think that to get as good results as much, if not more power,

will be required on account of the extra depth to which the discs have to be sunk in order to cut all roots and destroy the weeds. By using the mouldboard plow, a farmer has a much better chance to cut and cover all weeds, and leave a fine, even and level seed bed—the object of tilling the soil.

Usually when a farmer is plowing in a field he is either too busy or too far from the buildings to take the plow home in the evening. Under these circumstances, then, a good plan just before unhitching the horses for the night is to take the grease box and smear the mouldboards and coulter of the plow with some of the grease. By doing this there will be no danger of these parts losing the peculiar polish, which the soil gives to them, and when the plowman returns to his work even after several days' absence the plow is already for action. If, however, the man neglects greasing the mouldboards, he may have to spend five or ten minutes in removing the rust from them,

there is not only the loss of time to be considered but we must remember that a plow not cleaning properly, fails to turn its furrow nicely, and may leave a few weed seeds, that might germinate, and develop into flourishing specimens of noxious weeds. Another thing that is often overlooked is the keeping of the shares sharp. Under no circumstances whatever should a plow with dull shares be used. A farmer who tries to plow with a plow that is dull is as foolish as a man that would try to hoe potatoes with a dull hoe. While working a plow in the field, it is an easy matter and a good policy to observe from time to time and see that all the nuts and bolts are where they were intended to be, for

"'Tis the little rift within the lute  
That by and by will make the  
music mute  
And ever widening slowly silence  
all."

So with the plow: If the nuts are allowed to get loose, the frame or even the beam is liable to get sprung and the plow become greatly damaged. Every bolt and nut in the plow is there for a purpose, and if they do not do their part in keeping the frame in place the whole structure will be weakened to a greater or lesser degree. This thought:



Effective but rapidly being crowded out by the Tractor

Continued on page 78

**T**HIS article is written at the request of a reader who has lately joined the great army of gas engine users, and for the benefit of users who have operated gas engines for several years who do not know the principle of their engines. For a man to run his engine and get the best results he must know his engine, merely knowing how to start and stop it is not sufficient, he must know how the gas gets to the cylinder, and what happens after it gets there.

Stationary engines are divided into two classes or types, both using gasoline or gas for fuel. There are two principles of gas engines, the 2 and 4-cycle. The 2-cycle receives one explosion every revolution of the flywheel, and the 4-cycle receives one explosion in two revolutions.

As the 4-cycle is the most common, I will deal with that first. As most every one knows, the crank shaft is the shaft with flywheels on and the piston moves up and down or in and out in the cylinder as the case may be and is connected to the crank shaft by the connecting rod and the cam shaft is the little shaft that carries the cam which opens the valves and is driven from the crank shaft with gears. The one on the cam shaft having twice as many teeth as the one on the crank shaft, so that the cam shaft makes only one revolution in two revolutions of the crank shaft and the cam shaft carries the cam which opens the valve or valves at the right time and also works the igniter.

First let us find out how the engines get their names. The 2-cycle and 4-cycle, etc. "Cycle means a thing completed." As for example from 12 o'clock noon to 12 o'clock noon the next day is a cycle of hours. To understand it clearer a 2-cycle engine should be called a 2-part cycle as the cycle is completed in two parts and that is what it really is, and a 4-cycle should be called a 4-part cycle as there are four parts of a cycle in the cycle. For convenience sake we will call them part cycles.

The 4 parts of the cycle of a 4-cycle engine are as follows:

First part cycle or suction stroke.

Second part cycle or compression stroke.

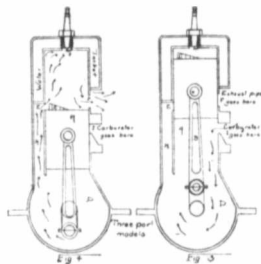
Third part cycle or power stroke.

Fourth part cycle or exhaust stroke.

The first part of cycle starts as follows: The piston is at the top of the cylinder (the top of the cylinder of a vertical and the out end of a horizontal are the same, also the bottom of a vertical and the in end of a hori-

## The Gas Engine and How It Works

zontal are the same) the exhaust valve has just closed and the intake valve is just starting to open, the piston starts down creating a vacuum behind it and drawing a charge of gasoline and air which is now in the form of gas or vapor into the cylinder from the carburetor or mixer through the intake valve opening. As the piston reaches the bottom of its stroke the intake valve closes which ends the first part cycle or suction stroke. It is called the suction stroke because the charge is drawn into the cylinder in this stroke. The second part cycle or compression stroke is as follows: The piston is at the



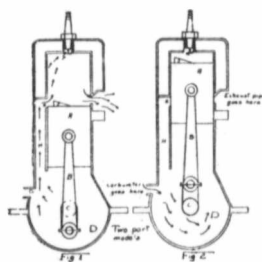
bottom, both valves are closed, making the space above the piston air tight so that none of the charge escapes, as the piston moves upward. The charge is compressed to a pressure of about 75 pounds per square inch. When the piston reaches the top of the cylinder which act secures complete carburation of the mixture to the proper condition to be ignited by the electric spark or other means of ignition, the charge is ignited just before the piston reaches the top. This is because the piston is moving so rapidly that if the charge ignited when the piston is at the top, it would be quite a distance down before the gas expanded and there would be a loss of power. The piston reaches the top, the electric spark has ignited the mixture, this ends the second part cycle or compression stroke. This is called the compression stroke because the charge is compressed in this operation.

The third part cycle or power stroke as follows: The piston is at the top, the charge is ignited, the gas expands very rapidly, driving the piston down with great force. As the piston reaches the bottom the exhaust valve starts to open which ends the third part cycle or power stroke; this is called the power stroke because the engine transmits its power in this stroke. The fourth part cycle or exhaust stroke

is as follows: The piston is at the bottom of its stroke the exhaust valve is just starting to open, the piston starts upward driving the burnt gases before it through the exhaust valve opening out the exhaust pipe until the piston reaches the top when the exhaust valve closes, which ends the fourth part cycle or the exhaust stroke. This is called the exhaust stroke because the burnt gas is swept out of the cylinder in this stroke. These are the four parts of cycle that complete a full cycle of a four-cycle engine.

The four-cycle stationary engine has a governor (either flywheel type or otherwise) for controlling the speed. This works as follows: Either closing a valve in the intake pipe between the mixer and cylinder or by holding the exhaust valve open as no charge will be drawn into the cylinder when this is open, as the engine slows down the governor releases allowing the engine to speed up to normal when it again throws out as before.

The two-cycle engine is made in two styles of types. The two port and the three port, these engines are very simple after one learns them, but as they are not very common in some localities I will make a couple of sketches to make it plainer. There are only two parts of cycles in the two-cycle engine, and the same amount of work is done with one revolution as is done in the two revolutions of a four-cycle engine.



gine. This engine has no valves as the four-cycle engine, in fact the three port has no valve at all and the two port has only a check valve between the mixer and the engine at G Fig. 1, not shown. Of course the gas has to enter and the exhaust leave the cylinder but instead of the intake and exhaust valves as in the four-cycle engine there are ports cut in the sweep walls of the cylinder. There are two ports for the two-port type and three ports for the three-port type. These ports are called the

exhaust port, as shown in Fig. 1 at F, the intake port at E, Fig. 1, and the third port at I, Fig. 4. These ports are opened and closed by the piston as it moves up and down or in and out, as the case may be. The two-cycle works as follows: The piston is at the bottom of its stroke, the charge of gas has just entered the cylinder from the crank case D, through the by-pass H, Fig. 1 and intake port E, Fig. 1, as the piston A starts upward it creates a vacuum below it in D which draws a charge of gasoline and air through G. At the same time as soon as the piston has covered the ports E and F the compression starts and continues until the piston reaches the top when it is compressed to about 75 pounds to the square inch. Just before the piston reaches the top the ignition occurs. The ignition occurs before the piston reaches the top for the same reason as described in the four cycle engine. As the piston reaches the top the first part of cycle is completed, the piston is at the top of its stroke, the gas is expanding, driving the piston down with great force. As the piston starts down the charge below it in D starts to compress. The charge being held in by check valve at G not shown) which closes automatically when the pressure in D exceeds the atmospheric pressure. This charge is compressed to a pressure of about eight or ten pounds per square inch. When the piston is nearly to the bottom of its stroke it uncovers the exhaust port F, allowing the burnt gases to escape through F. Immediately after the exhaust port opens the intake port E is opened and as soon as the pressure in the cylinder above the piston has fallen lower than the pressure below it in D the gas rushes from D through H and E into cylinder above the piston. This charge is directed upward by the plate J, Fig. 1, on top of the piston which keeps the charge from going directly across the cylinder and out port F. As the piston reaches the bottom it completes the second part of cycle and the three-port operates the same as the two-port, except there is an extra port cut in the wall of the cylinder at I, Fig. 4. This port is covered by the piston except when the piston is at its highest point this port does away with the check valve at G, Fig. 1, and works as follows: As the piston moves upward it creates a vacuum in the crank case D which increases until the piston nearly reaches the top when the third port I is uncovered and the charge rushes through I into D, filling it until the pressure there is approximately atmospheric pressure.

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"Kervene Annie." The first O.P. Tractor resting after her first day's work.

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Pioneers gain skill and knowledge through toil and trial—through successes generously sprinkled with failures, above which only the most persistent rise. What the pioneer eventually produces has in it that deep seated art that comes only through patient gathering of experience.

Our Lines of Power-Farming Machinery have been developed by pioneers,—Meinrad Rumely, Jonas Gaar, William G. Scott, C. G. Case, Meinrad LaFever, John A. Secor, and others—each man making some problem his life study—each perfecting some machine. Every machine in each Line is a time-tried, improved-to-the-minute success. Each embodies principles that cannot be duplicated by mere observation and copying. Every machine we sell makes its buyer our friend. His satisfaction is not a prospect but a reality.

Through the experience of three generations—the knowledge gained by pioneers in every Line, we have found out how to build the kind of power machines farmers require—machines that are producers—that produce satisfaction for their buyers and for every man for whom they do work.

### The "Tractioneer."

A splendid poster painting in attractive colors will be sent to you if you will send us 10 cents to help pay the cost of packing and postage.

This handsome poster is a real work of art, 12 1/2 inches wide and 18 1/2 inches high. It is suitable for framing and is free from advertising matter of any kind.

### Seeing is Believing

Come to the Exhibition at Winnipeg in July and see how our Power-Farming Machinery works.

Make our exhibit at the fairs your headquarters. We will exhibit at Regina, Co'ary, and Saskatoon.

The value of our years of patient and expensive pioneering is shown nowhere more forcibly than in the threshing field. Our three famous Lines of Power-Farming machinery, the Rumely Line, the Advance Line and the Gaar-Scott Line provide an outfit adapted to every threshing need great or small—an engine fitted to every separator—a separator to every size of farm, every size of job, and every kind and condition of grain.

The *O.P.* Tractor is a well made, steady running, economical engine, that burns kerosene at all loads—under all conditions. It is so simple in design and so easy to operate that a boy can run it. No other tractor can possibly burn cheap kerosene or distillate and show the high efficiency that *O.P.* Tractors show, because no others have the Secor-Higgins System of Oil Combustion. The safety with which it can be used around buildings makes it doubly desirable as a threshing engine.

A handy size for small neighbourhood or individual threshing is the Type "F" Tractor. It is not only a good threshing engine but it is also a general-purpose, all-season engine, well fitted for every traction and belt power purpose. It will furnish ample power to drive separators of from 28 to 32 inch cylinder, depending upon condition of the straw.

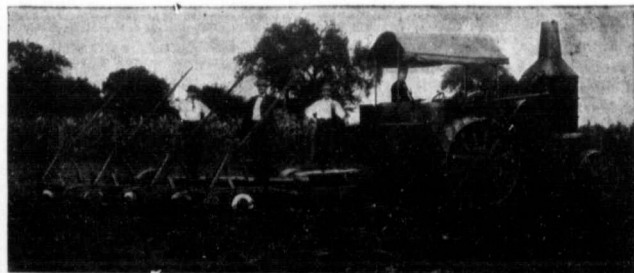
Our Separators put all the straw in the stack and all the grain in the sack. They do the maximum work with the minimum of power and attention. **They separate you and separator troubles.** They may be had in sizes from 18 to 44 inch cylinder. **The kind we build is the kind we should like to buy if we were farming.**

Threshing time will soon be here. You should select your outfit now. If you want the best that money can buy, you owe it to yourself to investigate our three Lines thoroughly. State whether you are interested in *Garr-Scott*, *Advance* or *Rumely Separators*, or in *O.P.* Tractors. Catalogs will be sent by return mail.

## RUMELY PRODUCTS Co. INC.

1973 DUFFERIN AVENUE

WINNIPEG, MAN.



The outgrowth of the Pioneer's Courage and Initiative 15 h.p. O.P. Tractor threshing with Ideal Jr. Separator.

The Kind We Build  
Is The Kind We  
Should Like To Buy



The rest of the operations are the same as the engine just described, except that when the charge in D is being compressed the charge is held in D by the piston covering I instead of by check valve at G. The charge is compressed on the down stroke of the piston and is transferred through by-pass H and intake port to the cylinder on top of the piston. The speed and power of a two-cycle engine of small or medium size is varied by throttling the charge, that is by varying the amount of the charge taken into the cylinder. When there is a governor on a two-cycle engine it is so constructed that it throttles the charge either between the carbureter and engine or in the by-pass H between the crank case and the combustion chamber. It will be noticed that the two-cycle is very simple, no gears, no valves.

Besides simplicity and compactness the two-cycle engine claims reversibility as one of its advantages. The direction of rotation is determined solely by the timing of the ignition. To reverse such an engine all that is necessary to do is to make the point of ignition very early, when once started in the other direction the ignition if unchanged will be very late and will give very little power. However, by shifting the ignition back a little will give the engine full power in the reverse direction. Reversing is only practicable with small engines and is very convenient for motor boat use. The two-cycle engine develops on the average about 60 per cent. more power than a four-cycle of the same size and speed and uses from 10 to 25 per cent. more fuel per break horse power.

## A CRYING NEED

By Frank A Mantle

A problem that sooner or later confronts every farmer on the western plains is that of the erection of suitable farm buildings. To many a farmer in the older civilizations this problem never presents itself. He may be a tenant farmer and use the buildings which have been the equipment of the farm for a generation past. Even if these have to be renewed or others added the problem rests with the owner and not with the tenant who must take what is given to him. But here, where happily there are few tenant farmers and where most of the land is still occupied by the original owner, each is confronted sooner or later with this problem of building.

A man at the outset (unless he is a capitalist) puts up just such temporary structures as will shelter himself, his family perhaps, and his stock.

His intention is to equip the farm with creditable buildings at a later date as means will allow, and put the original structures to humbler uses, such as hen-houses, pig-pens, blacksmith shop, granaries, etc.

We believe this to be a wiser plan than to attempt a portion of the permanent buildings at the outset with the intention of adding to them at a later date. With frame buildings additions are seldom very satisfactory and a house, the two halves of which were built five or ten years apart, is not apt to prove a warm and comfortable place. A person's ideas change as time passes and the plan that was in view when

the original portion of each building was erected is not likely to be satisfactory when the addition is to be built. So there are architectural and structural reasons for not planning to erect the permanent buildings piecemeal and by halves. Put up temporary structures first—such as can be used later on as out-buildings, then add a permanent unit—barn, house, granary as the case may be—as circumstances call for it and finances permit.

A mistake too often made, even when a start has been made along these lines, is in placing the temporary house and stable on the sites that should ultimately be occupied by the permanent dwelling and barn. The writer once stayed over night with a farmer in southern Saskatchewan whose temporary buildings were very favorably located. This point was raised and the question asked as to whether a \$200 three-roomed shack had not been placed just where a \$3000 house should later on be located. This man was awake to the situation however, for he immediately took us across the road onto another quarter and there showed us an even better site and his preparations for permanent buildings. Ten acres in the corner of the quarter had been staked off, the sites of the barn and dwelling fixed, and, as the rest of the quarter was broken, the stone on it was hauled direct to these sites and piled in readiness for use in foundations. Nor was this all, for land had been broken within the ten-acre plot for a

# Silver Star Engine Kerosene

THE BEST FUEL FOR

## Oil Burning Engines

—AND—

## Imperial Motor Gasoline and Standard Gas Engine Oil

Recommended by the Hart-Parr and Rumely Companies, and used by all Tractors in Motor Contest at Winnipeg Industrial Exhibition, 1912, and previous years.

### Also Distillate Fuel Oil

Oils Carried in Stock at 273 Tank and Warehouse Stations in Manitoba, Saskatchewan and Alberta.

For Prices at our Branch Station nearest you write to office of

## The Imperial Oil Company, Ltd.

Winnipeg Regina Moose Jaw  
Saskatoon Calgary Edmonton Lethbridge

## THE GOULD BALANCE VALVE

Is recommended and endorsed by the leaders in thresher organization in the United States, and what they say can be taken as facts. These men know, as thousands of others do, that the Gould Balance Valve is a necessity on a traction engine.

READ WHAT THEY SAY.

Gould Balance Valve Co., Kellogg, Iowa.  
Halstead, Kansas, Sept. 18, 1911.  
Gentlemen:—I write you to let you know that I have used your balance valve and have given it a thorough trial in every way that I could, both in the belt and on the road, and find that it is all you claim for it. It surely saves coal and water, and is much easier handled than any other valve that I have ever had anything to do with. I have other valves that were claimed to be balanced but they were nothing like this one.  
Your valve surely does the work that it is intended for, and is a great saving: everybody that has seen my engine run remarks how nice it runs, and how easy it seems to do the work. You can use this over my name in any way that you think it will do you any good and if I can make it stronger, I am willing to do so, if it will be of any benefit to you.  
Hoping to hear from you soon. I remain as ever, Yours very truly, E. C. CADWELL,  
President Threshers' Association of the Southwest.

Gould Balance Valve Co., Kellogg, Iowa.  
Springfield, Minnesota, Oct. 16, 1911.  
Gentlemen:—I am in receipt of your letter and in reply will say that the valves I purchased of you for my 20 H.P. Reeves Compound engine are giving first class results. They work nicely.  
My valve gear seems to run perfectly smooth under an excessive heavy load and can say that no man running a traction engine can afford to be without a Gould Balance Valve in his engine, for the simple reason that a traction engine is under such severe test at times that it is very hard on the reverse gear, and the Gould Balance Valve will end all of this trouble.  
I can say that I have used my valves four years and did not have any trouble with them, and can say that they will do what you guarantee them to do, as I have found them so.  
Wishing you the best of success, I remain, Yours respectfully, WM. KRALLING,  
President Minnesota Brotherhood of Threshermen.

Gould Balance Valve Co., Kellogg, Iowa.  
Martinsville, Ohio, Sept. 25, 1911.  
Gentlemen:—In regard to the Gould Balance Valve will say I have used them on different engines. I bought one the first year you manufactured them and have used them ever since. I am well satisfied with them. I would not run an engine without the Gould Balance Valve in it. Respectfully, JOHN KESTER, President Ohio Brotherhood of Threshermen.  
Valley Junction, Iowa, Nov. 5, 1911.  
Gould Balance Valve Co., Kellogg, Iowa.  
Gentlemen:—In reply to your letter of the 2nd inst. would say that after using a "Gould Balance Valve" in my Case engine for six years, the fact that I stipulated in the order for my new engine this fall that it should be equipped with a Gould Balance Valve, should be as strong a testimonial as I could write. Yours truly, JAMES DEVIN,  
Secretary & Treasurer Iowa Threshermen's Association.

Agents Wanted. Address

**GOULD BALANCE VALVE CO.**  
KELLOGG, IOWA





# MAYTAG<sup>CO</sup> LTD



## THE RUTH

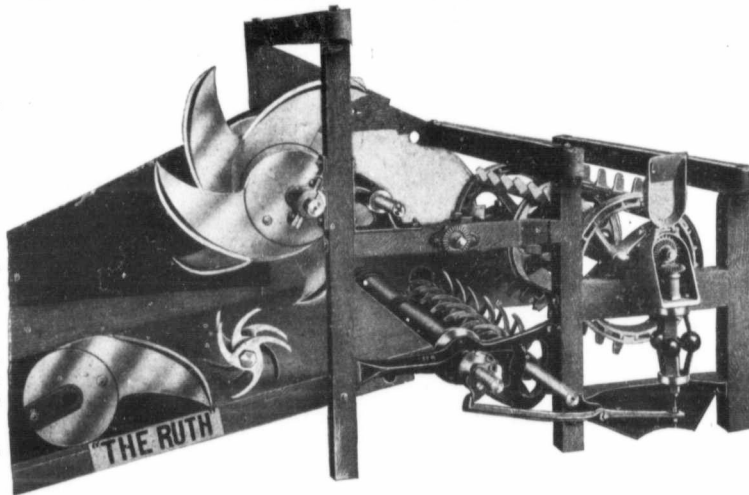
is the strongest built feeder in the world.

Has no equal in any respect.

Any threshing machine company in Canada can supply you with one.

Please read the Ruth Warranty on page 23. Is there anything left out that should be there?

Write us for the Ruth Catalogue.



Open Side View of Ruth Self Feeder, Showing Interior Working Parts

No waiting on repairs. We have stocks at

- Winnipeg,
- Regina,
- Weyburn,
- Saskatoon,
- Calgary.

The best feeder in the world.

Prices that are right and Prompt Shipments are a few of the reasons we are at the head of the feeder procession.

**THE MAYTAG COMPANY, LIMITED, WINNIPEG.**

liberal shelter belt at the correct distance from the building sites. This had been broken thin and backset the previous summer and when seen was in crop to potatoes.

Such a handling of the situation constitutes scientific home making. When that man gets through his neighbors will wonder how he comes to have such a fine place and well-grown belt of trees while his buildings are yet so new. It will simply be because he planned that way. In this business of homemaking more than in any other part of farming, a definite, well-thought plan is necessary. Good intentions, hard work, even plenty of cash, are not alone sufficient but must be coupled with forethought. In some things about farming we can make out even if we take time by the "fetlock" provided we work thoroughly. In home building we must take time by the "forelock" if a harmonious result is to be secured. The appearance of a farmstead after the permanent buildings are erected will always indicate the extent to which the whole scheme existed in the mind of the builder before operation commenced.

There is another extreme in this matter though. We recall the case of a wealthy city man

who decided to own, equip, and operate a large farm. A suitable building site was located and staked out. A plan of this site was made as regards area and dimensions but not as regards altitudes or levels. The buildings were all located on his plan; yards, wells, gardens, small fruits, lawns, drives and lanes were all laid out, but with a fine disregard for how Nature had left the land in question. The contract for the buildings was let and work proceeded with, but not until the rainy season came did it develop that the house and the implement building had been located where depressions occurred and, in consequence, the cellar of the house filled with water and a foot of water lay in the implement shed. This was a case where a good building site was spoiled by an artificial arrangement of the buildings that did not fit in with the levels of the plot of land in question.

It is usually advisable to be sure of the water supply before committing yourself to a site too definitely, such as by the erection of a barn on it. Decide where the well should be in relation to the house and barn as you propose to put them, then sink the well. If you secure water, well and good; you can

proceed to build with an easy mind. If water is not found a re-arrangement of the locations or an entirely new site may be required. The water supply is the one feature of the farmstead that is outside the farmer's control or arrangement, so be sure of that first then cut your coat according to your cloth.

Preferences vary as to what point of the compass the house and barn respectively should face, and probably this question, in the case of the house at least, is of less importance than the site itself. Other things being equal, however, we should face the house to the east and set the barn east and west.

We should face the house to the east because we should build a square or rectangular house with at least four rooms downstairs. Of these the parlor would be in the front of the house and in the southeast corner, the dining or living room behind it and in the southwest corner with windows in two walls; the kitchen would then occupy the northwest corner which is the coolest both summer and winter. (The kitchen needs the cool location in summer and can best stand it in winter on account of having the range to heat it.) The fourth room, be it a bedroom, den, study, office, library, sew-

ing-room, nursery or what-not, would then occupy the northeast corner. The next best arrangement is to face the house to the south with the rooms in the same relation to each other.

Our reason for placing the barn with its ends east and west is solely in order that the interior may receive the maximum of sunlight in the winter. This can be secured if fanlights are placed above the doors east and west, with possibly a window flanking the doors on each side, and the whole south side is studded with windows as numerous and large as structural conditions will admit of. These windows should be placed sufficiently high in the wall that they will not shed light directly into the eyes of the horses facing them, and will enable the sun's rays to reach the center passage and stalls on the north side of the building. To secure this result an extra high ceiling is needed or else the loft floor may be sloped up for eight feet or so along the south side of the building.

Politeness is to goodness what words are to thought. It tells not only on the manners, but on the mind and heart; it renders the feelings, the opinions, the words, temperate and gentle.

Petroleum is widely distributed, being found in many places in sufficient quantities for profitable working. The principal deposits in America are located in Pennsylvania, New York, Ohio, West Virginia, California, Colorado and Canada; some oil comes from Indiana, Kansas, Kentucky and Texas. The next in importance to the American oil fields are the Russian, in the Baku district around the Caspian Sea, in the Caucasus mountains, and along the northeast coast of the Black Sea.

Less important deposits occur in Persia, Burmah, China, Galicia and Roumania. Small deposits are worked in Germany, Hungary, Algiers, Japan, Venezuela, New Zealand, and in some of the islands of the Pacific.

The origin of petroleum has been the subject of much study by many eminent chemists. Berthelot regarded it as the product of the action of steam and carbon dioxide on the alkali metals. Mendeleeff supposed it resulted from the decomposition of metallic carbides by water. This necessitates the acceptance of La Place's theory of the formation of the earth, and the assumption that heavy metals, such as iron, were among the first substances to condense into the liquid and solid state, thus forming the central portion of the earth; and that these metals then combined with the carbon from the surrounding atmosphere to form carbides, which were afterwards decomposed by water, from the cooled surface, which percolated down through cracks and fissures, caused by the cooling and shrinkage of the earth's crust. Thus hydrocarbons were formed and metallic oxides left in the earth. This theory requires that all petroleum have approximately the same composition, in whatever

## The Petroleum Industry

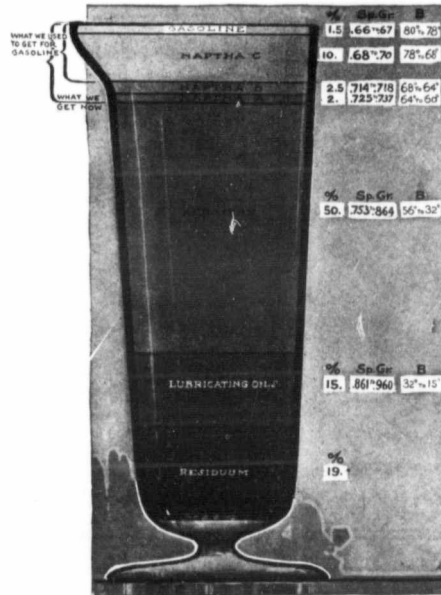
animal remains. One is that the organic matter, probably consisting of vegetable matter and mollusks, decomposed under salt water with exclusion of oxygen and at a rather low temperature. Another, that only animal matter is the basis of the oil and

comes to the surface in small quantities, mixed with the water from springs, the first discoveries having been reported as "oil springs." The explorers in central New York, as early as 1630, mentioned an Indian remedy containing petroleum. Later

devised; in some few instances this purified oil was being used for illuminating. But none of these efforts had been very successful, and it was not until 1859, when Mr. Drake drilled the first productive oil well near Titusville, Pa., that the real development of the petroleum industry began. The Russian, Indian and Galician oils were mentioned by explorers during and before the Middle Ages, but the industries have never been developed to any great extent, until within the last twenty years, when the Russian fields have become very important.

The crude oil is obtained by boring tube wells through the shale into the sand rock. There is no certainty beforehand that a well will yield oil, and indeed about one-fifth of those bored in this country produced none; these are called "dry holes."

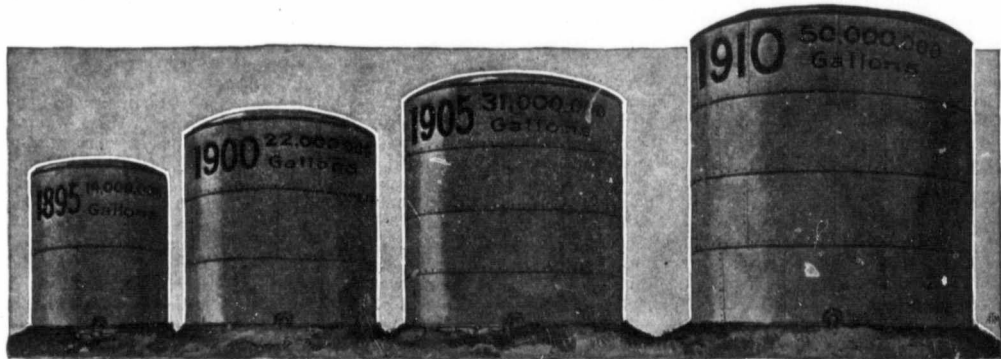
The machinery used in oil-well drilling is very ingenious, and a great number of special devices have been invented to overcome the numerous obstacles encountered. Only the principal tools can be mentioned here. The chief one is the "centre-bit," a chisel-shaped piece of steel four feet long and weighing about 300 pounds, the cutting edge of which is nearly as wide as the diameter of the well. Above the center-bit is the "auger-stem," a rigid bar from 12 to 45 feet long, to which the bit is screwed. Its chief purpose is to guide the bit and keep the hole straight; it also adds weight to the drill. Next above the auger-stem, is a peculiar piece of apparatus called the "jars." It consists of two links of steel which have a sliding motion, one within the other, of from 20 to 24 inches. The object of this is as follows: The center-bit frequently becomes fastened in the hole, either by



Percentage of Various Products in Refining Petroleum

that the nitrogen of the animal tissues escaped as ammonia or other nitrogen compounds, and that the remaining fat was subjected to a species of dry distillation under great pressure, yielding crude petroleum. There is reason to believe that the New

York was sold as "Seneca Oil," by the Seneca Indians. Their method of collecting it was to spread blankets on the surface of the water on which the oil was floating, wringing it out when the blanket became saturated. If the layer of oil was



Production of Crude Petroleum in the United States, 1905 to 1910

formation they are found, but this is not the case.

Another hypothesis supposes petroleum to be of organic origin. Here again are several theories as to the formation of the oil from the vegetable or

fragments of broken rock acting as wedges between it and the sides of the well, or through sinking into a seam in the rock. Any attempt to loosen it by a steady upward pull would break the rope, but a sudden upward

formation they are found, but this is not the case.

thick enough it was skimmed off with a flat board.

About the middle of this century, petroleum from various parts of the world began to attract some attention and crude methods of refining it has been

fragments of broken rock acting as wedges between it and the sides of the well, or through sinking into a seam in the rock. Any attempt to loosen it by a steady upward pull would break the rope, but a sudden upward

# Threshing Power and Threshing Profits

## American-Abell Steam Engines

furnish the kind of power you require to get full *profit capacity* out of your separator *every day*. They furnish ample power to drive the biggest separators up to their full capacity, and to move them on the road.

Their sturdy build means long and satisfactory service.

They are excellent plowing engines, too—good engines for *big* belt or traction work of any kind.

AMERICAN-ABELL ENGINES comply fully with every requirement of Canadian Boiler Laws and are rated accordingly.

**The Kind We Build  
Is The Kind We  
Should Like To Buy**

### "Seeing Is Believing"

Come to the Exhibition at Winnipeg in July and see how our Power-Farming Machinery works.

Make our exhibit at the fairs your headquarters. We will exhibit at Regina, Caigary and Saskatoon.

Add to sturdy build 100 per cent. reliability and every requirement for fast, clean, economical threshing, and you have a CANADIAN ADVANCE SEPARATOR. Satisfy every customer and secure the most profit for yourself by using one of these separators with your American-Abell engine.

If you have one of *these*, lose no time, complete your money-making, money-saving outfit by buying the *other*.

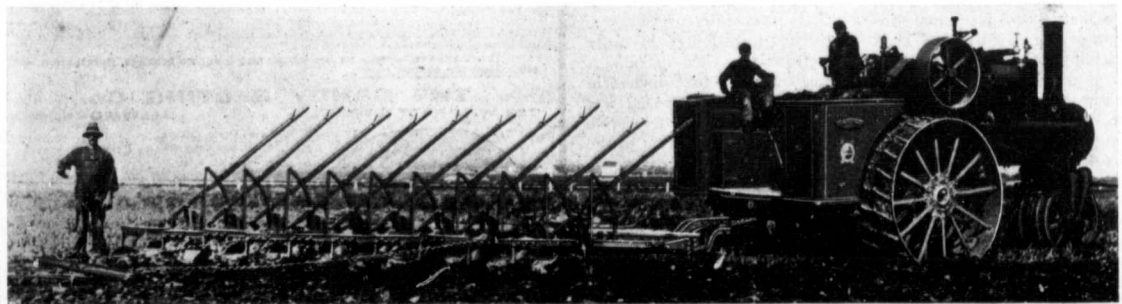
THE RUMELY UNIVERSAL TRACTOR is a medium sized tractor with big power possibilities. It is an excellent engine for the individual threshing outfit, and will furnish plenty of power to drive the smaller sizes of Canadian Advance separators. It is an all-season engine, well adapted to any kind of traction or belt-power work—as handy for a farmer to have as a wagon, and it will answer almost as many every-day purposes.

### WRITE FOR CATALOGS

State whether you want catalogs of AMERICAN-ABELL, CANADIAN ADVANCE SEPARATORS or UNIVERSAL TRACTORS. We shall be glad to send them to you, and you will find them of interest.

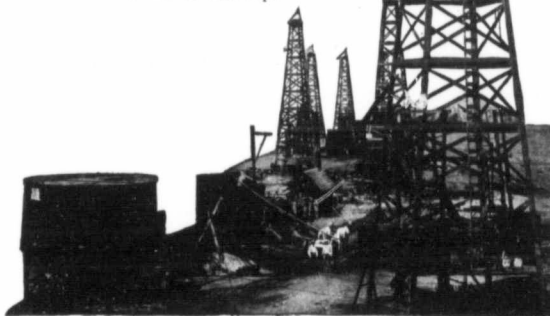
## Rumely Products Co.

1975 Dufferin Avenue Winnipeg, Manitoba



shock is generally sufficient to loosen it. This is obtained by the movable links of the jars. But they are not allowed to close completely, and so give a downward stroke, unless the tools become fast in the well. Above the jars is a long, heavy steel bar called the "sinker-bar." Through its momentum this gives greater effect to the action of the jars. To the top of the sinker-bar the rope is attached, by which the entire mass is lifted and dropped, just as a pile-driver is operated. The drop allowed for each stroke of the bit is about two feet. The rope is fastened to the "temperscre," which lowers the tools slightly as the rock is cut away by each blow of the bit, and turns them in the hole so that the next cut shall be at a slight angle to the last one. When all screwed together, the drilling tools form a rod about 60 feet long and weighing about a ton.

Over the spot where the well is to be drilled a heavy timber structure is built, called the "derrick;" this is from 35 to 80 feet high, and from 12 to 15 feet square at the bottom, tapering to about 5 feet square at the top.



A Typical Oil Well.

On the floor of the derrick is the windlass for handling tools, the rope passing over a small wheel at the top. During the drilling the rope passes through a clutch at the end of a large walking-beam, driven by the engine, imparting a rapid up and down motion to the tools.

An iron "drive-pipe" is sunk through the drift and clay to the solid bed-rock. If the latter is within 15 or 20 feet of the surface, a shaft 6 or 8 feet square is sometimes dug down to it. Then the drilling of the well proper begins, which is usually 7 3/4 inches in diameter to the bottom of the water-bearing strata. Then the hole is decreased to 5 3/4 inches diameter, and a tube called the "casing," is put down; this is provided with a rubber or leather collar to fit closely against the shoulder formed where the diameter of the well decreases, making a water-tight joint. Then the hole is continued to the oil-bearing strata,

by means of the 5 1/2-inch bit.

At frequent intervals it is necessary to remove the mud and splinters of the rock. This is done by the "sand-pump" or "bailer," which is a long metal tube, having a valve at the bottom. It is lowered until a pin on the under side of the valve strikes the bottom of the well. The water which is always present, rushes into the bailer, drawing with it the debris; then the tool is at once raised and the valve closes.

It is customary to drill some distance into the oil-bearing stratum and sometimes a cavity filled with gass, oil and water is

struck. The pressure is occasionally so great as to drive the oil to the surface, sometimes with great force. Such wells are called "gushers." They seldom continue to flow for more than a few days or weeks, when pumping must be employed. Some of these gushers have produced an enormous quantity of oil, as much as 3000 barrels a day when at their height.

But most wells do not gush, and it is now quite customary to resort to "torpedoing" in order to increase the yield of oil. A tin shell from 3 to 5 inches in diameter and from 5 to 20 feet long, is filled with nitroglycerine and lowered to the bottom of the well. On top of the can is a percussion cap, which is fired by dropping a piece of iron, called a "go-devil," weighing several pounds, into the well. The resulting explosion cracks and shivers the rock, giving the oil a better opportunity to flow into the well. Very often a well

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## The Cuddy Patent Steering Device AND The Bean Portable Derrick.

The Cuddy Patent Steering Device is the only machine that will successfully steer plowing tractors. Send for pamphlet: tells how to attach and successfully operate.

The Bean Portable Derrick will prove a boon to the farmer; it will enable him to unload his hay rack singlehanded.

### The Western Steel & Iron Co., Ltd.

Sole Manufacturers and Distributors in Canada

WINNIPEG - - - - CANADA

## ONE OF THE 20,000 USERS



## Gandy Endless Thresher Belt

This one's down in Texas, Stoneburg, Montague County. It's a big Aultman Taylor outfit, owned by J. T. Prater and Son.

If you could just hear a few of the 20,000 big users talk about the GANDY THRESHER BELT there could be no doubt left in your mind which belt your next order should call for. You never heard of such a satisfied bunch of Threshermen in your life.

### REMEMBER THE GANDY THRESHER BELT

has been in successful use in the thresher field for over 32 years. So long and so successful that all sorts of imitations are being offered threshermen in order to profit by its reputation.

If you want to be absolutely sure of profit from your belt investment, then buy the belt with the green edge; this brand stamped on it "The Gandy Belt" and our trade mark, a coil of belt, and a bale of cotton shown on picture of roll below.

It will pay you to write for free sample and complete booklets, information, etc., etc. Send the coupon now.

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Return this Coupon  
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# MAYTAG Co. LTD



**Do not forget that**

Any Threshing Machine Company doing business in Canada can supply you with a RUTH Feeder, and we FURNISH THE ATTACHMENTS TO PUT THEM ON SO THAT THEY FIT PERFECTLY. When we say ANY Thresher Company, we had in mind more especially any of the following, as they have all bought the RUTH of us, and we are not only willing but anxious to fill all orders they may favor us with during the coming season.

Sawyer & Massey Co.  
International Harvester Co.  
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Robert Bell E. & T. Co.

Geo. White Sons & Co.  
Nichols & Shepard Co.  
Reeves & Co.  
J. I. Case Threshing Mach. Co.

John Goodison Thresher Co.  
Aultman & Taylor  
Minneapolis Thr. Machine Co.  
W. S. Cooper Co.

REMEMBER, that should you buy a Separator of ANY COMPANY whose name DOES NOT appear above, that we can and will furnish the proper attachments to equip it with a RUTH FEEDER.

**And please do not forget that in addition to the**

# RUTH FEEDER

We sell practically everything else that a Thresherman uses. If in need of any of the following, drop us a line and you will get a prompt answer giving prices and any other information you may want.

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. Belt 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 COMPANY, LIMITED, WINNIPEG.**

gushes after torpedoing, and measures are usually taken beforehand to dispose of the first heavy rush of oil and water.

The finished well is prepared for pumping by lowering a 2-inch pipe, at the bottom of which is the oil pump, worked by a wooden rod inside the pipe, shows sections through a pump-

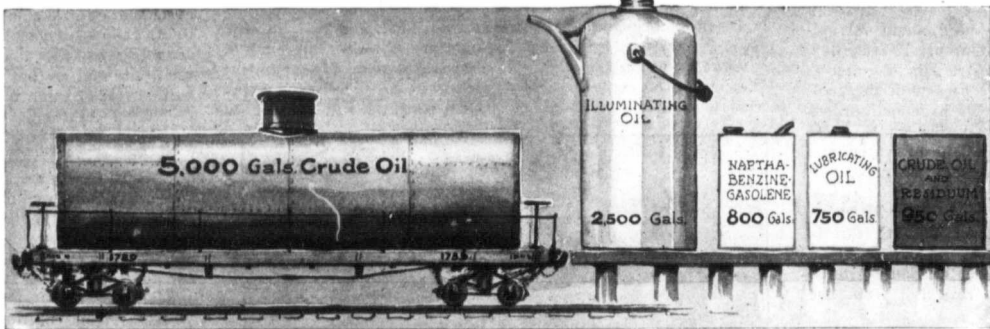
4000 dollars is about the average. The ordinary production varies from one to several hundred barrels per day.

The crude oil is now generally carried from the wells to the refineries by pipe-lines—six or eight-inch pipe—through which the oil is pumped. At frequent intervals along the pipe-lines are

ness and aimlessness. These two enemies have given birth to ennui, which is pain. If she be a child of fortune instruct her, even more carefully than if she were poor, to work in some definite manner for pleasure's own sake. More than all, train her hands, and stir her brain with the constant assurance that she will find her sweetest satis-

Better to be alone in the world, and utterly friendless, than to have sham friends and no sympathy.

A really good man had rather be deceived than be suspicious; had rather forego his own right than son the venture of doing even a hard thing.



The Crude Product and the Finished Products.

ing and through a flowing well. In a flowing well no pump rod is introduced, but the space between the casing and tubing is tightly closed at the top, in order to force both gas and oil through the tubing.

The wells range in depth from 50 to 4000 feet, the average in New York and Pennsylvania being from 1200 to 1800 feet. The cost varies, but from 3000 to

tanks of from 30,000 to 40,000 barrels' capacity, in which the oil is stored until wanted for refining. Of course this system mixes all varieties of oils; hence if a special kind is required, it must be transported in tank cars or in barrels.

A girl should be taught to detest two things thoroughly—idle-

faction in that which she is to accomplish in life.

Passion makes them fools who otherwise are not so; and shows them to be fools who are so.

A firm faith is the best divinity, a good life is the best philosophy, a clear conscience is the best law, honesty is the best policy, and temperance the best physic.

Happiness does not consist in doing what we like, but in liking what we do.

A gentleman is one who combines a woman's tenderness with a man's courage.

Man was made to be active, and he is never so happy as when he is so; it is the idle man that is the miserable man.

# GASOLINE TRACTION ENGINES

## A DEPARTMENT FOR THE USER

We want every owner of a gas tractor in Western Canada to give us his experience. The owners of gas tractors to-day are in a sense pioneers. They are working out the data and compiling a record of work done that both manufacturer and farmer alike the world over are watching with intense interest. Don't keep what you know under your hat, but let us have a story of your gas tractor work. We will reward every such story with a copy of "Plain Gas Engine Sense," one of the best handbooks we know of on the gasoline engine. Don't neglect this matter but let us have your experience at once.—(Editor.)

### Broke 1100 Acres.

Your letter of the 15th was forwarded to me here, as I am here on a visit. I will do the best I can in trying to answer your questions.

I have a Big Four gas tractor, 30 h. p., manufactured by the Gas Tractor Co., of Minneapolis and Winnipeg, and have had good success with it so far.

We broke about 1100 last summer with a repair bill of about \$22.25, as close as I can figure it now. I have an eight-furrow Cockshutt gang and had no trouble pulling it part of the time with a 22-wheel packer hitched behind it. The drivers of the engine are eight feet in diameter and the engine pulls its load over the softest spots where other engines would mire down and we would have to pull out the load to get through. We had three men in employ last summer in plowing, but ran two crews one day, and one night, and I don't think our cylinders were cold all summer except for about 36 hours when we laid up for a broken piston head, and we wouldn't have had to lay up then, if we had wanted to run on three cylinders.

We did not have any horses hired steady, but had our gasoline hauled whenever we needed it, which was about twice a week. We used about 30 gallons of gasoline per 10-hour day, and a ten-quart pail of water is the most we used with the cooling system we have on our engine. Our water tank holds about 100 gallons of water, and the gas tank holds about 60 gallons of gas.

Yes, I think it is harder on an engine to plow than to thresh, as with the continuous rack and jar going over the rough ground it stands to reason it would be harder on it.

One dollar per acre is as close an estimate as I could make on the cost of plowing, figuring gas, cylinder oil, hauling, hired help, etc.

We have had no experience pulling any kind of machinery except the disc or packer, and have never pulled both of these at once.

Gas tractors are used most extensively in our neighborhood.

I have nothing in the line of a picture of our plowing that will

do you any good I guess, but am sending one anyway, and if you can use it you are welcome to it.

I will also send one of our threshing outfit, but as it is the only one I have, I will have to ask you to send it back here as

averaged seven acres per day breaking. Our best day was 11 acres summerfallowing. We generally used about two pails of water per day unless on a very hot day when we would use half a barrel.

We did not keep separate ac-

counted if there was any danger of water in the oil.

We used our engine for threshing, running a 28x52 Northwest Separator with feeder and blower and when the grain was in good condition for threshing we seemed to have lots of power. It did not seem to be as hard on the engine as plowing. Oil tractors are growing in favor here, as several new outfits will be running in this district this Spring.

Yours Truly,  
Fair Bros.  
Khedive, Sask.

### Employs Eight Men.

Your letter received a day or so ago in regards as to how we thresh and plow. In the first place I am sorry to say we cannot tell you our experience on traction plowing, etc.

Our engine is a Fairbanks Morse, gasoline, 20 h. p., driving a 28x42 Waterloo Separator. We employ usually about eight men, five of them driving stook teams. Of course it is sometimes a job to get men, and we have to do with less. We thresh on an average in good grain 1100 bushels a day of wheat, and would not go back to the old style of large gangs under any consideration. We use from 18 to 20 gallons of gasoline a day, according to the toughness of the grain, and we use one and a half barrels of water a day.

The oil tractor is coming in our district very rapidly. There were five at least just near here last season, and gave good satisfaction. On a section of land our plowing outfit is two six-horse (two-furrowed share plows) outfits and we beat the 25 horse steam last year without fallow.

Yours obediently,  
Mathieson Bros.,  
Tuxford, Sask.

### Grain Wet and Tough.

Your letter received in regard to Traction Plowing. The make of our engine is Farm Universal 20 h. p. Our plow is the John Deere six bottom.

We employ two men with the engine and three with the horses, having thirteen head of horses. We use one barrel of gasoline in a day and two pails of water.



The Canadian Heer Tractor Plowing Near Stonewall, Man., Pulling a Cockshutt 4-bottom Engine Gang, soon as you have finished with it.

Hoping this will do you some good, I remain,

Yours respectfully,

Ben Wieser,  
Wyoming, Minn.

### Cost \$1.50 per Acre.

We purchased a second-hand outfit last June, consisting of a 20 h. p. Universal Farm Motor and a 6-bottom P. & O. engine gang. We had the usual ups and downs of beginners, but on the whole were pretty well satisfied with the outfit.

We plowed 80 acres for summerfallow and broke 80 acres.



Harvesting, Plowing and Harrowing in One Operation

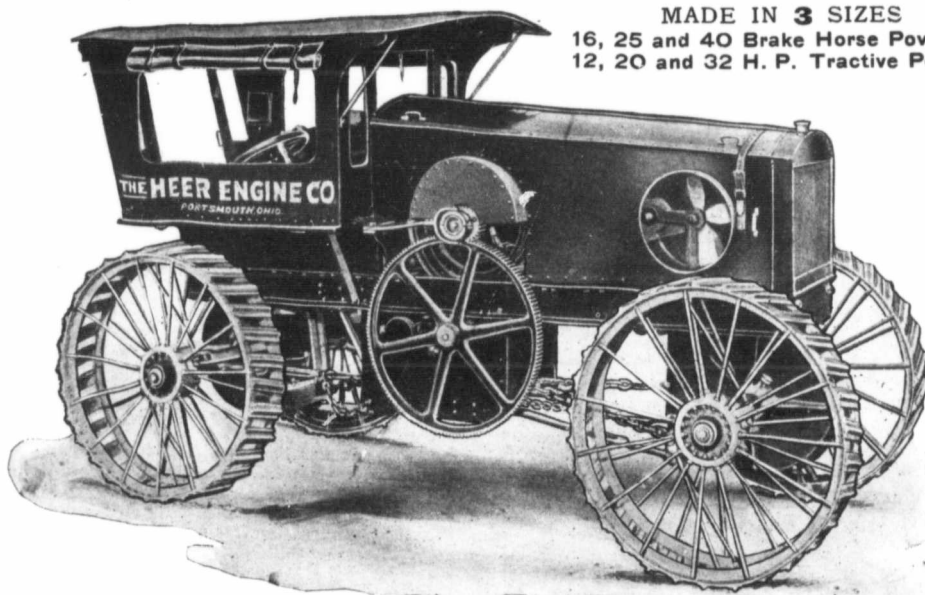
One man generally running the outfit, and the other choring around, hauling gasoline, etc., and running the engine at meal times. By thus changing off, we were able to get long days which we found to be an advantage over using horses. We

were able to pump a barrel of gasoline into the tank in a few minutes, which we found a great convenience and also a saver of time and gasoline especially on a windy day. A strainer on the hose prevented and dirt from going in, and a chamois strainer

THE  
**"FOUR-WHEEL DRIVE"** SUCCEEDS  
 WHERE  
**Gasoline Tractor** Others Fail

**By actual Test this Tractor Develops More Power on the Draw-Bar than any other engine built.**

MADE IN 3 SIZES  
 16, 25 and 40 Brake Horse Power, or  
 12, 20 and 32 H. P. Tractive Power.



**WHY THE "FOUR - WHEEL DRIVE" IS SUPERIOR**

The "Four-Wheel Drive" is built for economy and durability. It is the last word in simplicity and efficiency, a triumph of mechanical engineering, and represents many years of careful study and experimenting in an effort to bring about a Tractor that would meet all the requirements of everyday use. Power is applied to all four wheels. One, two or three of the wheels may be put out of use but the fourth will unseat the trouble and the tractor will move. The Four-Wheel Steering Device cannot be applied on other engines. The "Four-Wheel Drive" does not pack the soil—it can't, on account of the way the wheels are made. It will work 24 hours per day, and a child can operate it. The Heer Engine is as good for stationary work as it is for plowing and hauling.

**WHAT THE "FOUR - WHEEL DRIVE" WILL DO**

The Heer "Four-Wheel Drive" Gasoline Tractor does "more work with half the weight" and with less than one-tenth the repairs demanded by the ordinary tractor. It develops fully 10 per cent. capacity for overload on the belt and 80 per cent. efficiency on the draw-bar. By actual test it develops more power than any other tractor on the market. There is less fuel cost, less trouble with details and less engine trouble because engine and frame are set on heavy springs which absorb the shocks and jolts over rough roads and furrows. It stays on top of the ground and goes over furrows and sink holes without stalling.

*Don't Fail to See This Tractor at the Winnipeg Motor Competition.*

—WRITE FOR CATALOGUE AND CIRCULARS TO THE—

**CANADIAN HEER ENGINE COMPANY**

808 McARTHUR BUILDING

WINNIPEG, MANITOBA.

## Use The Caswell Automatic Binder Hitch for Harvesting with Power.



Caswell Diak and Seeder Hitch.

Owing to the grain being so wet and tough, I consider threshing harder than plowing on the engine. It costs about \$1.10 per acre. We have never had any experience pulling discs, drills, harrows after our engine, so far, but intend to next spring.

There are as many steam engines as gasoline in our neighborhood. We plowed 800 acres this last year, breaking and backsetting, and threshed about 15,000 bushels of grain. Our engine was standing idle half the time, both in plowing and in threshing.

Hoping this is the information you are looking for, I remain,  
Respectfully yours,  
C. F. McDermott,  
Fannystelle, Man.

### The Passing of the Steamer.

In reply to yours regarding my experience re traction plowing, I may say that I have been using an I. H. C., 20 h. p. type of engine. This engine would pull a 6-furrow John Deere little engine gang with ease in spring plowing, and five furrows in the Fall plowing. Last Spring I ran the outfit day and night averaging 34 acres per 24 hours using 45 gallons of gasoline. I used four men, two changing every seven hours, thus keeping the engine going all the time. While I plowed 640 acres, there was no lay off unless for wet weather. I did not use any horses for this work, as the men that were driving teams took out a barrel of water and one of gasoline as they were going to seed.

I do not think that stubble plowing is any harder on the engine than threshing. Of course there is considerable more wear on the ears. With this particular engine plowing could be done, work for engine along 50c per acre, I have done considerable discing and harrowing, and find I can do it far cheaper than with horse power, besides having it done just when I want it.

Last Fall I purchased an I. H. C. 45 h. p. engine, and a 10-furrow John Deere plow. I only did three days and nights plowing as I was using the engine for threshing. I have not got a record as to how much gasoline this engine used per acre, but believe that it uses 20 per cent. more per acre than the

20 h. p. The engine is a good one to keep going. I had to put a man on the engine half the time, with myself the other half. This man had never been on any kind of engine, but he kept it going. I think this says a good deal for the engine as well as the man.

The steam engine is passing



Hart Parr and Massey Harris

away in this district. Three years ago the gasoline tractor was an oddity here, now it has taken the lead by far. I may say that I have used the steam engine for threshing, but not for plowing. I believe the gasoline engine is far ahead of the steam engine for farm work.

W. H. Parker,  
Cupar, Sask.

### Traction Plowing Cheaper than Horses.

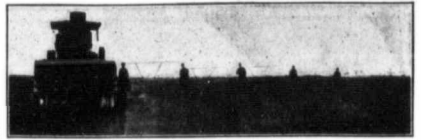
In answer to your letter of enquiries as to traction plowing, I will do my best to give my experience.



The Oil Pull Completing a Task Begun Early in the Spring

I bought a 45 b. h. p. Hart-Parr outfit, and an eight-bottom Cockshutt in the Spring and started to work. The first thing I found out was that something more than a past experience with a stationary gasoline engine is required to run a gasoline trac-

Each binder steers itself, cutting an even swath all the time on curves, out curves, square corners and points, without a man around. Everybody says "Beats anything I ever saw." Then use the new Famous Caswell Adjustable Belt Guide to save belts and grain in threshing. Caswell Wagon Trains for hauling off the crop, and the Caswell Disc and Seeder Hitch for working down the land and seeding it again. Write to-day for catalogue of Power Farming Equipment with full description and price. "Everything but the Engine."



Caswell Binder Hitches in Operation at Gadsby, Alberta. Caswell Disc and Seeder Hitch for working down the land and seeding it again. Write to-day for catalogue of Power Farming Equipment with full description and price. "Everything but the Engine."

CASWELL MFG., CO.

Cherokee, Iowa.

tor. No doubt such a man would learn in time, but an investment of \$4000 running at \$50.00 per day cannot be idle while the owner is experimenting. It pays to have the best expert on the job as his wage is of not much account. It is not so much the money made while running as the money lost while

never come off. I have seen this on walking-plows in England.

About 2½ gallons of gasoline per acre, and some 30 gallons of water per day was the consumption. I never used kerosene, and from what I hear it is six of one and half a dozen of the other. I have never used the engine for threshing, but another gasoline engine, a Fairbanks, threshed us out this year and gave no trouble whatever. Gasoline certainly has the pull over steam, but a man must be onto his job.

We used to pull six plows, and whilst discing, five discs. The engine has certainly the power to pull six plows, except in the stiff gumbo.

We had one break, the crank shaft, and I understand all engines of that year did the same. The spokes kept on breaking, but since then they have put on a much heavier wheel which gives satisfaction. We also had trouble with the coils, and I think a high pension magneto would pay.

I also think that another hundred dollars on the various controls, gasoline, water, including a heavier tank, spark advancer would be money well invested. The wheels also are not wide enough to carry her through many soft places. Our land is very heavy though, and they are ample for any sandy soil.

To sum up, anyone with a section of land to plow can invest in an engine profitably. The initial cost is less, if you take harness, plows, feed, stabling, into consideration. This applies to lightish soils, they are not so successful on clay soils. This applies also to seeding, except when there is little or no snow, and to a less extent in harvesting.

We plowed easily when horses could not plow on account of the dryness, but in a wet time the reverse would happen. I believe the Hart-Parr is as successful as any other, if not more so, especially if they would improve them as I have suggested.

I forgot to mention chain drive for magneto, and more rivets in place of nuts where they cannot be got at easily.

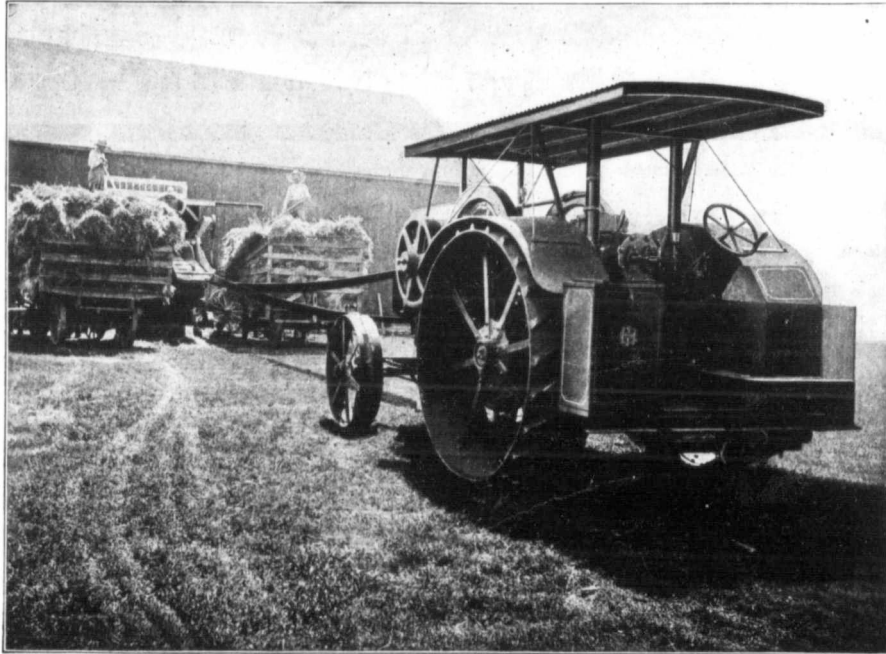
As a first and last piece of advice don't try and economize on the engineer, hire the best,

of access for adjustments. It used to take from one to two hours to change the lays, owing to the bolts being worn and turning with the nuts. I cannot see why the bottoms are not fastened on with wedges; a plow is never backed up so they could



# Buy an IHC Outfit and Get Threshing Efficiency.

The cost of running a threshing outfit is perhaps the most important thing to consider in the purchase of a new outfit. Allowing a margin of one size for safety, the smallest outfit that will do your work is the cheapest you can buy. It is easiest to transport, easiest to set and costs least to run.



When you have decided on the size needed, go to the I H C local dealer and order the outfit from him, including an I H C oil tractor or portable engine, if you want to get through the season with the least expense for repairs, fuel and oil costs, and attendance.

I H C tractors and engines are so simple that any man can understand and manage one. That makes them economical because you do not need a high-priced, specially-trained engineer to operate your engine. I H C tractors and engines, carrying their daily run supply of fuel, do not require a coal tender. Since the fuel is automatically supplied to the engine, it does not need constant attendance, an occasional oiling is enough. The engineer starts and stops with the work so there are no standing losses. There are no sparks to set fire to stacks, no smoke or soot to inconvenience your helps. Little time is spent in setting.

With all these advantages it should be easy for you to decide on an I H C outfit. See the I H C local dealer for catalogues and full information or write the nearest branch house.

## Western Canadian Branches

# International Harvester Co. of America

(Incorporated)

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

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# WHITE ROSE GASOLINE

AND

# LILY WHITE ENGINE KEROSENE

Acknowledged Everywhere as the **BEST** in their respective lines.

The **BEST** is none too good for you. Send us a trial order and be convinced

PROMPT SHIPMENTS    FAIR PRICES    HIGHEST QUALITY.

## Canadian Oil Companies Limited

REGINA

WINNIPEG

SASKATOON

MEET  US at the Winnipeg Exhibition, July 10-20, 1912, in the North Manufacturers' Building

and in reason never mind his wages.

Yours truly,  
Norman Jacques,  
Ingleton, Alta.

### Experience a Valuable Teacher.

The year 1911 is the second year that I have used my engine, a 20 h. p. International and is by far more satisfactory than the first year. The first year I had several bad breaks due to flaws in the castings, but this year I had practically no breaks, and any that I had were generally due to the carelessness of the operator. I hired young fellows who were anxious to learn to run a gasoline engine, and I let them do the bulk of the work, while I acted as expert and instructor. However a gasoline engine requires constant attention to keep it sweet and running under full power with economical fuel consumption.

I have a four-bottom P. & O. breaker, fitted with rods, and a seven-furrow Emerson disc plow. I used four bottoms in breaking under favorable conditions and three at any other time. Our land is very heavy and sticky. I pulled 10-furrow steel lever harrow behind the disc plow in stubble. This leaves the land ready for seeding.

Well I plowed 910 acres—315 acres being heavy breaking and balance stubble plowing and backsetting. Also scrubbed forty acres of breaking, driving two

12-foot scrubbers, each a heavy load for six horses. I also threshed about twenty days using a 27x42 Aultman Taylor with all attachments having plenty of power even in heavy wheat. I use 6 stook teams and 3 pitchers, and keep them pretty busy. I would much rather have a man stand idle for 5 minutes than the separator and engine for the same length of time. This is the second year I have used my separator, and have hardly ever stopped for repairs, it being an extra good separator. I

they both gave it up. Later the same house was moved easily by a 30-60, 4-cylinder Aultman-Taylor and four horses. The horses were said to be used to guide with, but I think they pulled a little.

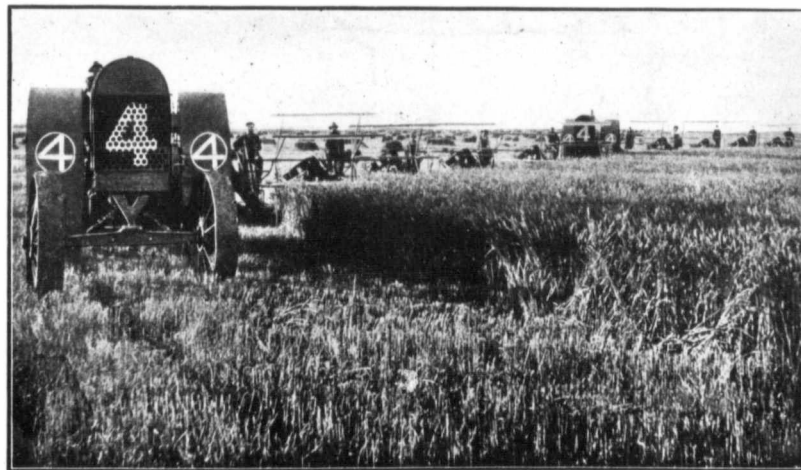
My gasoline, grease and lubricating oil cost \$596.00, and hired help something like \$500 making the cost per acre, not deducting for threshing, moving graneries, etc., about \$1.25 per acre. I think actual plowing cost is about \$1.00 per acre.

The stubble plowing is much

your engine. On a sixteen hour day stubble plowing, I use from 20 to 25 gallons of gasoline, Imperial Oil Co. grade, but on breaking using four plows, I notice a little more fuel is used as the engine is loaded a little heavier. With gasoline at 21c bulk, and kerosene at 14½c bulk. I can see no advantage in using the latter, though you hear a great deal about the cheapness of the latter. My International engine uses about two barrels of water per day of average plowing. This also depends on circumstances, how hot the day is, and whether or not there is a good breeze.

In my neighborhood, the steam engine has nearly gone out of use, except for threshing, and even there another year will see the gas tractor in control. On every side one sees the steam engine laid aside and the gas tractor replacing it.

Ira B. Cushing,  
Lang, Sask.



The Big 4 in a Big Way of Business.

also moved eight graneries, several of them nearly a mile, and helped to move a house for half a day. This last was not successful, being too heavy a load for two 20 h. p. International engines. On this job I broke two stud bolts in the boxing on differential shaft. I gave up the job, and another International 20 h. p. tried it with the same engine with which I had been working for a partner, then

cheaper than \$1.00 per acre. During the Spring rush, I employ five to six men, having two men to do the seeding, etc., while the engine runs night and day. Last year, I had eleven head of horses, but this year I do not expect to use more than four head, as I have purchased a new engine, Big Four 30.

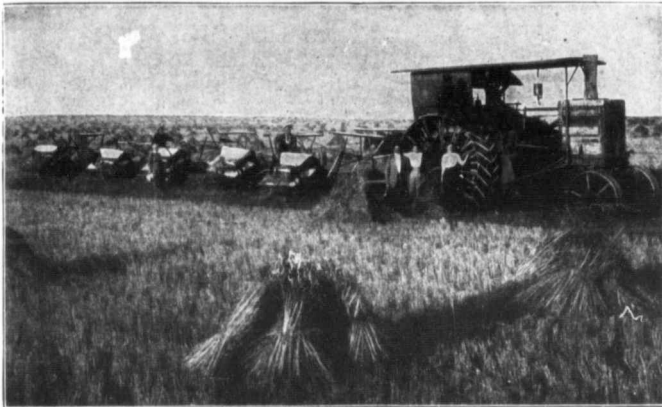
The amount of fuel used per day all depends on how long your day is and how hard you work

To be both acceptable and agreeable in society it behoves one neither to see nor remember a great many things.

Be useful everywhere—be a man who fits in.

The length of the day has less to do with what is accomplished than the strength of determination.

# Dependable, Economical Power for Harvesting



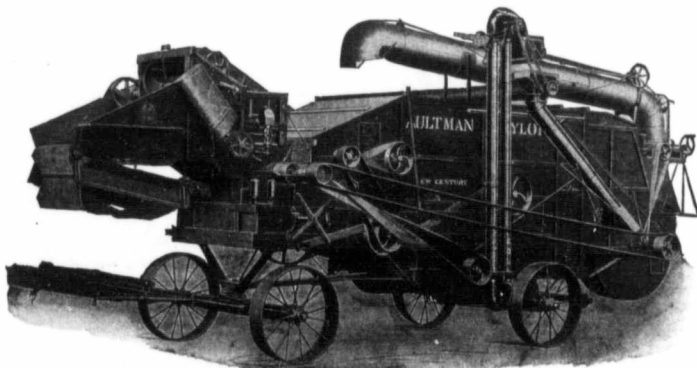
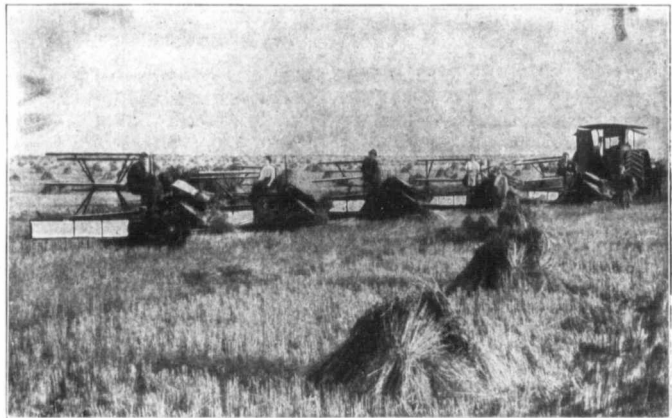
Harvest days are nearing. Are you prepared to gather your grain quickly and economically? The farmer that enters the harvest field with insufficient power takes big risks. The weather may change at any minute. This change may mean the loss of the greater part of your crop. Can you afford this?

The Aultman-Taylor "30" will furnish abundant, reliable and economical power with which to gather your grain. It will easily pull six eight-foot binders. Every advantage can be taken of the short season. Unlike horses, it never tires—the sun is never too hot—can be run night and day if desired.

Let us tell you more about this incomparable tractor. Drop us a postal today.

When harvest is over, the Aultman-Taylor "30" need not be idle. No steadier or more reliable power can be found for threshing and other belt work.

You need this tractor to make your farming a success. Hundreds of progressive Canadian farmers are buying them. They have placed their orders with us, being absolutely satisfied that the Aultman-Taylor "30" is far superior to anything else the market affords. A great many of these tractors have been shipped into Canada this season—no doubt there's one in your neighborhood—you had better investigate—go look it over—see the wonderful results accomplished—you will readily see why we make such broad claims for this tractor. If you cannot locate one of these tractors in your immediate neighborhood, write us for nearest point where one may be seen at work. Results count. We want to show you the results accomplished, which speak louder than words.



Oh Yes! Each Year Brings Forth a Greater Demand for "NEW CENTURY" SEPARATORS.

THE INTERNATIONAL HARVESTER COMPANY OF AMERICA

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## Course in Gas Engineering

Conducted By D. O. BARRETT.

This Course consists of a series of practical talks on the theory and practice of the gas, gasoline and oil engine. They will be simple, illustrated when necessary, and of such a nature that the gas engine owner may easily adapt them to his daily engine work.

### LESSON XX.

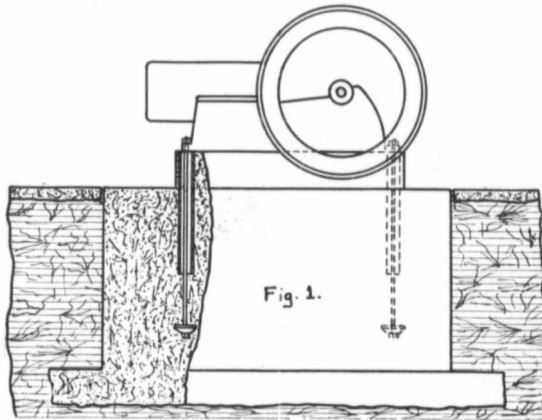
#### FOUNDATIONS.

The subject of proper foundations for the gas engine is one which is not given the attention which its importance rightly deserves, especially by the unskilled operator or owner. A small engine is usually set on a pair of skids or timbers, and braced or spiked to the walls or other convenient supports. This is very incorrect and necessitates considerable unnecessary labor. The vibration is constantly jarring parts loose, the governor does not always act correctly, belts persist in running off, and a thousand and one other little annoyances are created. Of course, in the smaller sizes it is often desirable to have the engine so placed that it may be readily removed. For instance, in the winter it may be mounted as a portable for wood sawing,

some solid fastening. With a vertical engine where the stresses occur in a vertical direction, such a large foundation is not necessary if the condition of the soil is satisfactory for properly supporting the weight.

The material used for the foundation may be brick, stone, or concrete; concrete, however, being almost universally used, because of the ease with which it may be prepared, and the fact that it may be made to take any form desired. Also when hard the concrete forms one solid block, best adapted to receive throughout the stresses transmitted to the same from the engine.

Engine builders usually supply with the engine foundation plans for the same, and these should be strictly followed when setting up the engine, as the builder knows better the peculiarities and the needs of his particular engine, and has learned what he



and may also be taken inside to run the crusher, etc. However, for engines of ten h. p. and larger, this state of affairs does not usually exist and the engines are located where they are to be permanently used. A little time spent in planning the foundation and the general lay-out of the apparatus used in connection with the engine, will more than repay the original cost.

The necessity for a foundation arises from the fact that the gas engine at its best is an unbalanced piece of mechanism, and stresses of considerable magnitude are set up by the rapidly reciprocating piston, connecting rod, etc. Anyhow, were this not so there would still be the belt pull which would tend to move the engine and would necessitate

knows from experience with hundreds of engines of this same type.

It is found that the dimensions of foundations for engines supplied by the different builders will vary from 20 to 100 per cent. so that, of course, there can be no set rule regarding actual sizes. However, the foundation should be large enough and any extra material which may be put into it may be considered money well invested. Of course for the same power the heavy slow speed engine will require a much larger foundation than a higher speed, lighter engine.

For the ordinary type of single cylinder engine suitable for farm use the necessary size of the foundation may be found from the following equation:

The Kind We Build  
is the Kind We  
Should Like to Buy

## Rumely Liquid-Fuel Tank

will last a life-time and stand the hardest kind of service. It will pay for itself many times over by its saving of oil, time and labor. This big capacity tank will hold a two-week's supply of fuel for a small engine, and enough fuel to last the biggest engine at least a week.

It is indispensable as a part of the equipment for any internal combustion engine.

The capacity of the tank is 510 gallons. It is made from high quality 12-gauge steel, rolled into shape. All seams are closed by our special oxy-acetylene welding process—making a tank that is absolutely leak proof. It can be placed on any ordinary farm truck or wagon. A solid platform is built on top of the tank so that the pump can be rigidly attached. All necessary pipe connections and a heavy brass faucet are furnished free.

The trucks are equipped with steel drawbar reach with loop in rear for hooking on other vehicles when pulled by tractor. Wheels are of steel, 34" front and 44" rear, with 4" tires. Truck has standard 56" tread, and is equipped with a combination extension tongue for use with horses or tractor, and with a comfortable spring wagon seat.

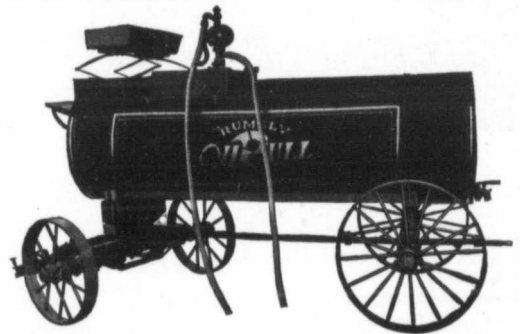
The tank is equipped with *Trakern Rotary Barrel Pump*—the most compact, durable and efficient pump we can buy for the purpose. The suction gears of our pump are of cast iron, milled to gauge, assuring easy operation with high efficiency, and absolutely preventing leakage at joints or connections. Suction and discharge can be alternated by simply reversing motion of crank. This feature makes it possible to empty the hose after using.

A special feature of our 1912 fuel tank equipment is our rot-proof kerosene hose, built to withstand erosion of oil. This hose furnished with every Rumely liquid-fuel tank.

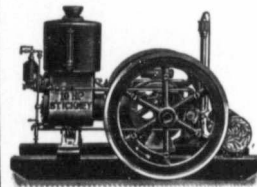
Tanks are sold with or without pump and trucks.

For further information drop a postal card to—

**RUMELY PRODUCTS CO. 1972 Dufferin Ave. Winnipeg, Man.**

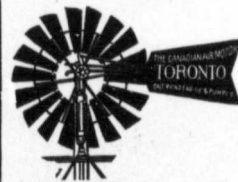


## "Stickney" and "Chapman" Gasoline Engines

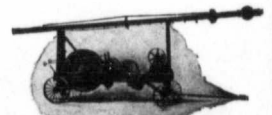


hold the lead as all-around Farm power. In greater demand than ever before, 90 per cent of gasoline engine troubles have been eliminated in the construction of the "Stickney" & "Chapman." Simple, economical, easy to start, always ready for work.

Get at the facts: write for Stickney Catalogue No. 51, or Chapman Catalogue No. 52.



Windmills for Power and Pumping



"Climax" Well Drilling and "Dempster" Boring Machinery

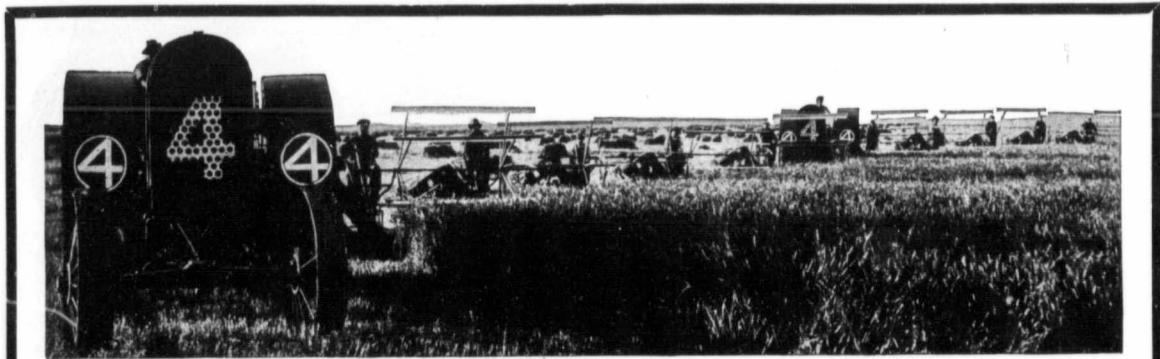
Aylmer and Toronto Pumps, Cylinders and pump supplies, Toronto Grain Grinders and Roller Crushers, Steel saw Frames, Aylmer Standard and Pitless Scales, in all styles and capacities.

See us when at the Winnipeg Exhibition, also at our new Warehouse, corner Logan and Arlington, convenient to the Exhibition Grounds.

## ONTARIO WIND ENGINE & PUMP CO., LTD.

Winnipeg Calgary Toronto Montreal





# The Modern Way

With THE BIG FOUR "30" and the Hansmann Binder Hitch (for which we are exclusive sales agents) harvesting the crop is no longer the risky, expensive, uncertain operation it used to be with horses. THE BIG FOUR "30" and the Hansmann Binder Hitch represent the maximum of efficiency and the minimum of time, labor and expense in the harvest field, where a few hours' delay may mean the loss of the entire crop.

Write NOW for valuable book on Horseless Harvesting.

## Gas Traction Company

First and Largest Builder in the World of Four Cylinder Farm Tractors

156 Princess St., Winnipeg, Man. Canadian Factory: Winnipeg. General Office and Factory: Minneapolis, Minn., U. S. A.

$V = (8 \text{ to } 10) H.$

Where

$V$  = volume of the foundation in cubic feet, that is, the product of the length, breadth and height.

$H$  = the maximum brake horse power of the engine.

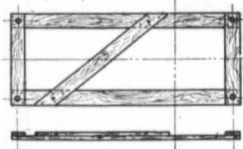


Fig. 2.

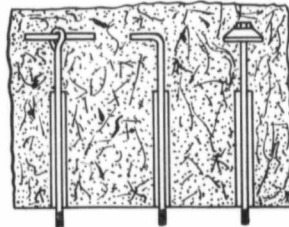
It must be understood that these quantities may be varied considerably, depending upon local conditions, but they may be taken as a general guide.

The foundation should be considerably wider than the engine itself, but the length is largely the determining factor. The stresses set up in the engine and transmitted to the foundation tend to alternately tip the foundation backward and forward, while the belt pull exerts its force always in the one direction. The stresses at the bottom of the foundation vary from zero at the center to the maximum near the end. In order to distribute the weight of the foundation and engine upon the soil a layer of concrete may be put in larger than the founda-

tion itself to act as a footing. The allowable pressure per square foot on the earth at the bottom of the foundation varies from 30 to 60 pounds, depending, of course, upon the kind of soil encountered. Should the ground be very soft or unstable it might be found necessary to drive piling, though this is hardly ever the case. After the size of the foundation has been determined or obtained from the builders the ground should be excavated somewhat larger and a form built of the desired size. This may be constructed of boards or planks tight enough so that the water will not run from the concrete and well braced to withstand the pressure but space enough should be left around it so that it can be readily removed. This should be brought up as high as the floor level.

The cut shows a typical founda-

tion with an engine having a low base. Of course it is necessary to construct another box to go on top of the regular foundation to form the sub base under



the engine. Many builders supply iron sub bases so that this is unnecessary, the foundation being brought up only to the floor level.

A template should now be constructed for carrying the foundation bolts. This template may be made of boards and strongly

braced, the center lines of the engine and shaft being laid out upon the same so that the bolt holes may be correctly spaced. This lay out may be obtained from the builders. This template with the foundation bolts in place should then be leveled and lined up either with the building or with existing shafting, or machines which it is intended the engine should drive.

The holes in the template should be the same size as the bolts to prevent them from moving. Care should be taken to see that the bolts are brought up through the template a sufficient distance to allow for the thickness of the feet on the engine base. Either wooden boxes, or preferably a piece of pipe two or three times the diameter of the bolt should be placed over the bolt, extending down from the top about two-thirds of its length. This is done so that

## More Power OILDAG

(Reg. Trade Mark.)

Builds a film that is lasting. It is the only oil that contains Deflocculated Graphite. This graphite is not available in powder form. Oildag is put up in condensed form for mixing with 1, 5, 10 or 40 Imperial gallons of oil. You mix it with the oil you use regularly. As all Acheson-graphite sold as a lubricant is of highest purity, and Deflocculated Graphite is of molecular fineness, it is plain that Oildag has no equal as a lubricant to be used in place of plain oil, that drips, drips and drips away without affording enduring benefits.

To secure the greatest efficiency from either gas or steam engines, the cylinders should be lubricated with Oildag. Oildag and Gredag are lubricants that afford cumulative benefits.

## GRETAG

Gredag is the only grease containing Dis-integrated Acheson-Graphite. It will easily do twice the work of plain grease because it forms a film that has wonderful endurance. The smoother that you can make surfaces that come in contact the less will be the need of lubrication, for friction will be reduced. We are General Agents for Gredag, made by the International Acheson Graphite Company



Ask your dealer or write for more particulars

Acheson Oildag Company

SARNIA, ONTARIO

when the engine is placed on the foundation the bolts may be moved slightly to allow for any inaccuracy in the spacing of the holes, and also to admit the engine being moved slightly if found necessary. After the engine is permanently located in position slush cement may be poured into the pipe, although this is not usually done.

At the bottom ends of the bolts iron plates, or washers should be placed to take the upward pull when the nuts are tightened. When plates are used some method should be employed to rigidly fasten the bolt to the plate to prevent its turning. Another method is to simply bend the bottom in at right angles 6 to 10 inches long. An eye may also be formed at the bottom end and a rod slipped through. Most any of these methods are sufficient where the concrete is allowed to solidify around the bottom portion of the bolt itself, as it adheres to the iron to a considerable extent. Allowing the pipe around the bolt to extend down about two-thirds the length gives the necessary movement of the bolt at the top, and also gives a solid hold at the bottom.

After the foundation is thoroughly hard the forms may be removed and earth filled in. If there is to be a cement floor in the building it should not quite touch the foundation proper, the space between being filled with some loose material, so that the shocks due to the engine may not be transmitted to the floor and thence to the walls of the building. After the engine is placed over the bolts it should be carefully leveled up, using some finished surface on the engine, such as the crank-shaft, or by dropping a plumb line along the wheel so that it will touch the rim at both top and bottom. Iron wedges may be driven under the base to make any adjustment necessary. These should be of such a length they may be driven in flush with the outer edge. Slush cement may then be poured under the base and allowed to harden, after which the bolts may be tightened and the job is done.

The concrete may be mixed into proportions of 1-2-5, that is, one part of cement, two parts good sharp sand, and five parts gravel or crushed rock. The slush cement is made of equal parts of sand and cement. That portion of the foundation which extends above the floor should be carefully dressed and trowelled to present a finished surface. It is also well to paint this portion as concrete absorbs oil quite readily, the oil causing it to crumble away.—D. O. Barrett.

### B. G. BAKER PROMOTED

Rumely Produce Company Has  
New General Sales Manager  
in Former Manager of  
Canadian Division.

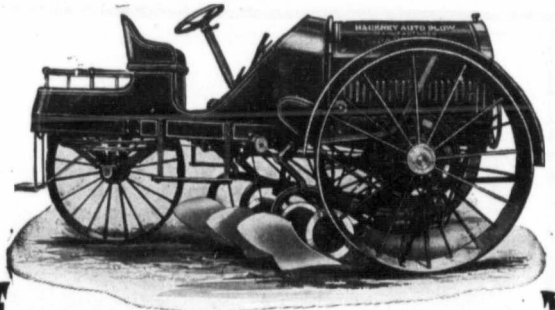
Announcement was made today that Dr. Edward A. Rumely had resigned as general manager of the Rumely Products Company in order to devote his entire attention to the executive work of M. Rumely Company. This does not mean that he will not be actively interested in the management of the great manufacturing concern but rather that the business has grown so enormously that he has been compelled to absolve himself from the details of sales work.

His place will be effectively filled by Mr. B. G. Baker, who leaves the position of Canadian sales manager with headquarters at Winnipeg, to assume general charge of both domestic and foreign sales. His place will be filled by Mr. J. S. Witmer, branch Northwestern sales manager for manager at Saskatoon and former the J. I. Case Threshing Machine Company. No other change in division sales managers is made. Mr. Leo M. Rumely, Mr. E. S. Tecktonius, Mr. A. J. Donovan and Mr. C. F. Chase filling these important positions as before. Within the brief period since the great expansion of the Rumely business, each of these men has assumed responsibilities greater than are met by the sales managers of many large concerns, and with the further growth of the business, their positions will become even more important. The rapid growth of the organization is but a forecast of what may be expected with the more comprehensive developments of the sales side of the business through the activity of these men.

Mr. Baker has entered upon his new duties by beginning a series of extensive trips over the territory in connection with the division sales managers. His new position is accorded him as a result of long, hard and brilliant work in the field coupled with a deep knowledge of agricultural and commercial conditions. He will of course make his headquarters in La Porte within the next few weeks.

Every advertisement should be as important as a single button on a pair of pants.

The man who can do anything he has to do, usually has to do anything he can.



## Hackney Auto Plow

"THE GREAT ONE MAN OUTFIT"

The Greatest Labor-Saving Machine  
on Earth To-day for the Farmer

Just the machine for the average farm; a tireless worker, day or night; simple to operate, at small expense, and sold at moderate price.

Will do all the plowing, harvesting, haying, hauling, feed grinding and all other work where a power machine is needed on a 120 to 640 acre farm.

Performs the work of 10 horses and 3 men plowing and does away with the labor expense of caring for them.

Has 40-horse power engine; three 14 or 16-inch plows; automatic steering device; rotary harrow and road grader attachments.

The man who secures the agency is fortunate, as it sells on sight.

Catalog and full information free.

"See the HACKNEY AUTO-PLOW at the WINNIPEG FAIR"

Reference:—Any bank or business house in the Twin Cities.

**Hackney Manufacturing Company,**  
579 Prior Avenue - - ST. PAUL, MINN.



That it is lightest is the weightiest reason why you should own a Ford. Every added pound which an automobile carries above that which is needed for strength—means added expense and added danger. The Vanadium-built Ford is strongest for its weight.

Seventy-five thousand new Ford Model T's will go into service this season—a proof of their wonderful superiority. The price is \$775 for the roadster and \$850 for the five passenger touring car—complete with all equipment, f. o. b. Walkerville, Ontario. Catalogue from Ford Motor Company of Canada, Limited, Walkerville, Ont., Can.

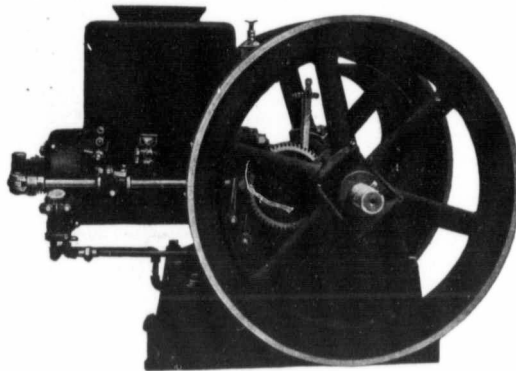
**Besure To Renew Your  
Subscription Before It's Too Late**

# THE STOVER GASOLINE ENGINE

Stationary, Portable and Traction Engines always in stock.

### Don't Buy A Stover

Unless you want the Best Engine on the Market, an Engine that is dependable and will deliver the power with the least consumption of fuel. We have Engines for every purpose at prices before unheard of



### Do You Use

Dry Cells, Crusher Plates, Harness, Oils, Plow Shares, Bag Holders, Scales, Buggies, Harrows, Threshers, Supplies, Belting, Cultivators, Plows, Grain Crushers, Pole Saws, etc.? Write us for prices, they read like a romance.

OUR FULL LINE includes: Fuller & Johnson repairs; repairs for the Wilkinson Plow Line; Shares for all kinds of Plows at reasonable prices, wholesale and retail. Engines for pumping, Churning, Crushing, Grain Cleaning, Sawing, Threshing, and running Washing Machines.

We handle every known Farm Requisite.

Write for our Special Catalogue. When you come to Brandon visit our Mammoth Warerooms and have your mail sent to our care.

## Canadian Stover Gasoline Engine Co. Ltd.

EIGHTH AND PACIFIC ANENUE, BRANDON,

The Original Farmers Company.

### COUPON.

Canadian Stover Gasoline Engine Co., Brandon: Please send me Catalogue of your Engines and Sundries, as advertised in the "Canadian Thresherman and Farmer."

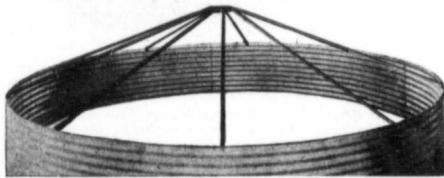
Name.....

Post Office.....

### Ideal Grain Storage.

More than once we have had pleasure in referring to the fine products of the Winnipeg Ceiling and Roofing Company. They have again found it necessary to erect an additional wing of great storage capacity to their already extensive plant at St. Boniface. This augmentation is already taxed to its last capacity in consequence of the daily increasing demands of the west. One of their best known specialties is the Corrugated Iron Fire Proof

year have an exhibit of unusual interest in the Manufacturer's Building at Winnipeg's great fair, and an invitation is cordially extended to any one visiting the city on this or on any occasion to call and inspect the enormous plant at St. Boniface, including as it does so many beautiful and delicate operations all performed with a precision that manual labor could neither rise to or maintain if it once reached such a point in perfect adjustment.



### NUGGETS

granary which is now represented at nearly every settlement in the three grain growing provinces. Until recently the roof of the building was supported by wooden joists but these are now being replaced by an angle iron roof frame which means that there is now not a particle of wood used in the construction saving a portion of the floor. The accompanying cut gives an idea of this improvement which adds considerably to the strength and durability of the granary. The Winnipeg Ceiling & Roofing Company will this

No man is competent to judge his own children or his advertisements.

The serious business of the world is done by people who are light-hearted.

People buy the package as often as they do the contents.

It costs more to advertise your troubles than anything else.

## CAR SHORTAGE

nor any manner of weather or transport trouble need ever distress you if you can store your grain in our

'As a convenient strong, cheap, and thoroughly dependable grain store. I cannot criticise it.— It is a complete Insurance Policy against Fires, Vermin & Damp' —J. D. D.



"The cost is a mere bagatelle when you consider the saving it means in storage and the fact that you can keep the crop in prime condition till you WISH to sell it —E. W. H.

### CORRUGATED IRON GRANARY

The best value and the most perfect equipment in grain storage that can be made or purchased to-day. It can be located at any point of the farm and moved at will by easy draft. The 1912 season promises no improvement on transport facilities, and for this reason alone, it is imperative that it should become a part of the grain growers outfit. It is DAMP PROOF, FIRE PROOF and VERMIN PROOF, and it is the

Only Granary proved best by years of use.

Write for full particulars to the

Winnipeg Ceiling & Roofing Co.,

P.O. Box 2186C., WINNIPEG, MAN.



## 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. G.** Kindly give me information as to how much compression space a cylinder of six-inch bore and 18-inch stroke should have, and how much pressure would be on the piston head by the time it reached its full stroke of 18 inches if the compression was 70 pounds per square inch before it is ignited, and how much horse-power would such an engine develop?

**A.** For from 65 to 75 pounds compression pressure the piston displacement should be about 25 per cent. of the entire cylinder-volume value and other pockets inclusive. If your cylinder is so designed that no pockets communicate with the ignition chamber, then 6 inches of compression space behind the piston when the latter is on inner dead center would be about proper, since 18 inches is the piston stroke, 24 inches should be the entire cylinder volume. This would leave 6 inches for compression space. The initial pressure immediately after explosion would probably reach from 275 to 300 pounds per square inch. The pressure at the end of the power stroke or the beginning of the exhaust opening would probably drop to something between 15 and 35 pounds. At 250 revolutions a single cylinder of the above capacity would develop some over ten horse-power (actual horse power).

**Q. C. F.** Am thinking of getting a light weight, high speed, single cylinder throttle governor, four-cycle engine of the following dimensions; 4x4 cylinder, 6-inch pulley, single fly wheel rated at 4 h. p. at 800 r. p. m. and 5 h. p. at 900 r. p. m., 85 pounds per square inch compression. Is this rating correct? I like the above engine by its catalog description. It is quite high priced, but I don't care for that. Do you think it is all right? Why is a heavy weight engine with 4½x5-inch cylinder, 6-inch pulley, 450 r. p. m. hit and miss governor, rated as 2¼ h. p. compared with the light weight engine? Do you consider the hopper cooling system as good as the screen cooling tank with centrifugal pump for a steady run? Which is the best governor "hit and miss" type or throttle? Which is most economical?

**A.** It will hurry the 4x4 at 800 r. p. m. to deliver 4 actual h. p. but if in first class condition and well constructed it will do it. The 4½x5-inch at

450 has a little better favor at a 2¼ h. p., rating than former one at 4 h. p. We see no reason why the 4x4 at 800 r. p. m. should not be all right, especially since you say it is a high priced engine, which would suggest that it is of specially high class construction. Engines designed for special purposes are light or heavy to better meet the need of the service required of them. The hit and miss governor is generally considered the more economical on fuel consumption. But we could not say that it is better than the throttling governor. The kind of service such as for driving dynamo for direct incandescent light service would call for the throttling rather than the hit and miss governor. For a small medium speed engine the hopper cooling system is very satisfactory. For a larger high speed the pump and screen radiator is preferable.

**Q. (1)** I saw an article some time ago in regard to how dry batteries are made. Mention was made of the fact that the exciting fluids are sal-ammoniac and zinc chloride and the depolarizer is manganese dioxide. In what proportion are the two exciting fluids used? Is the depolarizer a liquid or in dry form, and how much is used per cell?

**(2)** Can an automobile storage battery be charged with a small ignition dynamo?

**(3)** What is the life of a storage battery and what does it cost to renew batteries of this kind? Are they as reliable as dry batteries?

**(4)** What would be required besides a dynamo and batteries? Would this outfit be as cheap and reliable as a magneto dynamo to spark an automobile providing one already has the stationary engine and ignition dynamo?

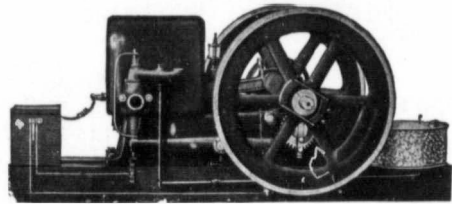
**A.** The manufacture of dry cells is a trade secret and little is known as to exact proportions of ingredients used except by those in the business. Two parts of sal-ammoniac to one of zinc chloride, we believe will give good results. The manganese dioxide is used dry. It is a powder.

**(2)** Yes, if it gives a direct current.

**(3)** The life of a storage battery when taken care of properly is from three to four years. The cost of recharging depends upon

## WITTE JUNIOR

The Faultless Engine with the Unequaled Guarantee



Witte Junior, 2, 4, 6, 8 and 11 H.P. Sizes.

If that kind of an engine interests you, we have a booklet which fully describes Witte Junior Gas and Gasoline Engine.

Meantime, we mention a few points which tell how and why we are able to sell this engine on a **FIVE-YEAR GUARANTEE**.

**CYLINDERS**—There are no interior cylinder packings, no head to take off, no joints to leak or to require packing. The Cylinder on the Witte Junior is like a bucket at the bottom of a tank of water. (See booklet).

**VALVES**—Inside valves sometimes break and slip down inside. This wrecks the engine. They are also liable to wear on the side of the stem. This causes leaks and the engine needs a new head. All valves on the Witte Junior are outside the cylinder, in verticle pockets. (See booklet).

**GOVERNOR**—Permits of very close regulation. Works with a rapid movement and powerful gravity leverage. Latch is equally balanced between governor and trip, extremely sensitive, and cuts out or gives fuel in exact proportion to load. Governor can be easily adjusted for change in speed. This connection will last and operate efficiently for a lifetime. (See booklet).

**WORKING PARTS**—All made with extra strength. Only 29 principal parts. (See booklet). The Witte Junior is the result of over 27 years' experience in gasoline engine building. Our booklet gives valuable information to intending purchasers. A post card brings you a copy.

The Empire Cream Separator Co. of Canada Ltd.  
H. P. HANSEN, Manager WINNIPEG, Manitoba.

### SOME FEATURES YOU GET IN

## Manitoba Engines

**Base, Cylinder and Hopper cast separately**  
Costs you more, but saves you money in the event of an accident breaking one part or the other.

**Automatic Mixer.**  
Needs no priming. Starts immediately, even in coldest weather.

**Fuel Tank below Intake Valve.** Flooding of engine is impossible. With gravity feed engines, fuel has been known to flood the engine and start a fire.

**Our Hopper Cooling System** gives perfect results on little water. No danger of pump or pipes freezing in cold weather.

**Battery and Fuel Cut-out** works automatically. You save much fuel—money by this feature, besides getting longer life from your batteries and ignition points.

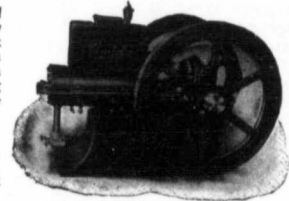
**Case-hardened Tool Steel** is used for all working parts.  
**Splash Lubrication.** Only one sight feed oil cup to fill.  
**Our Guarantee** covers the engine, its performance and its economy. Any defect made good at our factory within two years of date of purchase.

Send for our instructive catalogue. Full of good reading and free on request. The "MANITOBA" Engine is

**"Made in the West for Western Needs"**  
**We Manufacture**

Gasoline Engines, 1½ to 25 H. P. Wood and Iron Pumps, Grain Grinders, 6 to 12 inch, Wood Saws, all sizes, Pumping and Power Windmills, 8 to 14 feet.

**The Manitoba Windmill and Pump Co., LIMITED**  
**BRANDON, MAN., and CALGARY, ALTA.**





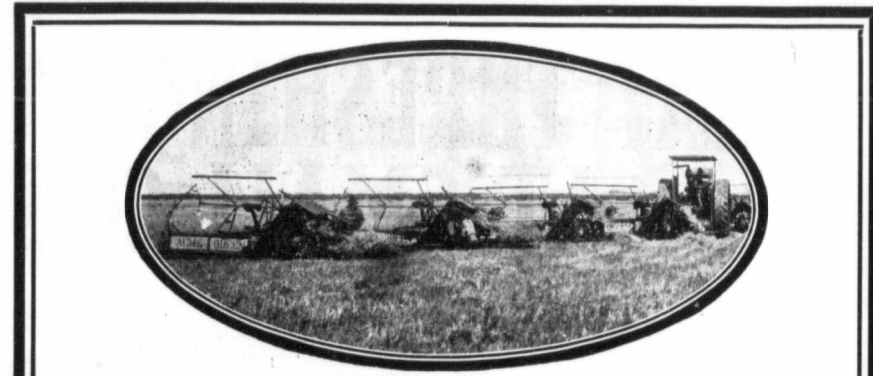
how much current it takes, that is, upon the capacity of the battery in ampere hours and the cost per kilowatt of electricity. It amounts for automobile batteries to only a few cents. Storage batteries are perfectly reliable if given proper care.

(4) Nothing more than the necessary resistance between dynamo and battery. Incandescent lamps can be used for this purpose. The cost of batteries is about the same as a low-tension magneto.

Q. A. A. I bought a new liquid battery for my gasoline engine. The cells are porcelain fitted, with one oxide plate and two zinc plates in each cell (five cells). I filled the jars with water according to directions and put one pound of caustic soda to each cell, covered the top of solution with paraffine oil. The batteries worked all right for about two months and then gave out all at once and would not give a spark. I added a little more caustic soda but this did not make them any better. After trying several experiments on them I put them aside and am now using dry cells again. Can you tell me what to do with them? I paid a good price for them, believing they would be more substantial than the dry cells.

A. Your battery is worn out. Either you left the switch closed over night with the igniter points together, allowing the battery to work constantly for some time, or else they became short-circuited by the wearing of the insulation on the main wires. Sometimes when both main wires cross some metal part of the engine the insulation wears through, allowing the battery to short-circuit through the engine frame. It is possible, also, that some of the cells are short-circuited inside the jars. If the zinc and oxide plates touch, that will make an internal short-circuit. It is possible that only one or two cells are worn out and the others are good. The best way to do is to get a small ammeter and test each cell. If they show six amperes or more they still have some usefulness left. Those that do not show so much should be discarded. When the zincs are worn out they are either all gone or else very thin. The oxide plates can be used if on digging into them with a pen knife you can find a black oxide instead of red as it always shows on the outside. It will cost about one dollar each to get new oxides, zincs, caustic soda, and paraffine oil to recharge the cells.

Q. F. R. M. I have an old, little used gasoline engine, 3/4



The Modern Way of Harvesting

# 'FLOUR CITY' TRACTOR

THE GOLD MEDAL WINNER.

The Strongest, Most Powerful, Economical All-Around Farm Tractor on the Market.

**READ MR. PEIHL'S LETTER**

Hunter, N.D., March 8, 1912.  
Kinnard-Haines Co.,  
Minneapolis, Minn.

Gentlemen:—We used our two "Flour City" engines last season on all kinds of work. We cut our entire harvest with them and a great many people from far and near came here to see them. We pulled four 8-foot binders behind each engine, but will put at least six binders on each this coming year, as we found that four was nowhere near the load these engines are looking for.

We had some heavy timothy to thresh late last fall, and used the 1911 engine to thresh it on a 38 x 62 B. P. Separator, and the way we walked through that hay was a caution, and timothy is a little harder to thresh than most of the grain we raise.

The fact of the matter is that these engines say more for themselves than we could possibly say for them.

Yours very truly,  
HANS P. PEIHL,  
Manager.

EQUIPPED WITH FOUR CYLINDER MOTORS AND HIGH DRIVERS, INSURING GREATEST POWER WITH LEAST WEIGHT

DESIGNED } **RIGHT**  
BUILT }  
WORKS }

BURNS GASOLINE—KEROSENE—DISTILLATE.

Awarded Four Gold Medals in Four Years at the World's Tractor Contests at Winnipeg.

WRITE FOR CATALOG.

**KINNARD-HAINES COMPANY**

828 44th Avenue No.

MINNEAPOLIS . . . MINN.

horse-power, which I am trying to get rigged up, and it seems to be all right with the exception that it has no compression. I have ground all of the valves, put in new gaskets and cleaned the rings out in first class shape. Everything seems to be in first class shape, still there is no compression to speak of. Will you tell me what to do with this engine?

A. Since there is no compression it is evident that there must be a leak somewhere and this somewhere must be located before you can make the necessary repairs. In order to locate the leak proceed as follows: Turn the engine over on compression and hold a lighted match at the exhaust pipe and see if any air is blowing through. Do the same at the inlet valve. This will settle the condition of the valves.

Now try the same test at the rear of the cylinder and see if the compression is blowing past the rings. The trouble will very likely be found at this point. It may be due to poor fitting rings, worn rings or a scored cylinder. If you will take the piston out, an examination ought to show you what the trouble is and suggest a remedy. Bright, worn places on the piston rings indicate that they are out of true, and these places should be looked for. It sometimes happens that there is a leak in the gasket between the cylinder and cylinder head that impairs compression. This, however, will admit water into the cylinder and can easily be recognized.

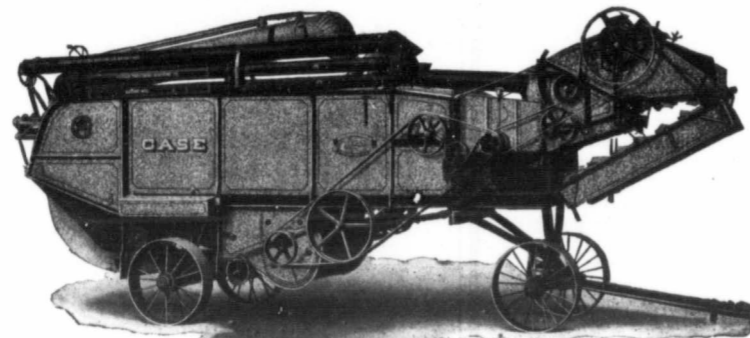
Q. A. F. I should like to ask you a question about my 6-horse-power gasoline engine. It will

use up five gallons of gasoline in three hours and yet I do not work it hard. The inlet spring seems to be alright, otherwise it works well. Please tell me how to fix it.

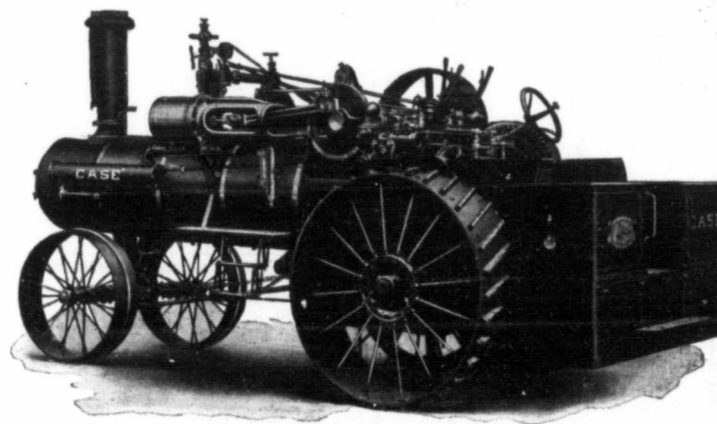
A. Your engine is fitted with a hit and miss governor and if you don't work it hard there are a good many explosions missed. Under these circumstances we do not see how you could use so much gasoline. It is likely that you run with the fuel valve open too wide; some of the charge must leak past the piston or through the exhaust valve; but even, with all that, if the engine works light and cuts out the explosions frequently, it does not seem possible that it would use so much gasoline.

# GREAT THRESHING CAPACITY AT SMALL COST

Lack of "Capacity" in his Separator has spelled Failure for more than one Thresherman. Capacity is one of the first things the wise thresherman looks into in buying a Separator—and that's why the wisest and the most successful threshermen prefer the Case Steel Separator with its big Capacity. The way to make big money in the threshing business is to get through with one job as quickly as you can and get on to the next—and that means you must have a Separator that can handle a heavy and continuous volume of work throughout the whole threshing season and do it at a very low cost.



**Don't Take Chances**  
Buy the Old Reliable Weatherproof, Waterproof, Fireproof Case and Be Safe



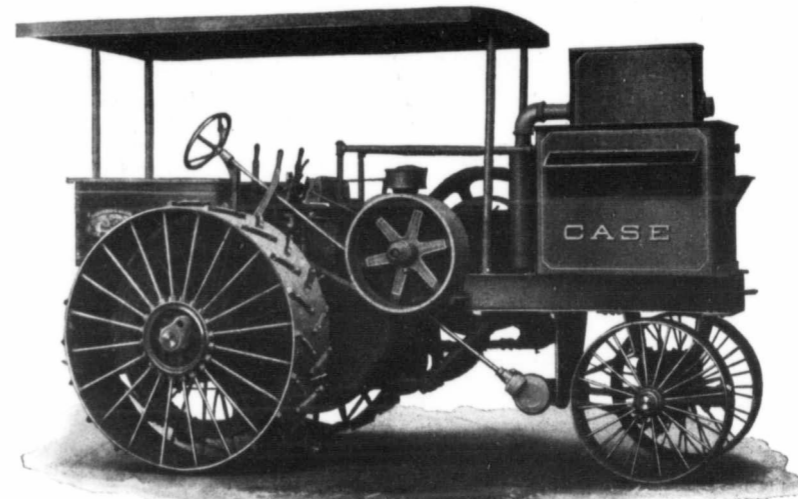
## CASE ENGINES

The Case Plowing and Traction Engines are more popular today than ever. They stand alone in their Capacity for great power and durability and small fuel expense. They are dependable for heavy work and lots of it.

*Write to-day for a copy of the Case Threshing Machinery Catalog—the book that has started hundreds of Threshermen on the path-way to Success.*

**J. I. CASE THRESHING**  
INCORPORATED  
**RACINE, WIS.**  
CANADIAN BRANCHES, TORONTO,

# ECONOMICAL OIL AND GAS POWER WITH RELIABILITY



The 60 H. P. Oil Tractor burns kerosene, gasoline, naphtha or distillate.



The 40 H. P. Gas Tractor burns Gasoline only.

Every Farm Power user to be really successful, must be after the big profits on his investment.

We have prepared to meet this condition and ask you to write at once for complete information about the Case 60 H. P. Oil Tractor and the Case 40 H. P. Gas Tractor.

Or better still, call at one of our branch houses and look over the machines themselves and see them demonstrated. You'll find nothing else to compare with them anywhere at any price. Their special features meet the demands of the progressive Power user. They are built to last and are strong just where others are lacking. Pay particular attention to the novel and practical manner in which Power is created and transmitted, resulting in the maximum of Power at the draw-bar and under the belt on a minimum of fuel consumption. Watch the steering device that enables you to handle this powerful machine under full control as easily as an automobile. The carburetor is a fuel saver. The ignition is one of the most dependable ever put on an Oil or Gas Tractor and is handy for the operator.

Everything is practical and durable about these machines. Both are time-tried and time-proven, backed by our guarantee and 70-year old reputation.

See the Case Oil and Gas Tractors demonstrated before you buy. A Case purchase is more than any other—it's a profitable investment. Our nearest branch house will arrange with you for a demonstration, and we'll gladly send you complete specifications and other literature of great interest.

**MACHINE COMPANY**  
INCORPORATED  
**CONSIN, U.S.A.**  
WINNIPEG, REGINA & CALGARY



## Can Tractor Rating be Standardized?

TWO DISCUSSIONS BY AUTHORITIES

Let us look at this question a moment from the farmer's standpoint. What does the farmer consider a tractor efficiency? My observation and experience has been that he wants a machine he can start in the morning and work all day—one that almost any man in his employ, or any of his grown children, can operate, without the aid of experts. If he is plowing he wants to plow all day, because the season is short, or if he is threshing he wants to keep his force of men busy until he is through with his work. He is not always very particular as to the form of the tractor, so long as it does the work. I have known farmers who wouldn't object to a little extraordinary use of fuel if they can only run all day. After a while they will probably demand better economy from the manufacturers. That is what I consider an efficient tractor from the farmer's standpoint. From the manufacturer's standpoint, it seems to me that a machine that can be sold one year after another at a fair profit and with a minimum of expense for expert help is an efficient tractor. The efficient tractor from the engineer's standpoint is a still more complicated proposition. It is a difficult matter to get engineers to agree on what an efficient tractor is. Some favor light weight and economy of fuel, and while the motor is important, yet if the running gear is not efficient, your power plant will be very inefficient. The work of the engineer is to try and build up a tractor that not only the motor is efficient, but simple and durable, and economical, and which delivers a large percentage of the power of the motor at the drawbar. The question of rating a tractor is a rather difficult one. I do not know whether the present generation will succeed in adopting a standard that will be satisfactory to the manufacturer, and the purchaser, but, in the absence of anything better, I am strongly inclined to favor the motor or tractor that will deliver a certain brake horse power which you can guarantee it to do under any and all conditions it ought to be run. Conditions vary also with the road or field. In the absence of a better rating than is known to the traction fraternity at the present time, I am inclined to favor a conservative brake horse power rating of twenty per cent. below the possibly developed brake horse power.

It is evident that the merit of a traction engine or tractor for general purposes does not depend entirely upon the merit of the motor. It is not evident that it is necessary to give a tractor a draw-bar rating in addition to a brake rating but it is desirable to have some means of testing that will indicate the merit of a tractor as a whole in addition to the well known motor tests which are comparatively easy to make. The Winnipeg contest data gives a fairly good indication of what the various tractors will do in plowing under the conditions that prevailed at that time and place, but they do not tell what may be expected under other conditions. The statement was made that it is necessary to establish a standard set of conditions which can be easily duplicated and which will represent at least one set that the tractor will be frequently called upon to meet. Perhaps this would be possible if the tractors traveled upon steel tracks like locomotives but even then to establish an absolute standard would require a more or less elaborate set of conditions.

Unfortunately for the matter under discussion, a farm tractor must operate under conditions which vary not only with the countless varieties of soil but also with the same soil on different days, and at different seasons. Perhaps some method could be devised for testing the relative hardness of the surface to be traveled over, but this would tell only part of the story. Nor does it simplify matters very much to base this standard surface upon the ratio of draft to gross weight hauled or trailed in a wagon since we must then standardize the wagon, its loading and its hitch. There is data to be had upon the draft of wagons but it is affected by so many things that it would be necessary not only to specify the hitch, the loading and the wagon specifications and dimensions but perhaps also the manufacturer and even the particular individual wagon.

To establish a standard set of conditions such as are met frequently in practice, is, then, extremely difficult and complicated if not practically impossible. It would be easier, but still quite difficult, to establish them for a roadway or pavement, a condition not ordinarily met by tractors in this country at the present time. Perhaps one of the

# The Twin City "Forty"

## The All-Round Power Plant For Farm Work.



THE wonderful performances of this giant worker have aroused the admiration and surprise of farmers all over the country. Its feats of strength seem almost unbelievable. For instance, on the Taft Ranch in Texas, it pulled a three-bottom giant plow weighing three tons through the hard virgin soil, tearing up large mesquite roots and stumps. A Minnesota farmer who witnessed this test writes:

"The Twin City would go after it like a great mad bull and with repeated lunges tear out great stumps, their roots so large that when they turned out, would lift the great six thousand pound plow high in the air."

The Twin City "40" stands up under continuous hard work without a hitch. It has established new records for economy of operation.

The governor is fitted with an accurate and positive adjusting device which enables you to use this tractor most economically for stationary power as well as traction purposes. You can thresh, operate a corn sheller, saw wood, bale hay, etc., without waste of power or fuel.



The unusual performances of the Twin City "40" do not surprise us. We make it that way. We build what we believe to be

- the strongest
- the most compact
- the most reliable
- the lightest gas tractor for its horse power on the market.

Our experience and our equipment enable us to do this. Our reputation impels us to do it. The Twin City "40's" record on farms throughout the United States proves that we have done it.

Our book will go into details and tell you how we have done it; any one of our many dealers will give you a demonstration and prove to you what we claim for the Twin City "40" and show you why it can do the things that it has done.

### Our Guaranty is Back Of It.

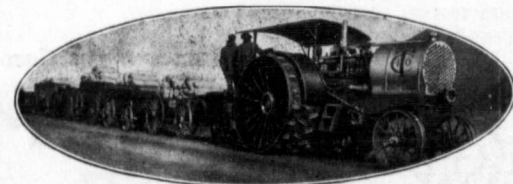
Every piece that goes into Twin City All-Steel Gas Tractors is made in our own plant. This includes the motor, transmission machinery, frame work, and wheels. Think what this means. When anything goes wrong, when any part is broken or worn out, you can have it replaced without delay.

Our new Tractor Book J tells of the many interesting features of

this great tractor—of the things responsible for its success. These are facts worth knowing and the book is free.

Be ready for Fall work. See our agent and witness a demonstration of the Twin City "40" before you decide which tractor to buy. We'll tell you the name of the one nearest you.

See our Tractors at Winnipeg, Brandon, Regina and Saskatoon Fairs



MINNEAPOLIS STEEL & MACHINERY CO. OF CANADA LTD.

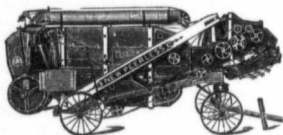
REGINA.

SASKATCHEWAN.

# 'Geiser' Oil Tractors AND 'Sieveless' Separators

have an honest and substantial appearance which inspires confidence. They appeal to the prospective buyer from the first inspection because they show good quality and best construction.

## 'Geiser' Sieveless Separators



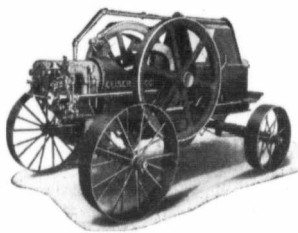
**GEISER SIEVELESS SEPARATORS**, the modern up-to-date machines, manufactured in the following sizes: 25-29, 27-39, 20-46, 30-46, 33-50, 36-56, 36-60, 40-60. Special sizes for gasoline engine power. Leading features: "Sieveless," the grain plate and roller system and automatic blast.

This new process has revolutionized the whole process of threshing and cleaning grain. It eliminates the entire nest of sieves or riddles. The simplicity and efficiency of this new process of separating and cleaning all kinds of grain is simply wonderful. The peculiar qualities and advantages which have caused the extraordinary demand for this machine arise from the fact that it has no sieves or riddles, and that it possesses the most perfect cleaning system in the world, and has a very large capacity, and is very light running.

The Geiser Line includes 4-Cylinder Oil Tractors, Single and 4-Cylinder Portable Gasoline Threshing Engines. Special Threshing Outfits for Individual Farmers, Saw Mills, Steam Traction Engines, Road Rollers and Hay Presses. Write us today for catalogues and details of many incidental features which are exclusive to the Geiser Line.

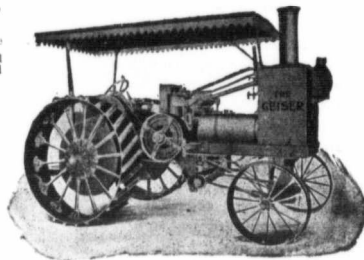
## "GEISER" Portable Gasoline Engine.

This Engine is specially built for threshing purposes and is the most modern on the market. LEADING FEATURES—Vertical Valves, Electric Igniter, Centrifugal Fly Ball Governor, and Patent Match Starter.



The "GEISER" Traction Gives BEST Satisfaction.

## GEISER' 4-Cylinder OIL TRACTOR



If you are interested in the purchase of an Oil Tractor consider these features. Absolutely straight spur gear drive throughout. (Bevel transmission gears, their trouble and loss of power, avoided) All big drive gears are of the very best open heart steel and are entirely enclosed in dust proof cases, and run in oil baths. (Compare this with the crude cast iron gears and open gear construction of other tractors). All transmission gears are machine cut from solid steel. Two forward speeds. "Geiser" patented kerosene Carburetor uses low grade kerosene with wonderful economy and efficiency. Improved cooling system only one pail of water used every ten hours.

**BURRIDGE COOPER COMPANY, Limited**, 303 Owena Street 1840 Dewdney Street  
WINNIPEG, MANITOBA REGINA, SASK.  
Canadian Agents for the Geiser Manufacturing Company.

esaid conditions to duplicate would be a plank roadway, something a tractor occasionally actually meets in crossing bridges.

The difficulties encountered in attempting a test of a tractor traveling over a standard roadway appear to be so difficult as to be practically unsurmountable. To test the transmission efficiency on the other hand is not difficult. One simple method of doing this consists in belting the traction wheels to a Prony brake which could conveniently be done by the use of extension runs from which the gronters are omitted. The objection to this method lies in the fact that it involves the blocking up of the tractor's weight, the friction of wheels may clear the ground, and this relieves the axle bearings of the load due to the tractors weight, the friction of which bearings properly belongs with the friction of the transmission. This method of testing, then, would not even give completely the transmission efficiency and there are a number of other things that it is desirable to determine. The writer believes it to be possible to use a method of testing that will show what we want to know—that will determine the tractive efficiency for at least one kind of road surface.

To use this method of testing,

apparatus would be required, but this would not be difficult or highly expensive to construct. It would consist of a pair of drums mounted on a suitable shaft running on ample roller bearings. Mounted on the same shaft would be a Prony brake or other suitable absorption dynamometer. The drums could be covered with planks, arranged so as to be readily renewable when worn out. The drums should project through a raised platform with inclined approach arranged so that the tractor could be made to climb into such a position that the traction wheels would be in contact with and supported by the drums. The tractor could be held in the desired position by means of a draw bar dynamometer coupled to the tractor and to a post. The load on the traction wheels when pulling and a comparison between the weights on the front and rear axles when the tractor was at rest, and when pulling could be obtained by placing scales under the front wheels. This would also give the axle torque which furnishes a means of determining the horse-power at the axle. The readings of speed and load of the brake mounted on the drum shaft would furnish one means of determining the h. p. delivered including the rolling friction of the tires, and the draw bar dynamometer readings in connection

with the traction-wheel tire speed furnishes another, all three of which are easily determined. Such apparatus has been used for testing automobiles except that the front wheel scales and draw-bar dynamometer were omitted. For these machines the latter has no equivalent in actual practice since automobiles are not intended for hauling. I understand also that Purdue University has a similar apparatus, including the draw-bar dynamometer, for testing a locomotive. When used for testing this apparatus will accurately represent a tractor travelling over such a surface as a plank road, a condition that can be readily duplicated at any time. This method of testing admits determining the affect of speed and grades upon the power required for propelling the motor vehicle itself; it provides means of determining the loading on the wheels when tractor is travelling and pulling; it takes into ac-

count the rolling friction as well as that of the transmission gearing and bearings; and it gives three sets of results that can be checked against each other.

There is no serious trouble at present from lack of traction from insufficient weight when the land is in condition to be worked, except in special cases such as on icy roads, stone pavement, crossing railroad tracks, etc., which have but little bearing on the subject at present. In working the land there seems to be a greater tendency to too great weight rather than too little in proportion to the horse power. The weight per unit of tire area in contact with the ground can be taken care of by the use of wheels suited to the local conditions the tractor is to work under. If trouble develops from lack of traction due to too light weight, no doubt special forms of gronters can be produced to meet local requirements.

## ELECTRIC LIGHT

For Your Tractor

**ELECTRIC LIGHTING SYSTEM  
NEW GAS LIGHTING SYSTEM  
WAYNE GASOLINE AND OIL STORAGE SYSTEMS**

We can supply you with any type of storage system for your gasoline and oils, self-measuring. Or with a gasoline tank to mount on your own wagon. Keep a check on your fuel. How much are your men stealing, wasting, or losing by evaporation?

**WESTERN MOTOR COMPANY**

52½ Princess Street

Winnipeg



An American who won distinction in the Philippines had to leave his family at home. He was the average American father—he provided liberally; he was indulgent; he passed a happy story when frowns were to be changed to smiles—many called him a model. But long before he reached the other side of the globe a new light dawned. His son was just entering the critical years, and he had scarcely touched the boy's destiny. As he pondered great fear possessed him. What if the son, through the father's negligence and his own ignorance, should fall? What if his character should receive scars and stains which time could not remove? This father wrote letters—long letters—regularly. He sent books. He marked passages in articles on right living. He did everything he could twelve thousand miles away—but always before him stood the accusing shadow of what he might have done while the boy was within reach. When it came time for him to return he almost balked. But he went, battling with his fears as the ship plowed the miles. He was a strong man with nerves of iron, but all his robust courage was put to the test when he met the son. At last he looked at him, hungrily scanning his pure face and clear eyes, and then his

## A Plea for Fatherhood

whole being trembled as he exclaimed, "Thank God, my boy, thank God!" The boy did not quite understand, but the boy did not hear the father add to himself, "He's clean. He's clean." From that day to this there has never been a day when the father has not sought and won every confidence of the son and pointed out to him kindly and reasonably the things worth while and the perils that must be shunned.

Never did a more pernicious idea pass into a saying than the flippancy that every young man should sow his wild oats. Parents would just as well expose their sons to all the infectious diseases, for the moral defilements leave their marks as deep on the soul as smallpox does on the body. We once sat under the spell of the eloquence of one of the greatest of the world's preachers, listening to an address to men on the tragedies of character. Suddenly he seemed moved by a terrible recollection, and his agitation reached the whole audience as he expressed horror of a youthful contamination that all the good of a pious life could not wash from memory. There it was—a blur on the

escutcheon, a cloud over a career, an error beyond recall. Many of these things are on the minds of men—and most of them would not be there if fathers had done their duty.

A father deeply concerned in the larger problems of culture and philanthropy, smiled incredulously when his son explained his low marks in history by a change in teachers and text books. He took up the book and found it possessed neither interest nor scholarship. He wrote letters and asked other fathers to join in a petition, and then he made a discovery that opened his own eyes—the fathers replied that they left such a thing to the school; that they really did not have the time to bother about it. Brought to the final point it was shown that a fifteen-dollar-a-week teacher had worked in a book of a personal friend, and the progress and comfort of twenty boys were injured—because of the teacher? In a way, yes; but mainly because the fathers had not taken as much interest in their sons as they would show in the handling of their office boys.

If one were to go to the presi-

dent of the United States and ask him to name the country's greatest need he would reply in his quick, conclusive way, "Clean men." He knows. Smart men there are by the thousands; rich men abound more than in any other age of the world; able men are found in every state and township, but even from a population of eighty millions the chief executive has difficulty in finding the man of exceptional character for a post which requires a square and flawless morality. It is to his credit that he misses no opportunity to preach clean manhood. But neither presidents nor preachers nor teachers can do the work of fathers except in their own families. We do not mean to underestimate the marvelous influence of the mother. In most lands men who reach success give their mothers the credit. "All that I am I owe to my mother," said Lincoln. "It was you who taught me to write so. You really did, dear mother," said the crabbed Carlyle. We get our moral qualities from our mothers, our mental from our fathers, says the physiologists, and as we look back we find this maternal affection the loveliest thing on earth. But isn't there a conviction down deep in our souls that we should have done much better if our

Continued on page 44 h

## The "IDEAL" 35-22 is a Tractor of To-day

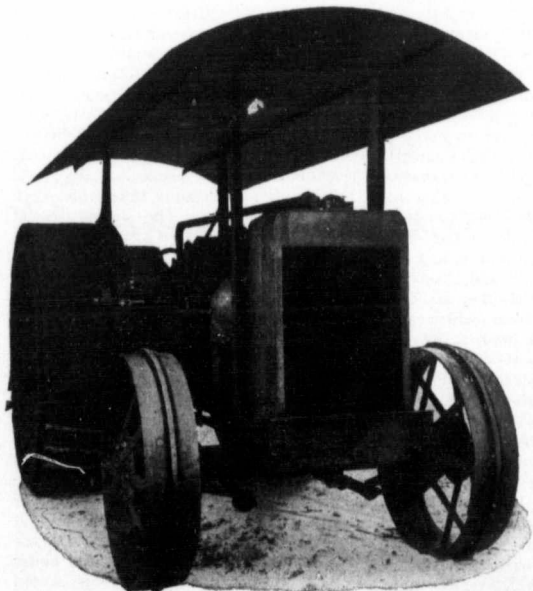
Brought up to the minute and carrying all recent tractor improvements, the "IDEAL" Tractor is distinctly modern. Our 35-22 was made for the year 1912. No Tractors of former years are in our shops.

Our 1912 "IDEAL" has double opposed cylinders, giving perfect balance. All operating devices handily arranged so that one man can operate the Tractor without trouble. Our new pattern ground locks take the machine easily over sticky soil and heavy going.

The steering device on the "IDEAL" is the most perfect known. Acts on the same principle as used in automobiles. New cooling system does the work thoroughly with the use of very little water.

Let us send you our catalogue, which goes right into the Tractor question with you. Your name and address on a card brings it.

See our showing at the Canadian Industrial  
Exhibition, Winnipeg, July 10th to 20th.



## Gold, Shapley & Muir Co. Ltd.,

Manufacturers of "IDEAL" Gasoline Tractors, Windmills and Pumps of every description, "IDEAL" Hopper Cooled Gasoline Engines, "Maple Leaf" Grain Grinders, Wood Sawing Outfits, etc., etc.

Brantford

WINNIPEG

Calgary



# NO. 1 HARD

Winnipeg, Man., June 28, 1912.

**Wheat:** Seeding this year was completed under rather satisfactory circumstances in fair season, and with sufficient moisture to insure quick germination. Throughout the three Provinces considerable Spring plowing had to be done, and this work was rushed and little wheat seems to have been sown on the stubble in Manitoba. Not so in Saskatchewan and Alberta where it is calculated that about forty per cent. of the new crop was put in on stubble. The heavy rains which came after this stubble land had been seeded in many localities left the land baked on the top, and when the hot sun and withering winds recently came, this land seems to have cracked and quickly dried out.

The crop on such land is going through a very critical stage, as it cannot stand the intense drought now prevailing. The value of properly packing such land soon after sowing is now manifest, but it seems not much packing of such land is done. Summer fallows will doubtless stand the great drought fairly well. The rather too cool weather prevailing after seeding has been followed by intense heat, which has forced the crop, until now it is considered in many localities to be eight to ten days ahead of what it was last year at this time. Nevertheless, drought in June is usually followed by wet weather in July when moisture is not so much needed as is right now.

In many localities the wheat of last year was damaged by frost, and it appears that this wheat was sown this year, and being low in vitality, will easily suffer in time of drought. It is very evident that seed strong in germination and planted early has this year a magnificent advantage over late sown grain.

And so the receipts of 1911 crop have been quite heavy past Winnipeg for many weeks, most experienced grain handlers the world over are commencing to feel nervous about our growing crop, and in consequence our old crop has moved up quite steadily in the past four weeks. The result is that today cash wheat is worth somewhere about 12c to 13c over what it was a year ago, that is for the contract grades, and 4c to 6c higher for the commercial grades. October wheat is about 9c above what it was this day a year ago.

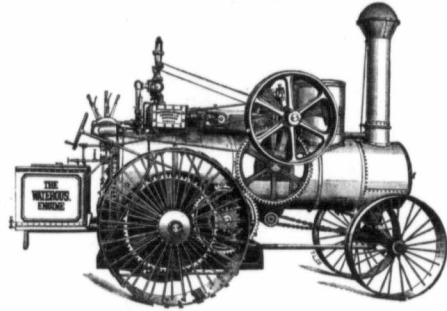
In early June, American markets took a downward trend and Chicago July suffered a loss of 6c to 7c per bushel, though British markets held almost steady

throughout. Our market here took a midway course. A fortnight or so ago the intense drought in Kansas somewhat similar to what we are having here carried Chicago and Minneapolis markets upward sharply, and now our market for the past week has practically ceased to follow Liverpool quotations, but moves in sympathy with Chicago and Minneapolis. The British markets do not enthuse as do the three big markets on this Continent, and are more stable. Our following the American markets therefore puts our market in a somewhat unhealthy position, for our grain must go to Great Britain and the Continent, no Southern markets being available. The lower grades do not follow up the option as one might expect, for these grains are not milled at home and must be handled by Exporters, consequently when foreign markets do not enthuse, our commercial grades must stay on about export basis. Considerable off grade and low grade wheat is yet coming ahead, and at the present time all the drying plants at the Canadian Lake Terminals are working day and night, and cannot keep up their orders to dry the damp, heating, or tough grain coming ahead. Farmers cannot take too great care to ventilate their cars if possible, by leaving the end door open, and thus avoid the risk of the grain going hot and becoming condemned en route. Some shippers are also surprised to find these times that grain which they thought quite dry and sound when loading, is tough and sweaty when it passes Winnipeg, and if it does not get quick handling by the railways, is heating and even condemned when it arrives at terminals. If a farmer has the lumber and the help he would save from \$100 to \$500 per car to spread out and dry at home in the sun, as far as he can, any tough or damp grain. It has been done many times, and can be done again, and two to three days of bright sunshine on grain spread out say not more than a foot deep, and turned once a day will work wonders.

The situation over the United States remains a little more satisfactory than a month ago. Kansas is now harvesting a crop a rather bigger and of a better grade than the average crop. Three big Spring wheat states report conditions fairly satisfactory, with moisture needed in North Dakota.

Little Canadian wheat remains in bond at Duluth, and what re-

# Rebuilt Threshing Machinery



## SPECIAL NOTICE.

Owing to the large increase in our business of manufacturing SAW MILL MACHINERY, ENGINES, BOILERS, FIRE ENGINES, and PULPWOOD MACHINERY we were compelled to withdraw from the manufacturing of a line of threshing engines. We however have a few second hand machines to dispose of, as per the following list to clear out our stock, and these we are offering at **SPECIAL BARGAIN PRICES.**

## REPAIRS.

We wish to assure any intending purchasers that we will always carry our usual stock of repairs for our engines and that the Goodson Company manufacturers of the McCloskey Thresher have arranged an agency with the International Harvester Company, and this company will carry a stock of repairs for the thresher.

We draw special attention to the condition of the following machinery, all machines have been thoroughly rebuilt in our own repair shops, worn parts replaced, and all machines thoroughly fitted and put in first class working condition and repainted. Call and examine and assure yourself before purchasing elsewhere.

### PLAIN STEAM ENGINES.

1-14 H.P. Waterous Plain Engine with Locomotive Boiler.....	\$ 600 00
1-17 H.P. Waterous Engine with Locomotive Return Tubular Boiler.....	600 00
1-18 H.P. John Abell Engine with Locomotive Boiler.....	1 650 00

### PLAIN GASOLINE ENGINES.

1-20 H.P. Waterous Portable Gasoline Engine (good as new).....	950 00
1-20 H.P. Waterous Portable Gasoline Engine (good as new).....	950 00

### STEAM TRACTION ENGINES.

1-25 H.P. Waterous Single Cylinder Engine with Locomotive Return Tubular Boiler.....	1300 00
1-26 H.P. Waterous Double Cylinder Engine, Locomotive Boiler.....	1600 00
1-30 H.P. Waterous Double Cylinder Engine, Locomotive Boiler, Rear Mounted, 39 inch Face Road Wheels.....	1800 00
1-30 H.P. Waterous Double Cylinder Engine, Locomotive Boiler, Rear Mounted, 39 inch Face Road Wheels.....	1800 00

### THRESHERS.

1-36 x 56 American Peerless 18 inch Carriers, Self Feeder, Short Weigher and Bagger.....	450 00
1-36 x 60 McCloskey, Side Fan Blower, Rich Feeder, Perfection weigher.....	750 00
1-40 x 60 McCloskey, Side Fan Blower, Hawkseye Feeder, Perfection Weigher.....	750 00
1-40 x 60 McCloskey, with Side Fan Blower, and Perfection Weigher.....	675 00
1-40 x 60 McCloskey with Side Fan Blower, Perfection Weigher.....	755 00

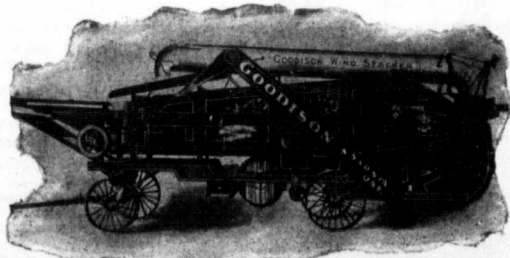
### COMPLETE THRESHING OUTFIT.

1-26 H.P. Waterous Double Cylinder Traction Engine.....	3500 00
1-40 x 60 McCloskey Thresher with Rich Feeder, Goodson Side Fan Blower, and Perfection Weigher. L.o.b. cars Cayley, Alta. Sold as it is. Not repaired.....	3500 00

### SUNDRIES.

1-New 36 Rich Self Feeder.....	150 00
1-New Perfection Wagon Elevator.....	40 00
1-Power Jack Wood Frame.....	5 00
1-Hamm Headlight.....	5 00
1-Caswell Belt Guide.....	10 00
1-Set Separator Wheels and Axles, Iron Wheels 36 x 8 and 34 x 8.....	30 00
1-Massell Single Connection force Feed Pump.....	10 00
1-No. XL 96 Ejector 1 1/2 inch steam 2 inch discharge.....	5 00
1-No. 1 Willford Three Roll Chopper.....	250 00

WRITE FOR FURTHER INFORMATION.



**The Waterous Engine Works Co. Ltd.**  
**Winnipeg, Manitoba.**

mains is almost unsaleable. Exporters state they cannot get enough together readily, to fill a hold.

While prices for new crop are quite high, they should not be an incentive to farmers to sell their growing crop now. While once in a great while this practice will work out to the farmer's advantage, as a rule it does not. Many farmers who sold their oat crops last summer about the middle of July, were very much disappointed when the time came round to find that they had to part with their oats at several cents per bushel less than the prices then current.

Summing up, for the next few weeks our market will fluctuate according to weather conditions. It might further be remarked here that the movement from the country is heavy and likely will continue so for four or five weeks yet. The 1911 crop was larger than most grain dealers thought. Still there is a big demand from the continent, and France particularly must have a great deal of wheat for the next three months. The Canadian "Visible" is greatly in excess of what it was one year ago, and with big terminal stocks, and a big "Visible," "Bears" would have a good argument for lower prices once the so much needed showers come.

**Oats:** This grain has held remarkably steady for the past month, with a very good consumptive demand, and indications of continued good prices somewhere around present figures. If this drought continues receipts of oats should let up directly, as the farmers should keep at home their 1911 oats for fear of shortage. All coarse grains in the United States have held fairly high, and likely will for another two months, unless of course the corn crop promises exceedingly well. Just now it is doing well under this hot forcing weather.

It might be noted that the delay in seeding in parts of Saskatchewan and Alberta meant a much greater acreage of oats than in previous years.

**Barley:** The demand for barley has been rather poorer than it should have been. The merits of our Canadian barley are not yet sufficiently known, just as up until a year or two ago, the merits of our Canadian Western oats were not known in many parts of Europe. Our farmers need to look carefully into the matter of keeping frosted barley out of our No. 3 barley grade so that there may be a steady year round demand for our barley.

**Flax:** Flax has had numerous fluctuations in the past month, and developed considerable strength ten days ago despite heavy receipts. In fact it is likely the 1911 crop of flax in the West is greater than all previous crops of flax put together,

## Fairbanks-Morse Oil Tractors

### Have 33 years Building Experience back of them

Operate equally well on Gasoline, Kerosene or Fuel Oils

**THE ENGINE** is of the long-stroke, slow-speed Fairbanks-Morse type, which has been known to farmers for many years. It will develop more than its full rated power, not only on Gasoline and Kerosene, but on Low Grade Oils, which are much cheaper.

**FORCE FEED LUBRICATION.** Cylinder, piston pin and all power transmission gears are lubricated by force feed from one central lubricator. This is a great long-life feature.

**DOUBLE BRAKES.** Brakes are placed on the differential shaft for stopping the tractor, and also on the belt pulley for quickly stopping any belt-driven machine.

**SINGLE LEVER CONTROL.** Forward gear, reverse gear and clutch are all operated by a single lever. Stripping of gears is absolutely impossible, because only one set of gears can be thrown in at one time, and the clutch cannot be run in unless the gears are properly in mesh. Anybody with tractor experience will appreciate this safety device. A patented and strongly protected feature.

**GUARANTEE.** Fairbanks-Morse Oil Tractors are guaranteed. With this Company's record of nearly half a century of fair dealing, our guarantee affords protection to buyers that is worth much.

There are many other features of advantage in Fairbanks-Morse Oil Tractors besides those given here. Let us mail you our Tractor Catalogue.



BREAKING WITH A 15-30 FAIRBANKS-MORSE TRACTOR.

## The Canadian Fairbanks-Morse Co. Limited

Winnipeg      Saskatoon      Calgary  
 Montreal      St. John      Ottawa      Toronto      Vancouver      Victoria

### WE MANUFACTURE

Fairbanks-Morse Oil Tractors, 15-30 h.p.  
 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 to 6 Cylinders  
 Hand and Power Pumps for every purpose  
 Truck and Pitless Waggon Scales

### COUPON.

(Send it to our nearest office.) C.T. 7-12  
 The CANADIAN FAIRBANKS-MORSE CO., Limited.

Please send Catalogue of your

.....  
 State on what subject

NAME .....

ADDRESS.....

and that for 1912, judging by acreage, should be a big one. The demand has usually been very good and promises well for the next few weeks. So valuable is flax now, that every possible bushel should be marketed. October flax is now trading around \$1.65, and this seems low, and if this drought continues, we expect to see new crop start much higher than that.

### Made a Bankrupt by Overturned Ink-Well.

The Tragedy of a Business Firm. Strange Connection Between the Movement of a Hand in London and the Building of a Big Bridge in Russia.

Credit is so susceptible that a word may ruin a business. No writer of fiction would dare strain the probabilities by making an overturned bottle of ink the cause of the downfall of one

of the largest and wealthiest firms ever known; yet such was the case in actual life.

It was the famous house of Cobbett & Co., of England, that was thus swamped by a mere movement of a hand.

This company and a rival American firm tendered for the building of the great Kaura Bridge for the Russian government. Jacob Cobbett, who was the head of the business, spent six months in the designing and contracting, and had all his plans ready. His bid was accepted, and material was bought in enormous quantities, men engaged and engines built.

A time limit had been set for the commencement and the finish, and Cobbett was perfecting his plant and making sure of the smallest details, with all the formula spread out before him,

when he stretched out his hand, overturned an inkwell, and drowned the most important paper in a black sea.

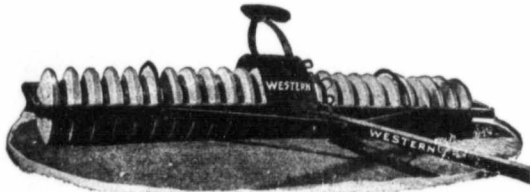
Cobbett had a poor memory. In a fever of anxiety he tried to reconstruct his plans from stray notes. It was impossible, and he called to the Russian government for more time.

This was refused, and Russia repudiated the contract, on the ground of delay, as the agreement allowed.

Cobbett could not get his work through in time, and the American firm, who now advanced a cheaper tender with all plans prepared, secured the contract. The loss drove Cobbett & Co., into bankruptcy, and the great Kaura Bridge in Russia is American built.



# DURING THIS HOT WEATHER

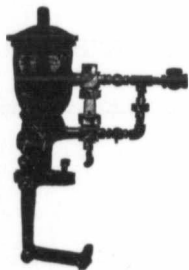


Just watch how much better the grain is that was packed than you find that which was not packed. Every farmer should have a Packer.

## The Western

is the correct idea, as it packs **all** the land. This is 60 per cent. more than any other will do, and, on account of its weight, it **does the work 33 per cent. better.** Made in all sizes, from 4 feet to 14 feet.

*If at all interested, write for full information.*



WE MANUFACTURE THE FAMOUS

## Practical Oil Pump

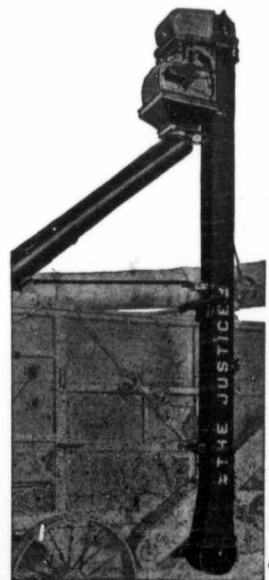
*The only pump that works as well at 60 below as it does under the most favorable conditions. A demonstration will convince as to its simplicity, durability and reliability.*

## Every Justice Measure

bears the Government Stamp, proving its correctness, which works to the benefit of all parties involved. The Threshermen like it because it makes law suits on account of disputes arising from dissatisfied farmers impossible.

The Farmer likes it because it assures him that he is getting every bushel he has to pay for being threshed.

No dogs to wear, no springs to go wrong. The tally box is always locked, which insures against any monkey business.



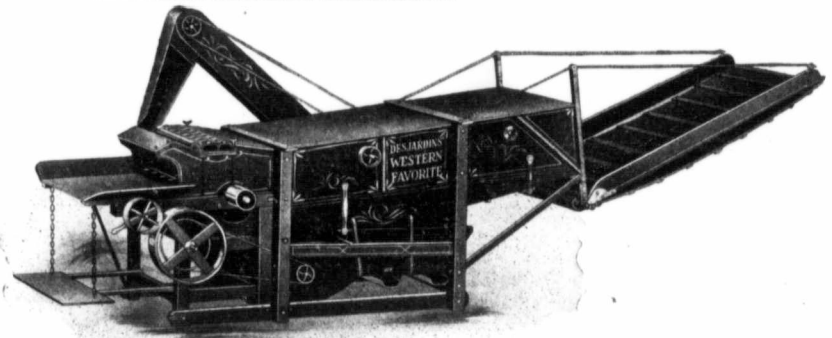
**The Western Foundry and Machine Co. Ltd.**

SASKATOON.



# TO PROSPECTIVE CUSTOMERS!

In introducing these little threshing machines in Saskatchewan and Alberta last year, it was apparent very quickly that they had filled a long felt want, and although not in any way pretending to be a large machine in the usual sense of the meaning, the customers were more surprised every day at their capabilities. This machine, called No. 3 outfit, is mounted either on skids or low truck. The cylinder is 30 inch wide and the guaranteed capacity with a 12 h.p. gasoline engine is 1500 bushels of oats per 10 hours work. The machine is fitted with an elevator for the chaff, a grain elevator, and a straw carrier, 10 feet long. Everyone in need of a machine for himself will be welcome in asking for testimonials and names of farmers having used this machine last season—this or smaller machine. We are keeping large stocks in North Battleford, Saskatchewan, and Camrose, Alberta. Write us; or, if you like better, write direct to our general representatives:—



**A. Stanley Jones, North Battleford, Saskatchewan; or Francoeur Bros., Camrose, Alberta**

EVERY INQUIRY WILL BE ANSWERED PROMPTLY.

**LA COMPAGNIE DESJARDINS, St. Andre de Kamouraska  
P. QUEBEC.**

## A Plea for Fatherhood.

Continued from Page 44d

fathers had taken time and trouble to share our confidences in the years that counted most?

Just here we reach the pith of the whole matter. Fathers, especially in the work-madness of America, set apart from their business and ambitions no spare hour for the children. They play with them; they are kind to them, but they stop short of that real intimacy wherein they could guide them over many a difficulty and away from the constant dangers that arise in the inexperience of youth.

We heartily believe that men and women are growing better—but how much better they would be if the fathers were more faithful in their responsibilities to their children! In this age of universal publicity, innocence goes too soon, and the knowledge that comes is not always best because fathers do not give the young the benefit of their knowledge. Too many of them let their boys find things out for themselves—and being in a wilderness they do not always take the right paths. When we look squarely at conditions we wonder why there are not more tragedies of character, so near and universal are the temptations and so rare and broken the paternal guardianship. Not only

are the boys to be piloted and protected, but the girls need from their fathers much that their mothers cannot give. If fathers would be more particular, more careful, more positive, more careful, more positive, many a daughter would be saved from unworthy associations and from wretched marriages. So long as there are fathers who inquire less closely into the characters of their future sons-in-law than they do into the habits of their clerks they are going to make sorrow for themselves, sorrow for their daughters, sorrow for the world.

Try as he may a father cannot delegate his duties. No amount of money can buy a substitute. The best teachers, the most accomplished tutors, the most faithful companions stand outside that consciousness which the real father enters at will and makes strong and sure and glad. And the father alone can teach that better faith which must be a part of the consummate life—faith in the preponderance of good, faith in the sense of people, faith in the integrity of business, faith not only in self but in others. The cheapest rascal can be a sceptic—and a failure. It takes manhood, clean, honest manhood, to be a believer—and believers are the men who do the useful work of the world, who win its prizes, who make

its happiness and who fill its halls of fame. "God knows I had rather be a believer than a king," said a wise man. Help your boy to be a believer by entering and guarding his young life—by giving him your wisdom and keeping him clean.

## Some Tame Animals I Have Known.

A thick-fleeced lamb came trotting by: "Pray, whither now my lamb?" quoth I. "To have," said he, with ne'er a stop, "My wool clipped at the baa-baa shop."

I asked the dog: "Why all this din?" Said he: "I'm fashioned outside in, And all my days and nights I've tried My best to get the bark outside."

A hen was cackling loud and long. Said I to her: "How strange your song!" Said she: "'Tis scarce a song; in fact, It's just a lay to be eggs-act."

I asked the cat: "Pray tell me why You purr to sing?" She blinked her eye. "My purr-puss, sir, as you can see, Is to a-mews myself," said she.

A horse was being lashed one day. Said I: "Why don't you run away?" "Neigh, neigh! my stable mind," said he, "Still keeps its equine-imity."

I asked the cow: "Why don't you kick The man who whips you with the stick?" "Alas! I must be lashed," said she, "That I may give whipped-cream," you see!"

Nixon Waterman.

"Mamma, is there any pie left in the pantry?" "There is one piece, but you can't have it." "You are mistaken, mamma—I've had it."

## PATENT NOTICE

Anyone desiring to obtain the invention covered by Canadian Patent No. 126720 dated July 5, 1910, for improvements in Cultivating Machines and granted to W. Laferriere and P. Laferriere, both of Silver Plains, Manitoba, Canada, may do so upon application to the undersigned who are prepared to meet all reasonable demands on the part of the public for said invention. Fetherstonhaugh & Co., Patent Barristers, Bank of Nova Scotia Building, Winnipeg. G. S. Rosburgh, Resident Manager.


## OUR ENGINES PAY FOR THEMSELVES

**IN FUEL SAVING and IN TIME SAVING!**


They burn gas, gasoline, kerosene and distillates. They have no great cumbersome base and consequently are easily and quickly moved from one job to another about the farm. Write for information about new Free Trial Offer of our latest improved

### GASOLINE ENGINES

Note the compactness for ease in handling! Note the pullers on both sides! Write for facts regarding our new Slow Speed, High Duty Engine, the engine that gets up-to-date power from every quart of fuel—one that has the record for lowest upkeep cost—that is the quickest and easiest starter—has least vibration—perfect lubrication, steadiest power, least wear and tear. Mail us your name and address on a post card, today, giving us the size of engine you need and the use you will put it to. We make 1 1/2 to 1 1/2 h. p. single cylinder engines; 2 to 2 1/2 h. p. two cylinder; 3 to 4 h. p. four cylinder. Quick action on your part is demanded to get this free offer. Don't buy or order an engine until you investigate the TEMPLE MAKE. This is our fifth year.



1 1/2 to 2 1/2 H.P.  
Single Cylinder



2 to 2 1/2 H.P.  
Two Cylinders

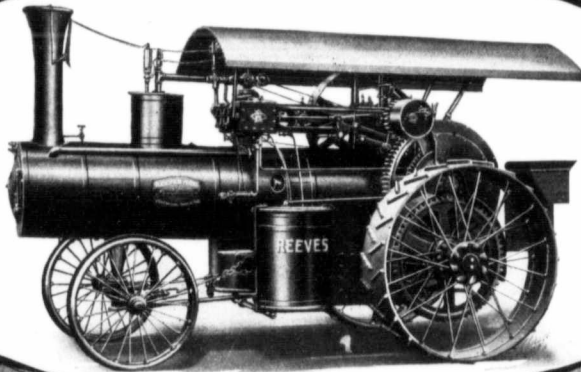
TEMPLE PUMP CO., 445 W. 15th St., CHICAGO

'12

REEVES

CANADIAN  
BRANCH:

REGINA,  
SASK.



## Durability and Good Working Qualities in a Threshing Outfit Assure Profit to the Owner

Profit is what appeals to the buyer of threshing machinery, and when the qualities necessary to the greatest profit can be found in one machine, that is the one you should buy, even though, as is likely to be the case, the price is larger than on other machines. The following letter is right to the point and tells the experience of an operator of Reeves machinery:

*Reeves & Co., Columbus, Ind.*

*Fullerton, N. D., May 29, 1911.*

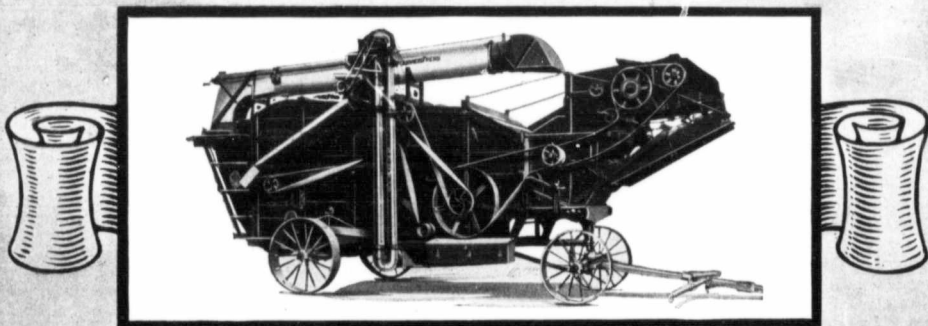
*Dear Sirs:—Have you on hand lower pan for 40x60 separator No. 1052 bought in 1900? If you have, let me know and send price. This is the first repairs I have had to buy in eleven falls. I run this separator six falls in Illinois and five falls in Dakota, and it is still in first-class shape excepting this pan, and today, with a new pan, I will put it up along side any new separator and do a better job. I also am using most of the belts that came with it.*

*Respectfully,*

*Myron McKeague, Fullerton, North Dakota.*

*R. F. D. No. 2, Box 25.*

The Reeves Double Cylinder Engine and the Reeves Compound Separator make an outfit that will prove profitable to you, satisfactory to your patrons, and with reasonable care, will last a life time.



Our catalogs are free — ask for them  
**REEVES & COMPANY**  
COLUMBUS, IND. U.S.A.

REEVES

Conducted by  
Professor  
P. S. Rose

## Practical Talks to Threshermen

Talk No.  
LIX.

### LESSON LIX.

The first automatic feeder of which there is a record in the patent office was patented in 1858 and described in our last lesson. As indicated therein, the idea of the inventor was merely

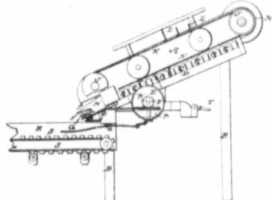


Fig. 114.

to construct a machine which would cut the bands and feed the grain to the cylinder. The bundles in the Reynolds feeder were delivered to the threshing cylinder by means of gravity. In the Palmer machine, which was invented in 1864, we see the first exemplification of the riddle system in combination with a rotary band cutter and a distributor.

A number of feeders were invented in the sixties and patents taken out thereon. In several of these machines no riddle was used. The bundle was expected to slide down an incline passed through a restricted central passage to insure having the band cut by the one central knife and then spreading out before reaching the cylinder. Spreaders were devised for spreading the straw equally across the cylinder. These spreaders consisted of various ingenious devices such as discs set eccentrically, spiral wings or webs attached to a central shaft or triangular shaped flat pieces attached to a revolving cylinder having the apex of the angle at the mid-width of the cylinder. In all of the early machines it was deemed essential to have some sort of spreader. The necessity for a revolving riddle, or governors or retarders was not appreciated until thirty or forty years had elapsed. Likewise the necessity for elevating the butts of the bundles or of taking any care as to the height on the cylinder at which the grain was fed were principles not understood for many years afterwards.

As an example of how inventors groped about in the dark, the band cutter and feeder invented by W. U. Hoover and patented in 1865 is a good example. Here we have the riddle placed above a set of inclined

rollers upon which the bundles passed on their way to the cylinder. The rollers were set at an incline in order that the bundles might all pass centrally over a revolving knife which would cut the bands. After the bands were cut the bundle then was shaken out by vibrating fingers upon a revolving riddle which carried it to the cylinder. The details of construction are clearly set forth in figure 114. It will be noticed that the motion of the feeder could be stopped at any time by disengaging the clutches. This machine, of course, did not prove successful commercially and was never used to any extent.

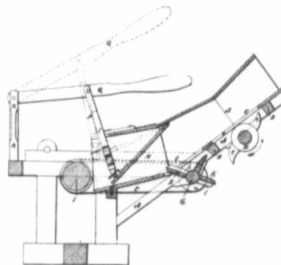


Fig. 115.

In 1865 Valentine and Ridout of Milwaukee, Wisconsin, took out a patent on a feeding attachment for threshing machines which contained the germ of an idea that is found today in all successful feeders. This feature is the retarder which was designed to operate with a hand lever as shown in figure 115. At the present time the retarder is operated automatically and is placed on the under side of the machine to hold back the bottom part of the bundle. The idea in Valentine and Ridout's invention was in the nature of a hand governor rather than that of the modern retarder and must be so considered. It could be set to allow any given volume of straw desired to pass to the cylinder.

Many people doubtless suppose that the wing feeder is a strictly modern device and was thought of only within very recent years. On referring to the patent office records however, we find that a man named A. W. Lockhart, of Sacramento, California, took out a patent on a wing feeder September 15, 1868. In many respects it resembles the wing feeders of the present time. The wings could be raised or lowered as desired. The whole machine could be thrown into operation or not by the movement of a lever. The

features of this machine are clearly indicated in figure 116.

In 1870, W. H. H. Young, of Waverly, Iowa, took out a patent, No. 110,324, on an improved self feeder and band cutter which contained some features new to the art. A sectional view of this machine is shown in figure 117 and it will be noticed that here for the first time provision is made to deliver the bundles to the cylinder by means of a riddle which changes its direction after the bands are cut and which elevates the butts of the bundles before delivering them to the cylinder. The band cutters are merely circular saws. There is a spreader back of the band cutter of the approved form of that time, consisting of a triangular shaped piece of iron mounted upon a revolving shaft. Another feature of this machine which differed from others of that period was that the rear edge of the guide plate T was provided with a flange or cut-off projecting nearly to the carrier belt, which prevented any grain from being carried back and thus lost.

From 1870 until 1890, a period of twenty years there was very

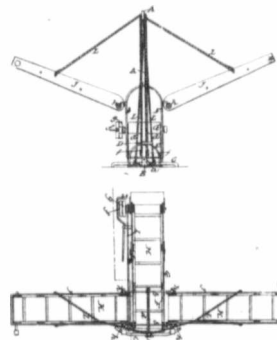


Fig. 116.

little development done of any value in connection with self feeders. Perhaps the most important was the work of Mr. F. H. Marshall, already described in these lessons.

Beginning about the year 1892, development work and invention took on new life and many patents were taken out. Feeders for the first time were provided with suitable governors that regulated the volume of straw fed to the cylinder. These were not perfected for a number of years, however. Among the first of the modern machines brought out at this time was the Parsons. It appeared on the market for

the first time in 1892. The manufacturers make the statement that about all the competition it had to meet at that time was from hand feeders. It was provided with the same endless carrier or rake used at the present time, the same form of band cutter knife, and the same kind of apron riddle, but aside from these parts it had very little else to identify it with its modern prototype.

Within the next five years following 1892 the governor problem for feeders was pretty well worked out and by the year 1900 there were a large number of feeders on the market, any of which would do the work required of it in a very satisfactory manner.

Quite a number of feeder companies sprang up and as usual with any new business it was overdone. Some of the companies found competition too strong, some were poorly managed or financed, but, most discouraging of all, the thresher companies themselves brought out their own feeders, thus making it difficult to get market established, no matter how much merit the goods might have.

The feeder, the wind stacker and the weigher are all very recent. While self feeders were experimented with fifty years ago it was only a dozen years ago that the first variable speed governors were attached. The wind stacker is another improvement that is comparatively recent. Its principles were known many years ago but they were not applied to the grain separator. In fact, the development of the wind stacker business was

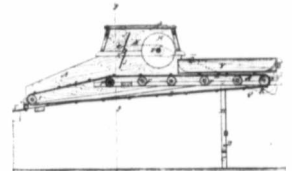


Fig. 117.

less a matter of invention than it was a matter of advertising and making the owners of threshing machinery realize that it was such a valuable adjunct to their machines that they could not afford to be without it. It took a number of years to get the trade firmly established. That, however, is another story which we will tell in one of the succeeding lessons.

The next lesson will finish the series relating to self feeders.



# IMPORTANT-

## To all Persons Buying and Using Wind Stackers



This Trade-Mark is for your protection as well as ours. See that it is on the Wind Stacker you buy, and then no one can cause you trouble.

**The Indiana Manufacturing Company**

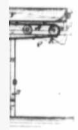
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## The Thresherman's Question Drawer

Answers to Correspondents

**Q. F. W. M.** (1) What makes an injector put water in a boiler; why don't the water blow through the water pipe?

(2) What is the boiling and freezing point of water?

(3) How much steam pressure will a one-inch stay bolt hold?

(4) If a boiler has been tested with 150 pounds cold water pressure, how much steam pressure will it stand?

(5) What size safety valve should an 8 h. p. boiler have?

(6) How shall I figure out the h. p. of a boiler?

**A.** (1) In an automatic injector the flow of steam passing through the jets forms a suction and when the air is exhausted in the suction pipe, the water follows to the injector. The air being exhausted through the overflow the water will pass out that way for a short duration also, but when the steam strikes the water a vacuum is formed which closes the overflow valves and shuts the water off from running at the waste pipe. The vacuum which is maintained by the steam continuing to come in contact with the water in the suction pipe; the water going into the boiler at a much hotter temperature due to the steam and water coming together.

(2) The boiling point of water is 212 degrees F. and the freezing point is 32 degrees F.

(3) Safe working pressure on stay bolts is figured 600 lbs. per square inch. The area of a one-inch stay bolt at the bottom of the thread is about 0.6 of an inch so  $6000 \times 0.6 = 3600$  pounds which is the loading for a one-inch stay bolt. This bolt will support a surface of 6 inches square at 100 pounds pressure or a surface of about  $4\frac{1}{4}$  inches square at 200 pounds pressure.

(4) If 150 pounds is all the pressure the boiler will stand without showing signs of weakness, the pressure allowed by different inspectors will be from 75 to 100 pounds, 75 will be safe.

(5) The safety valve should be in proportion to the grate surface. The area of the opening of the valve in inches should be 37.5 times the grate area in feet divided by the gauge pressure and 15. A one-inch valve is likely large enough for an 8 h. p. engine.

(6) Measure the entire heating surface of the boiler in square feet, and divide this by 12, which will give the h. p. of the boiler.

**Q. G. P. W.** Engine is new, 25 h. p. seems to run smooth alone, lot of power. A noise is heard on the crank side, when one is near it doesn't seem loud, but standing about 50 or 100 feet off the engine is loud. There are two pounds follow one another and longer space between. The pound always takes place when the crank pin is about 90 degrees off back center or sooner; another pound takes place just when the pin reaches center; but when the pin goes off center or piston running outward there seems to be heard only one pound, but when engine is running under, it is louder than when running over, and it also seems that four knocks are heard when running under, and hard pull. The piston is all right and the valve gear too. This noise is not in the boxes.

**A.** There are many parts about an engine which could make a "pound" if they are not properly adjusted. You say the noise is not in boxes. If that is the case you have not so many places to look for the trouble. Sometimes the knock in an engine is caused by the cross-head being too loose in the guides, or too high or too low. This will sometimes make a knock in the piston. The valve gear may have a loose joint somewhere, or something may be striking. We cannot help you very well without seeing the engine or "feeling the pulse of the patient;" so it is up to you to locate the trouble. Sometimes a good plan to locate the looseness about an engine is to take hold of each part and shake it with your hands or to take a stick and pry the different parts, thus putting more force to them than you can with your hands alone. You may detect where the trouble is.

**Q. E. G. W.** I was told by an engineer that a gasoline engine having 20 horse power didn't have more power than a steam engine of 10 horse power. Can you tell me if this is right?

(2) Why is it hard on a boiler after it releases some of its pressure, if it is too high, if there is plenty of water?

(3) What is meant by brake horse power?

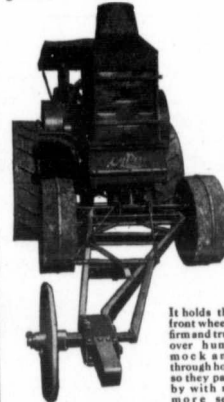
(4) How is horse power meant in pulling or in belt with a traction engine?

(5) Which is the most economical; to have a good draught, or to have the least draft possible.

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### Lion Rubber Endless Thresher Belts

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### Maple Leaf Endless Thresher Belts

Go Hand in Hand as Pre-eminently the Best. Ask the fellow that has one

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A. Gasoline engines are rated by brake horse power. Steam traction engines are rated by what is called nominal horse power. A 10 horse power steam traction engine will test from 20 to 30 brake horse power. This nominal horse power may go out of use by and by, already some of the manufacturers are rating their engines by brake horse power.

(2) There is a theory that when the pressure of a boiler is up to the limit that the releasing of the pressure will cause it to explode. This theory may be founded on the fact that locomotives sometimes explode just at starting. This may be caused by the shock put on the boiler due to the starting of the train. The boiler not being able to withstand any more strain than the pressure, and the extra strain due to the shock may be the last straw which breaks the camel's back.

(3) Brake horse power is horse power measured from the fly wheel and is accomplished by placing a brake band around the fly wheel and weighing the thrust produced by the tension around the wheel at the end of a beam fastened to the band. The length of the beam is measured from the center of the shaft and is equivalent to the radius of a wheel or drum on which a rope

may be wound and on end of this rope a weight equal to the weight or pressure at the end of the beam. If the supposed weight were 33000 pounds, and it would be raised one foot high in a minute, the power exerted would be one horse power; or if the weight was one pound, and it would be raised 33000 feet per minute it would be one horse power. This is the basis brake horse power is figured on. The formula is two times the length of the lever measures from the center of the shaft, times the weight, times the revolutions of the wheel per minute, times 3.1416 divided by 33000 equals the horse power. The brake employed is called the Prony brake.

(4) The horse power of a traction engine is rated by the power measured from the belt wheel. Indicated horse power is the horse power measured in the cylinder and is equal to the brake horse power plus the friction of the engine as far as the belt wheel; draw bar horse power is the indicated horse power minus the friction of the engine gearing and shafting.

(5) A good draught is quite necessary on a traction engine, and if this is accomplished by the exhaust of the engine it is to the engine's advantage to have an exhaust as mild as possible. The smaller the exhaust nozzle

the sharper the exhaust and it follows that a better draught may be had; but the smaller the exhaust the more back pressure, and the more back pressure, the less power, so it is the best practice to have the exhaust nozzle as large as possible, yet having it small enough to produce a draught that will make the boiler steam easy when the tubes are clean and the fire is in good shape.

Q. F. W. S. Will you please explain the following: How do you find out in rebabbitting the Reeves reverse, the right amount of babbitt to put in so as to get the connection red pin the right distance from the eccentric? Would it make any difference as to the exact location of the rocker shaft and the reverse shaft?

A. When the engine is new the liners between the cap and the other part of the rods are one-eighth of an inch thick. The center of the liners would be the center of the hole for the pin. These rods can be babbitted in their places on the pins; but another way is to put liners in the box the entire way across the box, putting the cap in its place with the nuts screwed on the studs, and, while laying on a level surface, both sides of the liners can be filled with babbitt. After the babbitt is dressed off

to the correct width for the pin, a hole can be drilled in each end of the rod the size of the pin, making the center of the hole at the center of the liners. Thus the liners are cut the correct width by the drill, and no fitting is needed for them. The shaft you refer to in the cut which accompanied your question is not a rocker shaft, it is stationary and cannot get out of adjustment. The rocker arms rock on this shaft. However, the exact location is not very important. The location of the reversing shaft is important. This shaft should be located so that the pin in the lower end of the eccentric yoke comes in line with the center of this shaft when the engine is on dead center. To test this point, the valve rod will stand still while the reverse lever is pulled backward and forward when engine is on dead center. If the valve rod moves under these conditions a close examination will show which way the shaft should be moved. This error is caused by the crank shaft box wearing down. A liner placed between the engine frame and the rear saddle is the easiest way to correct this difficulty.

Q. G. R. B. I have a 13 horse power engine that has been used a little more than two seasons pulling a 31x49 separa-



tor with all attachments and a ten-roll husker shredder with band cutter and self-feeder and I had 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, Presser'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 that 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 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 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. M. K. The crown sheet in our engine is bulged in one place between the stays about three-eighths of an inch. The stays are four inches from center to center and the sheet is five-sixteenths of an inch thick. The bulge is about ten inches long. Could this be hammered back to its place and how can it be done? Should it be red hot or could it be hammered back when just a little warm?

(2) How are stay bolts put in a boiler, and what tools must one have in order to make a good job of it?

(3) How would you stop a boiler screw which holds the bracket on boiler from leaking? It does not leak badly but it ought to be mended before it gets worse.

(4) If the tensile strength of one-fourth of an inch plate is sixty thousand pounds, what is the tensile strength of a plate five-sixteenths of an inch thick of the same material?

A. The first thing to find out in regard to a crown sheet is whether or not any of the stay bolts are broken. If they are, they will have to be removed and new ones put on. After this, force the sheets back into place again by using a lead or copper hammer. Do not use a steel hammer for this work. It will be all right to work the plate cold.

(2) Stay bolts are usually screwed in through both plates then cut off and riveted over cold. Sometimes the screw thread between the sheets is turned down so that the metal portion of the bolt is smooth. This is a little bit better but is more expensive and most of the traction engine builders do not do the work in that way.

(3) If a bracket bolt leaks, about the only way to repair it is to take it out, tap the hole out with a size larger tap and put in a new bolt. That is the best way to repair a job of this sort.

(4) If steel plate is rated at sixty thousand pounds it simply means that sixty thousand pounds per square inch of metal, that is, a piece of steel one inch square, if tested in a testing machine would require a pull of sixty thousand pounds to pull it in two. If your plate is one-fourth of an inch thick, a piece of that metal one inch wide will require fifteen thousand pounds or one-fourth of sixty thousand pounds. If the plate is five-sixteenths of an inch thick the force required will be five sixteenths of sixty thousand pounds and so on. The tensile strength is based on a cross section one inch square.

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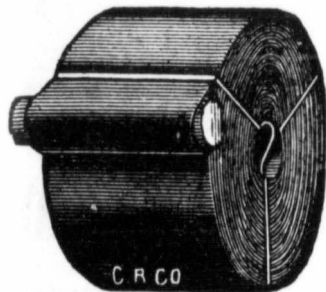
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Between your Engine and Separator is an  
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No chain is stronger than its weakest link—therefore a poor thresher belt will spoil your whole outfit.

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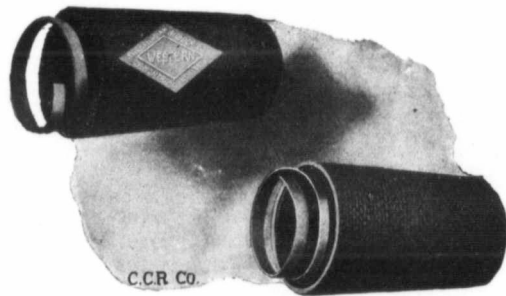
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**Q. H. V. R.**...He have a 30 horse power Avery engine equipped with Gould balance valve which has about one-eighth inch play on the valve stem. Should it be this way or should it be tight?

**A.** There should not be to exceed one sixty-fourth of an inch play between the valve and valve stem. The way your valve gear is arranged now the eccentric will drive the stem some little distance before the valve is distance before the valve is moved. Consequently when the valve is wide open it does not start to travel back until this slack is taken up. It will not give you very good distribution of the steam and we would advise your making the change suggested.

### Retiring on the Farm.

Retiring from one's work is one of the most serious steps that a man can take. Especially is this true of the farmer. Usually it means moving to town. Life in town is entirely different from life on the farm. One accustomed to farm life can hardly adapt himself or herself to town life at that period of life. This results in being out of touch with one's environment, in the absence of activities, to keep

one occupied. From being an important factor in the farm community one often becomes a negligible one in towns or even worse—a knocker.

Why move to town? The reasons given for moving to town are many—educating the children, modern conveniences in home, less work, etc., etc. The schools in town are as a rule better than those in the country but the reasons they are better is that the town people tax themselves so as to have the money necessary to maintain a good school. By consolidating the schools and putting up the school tax as high in the country as in the city just as good schools can be provided in the country as in the town.

The modern conveniences can be had in the country now as well as in the town and usually at a less cost.

Less work in town—less work of some kinds—but after all no one can be happy and healthy unless the mind is occupied. The one who is used to active, muscular work for a good many years will not remain healthy without some exercise.

A good way for a farmer to retire is to select a lot of 5 to 15 acres on the old farm and build on it the modern house, a

small barn, also with modern conveniences, and a poultry house. Here one can live the life that one is used to in the way that has become second nature to one. Here there will be something to hold one's attention and to supply some work to take the place of the accustomed activity.

The school problem can be solved by consolidating the schools. In this way as good schools can be had in the rural district as in town. In fact it will be a better school as it will be in closer touch and harmony with the farm and farm life.

In most cases it is a sad mistake for the farmer to retire to town and especially so when the things that he moves to town for can be had on the farm and with all the advantages of the country in the bargain.

After a good constitution as a requisite to health, come good physical habits. These require a good supply of nutritious food, daily and regular exercise in the open air, pure water to drink, pure and abundant air for the lungs, eight hours of good sleep out of every twenty-four, cleanliness, regularity in all habits and employ-

ments wise but not excessive recreation, last, but not least, useful congenial occupation.

\* \* \* \* \*

This setting down and folding our arms and waiting for sumthing tew turn up, iz ,ast about az rich a spekulashun az going out into a four hundred acre lot, setting down on a sharp stone with a pail between our knees, and waiting for a cow tew back up and be milked.—Jos Billings.

\* \* \* \* \*

Remember that everything you do of real value must have the impress of yourself upon it, and let that be the evidence of excellence and superiority. You will find that devotion to your work will pay. Superiority of method, progressiveness, and up-to-dateness, leavened with your own individuality, are permanent.

\* \* \* \* \*

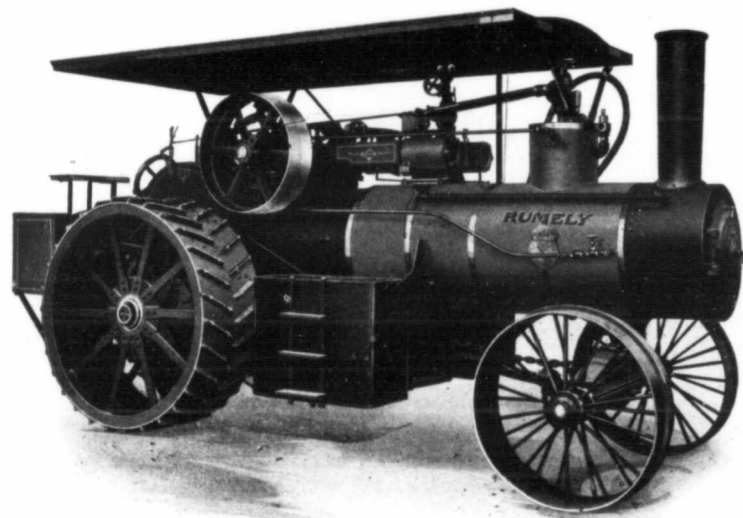
When a King asked Euclid, the mathematician, whether he could not explain his art to him in an easier manner, he was answered that there was no royal road to geometry. Other things may be seized by might, or purchased with money, but knowledge is to be gained only by study, and study to be prosecuted only in retirement.

The Kind We Build  
Is The Kind We  
Should Like To Buy

The Kind We Build  
Is The Kind We  
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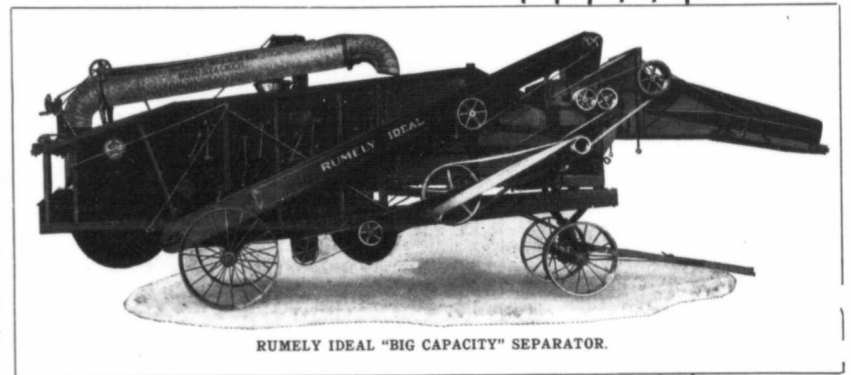
Our fire boxes are so constructed that they give an extra large heating surface in the boiler. This makes RUMELY engines easy steamers. We have solved the problem of rigid, durable mounting—all RUMELY engines are rear mounted. Not alone in these respects, but in the construction and material used in gearing—in the drive wheels—in the equipment—in every part—RUMELY steam engines are superior to any other steam engine made.

RUMELY 25, 30 and 36 h.p. engines are the sizes for big farming. They are well fitted to your all-season needs. They give

the steady, reliable power you like to have on the belt when threshing with big capacity separators, such as 36 and 40 inch cylinder RUMELY IDEAL separators. They are superior engines for big plowing, big hauling, for big work of any kind.

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cause all parts requiring oiling or daily adjustment are on the outside and because all the strain and vibration are counteracted so that they stand absolutely still while in operation.

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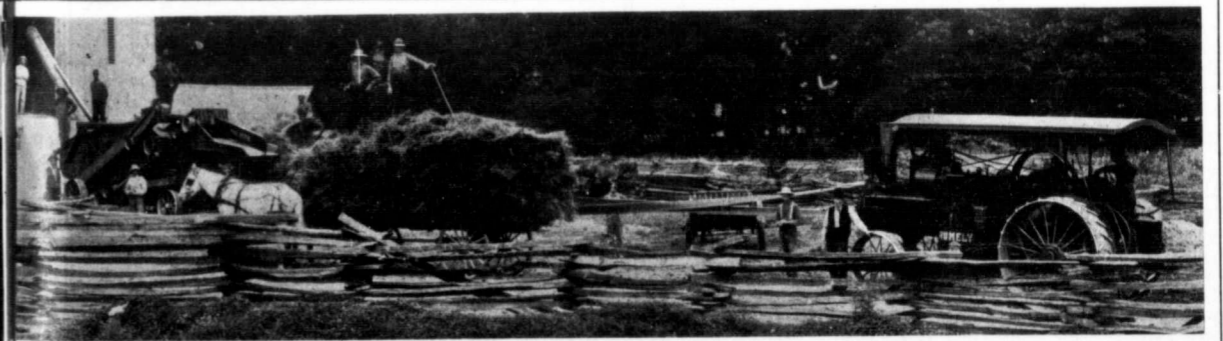
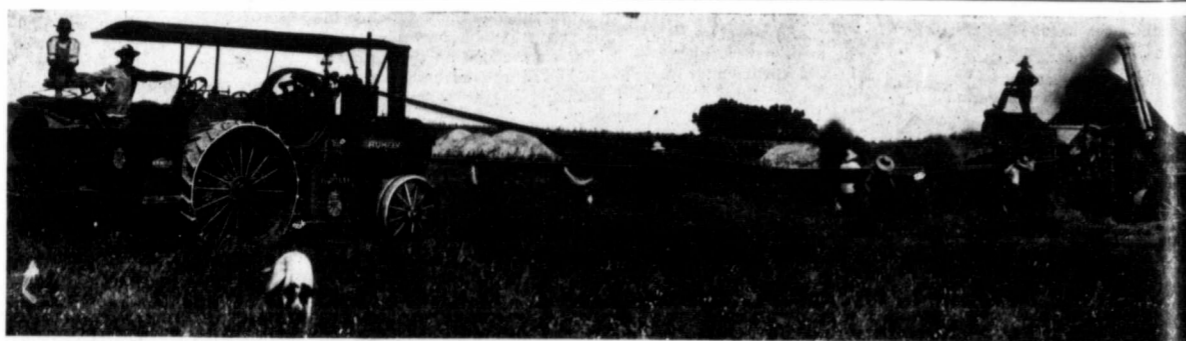
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Is the Kind  
YOU Want to Buy**

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are designed for light draft, easy operation and good work. That the design is successful is proven by the satisfaction of thousands of farmers—hundreds of them right around you who are operating them. Plows are furnished in 4, 5, 6, 8 and 10-bottom sizes, and with stubble or breaker bottoms. You will find in our line a plow exactly suited to your plowing needs and to the size of your engine.

"Seeing is believing." Come to the Exhibition at Winnipeg in July and see how our Power-Farming Machinery works.

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**The Manure Spreader: A Valuable Implement for the Farmer.**

It is hard to overestimate the value of a manure spreader to the farmer of the present day.

The intelligent farmer is in the same class with the successful business man and so appreciates that farm labor is one of the most expensive and hardest problems he has to face, and cannot help but consider the machine that will help him meet it worth having. No other machine will reduce the cost of farm labor to a greater extent than a manure spreader. At the point of labor saving alone it will displace the old method of spreading manure by the forkful over the land.

The laborious work of spreading of manure over the land by the forkful required too much time and labor, saying nothing about the better results received by the work done with the machine, to be carried on long.

This is always a disagreeable job in the extreme. Every farmer can testify to that. And it cannot be overlooked that the loading of the manure in the fork-spreading operation is the simplest and easiest end of the work.

Anyone who will take the trouble will find out that it takes twice to three times longer to spread the manure over the land with the fork, and do it properly, than it does to load up the wagon. That is possibly why more effort has been put into securing a proper machine for unloading and scattering the manure than has been made for securing the easier loading of it for carrying to the fields. However, barn litter and manure carriers, scoops and other utensils for loading, as well as the spreader for distributing, have come into use rapidly.

This valuable implement saves all the labor formerly required in unloading. It can unload from fifty to seventy bushels of manure in the time it took to unload ten by the fork method.

This fact must be fully appreciated. It makes clear how thoroughly it will displace the labor of one or two men. In most sections where manure is plenty and labor is scarce it is

necessary for the farmer to own a spreader or let the manure pile go to waste by rotting and decaying in the sun and weather. Don't forget that the elements in manure that make it valuable as a soil enricher require a certain amount of preservation.

On a large farm where there is little labor the manure spreader will pay for itself in labor saved alone many times over in one season's time. An item that might not be thought of is the kind of labor required when using a spreader. Spreading manure by the forkful requires some of the most skilled work on the farm to get it properly and evenly scattered. It takes muscle, too, the kind that comes only in a full-grown man. Take the machine and the farmer can put his boy to work and the machine will do the rest.

It is not necessary for a man to drive the spreader; any boy can use it, and there are a lot of them doing it every day. They like it. Every farmer's boy is attracted by just such a machine as the spreader, and it helps to make farming for him popular.

It is results that count in farming as well as in the business world in general. Greater returns and more of them are what you want. Increased crops and bigger harvests.

It is a machine that will soon be reckoned on every farmer's purchasing list of new machinery. It is but another evidence of the wonderful advancement made in farming methods and machinery in the last quarter of a century. It is but the reflex showing in farming life of the electric street cars, automobiles, talking machines and other signs of progress and advancement to be seen in every city.

Anyone who will take into account the increase in the value of farming lands in the last 20 years will tell you in a very short space of time the reason for the coming into use of the manure spreader.

Land that was worth one hundred and two hundred dollars an acre was hardly more than thought of the short time of a quarter-century ago. To-day it is common. Common because the demand and nearness to

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It has been advertised solely to bring it to the knowledge of the people and wherever it is known and has been tested, it has become its own "Sales Agent."

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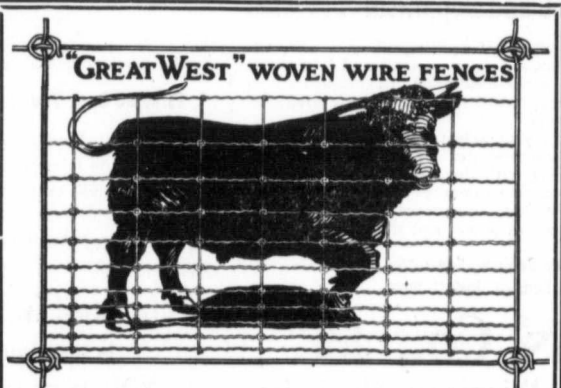
that its strong points are—(1) The **Extreme Simplicity** of the very small number of its working parts. (2) The **ease** with which it can be operated even by a child. (3) Its great strength and rigidity and (4) best of all, the special character of its **GEAR DRIVE**. In most machines this is the primitive worm gear. The **MAGNET** is provided with **SQUARE GEAR** which means years added to the life of the machine. Further, the **Patent Bowl** of the "Magnet" is supported at **Both Ends**. This means that you will never experience that "wobbling" sensation that wears out both machine and the nerves of the operator.

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Reference: Dominion Bank.

market have made it so. Common because its great productiveness has been retained or increased by improved methods of farming.

The manure spreader is the one machine that will receive more of the attention of the buying, farming public than any other farm implement for the next ten years, or until every farmer owns one.

The position of this machine on the farm to-day is indeed a very important one. It bears much the same position in the production of a crop that the binder does in the harvesting of one. It is just as important to use a right kind of machine in producing your oats, barley, and wheat as it is for harvesting them. The day of planting with a hoe and harvesting with a sickle is over.

All live farmers realize the necessity of improved machinery on the farm for reducing the cost of farming and increasing the returns. This fact has made itself felt as strongly on the part of the farmer as they have done in the case of the large manufacturers.

If you show to the successful manufacturer to-day a machine that will reduce the cost of labor and improve the article he is selling, he doesn't consider long the first cost of the machine. He figures it out as the best paying investment he can make and insists on having it.

The astounding statement is made that one-third of the manure is lost to-day because of improper handling. This is where the manure spreader comes in. It is right here that the manure spreader will count for most as an economical farm machine.

We should all realize the fact that the manure pile stands for something aside from a heap outside the farmer's barn door. It is a by-product of the farm that every thoughtful farmer considers. It means an increase when applied to the land that makes it worth the time and expense to put it there. If it's worth putting there at all, it's worth putting there right, and so that it will bring back the biggest increase. To give a complete idea at this point of the merit of a machine for distributing the manure over the land, it is necessary to understand the character of the manure substance that makes it so valuable to the land.

In order to realize this more fully just consider again the broad statement made that it was just as important to consider the producing of a crop as the harvesting. If anything it is more important. The world-wide campaign for better seed

and greater care in planting and cultivating has brought this important fact into prominence in the last few years.

We all know that the chemical elements that aid greatly in producing a crop are nitrogen, potash, and phosphoric acids. Humus, or vegetable mold, is absolutely necessary for securing productiveness. It makes the soil porous, helps to ventilate it, and acts much like a sponge in holding water for feeding the plant root. The capacity of the soil for producing a big yield depends upon its containing these elements in large degree. Profitable farming requires that the soil retain these elements. Barnyard manure is the only fertilizer which combines all of these constituents. So how can any farmer afford to leave an acre of corn stand on the stalk to decay, or a load of wheat in the bin to mold?

It is absolutely necessary that these constituents reach the plant in a liquid form. They must be dissolved easily and quickly. If a manure which contains them is spread thinly over the land they will dissolve quickly and be absorbed into the growing plant. If all the land is to be benefited, the spreading must be done uniformly and evenly. This can only be done by a machine. It requires a manure spreader to pulverize most kinds of manure, and to spread any kind of manure evenly.

Every one who has made experiments, and the very best authorities, will tell you that eight loads an acre will give the best results, generally, when spread by the machine. Just think of this great economy. Making eight loads of manure cover by the machine as much as fifty would by hand and securing 10 to 25 per cent. greater returns is certainly convincing enough of the advantage of owning a machine.

**The Cash Value of Good Roads.**

In an interesting paper entitled "The Wagon and the Road," read recently by J. L. Hecht before the Contemporary club of Davenport, Iowa, the evolution of the modern vehicle is traced from its beginning and the necessity for better roads is strongly urged. The following excerpts from the paper contain some figures relative to the losses occasioned by poorly constructed and maintained roads:

"When we stop to think that all our agricultural products as well as a large part of the products of our forests, mines, and factories are moved over wagon roads, we realize in a general way the magnitude of the mat-

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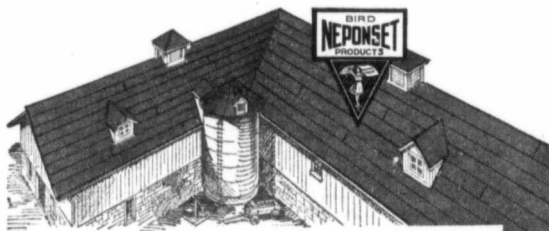
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14 Princess St., WINNIPEG. 175 William St., MONTREAL



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If you were to sell your farm you couldn't get as much for it if your buildings were run down and had leaky roofs. The farmers who keep things up in good shape are buying

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because it is an investment. Gives you adequate fire protection. Cuts out repair bills and lasts as long as shingles or any other standard roofing material. In one town the leading railway station has been covered with NEPONSET Paroid twelve years—painted once. The freight station has been covered with NEPONSET Paroid for eleven years. Equally long records have been made on farm barns like your own. NEPONSET Paroid is the roofing you know will last. Be sure to buy it next time.

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ter. The prevailing opinion among residents of cities is that road conditions concern only the farmer or the automobilist. People do not stop to consider that the tremendous necessary cost of transporting materials throughout the country is shared and paid for by everybody, no matter whether he be a farmer or a resident of one of our cities. Whether a farmer is hauling a load of produce to town, or a city resident is having a load of coal hauled to his home, the condition of the highway in each instance is a factor in the cost, and the consumer in both cases must pay his share of this cost.

"The relation of the entire people of a state to road conditions has been recognized by some of the states, with the result that some states will now pay a portion of the cost of road improvement in any local community within the state, leaving the balance to be paid for by the local community and the property abutting on the road.

"Even the railroads are interested in good wagon roads; they are called upon to move the crops of the country through a period so limited that during certain seasons of the year they are taxed to their utmost to furnish the necessary equipment, while at other seasons a portion of this equipment is idle. This undesirable state of affairs is aggravated by the condition of the roads. The farmers try to haul their crops to the railroad stations while the roads are good. When the roads are poor less can be hauled, and when bad often nothing at all. This means that freight cars stand idle on the side tracks waiting for the crops which cannot be hauled till the fickle weather chooses to make the roads better. When the roads become good again freight blockades may result from the abnormally large receipts, or, what is more often the case, there are not enough cars, owing to the period of idleness caused by bad roads.

"Because of the limited period when the roads will permit hauling, and the shortage of cars thus caused, a greater number of costly grain elevators are needed for storage. If our crop movement could extend over a longer period more of the products would be stored on the farms until they could be hauled conveniently, and the entire crop movement would be more constant and regular, requiring less railroad equipment and fewer elevators. Another evil effect of the stoppage of the crop movement, due to bad roads, is the opportunity it affords to speculators to manipulate prices, causing great and harmful variations.

"Bad roads injure us in many

other ways. Take such a simple thing as the milk supply for a large city. It has been observed that milk shipments are made from points where the roads are sufficiently good to enable the dairyman to regularly meet trains, while other localities in the same district cannot engage in this traffic because road conditions, at times, are such that they cannot possibly handle the products of the dairy with any degree of certainty and regularity. The farmer often loses a good market, owing to the conditions of the roads, and his products may deteriorate in quality while he is obliged to hold them. I have been in the state of Texas at a time when the farmers were utterly unable to avail themselves of a fair cotton market because of their inability to move their cotton to the railroads. Such things as this impress us with the part traffic interruption plays in causing irregular and erratic prices, and make us realize that the prices we pay for products which are hauled over the public highways are materially affected by road conditions.

"If the statistics existed which would show the loss to farmers due merely to the greater cost of transportation over bad roads, the figures would be enormous. This loss, while apparently falling on the farmer alone, through its influence on prices is shared by all. If, to this loss, falling in the first instance on the farmer, should be added the similar loss of wagon transportation from the mines and forests, in the cities, and in hauling merchandise from the city to the country, the result would be colossal.

"It has been estimated that over three million farm wagons are in use in this country. It is safe to say that at least half a million of these wagons are used for three hundred days in the year. If the value of the services of the driver and the use of the team of horses, wagon, and harness is estimated at \$3.00 per day, we have an annual cost for transportation by farm wagons alone of \$450,000,000. The statistics collected by the Department of Agriculture indicate a cost in the old countries of Europe, where the roads are good, of twelve cents per ton per mile, and in this country, where the roads are bad, a cost of 25 cents per ton per mile. Even allowing for the lower wages paid in Europe, the cost of transportation by wagon over the roads is nearly twice as much here as there.

"In other words, so far as regards transportation by farm wagons, good roads would effect an annual saving of over \$200,

## IF YOU DO IT WITH A JANESVILLE Northwestern Gang Plow

Your plowing will become as pleasant as a pastime. This great implement has been designed and constructed with the single purpose of overcoming all the difficulty and worry of handling the heavy gumbo soil peculiar to Western Canada. No ordinary plowshare or combination of plowshares will make headway against these conditions and do satisfactory work. After years of study and racking experience we have successfully met the case with the JANESVILLE GANG

### ITS CHARACTER

Among other exclusive features, the "JANESVILLE FOOT TRIP" horse lift on this plow gives it an advantage over every other plow made of priceless value to the plowman. You simply trip the lift with the foot while riding or throw the hand wheel lever while walking and the horses will pull the plow bottoms into the ground at the start and out of the furrow at the end.

Made of the very best material in every detail, its EXTRA HEAVY beam especially guarantees a strength and resistance quality that will not break under the most grilling test any plowing job is likely to give it.



### ITS BUSINESS

Its business is to successfully deal with and overcome the unyielding tenacity of the worst prairie and scrub lands instead of skipping it or breaking at the first real obstacle. In entering the ground, the heel of the plow bottom is held up so that the point MUST go down first. In leaving the ground the heel of the bottom is held down so that the point must come out of the ground first. The plow works almost automatically and so easy is it both on the draft horses and the man, the work is done with half the sweat of an ordinary plow in ordinary soil.

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000,000. If to this saving we add the annual saving which good roads would effect in transportation by wagons other than farm wagons, we have a sum which is enormous."

## Wire Fencing.

It has become a matter of common observation during recent years that the steel fence wire made by the modern process is not so durable as the wire that was made in the old-time way, 15 or 20 years ago. Those who purchased wire prior to 1890, in many instances, still have good fences on their farms, whereas those who built fences some five or six years ago from the modern galvanized steel wire are beginning to make repairs. This seems to be a matter of common observation all over the country. The department of agriculture some time ago received a great many inquiries from farmers all over the country asking for an explanation of the rapid deterioration of the modern fence wire and wire fencing.

Iron, as every one knows, exists in nature and is mined generally in the form of oxides. When pure iron is exposed to the air it rusts, that is oxygen combines with the iron to form iron oxide and it is in the form

of this oxide that most of our iron is found. "Hematite" is a term applied to a great deal of our iron ore; "lemanite" is another term. These oxides are the same with the exception that the latter contains in addition to iron oxide a certain amount of water. Hematite carries about 70 per cent. of pure iron, while lemanite carries about 56 per cent.

The iron ore is put in large furnaces where it is mixed with coke and lime stone. The coke is burned so as to produce an intense heat in the furnace. A current of air is forced through the furnace to supply oxygen for the consumption of the coke. Coke is nearly pure carbon, and when it burns forms carbon dioxide; in other words, the carbon of the coke combines with the oxygen of the air. The coke being present in large quantities also takes away oxygen from the iron ore. In other words, it reduces the ore, using the phraseology of the metallurgists.

This smelting process, it will be noticed, therefore, is in the main, a process of removing the oxygen from the iron. When iron is in the molten condition it is capable of dissolving more or less carbon, the same as water dissolves sugar or salt. When the proper stage in the smelting has been reached, the liquid iron

is drawn from the furnace into molds, where it cools and as it cools part of the carbon which went into solution while the iron was hot, crystallizes out in large crystals, just like salt separates from a strong, hot solution of brine after cooling. After the iron is cooled it still contains more or less carbon. This reduced iron is what commercially is termed pig iron or cast iron, which, as everyone knows, is brittle.

Before such iron can be used for wire it must be made more malleable and ductile, and to this end the excess of carbon must be removed. In case the iron ore contained large quantities of impurities such as phosphorus, sulphur, silica and manganese, some of these substances must also be removed as they change the properties of the iron in various ways. To remove these impurities and also to remove the excess of carbon, the Bessemer process of steel manufacture is employed. This consists in heating the pig iron in large pear-shaped furnaces, provided with air holes at the bottom through which air is forced under pressure. The iron in the furnace is heated until it is molten—air is then forced through it. This air combines with the excess of carbon, burns it, forming carbon dioxide, which in turn passes out

through the top of the furnace. The process is continued until practically all the carbon has been consumed and a small per cent. of the iron has been changed to iron rust or oxide of iron, as it is technically termed. A chunk of ferromanganese, composed of iron and manganese, is then thrown into the molten mass. This ferromanganese seems to have the property of expelling all bubbles of gas within the iron, so that after the iron has cooled in the mold into which it is drawn from the furnace, it will not be filled with air holes.

In case the original ore contained large quantities of phosphorus, the basic open-hearth process is employed. This is very similar to the Bessemer process, the only difference being that instead of forcing air through the molten iron it is allowed to play on top of the iron. The furnace is also lined with lime stone or dolomite, the latter being a mineral composed of lime and magnesia carbonates. The lime combines with the phosphorus in the iron and thus removes it. This process does not remove any manganese that might be in the original iron ore.

The puddled process of iron manufacture is as follows: The pig iron is put into flat furnaces when it is heated and worked

by means of tools called rabblers by hand labor. The slag which forms upon it, when worked in the open air in this manner, becomes evenly distributed throughout the iron and it seems that this slag in some way, after the iron cools, protects it from rusting, hence, the reason why wire manufactured from iron made by the puddled process lasts so much longer than the wire made from the Bessemer or open-hearth steel process.

The department states, that while in some instances the galvanizing coat is rather thin, that this can by no means be considered the cause of so much of our wire rusting so rapidly as it does. On the contrary investigations seem to prove that the rusting process, or the gradual rotting of modern steel wire is due to galvanic action. To understand what is meant by galvanic action, we refer our readers to the ordinary electric batteries such as are used for telephones or door bells. Whenever two different metals are set in a salt solution, such as common salt, ammonium chloride, etc., and have been connected with each other by means of a suitable conductor such as copper wire, a current of electricity flows through them. As this current flows one or both of the metals gradually becomes disintegrated.

When iron wire contains a considerable amount of manganese, as it often does, and if this manganese is not evenly distributed throughout, the different particles of iron in the wire, assume different potentials by virtue of the difference in the chemical composition of the particles, and hence, these particles act as though they were different metals. Thus when moisture settles on the wire, we have formed miniature batteries. That is to say, one particle of iron containing a larger percentage of manganese than another particle, when submerged in water, acts like the different metals used in a battery. An electric current, though very small, passes through them and in turn disintegrates the particles of iron. This galvanic action, as it is called, seems to be the principal cause of the rapid deterioration of modern steel wire.

The pitted condition so often seen in steel wire after it has begun to rust is the direct results of this galvanic action.

Observation indicates that the lower wires of a fence are not subject to this galvanic action to the same extent as the wires higher up. This is due to the fact that these wires have frequent communications with the earth through grass, weeds, etc., and the electricity is conducted

away from the wire. It also shows that the rapid rusting of steel wire is not merely due to water. If it were, the lower wires of a fence would rust before those nearer the top. It has also been observed that in a woven wire fence, for instance, half of the wires may be apparently as good as new when some of them are entirely destroyed by the rust. This is explained by the fact that manganese is more evenly distributed in the preserved wires than in those that rusted earlier. The difference in composition may be very slight and yet the effect produced by that difference, exceedingly great, and it seems to be a difficult matter for the manufacturers to control the condition in the Bessemer and the open-hearth processes so as to secure the desired results. Wire made from puddled iron is necessarily more expensive, as it involves a great deal of hand labor, but there can be no doubt, but that the farmer can well afford to pay this extra price, as it lasts from four to five times as long.

#### The Training of the Colt.

Kindness, Firmness and Patience are Prime Factors in the Work.

The training of the colt should begin soon after he is foaled if we mean to achieve the best results. If the mare is gotten up at night, begin by petting him and letting him know that you are his friend. A little confidence in you gained by him at this early age will help a whole lot as his training progresses.

After he is a month or so old, begin to accustom him to the halter. After he has had it on a few times, take a long whip or stick and, standing in front of him, gently pull on the halter stall. If he does not respond, and he probably will not, reach around and tap him on the hips or hind feet enough to start him, at the same time calling him to come. Usually, after a few jumps and plunges, he will give up and follow.

I have taught a colt to lead in fifteen minutes' time, and almost always two or three lessons are sufficient to teach him to do so.

It is just as easy to teach a colt to come at your call as it is a dog. Five years ago I sold a mare that I raised, and this last fall as I was going by the pasture where she was feeding I thought I would try to see if she remembered me. I called her by name, and she raised her head and answered me and came up to the fence, putting her head over to be petted. I don't believe a horse ever forgets anything once learned.

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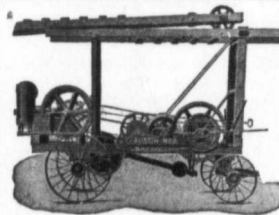
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Nanton Building - - Winnipeg, Manitoba

After a colt is once halter broken his harness education can rest for a while, but don't cease to keep on making friends with him. You can't be on too good terms with him, only always give him to understand that you are master. Don't try to enforce any commands unless you are in a position to carry them out.

I don't believe in breaking a colt to harness too young. A colt that is well broken at an early age is likely to get hitched up too often for his own good.

After he is three years old it is well to teach the colt the use of the harness. I usually put on the bridle, the pad and the breeching and let him go a few times. After he is a little accustomed to these straps, put on the check and reins, running them through the thill lugs, and drive him around until he learns to obey the bit. Teach him to back as well. I like to hitch a young colt with a good safe horse first, if possible, not an "old plug," but a good sensible horse that will road right along and mind his own business. If you are breaking the colt for a roadster don't let him dawdle on the road. Give him plenty to do to keep up, and he won't have time to concoct any mischief.

Don't drive him more than a couple of miles a day the first few times, and after he has gone

a mile or so get out and uncheck him and let him rest his neck a few minutes. If at any time when driving him he shows any signs of his neck being tired, stop him and let it rest.

I think a great many colts are driven until their necks are so tired they become desperate and do things they would never think of doing under normal conditions.

Having once begun driving a colt use him every day. More colts are spoiled by being hitched up only once a week than in any other way, in my opinion.

When a colt is once started don't take your eyes off him. Watch him every minute. Keep your lines tight enough to catch him in an instant, and you will save yourself a whole lot of trouble and many times a spoiled colt.

Many times when a colt starts to kick or balk, a sharp pull of the lines and a word will stop him; but when he once does it, it is likely to spoil him. If a colt is inclined to be vicious, or to balk, and you see he is going to, stop him; don't wait until he does it himself. Get out and fix the harness a little, give him a pat and a kind word. Get in, and if he wants to start let him wait a minute or two until he is tired and is willing to go.

Be very careful how you load

him for the first few weeks, and look out that his mouth doesn't get sore, which it is very likely to do. Be very careful not to pull on him quickly and hurt his mouth. If it does get sore, lay him off until it gets better. Always use a straight bit on a green colt. After he gets accustomed to it, and if he pulls, a change is available, of course.

A horse with a spoiled mouth is a very disagreeable animal to handle, and it behooves a trainer of colts to take special care that it does not happen.

Don't under any provocation lose your temper, and don't whip the colt. On a very few occasions it may be well to hit him a blow; but, if the colt be high strung, that usually does more harm than good. Don't be afraid of becoming too friendly with your colts. They appreciate kindness as well as human beings, and will thrive upon it.

I always feed a colt liberally when I commence driving him, as I find that a colt broken when in good spirits makes the most cheerful horse, and he doesn't have to be taught over again when he begins to grain up.

I have trained a good many colts, and have never had one vicious or balky when I finished his training. I usually drive them with an open bridle, and if they carry their heads well, and

don't pull their noses in, I take the overdraw check off and give them a free head.

Kindness, consideration and patience are important factors in the training of a colt.—Charles L. Smith.

Never give way to melancholy. Nothing encroaches more. I fight against it vigorously. One great remedy is to take short views of life. Are you happy now? Are you likely to remain so till this evening, or next month, or next year? Then why destroy present happiness by a distant misery which may never come at all, or you may never live to see? For every substantial grief has twenty shadows, most of them of your own making.

The best gifts—those that we should covet above all others did we comprehend their value—are not those which may or may not chance to come to us, but those which must inevitably follow us when we are good and true, faithful and wise. The worst calamities are not those which may come upon us unawares, but those which follow from conscious wrongdoing.

The beginning of love is in the power of every one; to put an end to it in the power of none.



# Farmer Up-to-Date—Farmer Good Intention

Their Farms adjoin. Both of these Farmers live in your neighborhood. You know them and they know you. Are you one of them? If so, we sincerely hope you are the right one.

## FARMER UP-TO-DATE

JULY  
1912

## FARMER GOOD INTENTION

HENRY:—That "Agricultural Special" has been a fine thing for some of the fellows round here. It has set old "Good-Intent" a-thinking any way. I saw him right in the front seat while Mitchell was talking on the cow-stable question, and at the end of the lecture he went up to the professor to ask him some questions. I wish Mitchell had seen our new barn and the fine condition of your herd, father. I'll bet you a new hat that if you show "Blue-Bell" at Winnipeg or Brandon she'll take an easy first and I shouldn't be surprised if she won the grand championship at both shows. I know we have nothing like her at the college in a Holstein either for breeding or milk-record. It's time we were getting her and the colts trimmed up for exhibiting, and by your leave I'll start in to-morrow at both jobs. The very thought of leading these animals into the stock ring is as good as a gold medal. I used to think old Potter a bit wearisome with his pig talk, but I tell you when a fellow can rear hogs like that, he is entitled to talk.

FATHER:—My boy I am going to show every detail of live stock and field produce on the farm that I think stands any chance of winning. I think it is up to us chaps on the farms to support the fair much better than we have been doing, and make it what it was really intended to be, a genuine exhibit of progressive agriculture. We hear all sorts of complaints about the bigger fairs degenerating into race meetings and vaudeville shows, but upon my word I believe we are largely to blame for this ourselves. The fairs will be just what the people make them, and if a man has stock or produce that he is not ashamed to exhibit, I think it is his duty to come out with it. When I saw the trouble Burnbank took last year to get his Clydes and his Shorthorns in condition, and how he stood by them all the time in the fair grounds, it fairly took the conceit out of me as I looked at our little bunch of grades. So we'll get to work, Harry, and make the barns red this year with our ribbons.

MOTHER (chuckling behind the paper she was reading):—They say there's nothing so fearsome in life as a woman scorned, and I suppose it will be just as near the mark to say that there's nothing so near heaven to her as when she lays bare her heart and finds that her counsel is not despised. What did I say last year, when we went to our own fair and saw what some of our neighbors had done who hadn't half the chance to make a show as we had? I am glad that you haven't forgotten what I said and I can tell you that you'll have to watch your entries very closely for Burnbank is going to beat his own record this year. When I was up there at the Home Economics meeting, Janet was showing me what the boys had been doing. My word they've got some lovely cattle, and I saw them as busy as ants cleaning two samples of wheat and barley that knocks the bottom out of the best we've ever done. But she didn't scare me with her hens. I think I'll beat her yet.

JOHN (home from a trip to the East):—Well, father, I've had an object lesson in what you were saying before I started out. You can't farm without proper equipment. You may have everything else but if you are going to compete with the elements you must have something more to help you than a few teams of horse flesh. In the Red river valley I noticed quite a few folks had got no plowing done and some of them will not sow a bushel of wheat this season. They say the ground was so wet, they could never get at it, but I saw one farm right in the heart of this same district where they were as well ahead as we are and every acre seeded that they had intended to put into grain. This man had a fine engine and he knew how to handle it, too. He was handling a half section, but some of the neighbors were trying to manipulate a section and a half with a few teams and a borrowed engine, which, of course, they could only get when its owner could spare it and that would scarcely be while his land was in condition for working.

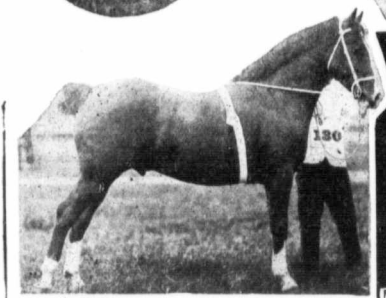
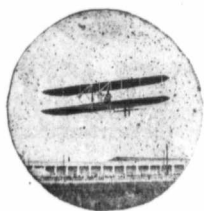
FATHER—Well wife it is all very well for these college chaps to come round with their train and "demonstrate," but if they had put in the winter and the wet spring we have had on the farm, I tell you it would knock the bottom out of a lot of their imaginings. I attended every lecture while the train was at our station, but, oh chucks! I could have given that dairy man some pointers from actual experience that would have made his eye-brows tremble. His ideas about stable equipment are altogether out of the question, and the price he says he would be prepared to give for a first-class cow is absurd. In ninety-nine cases out of a hundred, one cow is as good as another—for our purposes at any rate, and look what it would cost to rebuild and fit up our cow stable. He would have the place fitted up like a front parlor and ventilated like a concert hall. Their ideas on "intensive farming" are all right for monied men who want to amuse themselves at the job, but they won't fit into my programme.

CHARLES:—No, I daresay not. All the same, father, you may have the best intentions and very positive views and experience of a kind, but you can't get away from the fact that the current opinion about us among the neighbors is that we are distinctly back numbers. We work as hard as anybody, heaven knows, but we are just wading through muck all the time. We haven't got the outfit by one half for even half of the land we are responsible for, and when it is all mortgaged up to the hilt, how in the world are we ever going to improve things? I tell you dad, I don't share your opinion one bit about those men from the college. They are all right in their contention that you've got to use brains to some purpose and spend a little money to make more of it. Our difficulty seems to be the money question, and frankly I do believe that if we had used our brains to better purpose and not bitten off more than we could chew when we began farming, we would not have been in the tight hole we are in now.

MOTHER:—I am sorry I wasn't able to see that college train. I am afraid that while we are so short handed it will never be possible for me to see anything of the kind that comes along. What an awful pity it is, father, that you can't arrange to accept Bob's invitation and take a little holiday with him. The mere change is necessary for you because your brain has been steeped in worry—the everlasting worry of this farm all these years, till you have no eye or grasp on anything outside of our own little circumstances. They are pitiable, to say the least. It is most discouraging to the boys, and when they are so anxious to get ahead and do the best they can I think it is the least you could do to let them have a little bit of their own way with things. They are no longer boys, and you'll excuse me speaking plainly, father, but really they have learned their lessons here more by seeing how certain things should not be done than by any other education they have got.

BOB'S WEEKLY LETTER.—I am about tired of making suggestions to father, and if he has made up his mind that he can't be spared from the farm, I think it is up to him to let you have a rest Mother. He has got his legs so deeply sunk into the mire and has become so thoroughly accustomed to it, if not in love with it, that I suppose he has neither the strength nor the inclination to pull himself out. We are going to have a whale of a time here in Winnipeg this year during Exhibition week. Jim Watkins tells me he is coming to double up with me and we are to put in all the time we can at the great Motor Contest. It's to be a bigger affair than ever this year. I understand there are some forty odd entries in for it now. The Governor-General and the Princess Patricia are to open the show, and I hope you'll take my advice seriously to heart for once and let Mother have a week's holiday. I understand she hasn't been to a fair of any kind for ten years. If any creature living has earned a holiday, it's mother.

on  
know  
hope



# Canadian Industrial EXHIBITION WINNIPEG

— UNDER ROYAL PATRONAGE —

## Western Canada's Foremost Live Stock Show and Agricultural Fair

*Live Stock Show under revised competition rules more favorable to Western Canadian Breeders*

**FIVE POINT DOG SHOW      POULTRY SHOW      PET STOCK SHOW**  
**Art and Art Loan Display      Ladies' and Schools Sections**  
**Flower Show (Flowers to be received Monday evening, July 15.)      Dairy & Dairy Products Show, new Features**

First National Encampment Boy Scouts of Canada  
And review by His Royal Highness the Chief Scout

The Farm Motor Plowing Competition of the World  
33 Entries

**Blue Ribbon Race Meeting**  
Big entry and spirited field, Pari-Mutuels.

Museum Section—  
**"Red River Settlement"**

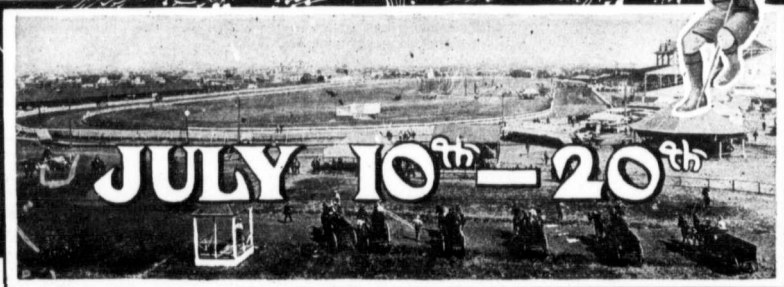
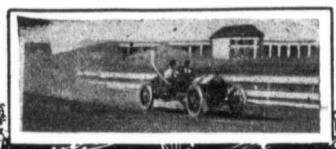
*Glittering Pageant Nightly The Centenary of Western Canada. Allegoric story of Red River Settlement: landing of Selkirk Settlers, 1812, to present period of Western Commercial Supremacy; Deployed with a thousand men in costume and a fortune in fireworks.*

WESTERN CANADA'S VASTEST HIPPODROMIC PERFORMANCE FREE. Twice daily. The "Royal Besse of 'th Barn" (direct from England) and ten other Massed Bands in Patriotic Tattoo. TWO AEROPLANES IN CONTESTING FLIGHTS. Jimmy Ward and his Biplane, America. George Mestache and his Monoplane, France. The Herbert A. Kline Colossal and Combined Shows.

200,000 People

1,000 Attractions

100 Excursions



# JULY 10<sup>th</sup> - 20<sup>th</sup>

# Waterloo Lion Brand

of Farm Machinery has never yet been surpassed by anything in Agricultural Engineering for Quality, Durability, Efficiency and Value. Plowing and Threshing Engines (Steam or Gasoline) ranging from 14 to 30 H. P. are unsurpassed by anything of their size. Wind Stackers, Feeders, Baggers and Drive belts a specialty.

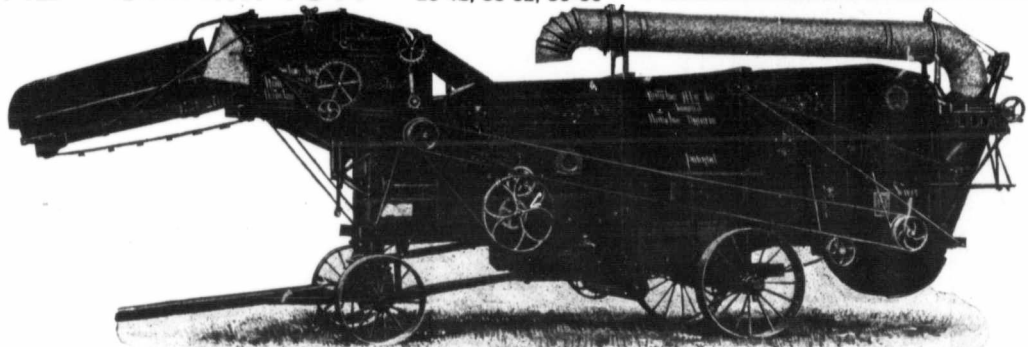
## Waterloo Separators, 28-42 to 36-56

Are the Greatest Grain Savers in the Market

### THE "CHAMPION"

Made in three sizes,  
28-42, 33-52, 36-56

Write for CATALOGUE OF COMPLETE LINE



**WATERLOO MANUFACTURING CO., Limited, PORTAGE LA PRAIRIE**

#### An Old Timer Passes Away.

It is with regret that we chronicle the death of Mr. Geo. Kirkland, of Mount Healy, Ontario. Mr. Kirkland was probably one of the best known implement men in Western Canada. Coming here at an early day, when the implement business was a pioneering one, he succeeded in building up for the Sawyer-Massey Company in Western Canada, an enviable position. He was connected with this company for nearly half a century, being manager of their Western branch, until his resignation last February. Mr. Kirkland was a man, in every sense of the word. He was one of those men whom you felt proud to know and his word was as good as his bond. His personality was such that it compelled the respect and loyalty of those under him, and at the same time they always enjoyed the utmost confidence and always loved him. He was a tireless worker; conscientious in his work to a degree that made it almost a creed. It is a misfortune to lose such men, but in Mr. Kirkland's case, those who knew him, should unanimously agree that the world is better for his having lived in it.

#### Chocolate Gumbo Hard to Plow.

Last April I purchased a Rumely Oil Pull, 60 by 30, 30 h. p. on draw bars. We burn Silver Star Kerosene for cooling oil, lubricating oil and gear grease. All told it cost \$1.75 an acre to plow, using all inexperienced men. With experienced

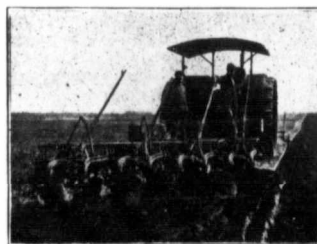
Our soil here is the heavy chocolate gumbo, and is very hard to plow. Yes I consider plowing harder on an engine than threshing. I am very enthusiastic over engine work and think it is the way to farm.

I also use stock. I have eight head of work horses and six

I am submitting you a descriptive pencil sketch of the hitch I used, and it worked to perfection. Now if you can make any use of it, also this letter, do so.

Yours truly,

W. S. Anderson,  
Salt Burn, P. O., Sask.



A Twin City "40," John Deere Plow and a Cuddy Steering Device for engines with automobile front axles doing a nice clean straight job.

help I believe the cost could be cut down fifty per cent.

I have two sons, and keep one hired man all the time, and sometimes two. We pulled eight plows, John Deere Special. We plowed nine hundred acres all told. In discing we pulled six discs and two twenty-foot steel harrows.

oxen. But we are working at a disadvantage here, being forty miles from the railroad, and it is a long way to haul oil and to go for repairs.

The last season was not a good one. There was so much rain that there was only one week that the soil was in just the right condition to plow.

It would be a lot of pleasure to give away the other fellow's money.

A successful woman is one who has discovered a successful man.

If dreams came true it would be foolish to do anything but dream.

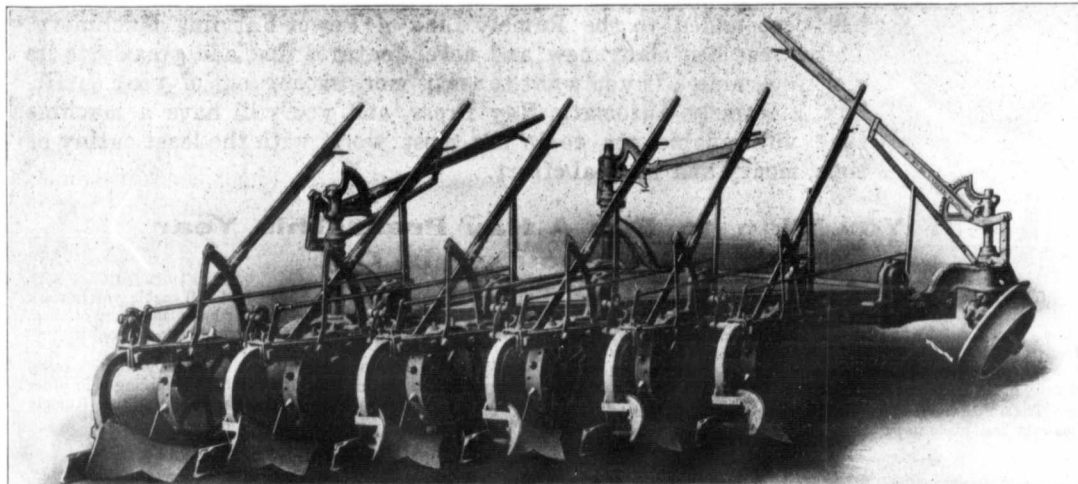
It's a poor advertisement that has to be accompanied by a dictionary.

#### WANTED

By September 1st, 1912, several EXPERIENCED COLLECTORS for large implement firm doing business in Western Canada. Reply stating experience to A. G. R., Box 3079, Winnipeg, Canada.



# EMERSON'S SELF LIFT STONE DODGER



Emerson No. 50 Independent Beam Engine Plow 5-6-7 or 8 14-inch bottoms, either prairie breaker or old ground.

**SELF LIFT** enables any boy to raise and lower the plow bottoms by merely pressing a trip lever. The tougher the sod the greater the traction of the raising wheel. No other Independent Beam Engine Plow has this feature.

**STONE DODGER PIVOT BEAMS WITH YIELDING CONNECTIONS BETWEEN.** Double acting spring controlled flange braces cause the plow bottom to dodge any rock or solid obstruction it cannot move without breaking the shares, or springing beams and is immediately forced back to its original position. No other Independent Beam Engine Plow has this feature.

**UNIFORM WIDTH OF FURROW.** The front furrow wheel gauges the width of the first furrow without the driver of the engine driving to an exact line as is necessary with all other Independent Beam Plows. If the first furrow is either too wide or too narrow, the next furrow is imperfect, which cannot happen with the Emerson. Owners of Emerson Stone Dodgers get more work offered than they can handle because of the superior quality of the work done. No other Independent Beam Engine Plow has this feature.

**LEVER ADJUSTMENT OF HEIGHT OF FRONT END OF BEAM** enables you to do perfect work whether going up hill or down hill, in soft land or hard land, even though the shares may not be sharp. You make the adjustment instantly to suit the conditions without stopping the rig. No other Independent Beam Engine Plow has this feature.

**FRICTION SLIP** protects point of share.

**CHILLED RENEWABLE SLIP HEEL TO LANDSIDE,** reduces friction and expense of replacements, will outwear 3 or 4 ordinary steel landsides.

**EXTRA SPECIAL.** Every Emerson Extra hard share is guaranteed against breakage and so stencilled. Buy Emerson Plows and be relieved of expense of broken shares. No other Independent Beam Engine Plow has this feature.

**MANY MORE FEATURES** equally as important are embodied in the Emerson Self Lift Stone Dodger Plow. Our "Special Catalog" on machines for traction engines fully illustrates and describes them. Ask now for a copy.

Great Falls, Mont., April 21, 1912.

"At Box Elder, Mont., Saturday morning we started the Emerson No. 50 Stone Dodger Independent Beam Self Lift 6 bottom engine plow on my own homestead, and we plowed twenty-five acres yesterday. Talk about a fine working plow. You surely have got the world best in an Engine Plow. I set it up and went into the field with it, and never touched a wrench to it. The way it gets around a rock is the greatest thing I ever saw. One man said he had seen a hundred engine plows work, but the Emerson No. 50 beat anything he had ever seen. The factory don't half say enough for it, because you can't say too much. It does the business right, and the news is spreading fast."

J. M. Grass

## EMERSON-BRANTINGHAM COMPANY

271 IRON STREET, ROCKFORD, ILL.

## TUDHOPE-ANDERSON COMPANY, Limited

WINNIPEG, CALGARY, REGINA, SASKATOON, LETHBRIDGE, EDMONTON, SWIFT CURRENT  
BRANDON, YORKTON



# An Automatic Hay Press

has been added to the Rumely Line of Power-Farming Machinery. This press has many new and novel features that add greatly to its working value. If you want to make more money out of your outfit, buy a Rumely Automatic Hay Press, and you will have a machine that will enable you to do the most work with the least outlay of time, money and manual effort.

**If You Plan to Buy A Hay Press This Year  
Write Us About This One**

The Rumely Automatic Hay Press is of steel construction and furnished with either foot or self feed. It is built in two sizes, 16x18 and 17x22. It produces a perfectly formed bale free from chaff, loose edges, and the objectionable "nose." The bale chamber has top and side tensions to control weight and density of the bale.

The automatic feed is one of the biggest improvements that has ever been made in hay press construction, and you will find

this a money-saving feature. This feed will enable you to work with a smaller crew and turn out better bales, and more of them during the day's run than you could possibly do without it.

Write us for full description of this new Rumely ready money making machine, and don't think of placing your order for a hay press until you have investigated the Rumely Automatic.

## M. Rumely Co.

**Builders of Power Farming Machinery**

1976 Dufferin Avenue

Winnipeg, Manitoba

### The Farm Labor Problem.

In a recent issue of a Winnipeg daily newspaper there appeared the following caption "2000 Farm Laborers Wanted Immediately in Manitoba." It is seldom that the cry for farm laborers goes up so early in the season but there is never a season that passes that does not bring with it its cry for more farm help.

In Western Canada we farm in big units which requires at certain seasons a large amount of help. The tractor enables us to turn over large tracts of land quickly and by attaching these same tractors to drills and harvesters these same tracts can be quickly seeded and harvested. Mammoth threshers with 36 and 40-inch maws literally chew up the fields of stooks the big problem being to get the grain to them fast enough. This has been the one weak link in the chain. The handling of the grain from stook to self feeder was a hand proposition which was slow, tedious and untrustworthy owing to the shortage of labor.

This weak link has now been made the strongest one in the chain, thanks to the Stewart Sheafloader which is now a proven success beyond any question of a doubt. Four horses and one man can now do the work of

five men and at the same time cause a reduction in the equipment of two teams. It will handle any kind of grain wet or dry in stook or lying in sheaf, loose or bound. During the past spring and present summer these machines have handled thousands of acres of all kinds of grain that was left in the fields over winter and handled it in a manner that puts it in a class with the selfbinder as a labor saver. Only recently a case came to our notice where one of these machines was put into a field of flax that the farmer was going to burn because he could not get men and teams to get it to the thresher. The flax had been left in the field all winter and spring and to the casual observer it looked like a total loss. Incidentally the Stewart Sheafloader picked it up absolutely clean, loaded it on the stook wagons and the thresher pounded out 10 bushels per acre of good flax. This is only one of many such cases that happened this spring and summer.

The machine bids fair to solve a big share of our harvest labor problem. It fills a big economic want. It is a labor saver. It is a money maker. It will pay for itself in one season. Insist on the thresherman who does your job having one.

### A Real Enthusiast.

In reply to your letter of recent date, asking for particulars of my experiences with my engine, I may say that I consider the engine on the farm a decided success. In the spring of 1911 I purchased a 25 h.p. Rumely Oil Pull engine and a six furrow Verity engine gang. Having had no experience with either steam or gasoline engines I attended the Rumely school for ten days, so as to be able to run my own engine. The school was quite a success, and while there I got a fair knowledge of all the working parts of the engine, so that I was able to take my engine from the railway to my farm, a distance of 35 miles by the trail without assistance. I commenced work about the 1st of May. I engaged two inexperienced men to work on the outfit, one as plowman and the other as assistant engineer.

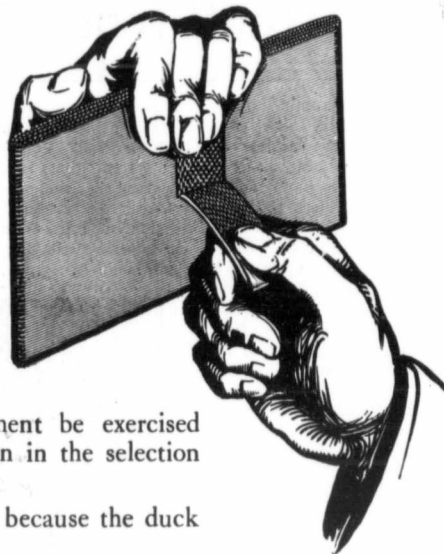
The fuel and water was supplied by one of the teams from the farm just as it was needed. I used Silver Star Kerosene and Continental Fuel Oil, both of which I found real good. In breaking gumbo land used about 3 gallons per acre, at a cost of 19¢ per gallon. In the heavy land I used a 6 14in. for a 25 h.p. engine, but in the lighter land it was a rather light load to do real economical work. I broke 100 acres of gumbo land

in 5 days at an average expense of \$1.20 per acre which included fuel, lubricating oil, board, wages, and repairs. The price for breaking this land is \$4.00 per acre, which leaves sufficient profit, so that a man need not worry about the engine not paying its own way. I worked the engine from May 1st until July 15th, and in that time I plowed 1,000 acres, which was all breaking and backsetting. This I consider was a good season's work for six plows.

I threshed 34 days, using a 34 x 56 Rumely Separator, and in that time I threshed 33,000 bushels of wheat, 8,000 bushels of oats, and 4,000 of flax. I have had no experience with drill or disc hitchers, but hope to find in the thresherman a cut of hitch that will suit my requirements. I might also say that I find no trouble in starting my engine in cold weather. All I require is good batteries, good gasoline and a torch. The Verity plows also proved to be just as good as I had hoped for, and the work done by my plow has been highly praised. The internal combustion engine has taken the lead of the steam in this local ity in spite of all anticipated troubles with the gasoline engine.

Wishing the Thresherman success, and thanking you for this privilege of expressing my views, yours truly, A. E. Cunningham, Tullisville Sask.

# What to look for in Threshing Belting



All Thresher Belting looks pretty much alike. But the similarity ends there. A careful examination will show vast differences.

That is why it is so important that careful judgment be exercised in the choice of belting. A little time, a little care taken in the selection means money saved in the long run.

Goodyear Thresher Belting will not rot or harden because the duck is protected from moisture.

**GOODYEAR**  
**THRESHER BELTING**  
 Black Diamond                      Red Cross

The duck in all belting is covered with a substance called "friction." In Goodyear Belting the friction is rolled into the duck under heavy hydraulic pressure. This process holds the layers of duck together so strongly that they are practically inseparable. No moisture can get between the layers. And both duck and friction are protected by a thick cover.

Goodyear Belting will not slip off the pulleys because the cover is finished with a rough surface. It grips.

The strong pulling-power of Goodyear Belting is due first of all to the duck used, which has an extra strong warp.

The strong friction used in Goodyear Belting toughens the duck—makes it wear longer—adds to its pulling-power.

Goodyear Belting will bend without breaking. It bends easily. It does not break or split because the friction and cover are tough and pliable.

There is long wear in the thick, tough cover of Goodyear Belting. Its toughness adds to the pulling-power. It will not crack. It has a hard-wearing surface yet it is quite pliable. Note how it protects the edges of the cover and friction. The cover is vulcanized on and is practically seamless.

The duck used in Goodyear Belting is weighed and tested for pulling-power. The friction is tested for consistency and adhesion. The cover is tested for toughness. All Goodyear Belting is properly cured and all stretch is taken out. Every Goodyear Belt is given a severe pulling-power test before it is allowed to leave the factory.

Following these tests for strength, careful laboratory tests are made to satisfy us that the quality of the materials is up to the Goodyear standard.

Then, too, Goodyear Belting is tested at every stage of their making, and a record of the tests made on each belt is kept on file at the factory.

Goodyear Thresher Belting is made in two weights—"Black Diamond," a heavy weight belting, and "Red Cross," a lighter belting. The only difference is in the weight. The lighter weight belting is less expensive.

**Do you want to give more thought to the choosing of your Thresher Belting; Write our nearest branch for Booklet.**

## Goodyear Tire & Rubber Co., of Canada, Ltd.

Head Office: TORONTO

Factory: BOWMANVILLE, ONT.

### BRANCHES IN WESTERN CANADA.

Winnipeg, Man.—41 Princess Street.

Regina, Sask.—2317-2319 South Railway Street.

Calgary, Alta.—1012 Second Street East.

Vancouver, B.C.—1213 Granville Street.

Victoria, B.C.—855 Fort Street.

#### Not one Thresher Belt returned in 1911.

\$155.22 represents the total amount paid out for adjustment of claims by our Mechanical Department during the year ending Sept. 30th, 1911.

This was not for Belting alone but the sum includes claims on all such goods as rubber hose, packing, belting of all kinds and other rubber articles.

During the first four months of the present year starting on October 1st, 1911, in spite of a 60% increase in business, this Department has paid out in adjusting claims only \$23.93.

The only claim made on Thresher Belting amounted to \$1.50. And in this case the Belt was damaged in transit.

Not one Thresher Belt was returned to us in 1911.







## Toot! Toot! All Aboard! What I learned in a month on the Agricultural College Special

By G. A. SALISBURY



Throughout the month of June there travelled north, south, east and west, within the borders of the Province of Manitoba, over every mile of Canadian Pacific and Canadian Northern Railway trackage, two special trains furnished by the railway companies. The purpose of the trip? That some of the benefits in advanced agriculture, to be derived by those young men fortunate enough to be enrolled in Manitoba Agricultural College, might be taken advantage of, in a small but helpful way, by other men who, though their choice of life's work was on the farm, were unable to spare the time to take the regular college course.

In consideration of the railway companies providing the trains the Provincial Department of Agriculture defrayed the actual expense of the staff of speakers for the Agricultural College, selected by President W. J. Black.

The two trains made stops of three hours duration in one hundred and forty-six towns in each of which twelve speakers delivered addresses on various agricultural subjects. In all 1752 lectures were given. The attendance was over 40,000 people.

The list of subjects covered were as follows: Dairy husbandry, field husbandry, soil physics, horticulture and forestry, animal husbandry, farm poultry, agricultural botany, agricultural chemistry, household science and art, and Manitoba birds and insects.

Obviously it would be impossible to wrap within the limits of a magazine article even a small per cent. of all that was said or done towards bettering present farm methods, in the Canadian west. So I have concluded that the story of what a newspaper writer learned of progressive farming, in thirty days, giving to you direct, as memory serves it up, will not only use all the space allowed but perhaps be more interesting and beneficial.

### The Paying Farm.

To make a farm pay organize every department. Know what it costs to grow crops. Work

for quality, then quantity. Know the crop best adapted to your particular soil. Choose a farming system that accords with climatic and economic local conditions. There must be right rotation of crops. Soil must be worked and weeds destroyed. It is impossible to farm right with-



An Interested Audience in the Agricultural College Special

out the right amount of capital. It is useless to farm for money unless you keep books of account. Farm during the winter months with a lamp and books. Don't be narrow-minded but learn by the experience of others. The most fertile soil without a market is valueless. Nearness of populous centers insures quicker and better sales and increases the soil's value. Farm improvements have a sentimental value easily expressed in dollars.

ties have been upset by not knowing how to conserve the soil. Wornout soil and lack of working capital are twin brothers. To restore wornout soil study the methods of a successful neighbor; gradually increase the plowing depth; rotate with a money cleaning and manurial

crop, choosing same with an eye to local conditions.

### The Climate.

Local climate is a problem of importance; the harvest is determined by it. Climate cannot be changed but a choice of crops will influence its effects. Make your own climatic observations. Growing crops require definite quantities of rainfall, heat and sunlight; learn what they are. Moist summers produce an excess of straw. All crops have

a field twice as long as wide the labor loss from turning at the ends is 40 cents per acre. In a field twice as wide as long the labor loss from turning at the ends is 75 cents per acre. Hauling to market is an item of cost to every crop. The better the road the farther the farmer can profitably haul his crop. Bad roads and hills cut down the net profit of the crop. The lower the price the less distance a crop may be hauled with profit. When distant from marketing facilities produce crops easily transported and of high market value. Crops requiring heavy manuring and tillage should be near the farmstead to reduce cost thereof. Place crops requiring little attention at the far end of the farm. Have your fields regular in shape. A farm that is square in shape, having the buildings in the center, will increase net profits in farming.

### Live Stock.

Few farms are profitable without livestock. The only means of changing straw, chaff, low grade grain and pasture into money is by livestock. To handle livestock as money-makers requires method. Livestock maintains and increases the value of the soil by the manure produced. The standard cow weighs 1100 pounds. The standard cow produces each day 42 to 50 pounds of manure.

The standard cow eats 6 tons of dry fodder per year. Determine whether the cow is making or losing money, by keeping an account with her; in doing so do not overvalue her feed nor undervalue the manure. Value her feed at production cost.

Hogs turn over capital invested in them quickly, they should gain

weight according to rule. Hogs are the rapid road to the increase of capital. Pasture the hog for money at the age of five months. Plant crops for hog feeding at different dates so there will always be an abundance of green feed. Two and one-half acres of clover will carry 25 to 40 hogs for 120 days. The wise farmer will raise a cer-



Getting Pointers on Successful Dairy Farming

### The Productive Soil.

Depth of soil is very important. Farm crops must have ventilated soil, or they will die. The best wheat soil will produce poor yields if it is not "fit." Wise farmers recognize soil fitness. Perfect conditioning of soil is not accomplished in a single season. Wornout land is that where the productive possibili-

ties their water and heat requirements. Depth of soil is important.

### Fields.

No farm should be without its experimental plot. Fields should be laid out to make the most of labor. Long furrows lessen the loss of time in turning. Make the most of labor by laying fields out to the best advantage. In

# The Vibrationless Incomparable "PIONEER 30"

## Guarantees a Four-Time Longer Working Life.

Shops:  
Victoria  
Square,  
Calgary.



THE DOLLAR BALANCED AS SHOWN on the crank case of running motor proves the entire absence of vibration

## THE DOLLAR TEST? CAN YOU BEAT IT?

### Did You

Ever Break a Piece of Steel Wire by Hand? Did you ever bend it forward and backward—backwards and forwards—again and again—until what—until it becomes crystallized; until where broken it was no more the tough smooth fibrous steel—but instead it became granular—it hung on like a bull dog—until you destroyed it's original formation—until it passed its elastic limit—until for strength it became useless—and then it almost fell apart.

### The Photograph

reproduced below showing a silver dollar, balanced on the crank case of the running motor, is submitted in proof of the entire absence of vibration from the PIONEER FARM TRACTOR.

### HERE IS THE PHOTOGRAPHER'S SWORN STATEMENT

Canova Studio, Arthur E. Dobbs Co., 116 and 118 West 4th St., Winona, Minn.

To whom it may concern:

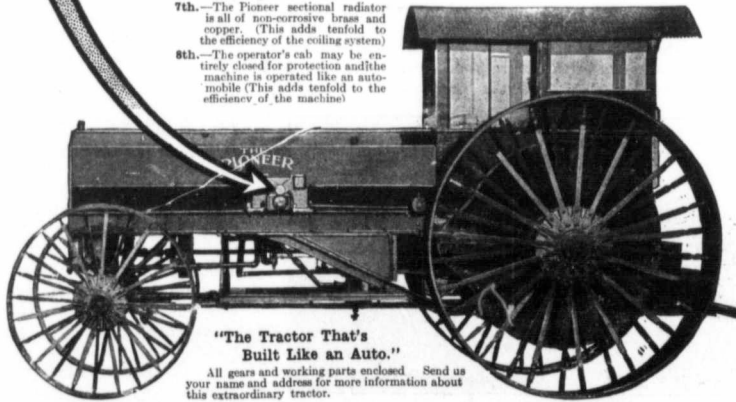
This photograph was taken by me after a sixty second exposure when the motor was running 750 revolutions per minute. The coin was balanced on the crank case and was not supported in any way (Signed) Arthur E. Dobbs

Subscribed and sworn to before me, a Notary Public in and for Winona Co., Minn., this 16th day of December, 1911. (Sgd.) D. M. Robinson, Notary Public. My Commission expires March 25, 1918

Every Pioneer "30" is Just Like This One  
It plows, seeds, harvests, threshes, it does all heavy farm hauling and all belt work and saves one-half of every dollar spent for farm power.

### Eight Exclusive Pioneer Superiorities

- 1st.—The motor is absolutely vibrationless. (This adds years to the working life of the machine).
- 2nd.—All gears are entirely enclosed and run in oilbaths. (This adds years to the working life of the machine)
- 3rd.—All working parts, including the motor, are entirely housed. (This adds years to the working life of the machine).
- 4th.—All transmission gears are machine-cut from solid steel. (This adds years to the life of the machine)
- 5th.—The Pioneer has no bevel transmission gears. (This adds years to the working life of the machine)
- 6th.—The Pioneer has three forward speeds like an automobile. (This adds tenfold to the efficiency of the machine).
- 7th.—The Pioneer sectional radiator is all of non-corrosive brass and copper. (This adds tenfold to the efficiency of the cooling system)
- 8th.—The operator's cab may be entirely closed for protection and the machine is operated like an automobile (This adds tenfold to the efficiency of the machine)



"The Tractor That's Built Like an Auto."

All gears and working parts enclosed. Send us your name and address for more information about this extraordinary tractor.

### CONCRETE EVIDENCE.

The Weitzen Land Co., of Rosetown, Sask., have for some time used cheaper farm tractors, but ultimately purchased and are now using the Pioneer "30."  
 R. J. Boyd, of Regina, Sask., previously ordered a tractor of another make. It cost less, but didn't deliver the goods. He finds the Pioneer "30" ultimately cheaper.  
 Thos. Jackson & Sons, Contractors, Winnipeg, Manitoba, after working with a cheaper tractor, ultimately bought the Pioneer "30" and now are perfectly satisfied.  
 C. H. Hendrickson, of Mileston, Sask., owns another cheaper tractor. He will ultimately find the Pioneer "30" more economical.

A. H. Chipman, of Elbow, Sask., has farmed with other cheaper tractors. He finds ultimately the Pioneer "30" less expensive to own and operate.  
 Speits Bros., Brock, Sask., used another cheaper tractor for farm power. They also find it cheaper to operate the Pioneer "30", the ultimate tractor.  
 And so on, and so on; it is the same story over and over again. The first cost of the Pioneer is a little more, but the eventual cost is a little less.

### Let's Stop and Think What Causes That Breakage.

So constant and ever recurring in the rough running, rough riding—everlasting shake-em-up-and shake-em-up—again—every-day farm tractor.

Why do crank shafts—counter shafts—frames—wheels—and what not—go to pieces?

What causes those infernal stops right in the midst of a busy time, when every stop means DOLLARS LESS to the farmer?

What causes those eternal repair bills that CUT IN and then CUT IN some more—TO the farmer's HONEST PROFIT? The answer is, crystallization caused by

### VIBRATION—THE USELESS FARM TRACTOR CURSE.

### Ten Monkey Wrenches and a Double Crew

can be left at home if you farm with a Pioneer "30". No more screwing up nuts and tightening bolts every turn of the field. No more loose spokes—no more wheels falling down—no more broken crank shafts—no more trouble—trouble—trouble.

Climb into the comfortable cab—sit in the comfortable upholstered seat—take an occasional look at the sight-fore-feed-oider directly in front of you—and keep a-running. Just keep a-hummin' right along. That is all there is to it with

### THE INCOMPARABLE PIONEER "30" FIRST IN GAS TRACTION.

If the Pioneer "30" is the Ultimate Tractor Why Not Buy it Now?

## PIONEER TRACTOR CO., LTD.

Shops and Head Office Calgary, Alberta.

MAIL THIS COUPON.  
**Pioneer Tractor Co., Limited**  
 Suite 501-502 Alberta Co. Bldg. Investment Co. Bldg.  
 Calgary, Alta.  
 Kindly mail me literature on the Pioneer Farm Tractor.  
 My name is \_\_\_\_\_  
 My P.O. is \_\_\_\_\_  
 My Province is \_\_\_\_\_  
 I farm \_\_\_\_\_  
 C. T. E. 7-12

tain number of hogs each year to overcome price changes. The markets call for hard-fleshed hogs weighing 180 to 200 pounds.

Draft horses kept on the farm are classed as unproductive animals. The greater the cost of keeping a draft animal the less profit for the farm. Keep horse cost down as low as possible, do so by not purchasing expensive animals, do your own breeding. When oats are high substitute with cheaper feeds; use the horse as much as possible.

There will never be an over-production of wool. Sheep require less capital than cattle; they can be carried on the poorest soils. Sheep are easily fattened; they make better use of straw than cattle; they eat weeds. After the harvest sheep discover and eat fallen heads of grain in the stubble.

#### Silent Lessons in the Cars.

Each train carried nine cars, three on each fitted up for lectures and demonstrations; a palace stock car in which was carried types of the farm brood mare and horses and various types of the dairy cow. The remaining cars were used for living accommodations for the staff of lecturers and the train crews.

The dairy cars were best equipped of any ever sent out to any people in any country for similar work. In addition to a complete outfit of the best utensils to be used in the proper handling of milk, cream and butter the walls were covered with attractive cardboard mottoes well worth remembering by those who would be successful in dairying. Visitors to these cars were daily reminded that:

"Feverish temperatures are the parents of weak-bodied butter."

"Churn and skim clean. Don't let the pigs get the laugh on you."

"Shun utensils hard to clean, They're sure to harbor dirt unseen."

"The wail of the old-fashioned dish-rag. Alas! my day is done."

The field crops cars were no less attractive, the walls being suitably decorated with mounted samples of grains and grasses grown in the province, and specimens of the noxious weeds that pester the life of the farmer and tax his patience and perseverance to eradicate. Pithy mottoes, preaching silent but valuable sermons to the attentive and inattentive alike, were mingled with the weeds and grasses. Some of these sermonettes were:

"Kill the weeds and increase your yield."

"Good plowing spells good crops."

"Grain growing fills the pocket but robs the land."

"Corn fodder cleans the land and fills the milk pail."

"Spare the harrow, spoil the crop."

"Clovers feed stock; their roots feed the soil."

"Feed the plant and the plant will feed you."

"Sow grasses and stop soil drifting."

The third car reserved for the ladies and equipped for demonstration and lecture work in matters relating to the home, especially the flower and vegetable garden, poultry raising and sick room appliances, had its share of placard decoration. The poultry slogans were:

"Avoid injury by killing the cabbage butterfly with white hellebore."

Some practical advice to housekeepers was included in these epigrams:

"Don't look for bigger work than home making; there is none."

"A well trained man is a good labor saving device, train the boys."

"If you would be well eat carefully, exercise frequently, sleep peacefully, work judiciously, play

the exception to stop at any town or hamlet and not be met by one or more men each carrying a sample of his particular agricultural problem. Perhaps it was a new and troublesome weed that had made its recent and persistent appearance on his farm; perhaps it was a limb from a tree or shrub showing the ravages of an insect. There was a request for a remedy for each pest. Again it would be a sample of milk to test for butter fat or a query connected with poultry raising. Now and then a rare species of bird or a new flower, seen for the first time on the prairies, were brought in for identification. These requests were so numerous and varied that the botanist, entomologist and other experts spent their leisure moments in the company of their reference books. At many points these men went prospecting in fields and farmsteads near the railway right of way for things new and rare in weeds, flowers, insects and birds. Enough new specimens were found to make plain that vegetable and lower animal life in Manitoba at present has changed very appreciably since pioneer days.

#### Results to be Expected.

Unless all signs of growth and development prove unreliable the college on wheels will be a powerful factor in agricultural progress. Hundreds of thinking men and women attended the lectures and a large percentage of these carried back to their homes some germ of useful information that, when applied to their own work and individual needs, must result in larger returns, not only for themselves but for the country at large.

Personally I am of the opinion that not one of the remarkable inventions of the past century is of greater importance to the world than is the success of the person who has mastered the difficulty of "causing two blades of grass to spring where there was but one before." In other words the advance of agricultural science during the past few years equals in importance and value, to all people, any other progress no matter in what line it may be.

Agriculture is an exact science. The farmers of today realize this fact. They are studying the subject just as thoroughly and as earnestly as does the physician his medicine. When they have mastered the theory and applied in practice to the soil they are able to strengthen the weakened pulse of growing things to the full power of productiveness. This builds that which promised to be a puny crop into a robust harvest.



Pulling Flax in Old England

"Let the chickens convert your waste grain into eggs and meat."

"Early hatched pullets produce the winter eggs."

"The hen that lays is the hen that pays."

"Four pounds of grain make one pound of chicken; dressed poultry is fifteen cents a pound. Does poultry keeping pay?"

To sharpen the appetite for more production of vegetables,

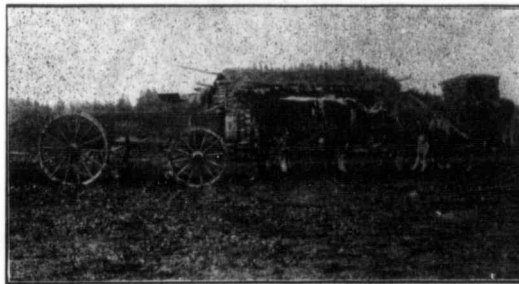
occasionally and have fresh air all the time."

"The country's best asset is well ordered, well kept, healthful, happy homes. To gain this asset is woman's work."

"Three enemies of health: Darkness, dampness, dirt."

#### Intrest Shown by Visitors.

It was only anticipated to find at different points different degrees of interest on the part of the people who visited the



The Ox Age in Canada's Evolution.

visitors were reminded to:

"Plant a few strawberries and have fresh fruit for the table."

"Use paris green or arsenate of lead to kill potato bugs."

"The choice of wrong varieties is responsible for many garden failures."

"To get a good garden try the hoe and rake."

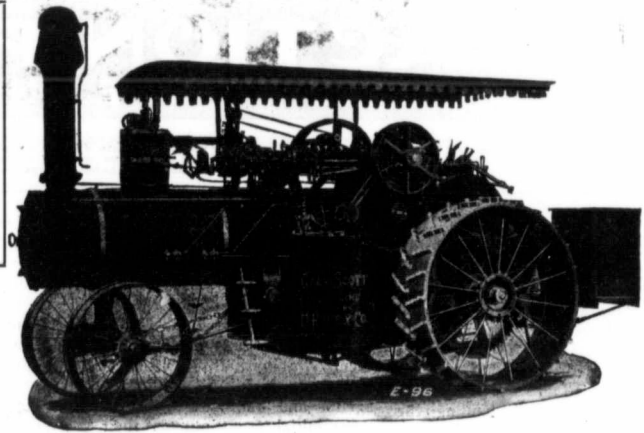
"Prune your raspberry patch. It was not intended for a wood lot."

"Three garden hints: Cultivate. Cultivate. Cultivate."

train. There was sometimes encountered the critical audience composed of the kind of people who always accept everything with the proverbial grain of salt; those who are always looking for an undiscovered why in a project and those who are not large enough mentally to see any wisdom or any good in any method but the one they have followed all their lives, even though that method has proved a failure. But the appreciative, inquiring audience was the rule. It was



The Kind We Build  
 Is The Kind We  
 Should Like To Buy



## Money Making Threshing Outfits

That is the kind that is made up of

# Gaar-Scott **TIGERBILT** Separators and Engines

The appetite of the hungry **TIGER** Separator for work is well known. The **TIGER'S** steel jaws are the real things in correct mechanical threshing.

The big sixteen-bar reversible cylinder fitted with Gaar-Scott patent double bladed teeth is set in journals poured to a templet on an exact radial center with the concave circles.

It is the only cylinder you can rub right up to the concave surface and get the very last of the grain without cracking a kernel. This feature in **TIGER** separators enables them to do perfect work in Turkey-Red wheat and all other hard-to-thresh grains and seeds.

The heavy, but perfectly balanced, light-running cylinder, is another big advantage. It acts as a balance wheel, giving the rear separating parts that strong, positive motion that means rapid thorough work.

The large straw racks agitated by three-way crank mechanism are other worth-while features of Gaar-Scott **TIGER** separators.

Our big-capacity separators that please their owners and every farmer for whom they thresh may be had in sizes from 28-inch cylinder and 49-inch rear to 40-inch cylinder and 64-inch rear.

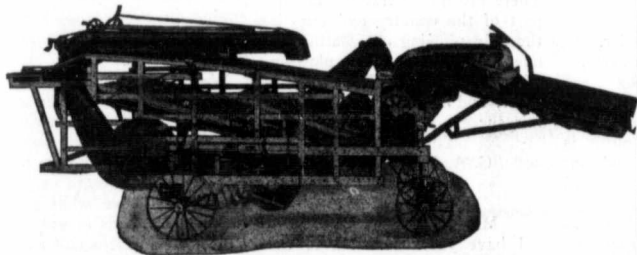
## Engines That Master Your Power Problem

Our new 25 h.p. single cylinder, rear-mounted engine is an ideal threshing engine—a good general-duty engine, simple in construction and easy to run. It does all kinds of belt work well and economically and furnishes ample and satisfactory power for plowing and other traction work. This is only one of the excellent engines in the **TIGERBILT** Line. We have engines suited to all jobs, all territories, all kinds of work—bracket-mounted or rear-mounted engines, as you prefer—engines for threshing only, or equipped with plowing gears for the man who has a chance to increase his income by plowing. We have engines that burn coal, wood or straw—engines of every type and size. You will find in the **TIGER LINE** an engine exactly suited to your needs. No matter which you select, you will get the most power your money can buy with the greatest economy of fuel and water—you will get every desirable operating convenience with the limit of durability.

We shall be glad to send an attractive catalog of the Gaar-Scott **TIGER** Line of Power-Farming Machinery to anyone. If you want the best threshing outfit your money can buy, you really ought to read this catalog before buying. A postal will bring it.

"Seeing is believing." Come to the Exhibition at Winnipeg in July and see how our Power-Farming Machinery works.

Make our exhibit at the fairs your headquarters. We will exhibit at Regina, Calgary and Saskatoon.



The Kind We Build  
 Is The Kind We  
 Should Like To Buy

# Rumely Products Company

3971 Dufferin Avenue

Winnipeg, Manitoba

# TRACTION PLOWING

## AS TOLD BY THE MEN WHO DO IT

On this and the following page will be found a number of letters from traction plowmen in Canada West, the originals of which are on file in our office. We have inserted the letters just as they came to us, and we will, therefore, not hold ourselves responsible for any of the opinions or criticisms contained therein. Should anyone disagree with the statements made, we would be pleased to offer them the use of our reading columns for the purpose of criticism, etc.—Editor.

### Costs \$2.68 per Acre.

Replying to your request for my experience with steam outfit will say.

I have a 32 h. p. Cross Compound Reeves Engine and a ten-bottom Cockshutt Plow. I have plowed with three men—engineer, fireman and waterhauler. I did this last Fall, hauling the water and doing the cooking myself. I prefer to have a plowman on the plows, and a cook, who can also sharpen the plow points. The coal must also be hauled, but unless you are some distance from town, this will not require a team all the time.

The amount of fuel depends on the quality of the coal. Good Crows Nest coal takes one, and a quarter, to one and a half tons to plow twenty acres. The pea coal we had last summer, took about two and a half tons to do the same. It takes from five to six barrels of water for every mile of work done.

Plowing is much harder on the engine in every way, than threshing. The main drive gears will last from two to four years plowing; the pinions that work in these gears about one and a half years, and the rest of the gearing will last from six to eight years plowing. All the gears would probably last the engine's life time, threshing.

The cost of plowing is as follows:

Engineer .....	\$ 5.00
Fireman .....	3.00
Plowman .....	2.00
Waterboy .....	1.50
Cook .....	2.00
Water team.....	3.50
Hauling coal.....	2.00
Coal .....	6.50
Food .....	2.50
Oil .....	1.50
Repairs .....	2.00
Interest on cost.....	4.00
Depreciation .....	10.00

Total cost per day..... 45.50

An average of seventeen acres plowed a day, gives \$2.68 actual cost per acre.

If any serious break should occur there would be an absolute loss in breaking sod at prevailing prices. Considering the high cost of the outfit and the outrageous cost of repairs a man is about as well off, letting his rig stand, as to break with it. If the manufacturers would sell their rigs for about one-third less

than they do, and the repairs for about one-half less (and these prices would give them more profit than the purchaser is ever liable to get out of them) rigs might be bought with some chance of making money with them. But with the tariff as it is and the high prices paid the agents and railroads, and the large initial profit put on their goods, by the manufacturers, the buyer must pay, and ultimately the farmer. For ultimately, the farmer pays for everything—every ship that sails the sea, every building in every city and town, every railroad, every ton of coal or iron, every pound of lead, copper, gold, or what not, with the negligible quantity furnished by fisherman and trapper—the farmer pays for it all.

plow about eight to ten acres a day, where the brush is taken out pretty clean.

To plow this brush land it costs us about \$2.00 per acre after the brush is taken out. To clear land here, costs from \$2.00 to \$5.00 per acre, so it is a pretty expensive job, clearing this land.

We employ four men. An engineer, steerman, waterman and a man on the plow to keep any loose roots from clogging the plow. We just use one team on the water tank, and use from one and a half to two tons of coal per day and from four to five tanks of water.

I think plowing is not quite as hard as threshing in this part of the country. Of course if an engine is overloaded with plows,

gumbo soil here. But the 32 h. p. does our work easily, pulling twelve breaker bottoms, and the same in stubble. We consider when plowing stubble, and plowing two inches deeper, that it plows just as hard as the breaking, because we break very shallow, discing it in good shape with drags behind, then cross plowing with drags and packer. We then consider our breaking in good shape for any seed.

We use the Cockshutt engine gang with fin coulters in breaking and rolling coulters in stubble. We employ five steady men, as we own 2,000 head of cattle and can give these men employment the year round. We use eight head of horses—four on two tanks. That is, we have two tanks and change the four-horse team from one tank to the other. In this way we save the team the delay at the engine, when they are taking water, and as we get all our water from near our buildings, there is always someone around to fill the tank. Therefore we save the team another delay and make the one team able to supply the engine with water, at a distance of two miles.

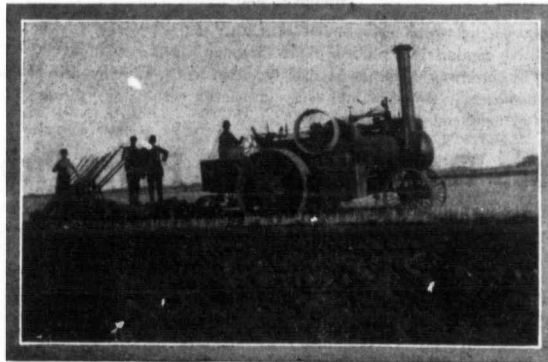
Two of the other horses haul the coal. We use two and a half tons per day, which we mine on our own land, at a price of \$1.30 per ton. We use eight tanks of water in a ten-hour day.

We certainly consider traction plowing harder on our engine than threshing.

I do not think we are in a position to give you a fair cost per acre as we have to figure the price, and the payments on our engine, in our work; thus making the cost of the breaking so far, pretty expensive.

We did our seeding (some eight hundred acres) with our engine, last Spring, and I must say that the whole operation was very satisfactory. But we are lacking in hitches and we are very much interested to see what you are going to show us in your paper. I do not think it worth while for me to exhibit any of our hitches. They are not original, but are taken from cuts in agricultural papers, which no doubt most of your readers have seen.

The steam tractor is the most popular rig used here. We have cheap coal, good water and heavy land; and no doubt the



Sawyer-Massely and Cockshutt Making Good

I have occasionally pulled a disc or two behind the plows. A corrugated roller is better. Steam is mostly used here.

Yours truly,

H. M. Whistler,  
Stavelly, Alberta.

### Plowing in Scrub.

We own a 26 h. p. American-Abell engine and a seven-bottom Cockshutt plow. This outfit is one of the best on open land, but as most of our land is covered with heavy willow brush, it is a slow job threshing. We pull all the brush up by the roots beforehand, with horses. Brush that is too big for the horses, we pull up with the engine. After all the heavy brush is pulled out, then we plow it. We do not have very much trouble doing it this way, except in low places, where there is water in the holes, made by pulling up the brush. We

it is going to be harder.

We have had no experience with pulling discs or drills. There are no oil tractors in this part of the country and ours is the only plowing outfit although one or two men tried plowing with 24-inch John Deere Brush Plow, and I think they made a fair success of it.

Yours truly,

G. A. R. Gibbons, Esq.,  
New Lunnon, Alberta.

### Mines His Own Coal.

I have yours at hand, re experience with our traction plowing outfit.

We use the American-Abell 32 h. p. Cross compound steam traction engine. For one season we used the American-Abell 26 h. p. simple engine, but we found that the work was too hard for this engine, as we have very stiff

# TO THRESH FLAX

One of the chief requirements of the modern thresher is to do good work in flax.

Last winter when conditions were bad, hundreds of machines fell down in flax and the **Red River Special** was called in to finish the job.

## The RED RIVER SPECIAL Never Fails In Flax

It has a different way of taking the seed out of the straw.

There are no pickers forks or beaters for tow to wind on.

It beats all the seed out just as it beats out wheat or oats.

Buy a thresher that will enable you to do a good job in flax.

Ask any man who knows which is the best flax thresher.

He will tell you,--

**"If you don't thresh your flax with a Red River Special, you don't get all your seed."**

You cannot afford to run a thresher which will not do the best work in flax.

The **Red River Special** is known as the best flax thresher. It handles it just as well as it does wheat, oats and other grains and seeds.

**It will be your fault if you get hung up in flax this year.**

SEND FOR CATALOG

## Nichols & Shepard Company, Battle Creek, Michigan

Sole Builders of the Red River Special line of Red River Special Separators, Steam Traction Engines, OIL-GAS Tractors, Gearless Wind Stackers and Universal Self Feeders.

CANADIAN BRANCHES:

where we carry a full stock of machinery and repairs

Regina, Sask.

Calgary, Alta.

Winnipeg, Man.



## Save Your Chaff. It is Valuable for Feeding Purposes

YOU CAN DO IT WITH A

# NEEPAWA WIND-STACKER

**OUR GUARANTEE**  
We guarantee the Neepawa Wind Stacker to do better work and to run easier than any other stacker on the market doing the same work, and under the same conditions; to stack the straw on one side of the machine and the chaff on the other, to handle all the straw that can be put through any machine without taking it into the fan, and to not back the shoe current into the separator.

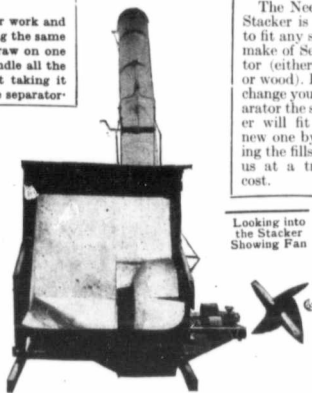
W. A. Henry of Wisconsin College of Agriculture says:  
"The chaff of oats and wheat contain more crude protein than does the straw and forms a useful roughage for stock. All such roughage will be widely utilized when a rational system of feeding is followed."  
"That wheat, oat or barley chaff is a food for the repairing of body tissue, for growth, for the laying on of fat, or for the production of external work is worth almost as much as timothy hay."

The Neepawa Stacker is made to fit any size or make of Separator (either steel or wood). If you change your separator the stacker will fit your new one by getting the fills from us at a trifling cost.



Side View Showing Chaff Attachment

Looking into the Stacker Showing Fan



Side View Without Chaff Attachment

**What You Should Know Before Ordering a Wind-Stacker.**

- This is the way the operators of the Neepawa Wind-Stacker answer the questions:
1. Has it any back draft? No.
  2. Does it allow the dust to accumulate in the separator? No.
  3. Will the chute work at any point in a full circle? Yes.
  4. Is it hard to handle? Can be folded with one hand while machine is in operation.

5. Is the straw cut up by the Fan? No. The construction of the fan will not allow the straw to go through it.
6. Can you open the door to examine the shoe without being smothered with dust? Yes. The construction of the fan is so arranged that it will not blow the chaff out of the side door.
7. Does the stacker run light? Yes. The lightest on the market.
8. Will it fit any make of separator? Yes, and can be taken off one and put on another.
9. Has it a bevel gear, chaff auger or rakes? No. We drive with a straight belt from the cylinder shaft to the fan shaft without any gear.
10. Has it a belt tightener? Yes.
11. What is the weight? 650 pounds.
12. What is the material used in its manufacture? Galvanized sheet steel, seasoned oak and maple.
13. How much power does it take to run it? Less than any other stacker built in Canada, doing the same work.

BE SURE AND SEE OUR EXHIBITS AT THE WINNIPEG AND BRANDON FAIRS.

**The Neepawa Manufacturing Co. Ltd., NEEPAWA, Man.**

latter has a good deal to do with the popularity of the steam outfit.

Yours very truly,  
The West View Ranch Co. Ltd.  
per D. C. Pope, Manager.

**Well Pleased.**

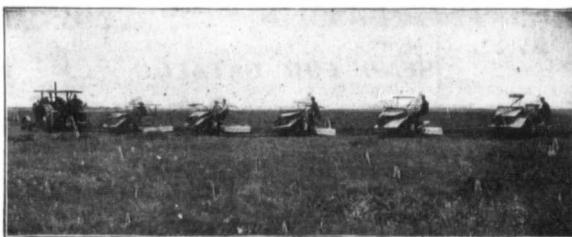
In the Fall of 1910 I purchased from the M. Rumely Company, a threshing outfit consisting of a 25 h. p. single cylinder, steam threshing engine, and a 40x64 Rumely Ideal Separator, with Ruth Feeder. The engine had heavy gears, and rear mounted, so I thought I would try it for plowing. Although the company would not recommend it for a plowing engine, I had confidence enough in it to purchase a five-bottom and a seven-bottom section of Emerson disc engine plow. We spring plowed 450 acres in time for crop, pulling the twelve disc bottoms and a harrow which the engine pulled with perfect ease. I am only sorry that I did not get three 5-bottom sections of the disc plow.

I am getting extension rims put on my wheels this Spring, and will put on three more discs and harrows. I find them just the thing for my 800-acre farm. Two men can handle the engine and plows, and one man the water and coal hauling. It cost me about 45c per acre for coal,

but this was due to inexperienced firemen, and stopping every mile for water. I will arrange to carry water for a two mile run.

I do not think the plowing is hard on the engine. We have had no expense yet with the engine.

The Oil Tractors are used



An IHC Band

more than steam in this section, but I am pretty well pleased with my rig.

Yours respectfully,  
G. E. Goodrich,  
Wilcox, Sask.

**Been at it Since 1900.**

My experience with traction plowing commenced in the Moose Jaw District in the summer of 1900 and I have been operating traction engines, more or less, ever since. I think I can also claim the honor, if it

be any honor, of operating the first traction plowing outfit to give satisfaction, in the Moose Jaw district. We then owned a Minneapolis return flue boiler, with a twenty-seven h. p. tandem compound engine with which we pulled six twelve-inch bottoms in breaking, and eight twelve-inch bottoms in summer fallow, in the

operator, did not give the desired results. After two years, we disposed of this rig for a twenty-two, forty-five, Hart-Parr tractor, which has given us good satisfaction as far as plowing was concerned, but we have not tried it on the other implements. We pull two six-disc, P. & O. plows, and we have also pulled harrows to cover the ground, although we do not generally pull them.

We employ two men, at a cost of about 75c per acre. We pay 19c for kerosene and 24c for gasoline, which we have to haul ten miles. We average about twenty-acres per day in summer fallow. We have had practically no experience with this rig in breaking, but we purpose using it for drills, harrows, discs, cultivators and possibly binders, in the coming season. Water in our district is very scarce at times, which is a disadvantage to steam engines. Oil engines are to my mind, cheaper than steam, while operating on the plows, by from 25 per cent. to 50 per cent. They are used in this district for plowing and other work, with very few exceptions, but the steam outfit has far more rigs in the field at threshing time than the oil engines. I believe that the oil engines are far harder to keep in running order, and also that they

very heavy gumbo soil for which Moose Jaw district is noted. The machine was operated by three men and one team, at the cost of about \$2.00 per acre on breaking.

After four years of fair success, we decided to dispose of this, in exchange for a thirty simple, of the Robt. Bell Engine & Thresher Company, of Seaford, Ontario, and a Cockshutt engine gang of eight bottoms. But this engine, through the fault of the builder, as well as

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# The "Royal Road to Fortune" in Farming IS THE "MINNEAPOLIS" LINE

The "Minneapolis" Separator is the World's  
Flax Champion

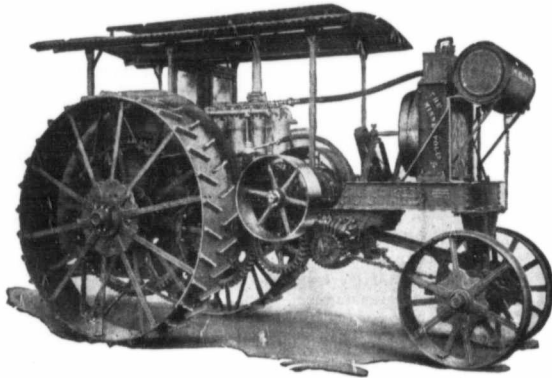
and a separator that will make the flax record the "Minneapolis" has done will make a clean job of threshing any kind or condition of crop that is grown. Listen to the men who have used it.

Get it on Your Brain

"See our great demonstration at Winnipeg Fair and buy nothing in plowing or threshing outfit until you've seen it."



There Will Be a Bumper Year of Flax in Canada This Year. Get a "Minneapolis" and You'll Get a Bumper Profit



## The Minneapolis Plowing Tractor

25 Horse Power 4-Cylinder

(Equipped with all Steel Traction Gears)

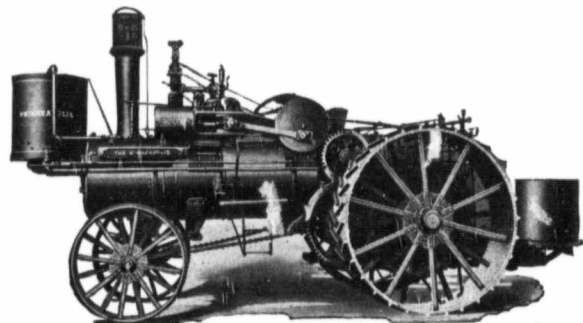
The last word in traction plowing, while for belt service there is no description of arduous, difficult and continuous work it will not handle with complete success. Has no equal among 4 cylinder gas engines for fuel economy and steadiness in operating. Steel parts are used in place of iron whenever possible. **Connecting Rods** are made from steel of a high quality, carefully machined and fitted with ample and perfect boxes. **Transmission or Bed Gears** are made from a high grade of steel, have machine-cut oil tempered cogs and run in an oil bath. These gears are the product of the most modern machinery and skilled labor. **For Ignition** the Remy high tension magneto is used, with dry batteries for starting and emergency supply, insuring a most perfect system. **Drive Wheels** are 85 inches high with 24 inch tires. The hubs are cast and the wheels built up from steel with flat spokes and steel tires.

## The Minneapolis 25 H. P.

Simple Engine on Direct Flue Boiler

(Wood, Coal or Straw Burner, with Heavy Gear)

**DRIVE WHEELS** are made from Steel and have heavy flat spokes. Hubs are made from cast iron and are bored on a lathe so that they make a perfect and a sensible bearing. The hubs are heavier and the bearings much longer than other makes, ensuring long life to the engine. Each hub is fitted with 3 sets of oilers. Driving gears are braced direct to the rim of the traction wheels with a number of heavy steel braces fastened with heavy bolts and lock nuts, which eliminates all torsional strain on the hubs. We use high malleable cleats, solidly riveted on the tires. The cleats have bevelled edges, so as to clear themselves from mud and are placed at an angle which gives each wheel an independent tread and relieves the axle from the strain caused by the engine being thrown sideways when propelled over uneven or slippery roads.



Make Our House Your Home When You Come to the Fair

**GEO. E. DUIS CO.**

Office and Warehouse cor. Alexander & Yeoman Box 456

Manufacturers' Agents

**Winnipeg**

will not live as long as the steam engine.

Wishing your paper every success and hoping to receive, in the coming year, as many valuable suggestions as I have heretofore received, I am

Yours sincerely,  
G. H. Smith,  
Belbeck, Sask.

**HORSES FOR HIM.**

I have worked both steam and oil pull. I have a Rumely 60 h.p. now. I have broken 30 acres per day. We averaged 20 acres a day. My experience is that the Oil Pull is ahead of steam, there being one-half the weight to the horse power. You can plow soft ground that you can't plow with steam, and if you get in mud you can get out easy. You have double the power to half the weight in your favor and you shut her down till you get ready. Chain two pieces of log on the big wheels, pump a little gasoline in and away you go. In the third place you can run all day without stopping, and in the fourth place you don't have to carry or draw a ton of coal and 8 barrels of water. This is a big load added to a steam engine. In the fifth place it don't take near as much power to run itself as it does with steam engine. You can draw at least 3 plows more. In the sixth place it don't make any difference in what shape your engine is. When you are in a mud hole if it is standing on end there is no danger. A steam engine has got to be kept level when you get in soft ground. You have to take out your fire and jack it up level, and then fire up again. You are free from all this trouble with an oil tractor.

My records of costs for a day's plowing would be about as follows:—

Oil .....	\$10.00
Myself .....	5.00
Plowing engineer .....	5.00
Plowman .....	2.50
Handy man .....	2.00
Oil .....	14.00

Total .....

This is the cost of one day's work.

Cost of Steam Engine.

Engineer .....	\$5.00
Tankman .....	5.00
Men hauling coal .....	5.00
Plowman .....	2.50
Ton of coal .....	10.00
Oil .....	1.00

Total .....

You asked me about a hitch for drawing anything behind an engine or more than one piece of machinery. There is only one hitch that will work satisfactory. That is the cross hitch, on the same principal as the cross hitch, and if you are drawing more than one piece of machinery use the cross hitch on them. You want wheel trucks with short tongue on binder drill, roller, disc, or drags.

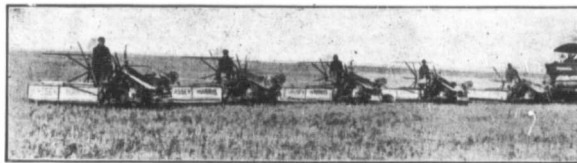
This cross hitch is the only hitch we could use in drawing long timber out of the woods.

Now you asked me which was the cheaper, horses or engines to do farm work. I will say horses. In the first place we raise them. They are a part of our farm and we have got to have them on the farm with them, and can work on farm when you can't with engine. I can feed my horses for what it will cost me for repairs on engine and outfit. My neighbors can do plowing cheaper than I can, and make money at it. Consider the fact that a horse lasts three times as long as an outfit, and you can figure it out for yourself. Now I have 75 head of horses on my farm, and I have an E Oil Pull. An outfit, either steam or gasoline, won't pay for itself. Until a farmer can raise a bushel of grain for 25 cents., and sell it for a dollar, he had better leave these outfits alone, for many lose their home and go bankrupt.

A Pringer,  
Kennedy, Sask.

that same year I ordered an engine gang for March, 1911, delivery. On June 1st it arrived, and with it about 10 inches of snow, which made it about the middle of June before I commenced operations. Not knowing how much my engine could pull I ordered an eight frame with 6 breaker bottoms, and found that my engine had no load at all, in fact, the six plows did not haul heavy enough to give good draft for coal.

I broke forty-five acres in three days, using flax straw as fuel. Then I broke 196 acres in 10 days and a half, using coal. I tried several different kinds of coal, but got best results from the Banff pressed coal. The farmers hauled the coal for me at \$3.00 per ton, and I used my own horses for the water tank. I used not quite two barrels of water to the mile. By the time I had finished this 196 acres the ground was so dry that I pulled in, as there did not appear to me to be any money in staying out longer.



Reeves and Massey-Harris Making Quick Work of the Harvest

**WET WEATHER CAUSES TROUBLE.**

Your favor of January 15th to hand, and in reply would say that I do not feel very proud of my plowing experience, as it was a failure, as far as money goes. In the spring of 1909 I purchased a second-hand outfit of John Deere (a three and four bottom) engine gangs to go with my 25 H. P. J. I. Case engine and went home and engaged all the breaking in sight. Then I put a Gould Balance valve in my engine and hired a crew, and proceeded to tear up the country in chunks. Well I did not proceed very far—about a rod—when the timber I was using for a hitch broke in several pieces. Rather than stop and go back to town for a new timber I hitched to the four bottom gang, and started again. All went well until I came to a patch of gumbo, and then trouble of a new kind commenced. The plows kept going deeper and deeper until at last the drive wheels of my engine refused to grip. Four men on the levers were unable to raise the plows. After considerable work we managed with the aid of a Jack Screw to get the plows out of the ground. At the end of the week we plowed 45 acres of stubble, and had some seven acres of the worst looking breaking that mortal man ever laid eyes on. Well that was enough of second-hand machinery for yours truly. In November

I estimated that plowing was much harder on an engine than threshing. The conclusions that I arrived at were that there was not any money in contract breaking, but for a person with a couple of sections of land of his own I believe it is a good investment. Accordingly I disposed of my plows the first opportunity, and as I got a chance to sell my engine and separator that fall I let them go also.

Below is a list of my expenses as near as I can estimate them.

	Expenses.
1 ton of pressed coal..	\$10.00
Hauling coal .....	3.00
Water man .....	2.00
Tank team .....	2.00
Plowman .....	2.00
Steerman .....	2.00
Firemen and engineer .....	6.00
Oil and grease .....	1.00
Blacksmithing .....	3.00
Interest on investment and depreciation value .....	10.00
Board for men, cook's wages, & horse feed .....	7.00
Total .....	48.00
Income.	
19 acres breaking per day, at \$4 per acre .....	76.00
Profit per day .....	28.00
Total .....	104.00

Hoping that my experience may be of some use to some of my brother threshermen I am, yours truly,  
Jno. D. Mackenzie.

**DOMINION EXPRESS Money Orders**

and Foreign Cheques are payable all over the World.

They may be sent in payment of produce, tax, gas and electric light bills, interest on notes and mortgages, insurance premiums, subscriptions to newspapers and magazines, and in fact in payment of all kinds of accounts, whether in or out of town.

We give you a receipt and if the remittance goes astray in the mails,

we refund your money or issue a new order free of charge.

TRAVELLERS' CHEQUES ISSUED. MONEY SENT BY TELEGRAPH AND CABLE.

When purchasing Goods by mail, ALWAYS remit by

DOMINION EXPRESS CO. MONEY ORDERS

RATES FOR MONEY ORDERS:

8 1/2 CENTS	AND UNDER 3 CENTS
OVER 8 1/2 TO \$10.	8 " 12 "
" 10 " 20.	10 " 15 "
" 20 " 50.	15 " 20 "
" 50 " 100.	18 " 25 "

AGENCIES THROUGHOUT CANADA.

**BUY YOUR**

Barn Paint or Shingle Stains, Waterproof Roofing Paint, Paint, Varnishes, Shellacs

DIRECT FROM FACTORY and save middlemen's profit.

Send us dimensions of your buildings and we will estimate the quantities and cost for you.

PAINT Department T,  
66 King St., Winnipeg, Man.

**Mr. THRESHER YOU NEED THIS ADJUSTABLE SPARK TRAP**

96 per cent. of fires around threshing machines are caused by sparks. Every engineer knows that no engine can be steamed with the smoke box full of ashes, yet that is the result when you use the devices now sold to stop sparks.

This device will stop the sparks and get rid of them without impairing the draught of the engine. Why pay from 40 to 50 dollars every season for insurance when for 10 dollars you can get a device that will save five times its price every year and give you a feeling of safety? And it might save you from having your whole investment wiped out by fire. Fill in the coupon beneath and order early.

**Self Cleaning**  
DON'T Be Without It. It Saves Trouble and Money  
Invented by a Thresher for the Threshers of the West.  
It is one of the most important things a thresher needs.



C. W. WILLEY, Box 31, BIRNIE, MAN.  
Enclosed find \$10. Please send me one of your adjustable Spark Arresters. Diameter of smoke stack is ..... at top, and ..... one foot from top.  
Length of Stack.....  
Make of Engine.....  
Name.....  
Address.....





**F**ARMERS AND THRESHERMEN OF CANADA!  
 Make sure you are on the right trail--the trail that leads straight through to  
**Better Farms, Better Homes and**  
**Permanent Success**

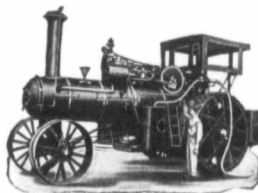
**NOT IN A COMBINE**

If you are about to buy an engine you are at the *Cross-Road*.  
 If you do not carefully consider Sawyer-Massey Plowing Engines, you will make a mistake you may regret.

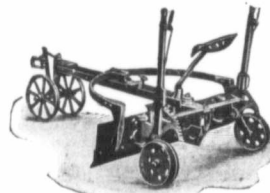
Before you buy, let us show you our Engines—let us submit our case—it will prove interesting and convincing.

Hundreds are buying Sawyer-Massey Engines.

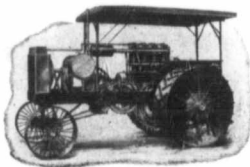
**Why Not You?**



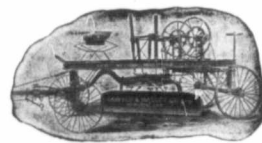
S. M. Rear Mount Engine, 35 H. P.



S. M. Junior Grader and Leveller



S. M. Gas Tractor, 22-45 B. H. P.



S. M. Steel Reversible Road Grader

**Speaking of Trails:**

Trails are fast becoming roads and streets. You know there are a great many roads in this country that need improving.

You progressive Farmers of Canada know you can increase the value of your land and the entire tone of your whole district by improving your roads.

**Why Not Now?**

You should see to it that your Councillors are alive to this important work and are having it done now. We have a machine that for the last 15 years has each season created a greater demand than we have been able to supply.

**Write Us for Full Details—Do Not Delay**

**NOT IN A COMBINE**



**BRANCHES-WINNIPEG MAN. AND REGINA SASK.**



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**Business Wisdom.**

"I find," says a shrewd merchant, "that I make most money when I am least anxious about it."

A smile is an asset; a frown a liability.

The higher we get, the less we are jostled by the crowd.

If you're always looking for a peck of trouble, better have a two-bushel sack ready.

The way to get rich is simply to resist being a fool, for the fool spends more than he earns.

The knowledge that comes with old age is frequently confined to the knowledge of lost opportunities.

No matter how well you may do a thing, today, there will be a better way of doing that thing tomorrow.

He who trusts to luck will not be lucky. It is the man who does the right thing at the right time who is lucky.

"When I found I was black, I resolved to live as if I were white, and so force men to look below my skin."—Alexander Dumas.

There's the same thread of good and bad in most of us—the only difference being which end of the telescope is used in viewing the woof of others and of ourselves.

You've heard in a shell the "roar of the sea"—just listen subconsciously and you'll hear the dash of success waves in your own soul, no matter if the latter seems but the shell of failure.

When you get to thinking that you can't live without some luxury—quit worrying. If you do die—you won't need it, and if you get it, you won't die, so it's bound to come out O. K.

**A Pin Scratch Led to Nelson's Victory.**

**Discovery of the French Fleet.  
The Noting of the Distress of a French Maid by Sir John Acton Had a Strange Result.**

The good points of pins have been generally appreciated, but never did a pin point to a greater result than the one that made possible Nelson's great victory of the Nile on August 1, 1798.

It was at this fight that Nelson, with his usual intrepidity, forced a passage with half of his fleet of fifteen vessels between a small island, near Aboukir in Egypt, and the French line of battle, while the other half attacked the enemy in front, completely defeating the French fleet in one of the most famous naval battles in history.

The part that the pin played in the story came about in this way:

Sir John Acton, then commander-in-chief of the land and sea forces of Naples, happened to be his wife's dressing-room

**Load Your Own Cars and Fill Your Granary with a New Taggart Portable Elevator Entirely Strengthened and Remodelled Will Save its Costs in One Season**

It is a back saver, time saver, money saver. It will save three men's time and two teams at least.

For loading cars and filling granaries—operated by gasoline engine which sits on front end of skids.

We can supply engine, if wanted, or fit elevators to be run by your own engine by giving us speed and size of pulley.

Will elevate from 500 to 1,000 bushels of wheat per hour according to power.

We also have a Horse Power outfit complete, called our Junior Star. Only a few of them left.

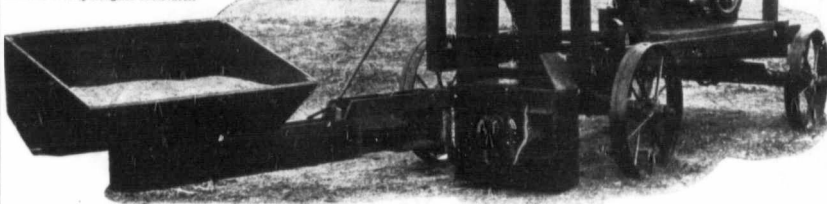
Our 1912 Model has Improved Gearing and Frame and is as near to perfection as an elevator can be made for convenience and capacity.

Write for descriptive circular.

Agents Wanted

**THE HARMER IMPLEMENT CO. Winnipeg**

This cut shows Elevator mounted on truck, with leg up and hopper swung back to let team drive up alongside of elevator.



**Construction**

The "Taggart" Portable Grain Elevator is built with 18 or 21 ft. leg.

Grain is elevated by cups and conveyed by worm screw.

Mounted on skids or farm truck.

Hopper swings back out of the way for wagon, and will slide along conveyor so that it fits between the wheels of wagon and does away with the spilling of grain.

Leg swings down when moving and rests on front end of frame.

Spout may be swung in any direction either up and down or side ways.

**Our Prices Are Right**

at the moment she was preparing for dinner.

Lady Acton's French maid was also in the room, and was so startled at receiving a letter from her brother, a sailor in the French navy, whom she believed to be dead, that she ran a pin into her mistress' flesh.

Apologizing for her carelessness, the maid stated the cause of her surprise.

With carefully suppressed eagerness Sir John offered to read the letter while the maid continued her duties. The maid gladly consented.

Having read the letter, the commander-in-chief left the house in search of Lord Nelson, who had in vain been seeking the French fleet. He found him

and imparted to him the contents of the letter. It gave all the information the admiral had so long endeavored to obtain.

Setting sail immediately, Nelson came up with the French, and the victory of the Nile was the result.

**Flies Made Declaration Day. Had the Little Insects Not Badgered the Fathers of the Republic, Signing of Declaration Might Have Been Delayed.**

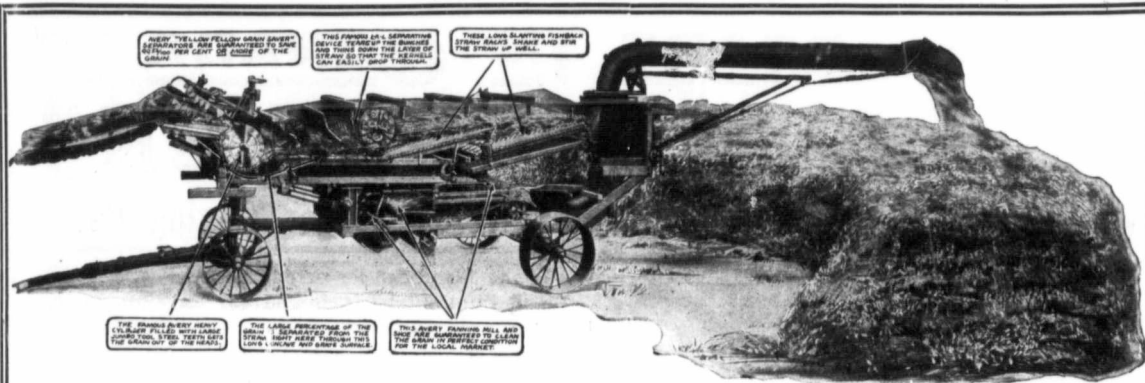
No less a person than Thomas Jefferson was authority for a story to the effect that had there not been a swarm of flies in Independence Hall on the day of the signing of the Declaration of Independence, Americans would have been compelled to celebrate the completion of that famous in-

strument on some other day than July Fourth.

According to this story, the weather was warm and from a neighboring livery stable came swarms of flies that lighted on the legs of the Fathers of the Republic, and biting through the thin silk stockings then in fashion gave infinite annoyance.

It was no uncommon sight, said Jefferson to see a member making a speech with a large handkerchief in his hand, and pausing at every moment to thrash the flies from his thinly protected calves.

The opinion of the body was not unanimous in favor of the document, and under other circumstances discussion might have been protracted for days, if



THE "YELLOW FELLOW" GRAIN SEPARATOR SEPARATES AND GUARANTEES TO SAVE 99 PER CENT. OF THE STRAW.

THIS MACHINE OPERATES THE SAME AS A SEPARATOR THE ONLY DIFFERENCE BEING THAT THE SEPARATOR HAS EASY TO MOVE THROUGH.

THESE LOW-SAVING FISHBONE STRAW RACKS SHARP AND STEEP THE STRAW OF WHEAT.

THESE HEAVY WHEELS ARE MADE OF STEEL AND GUARANTEED TO HOLD UP UNDER THE HEAVIEST LOADS.

THE LARGE WHEELS OF THE SEPARATOR SEPARATE FROM THE LOW SAVING AND SHARP RACKS.

THESE HEAVY WHEELS ARE MADE OF STEEL AND GUARANTEED TO HOLD UP UNDER THE HEAVIEST LOADS.

# The Story of 27 Straw Piles

Everybody knows that a strawpile has a story to tell.

Sometimes it's a story that threshermen and farmers like to hear and sometimes not.

You can read them every year. You see one that has stood around a while until the fall rains have commenced and soon it begins to shoot out green sprouts to tell its story.

Or, it may be sold and hauled to market, and as it josts along it talks and scatters its message all along the road and leaves the end of its story on the rack when the last fork full is unloaded.

And the farmer says to the thresherman, "Look at my green strawpile and the grain on my rack."

**And there are other kinds of straw piles too.**

There's the 27 straw piles that this story is about—and lots of others like these.

These 27 straw piles have a story to tell, but it's a different kind of a story. They tell a story of **Grain Saving**—and not of wasted grain.

A test was made of the straw going into every one of these stacks by threshing on canvas. The straw was carefully shaken out and the amount of wastage was then compared with the amount of grain threshed while the straw was going on the canvas. Then the percentage of saving was figured, the average taken and it told a wonderful story.

**99 9-10 per cent. was the average amount Saved in these 27 tests—an almost perfect record**

These tests were made on Avery "Yellow Fellow—Grain Saver" Separators. They were made on different machines, in different localities, in eight different states and while being operated by the regular crews. These tests prove that **Avery Separators are Wonderful Grain Savers.** Here is a list of the tests with the percentage of saving in each.

Just think of it **27 actual Field Tests threshing on Canvas and an average saving of 99 9-10 per cent.** This is the Best Proven Record of Grain Saving ever made by any make of Separator. No other make of Separator is backed up by such a record of Grain Saving as this. It is so good that we have added the words "Grain Saver" to the name of the Avery Separator and now call it the "Yellow Fellow—Grain Saver."

We submit to you this strong evidence of Grain Saving—these 27 Field Tests and the Strong Avery Guarantee.

It's all clear, positive proof. No big claims without any real evidence back of them. Just facts—definite facts—what the Avery Separator actually does and how we guarantee it.

You can't afford not to fully investigate a Separator that's backed up like this. Write for complete catalog with all the Facts about Avery "Yellow Fellow—Grain Saver" Separators.

Machine Owned by	Percentage of Grain Saved
Bohl & Koettering	Brentford, S.D. 99 92-100%
Fargo & Lawrence	Stratford, S.D. 99 93-100%
Halvor Gunderson	Davenport, N.D. 99 92-100%
F. & E. Melcher	Waterville, Minn. 99 91-100%
John W. Shima & James Wondra	Montgomery, Minn. 99 89-100%
Ole Gutterud	Shyenne, N.D. 99 94-100%
L. A. Tammes	Bird Island, Minn. 99 94-100%
Leander Johnson	St. Croix Falls, Wis. 99 91-100%
Schultz & Kernkamp	Valley City, N.D. 99 92-100%
E. J. Boelter	Avator, Minn. 99 93-100%
Casper Stoffers	Avator, Minn. 99 92-100%
Jerre Sheehan & John Carlson	Hastings, Minn. 99 93-100%
Krause Bros	Howard, S.D. 99 86-100%
Frank Viech	Wilson, Kans. 99 94-100%
Howard Bros.	Hallford, Kans. 99 92-100%
John Dunlop	Rogers, Nebr. 99 73-100%
Alex Dechant	Hays, Kans. 99 99-100%
Gately Bros.	Gretna, Nebr. 99 96-100%
John C. Hornstra	Springfield, S. Dak. 99 96-100%
Thos. Mahoney	Dorrance, Kans. 99 95-100%
W. H. Gwin	Grainfield, Kans. 99 67-100%
M. P. Davis	Forrest, Ind. 99 80-100%
H. H. Houston	Clinton, Ind. 99 85-100%
F. & A. Adolph Hamouz	Tobias, Nebr. 99 87-100%
Harry Wagner	Ankeny, Iowa. 99 99-100%
D. A. Mayo	Benedict, Nebr. 99 94-100%
Bowen Bros.	shubert, Nebr. 99 96-100%

**You also get this Strong Grain Saving Guarantee**

Besides being backed up by these tests—when you buy an Avery "Yellow Fellow—Grain Saver" Separator you also get the Strongest Guarantee on Grain Saving ever given with any make of machine. This Guarantee is printed right in the order blank.

**"The Separating device will shake out 99 52-100 per cent. OR MORE, of the loose grain that is in the straw, the grain to be dry and in fit condition to thresh. When desired we will submit the machine to test."**

This is the strongest grain saving warranty ever given. It is absolutely plain and straightforward. It means exactly what it says and there are no impossible conditions connected with it in any way, shape or form. We guarantee a saving of 99 52-100 per cent. OR MORE—and the "or more" means anywhere up to 99 99-100 per cent. for this record has been made by "Yellow Fellows" in field tests.

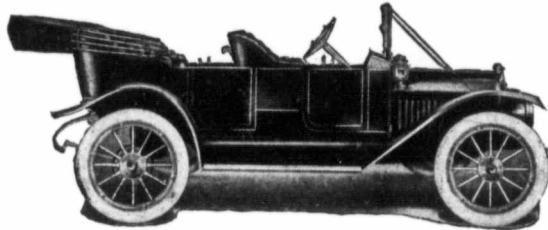
**EVERY COMPANY, 675 Iowa Street, Peoria, Ill.**

**HAUG BROS. & NELLERMÖE COMPANY LTD. WINNIPEG REGINA CALGARY**

Western Canadian Distributors.



# THE MADE IN CANADA "McLAUGHLIN-BUICK"



## Five Passenger Touring Car

is the ideal car for strength, security, speed and durability. It is the car for Canada—not because it is made in the Dominion, but because you cannot buy a better car or better value the world over. There are others more costly but **NONE BETTER.**

### SPECIFICATIONS:

**BODY**—Original advanced design, five-passenger, exceedingly comfortable and roomy in both seats.

**FRAME**—Pressed steel, special construction, three and one-half inch drop.

**SPRINGS**—Semi-elliptic front, three-quarter elliptic rear, with scroll ends.

**FRONT AXLE**—Drop-forged "I" beam, with drop-forged yokes, tie rod ends and steering spindles; front wheels fitted with extra large cup and cone ball bearings.

**REAR AXLE**—Semi-floating type; special alloy steel axle shafts, running on special high duty roller bearings.

**WHEELS**—Wood, artillery type, with "bolted on" type demountable rims. Extra large hub flanges.

**TIRES**—35 x 4 inches.

**WHEEL BASE**—108 inches.

**TREAD**—56 inches.

**MOTOR**—Unit power plant, four cylinders, four cycle, valve-in-head type. Cylinders semi-steel analysis, cast in pairs; 4-inch bore, 4-inch stroke. Three-bearing crankshaft with bronzed-backed, babbit-lined bearings. Exceptionally large bearing surfaces. Thirty Horse Power.

**COOLING**—Water, circulated by gear-driven centrifugal pump. Brass inlet and outlet water manifold. Radiator, vertical tube and plate type with large water capacity. Fan running on anti-friction bearings, belt driven from crankshaft pulley; centre distance of fan pulleys easily adjusted to take up stretch in belt.

**IGNITION**—Jump spark. Current supplied by Remy magneto and reserve set of dry cells.

**CARBURETOR**—Automatic, float feed.

**LUBRICATION**—Automatic splash system. Oil uniformly distributed. Supply maintained by positive-

driven, slow-speed plunger pump with sight feed on dash.

**FINISH**—Option of Blue and Black throughout, or combination Battleship Grey and Black throughout. Upholstered in genuine hand-buffed leather over curled hair and deep coiled springs. Dash and body finishing strips, walnut finish. Running boards and floor boards oil treated, and covered with heavy aluminum matting with heavy nickel-plated brass binding.

**STANDARD EQUIPMENT**—Foot accelerator, muffler cut-out, oil side and tail lamps, gas headlights, Prest-O-Lite tank, concealed horn, jack, tire pump, tire repair kit, complete set of tools, tool box on running board, one extra demountable rim, full length foot rest in rear, robe rail. All bright parts are nickel-plated. Lamps, combination Black and Nickel.

**NOTE**—Nickel finish regular equipment.

**McLAUGHLIN-BUICK CARRIAGE CO. LTD.**

**WINNIPEG.**

not weeks; but the flies were intolerable.

Efforts were made to find another hall, free from the pests, but in vain. As the weather became warmer the flies grew worse, and the flapping of handkerchiefs was heard all over the hall as an accompaniment to the voices of the speakers.

In despair, at last some one suggested that matters be hurried so that the body might adjourn and get away from the flies.

There were few mild protests, but no one heeded them, the immortal Declaration was hurriedly copied, and with handkerchiefs in hand, fighting flies as they came, the members hastened up to the table to sign the authentic copy and leave the flies in the lurch.

Had it not been for the pests from the livery stable, there is no telling when the document would have been completed, but it certainly would not have been signed on the Fourth of July.

### SOME FUN

The First Shall Be Last.—"Captain," asked the nervous passenger, "do you think this boat is perfectly safe?"  
"This is the ninety-sixth trip I've made on her, and she hasn't sunk yet. But I suppose there always has to be a first time for everything."

"Where Is It—Business Man (explaining).—"When they say 'money is easy' they mean simply that the supply is greater than the demand."

His Wife.—"Goodness! I shouldn't think such a thing possible."

No Hope.—Foreign Enemy.—"Then you think it is useless for us to attack the country by way of New York?"

Assistant.—Certainly. Our investigations tell us that it is impossible. First we would have to pass a trained army of customs inspectors, then a squad of quarantine officials, and what was left of us would be swept away by a picked delegation of reporters asking us how we liked the country. Puck.

Overlooked Him.—Two lawyers before a probate judge recently got into a wrangle. At last one of the disputants, losing control over his emotions, exclaimed to his opponent:

"Sir, you are, I think, the biggest ass that I ever had the misfortune to set eyes upon."

"Order! Order!" said the judge gravely. "You seem to forget that I am in the room."—Western Christian Advocate."

Lady: You look like a hard drinker.  
Tramp: Oo, no, ma'am; that's the easiest thing I do.

### Eating the Railroad.

An Irishman, after questioning the ticket agent at one of the depots of Chicago some time ago about the fare to New York, purchased a round-trip ticket and went out on the platform to wait for the train. He seemed to be in quite a cheerful mood, and when asked what it was he found so amusing, replied "I'm 'beatin' the road.' It's a round-trip ticket I've bought, and I'm not coming' back!"

It's the little things that tell—especially the little brothers and sisters.

The best physic is fresh air—the best pill is plain fare.

### A Legal Fiction.

A solicitor in a provincial town, who openly prided himself on his knowledge of the law, was one day proceeding to the local court with several ponderous law books under his arm, when he met a friend.

"Why, P—," exclaimed the latter, pointing to the books, "I thought you carried all that stuff in your head."

"I do," quickly replied the lawyer, with a knowing wink; "these are for the judges."

A captain, inspecting his company one morning, came to an Irishman, who evidently had not shaved for several days.

"Doyle," he asked, "how is it that you haven't shaved this morning?"

"But Oi did, sir."

"How dare you tell me that with the beard you have on your face?"

"Well, ye zee, sor," stammered Doyle, "there was nine of us to one small bit of a looking-glass, an' it must be that in the general confusion Oi shaved some other man's face."

An Irishman, wishing to take a "homestead" and not knowing just how to go about it, sought information from a friend.

"Mike," he said, "you've taken a homestead an' I thought maybe ye could tell me th' law concernin' how to go about it."

"Well, Dennis, I don't remember th' exact wordin' uv th' law, but I can give ye th' manin' uv it. Th' manin' uv it is this: Th' Government is willin' t' bet ye 100 acres uv land agin \$14 that ye can't live on it five years widout starvin' t' death."

### Too Literal.

Aunt Mahaly, an old negress with a worthless husband, was relating her troubles to her minister. The usual condolences were offered by the latter, and remedies suggested, but at each one Aunt Mahaly shook a doubting head—she had tried them all without avail.

The minister sighed and pondered, and at last had an inspiration. He leaned to Aunt Mahaly, who brightened visibly.

"Sis' Mahaly," he said, "hab you ebber tried heapin' coals er fire on his hid?"

The gleam of hope faded from Aunt Mahaly's face.

"No, Bre'r Jackson, I ain't never done dat, but I's tried po'in hot water ovvuh him."

In a big New York apartment house there is employed a colored girl, whose best young man called one evening, fully determined, as it was learned later, to propose. But his courage failed him, and after the usual evening gossip, he went away with the important question still unasked.

No sooner had he reached the street than there came over him the fear that if he waited another week it would be fatal to his chances. The idea came to him to use a telephone.

He called up the apartment and his Maria answered. Evidently he recognized her voice, but he wanted to make sure, for Maria's mistress heard her say:

"Yeh-as, I'm Maria."

There was a long talk from the other end of the wire while Maria held the receiver close to her ear and smiled happily. Presently she said:

"Why cert'nly, I'll marry ye, honest cert'nly. Er—er—What's de name of a gen'tleman speakin'?"

### Kind Neighbors.

Stranger at the Door: "Good mornin', madam; I—er—a—came to tune your piano."

Mrs. Hammer: "To tune my piano why I didn't send for you."

Stranger: "No, but—a—the neighbors you know, madam, suggested that I had better call."

# HOLT Caterpillar Watch It

— at the —

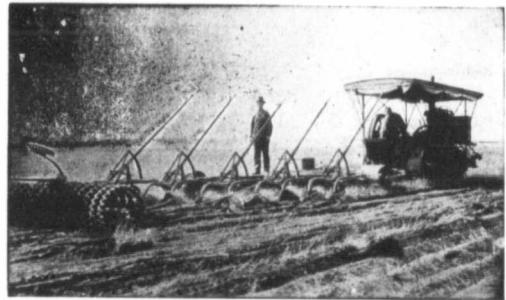
## Winnipeg Motor Contest

### The Only Agricultural Tractor

that is genuinely different and notably better than any tractor built. The CATERPILLAR TRACTIVE DEVICE is the only distinctive advance in construction since the gas tractor was first produced. It gives this engine **GREATER PULL-- GREATER ADAPTABILITY** and there is **NO PACKING** of the SOIL.

### The Caterpillar Lays Its Own Steel Track and Runs on It Like A Locomotive

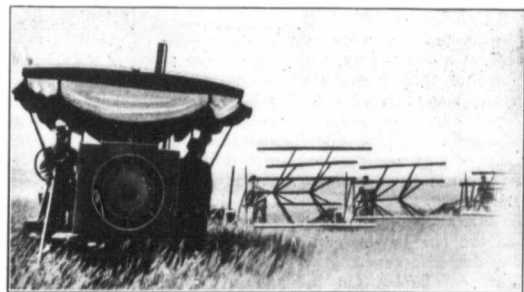
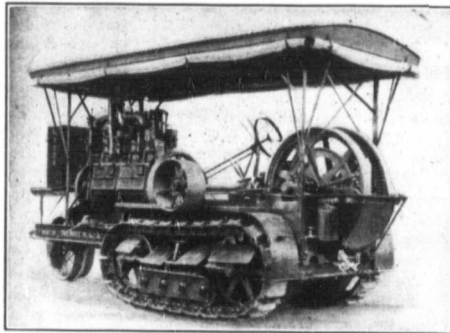
This track gives from 2,000 to 4,000 square inches of bearing surface, depending on the width of the track. The weight of the engine is evenly distributed over this whole surface, giving it the lightest bearing per square inch and the most powerful tractive grip of any engine built—effective everywhere on hard or soft ground.



60 H. P. Holt "Caterpillar" Gas Tractor Doing the Work of 35 Horses

### THE CATERPILLAR IS ALWAYS READY FOR INSTANT SERVICE

It can't be mired down and has no wheels to slip in wet land or loose and sandy soils. It is the plowing engine for early spring and late fall, if a plow can be used, regardless of soil or weather conditions. As it does not pack the plowed land it is the **IDEAL ENGINE FOR SEEDING, HARROWING AND HARVESTING**



Holt Caterpillar Harvesting at Strathmore, Alberta

**Don't Fail to See It at the Motor Contest, Winnipeg, July 10-20**

Made in One Size, 60 H. P.

Mr. Ben C. Holt, Spokane, Wash.

**Read This Letter**

Dear Sir,—Your 18-foot Combined Harvester made the entire run this year, as it did last year, without stops or repairs of any nature. It handled our Red Fife wheat to perfection. In this district the harvest was so wet this season that the grain sprouted in the sheck. The Stationary threshers have been practically unable to thresh up to this time. Your Combined Harvester successfully met these conditions, as the standing grain was dry enough to thresh 48 E curs after a rain. Any doubts we formerly entertained about the Combined method have been completely laid aside by our two seasons experience and especially by the manner in which your machine handled our crop during the present freak season.

Welby, Saskatchewan, Oct. 16, 1911

*Edmonds & Shand*

## CANADIAN HOLT CO., Limited

Caterpillar Tractors, Combined Harvesters

609 Eighth Avenue West

Calgary, Alberta

Canadian Holt Co. Ltd., Calgary, Alta.

Please send me free literature describing Caterpillar Gas Tractor. I am farming.....acres.

Name.....

Address.....

C. T. F. 7-3-12 MAIL COUPON TODAY

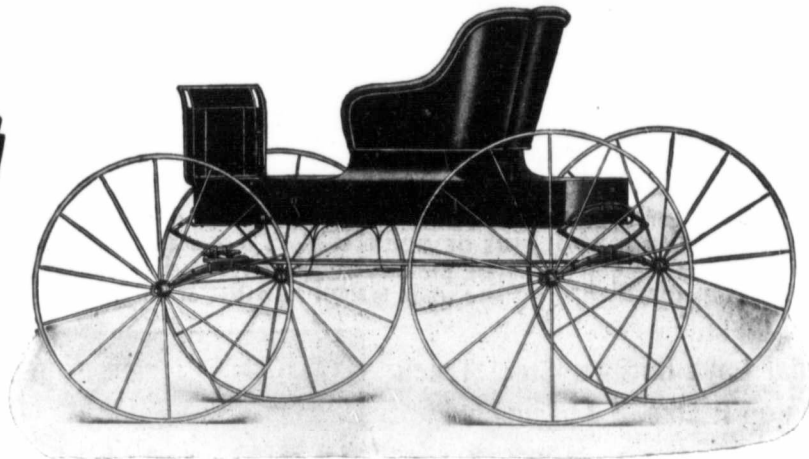
## Ride to Your Fair in a Glengarry

YOU'LL ENJOY A PLEASANT AND COMFORTABLE RIDE  
AND THE CLASSIEST "TURN OUT" THAT MONEY CAN BUY



Write  
Us  
for  
Information

All  
Representative  
Dealers sell  
"Glengarrys"



Leaders  
in  
Style,  
Comfort,  
Durability,  
Construction  
and  
Finish

Over 40  
Different  
Styles

No. 220—TWIN AUTO SEAT DRIVING WAGON.

Call and see us when at the Winnipeg Fair. Make our Office and Warerooms Your Headquarters. Have Your Mail addressed in our care. A Belt Line Car brings you right to our door.

# Canadian Moline Plow Co., Winnipeg

Branches at CALGARY and REGINA

**T**WO years ago the prospect of any extension of sheep raising in Canada appeared very remote. Except in the case of breeders of pure bred flocks, the prevailing attitude regarding the possibilities to be attained through a development of the industry was largely one of indifference and unconcern. Today, however, a very great change in point of view is manifested, particularly on the part of farmers interested only in the breeding and rearing of market sheep. This change has doubtless been brought about on the one hand by the increasing domestic consumption of mutton and lamb. On the other hand, however it has with equal certainty been hastened and confirmed as a result of the investigations of the Sheep Commission of the problems confronting the sheep farmer in this country and of the manner in which a decadent but attractive business might be revived.

The interest awakened by the latter movement on the part of the Federal Government was further strengthened by the suggestive lectures delivered by Mr. Ritch during the early months of the present year at meetings attended by him in the Maritime provinces and later at meetings attended by Messrs. Ritch and MacRae in the provinces of Saskatchewan, Alberta and Brit-

## THE SHEEP INDUSTRY

A New Appointment in the Live Stock Branch.

ish Columbia. "The government is doing something" was the appreciative comment of a Western sheep man, after the conclusion of one of the recent lectures, and this statement is expressive of the temper of sheep growers, both in the East and in the West, who are gratified to know that in their interests something definite is now being undertaken.

An announcement has already been made regarding the action of the Minister in making provision for a special sale, during the months of September and October next, of pure bred rams and grade ewes in the Maritime provinces and in British Columbia. It has been ascertained that these provinces have need, not only of selected sires, but also of female stock to serve as the foundation of grade flocks for the production of marketable lambs. The co-operation of the Dominion Sheep Breeders' Association has been secured to assist in this work and a grant of \$15,000.00 has been made direct to the Association, to be expended for this purpose, in ac-

cordance with certain conditions imposed by the Minister. The responsibility for the expenditure of this grant has been delegated to a special committee of the Association, in conjunction with the secretary, Mr. A. P. Westervelt, and the members of this committee, acting in association with officers of the Live Stock Branch, are at present engaged in selecting the most suitable centres for the holding of the proposed sales. They are also personally interviewing the farmers of these districts, with the view of securing their interest and co-operation in connection with the sale of the sheep. Subsequent to the distribution of selected breeding stock in different localities, it is proposed that the appointment of one or more experienced sheep men shall be arranged for who shall spend their time in visiting the farms of those to whom the sheep are sold, in order that the latter may have the benefit of competent advice regarding the management of their flocks, the care of wool, marketing of the clip and disposal of their lamb

crop. As the result of this policy, it is believed that these centres will ultimately become distributing points for high-class breeding stock and influential agencies in bringing about an extension of sheep keeping in the different provinces.

In consequence of the work initiated by the members of the Sheep Commission, the Minister is now in receipt, from time to time, of requests for special assistance in connection with certain problems relating to both the sheep and wool industries. The final disbanding of the Commission has made it necessary that definite provision be made for the effective administration of the policy to which the Department is now committed to further the development of the keeping of sheep in Canada. The Minister has, therefore, considered it advisable to arrange for the appointment of a sheep expert to assume charge, under the Live Stock Commissioner, of the work to be undertaken in furtherance of this policy.

He has been fortunate in securing for this position Mr. T. R. Arkell, Professor of Animal Husbandry in the New Hampshire Agricultural College. Mr. Arkell is the son of Henry Arkell, Esq., Arkell, Ontario, the well known breeder of Oxford



# Don't Worry About Your Light Power

## A Garden City Feeder Will Help You Out

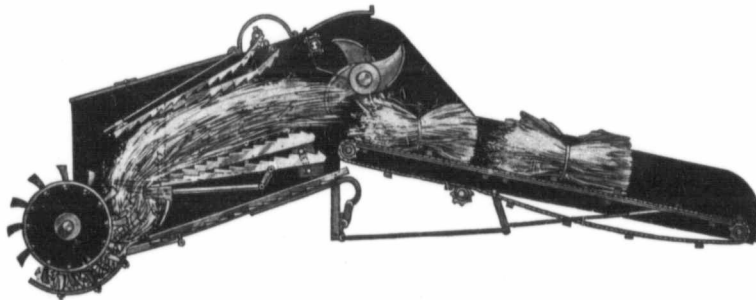
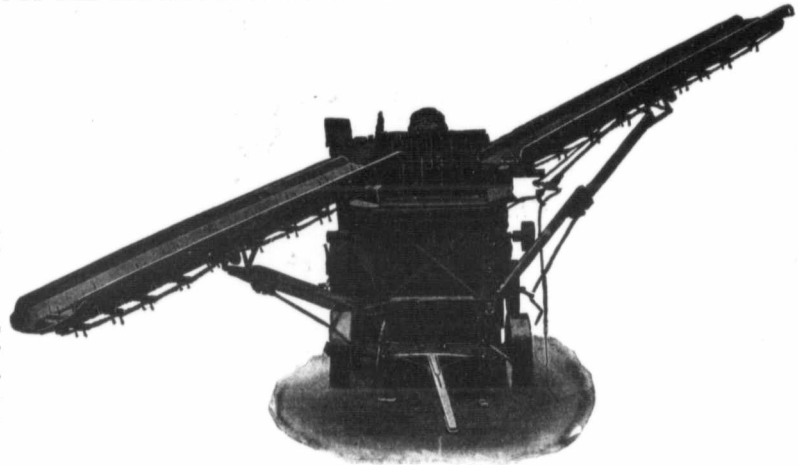
BECAUSE IT ALWAYS FEEDS ACCORDING TO THE POWER SUPPLIED.  
 IT NEVER OVERLOADS THE CYLINDER NOR REDUCES ITS MOTION.  
 IT NEVER OVERLOADS THE STRAW RACKS OR CHAFFER.  
 IT NEVER CLOGS THE BLOWER BECAUSE IT ALWAYS FEEDS EVENLY.

The pitchers cannot plug the cylinder full and then take a rest while you dig it out.

"They gota quit kickin your dog aroun."

It RUNS EASILY and takes LESS POWER than any other Feeder on earth.

We positively warrant the Garden City Feeder to feed any Separator to its full capacity with any kind of grain in any condition, without slugging the cylinder,



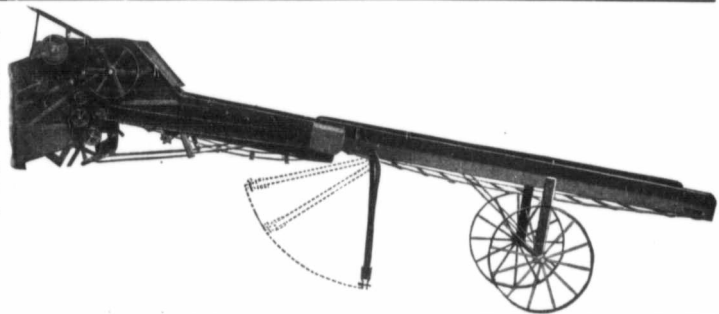
breaking any concaves or spikes, burning any belts, winding the knives or retarder; to run easily and deliver all bundles to the cylinder, END FIRST, regardless of how they are piled upon the carrier.

No other Feeder can "make good" on that guarantee.

If you want to get done threshing in the SHORTEST TIME at LEAST EXPENSE, why don't you look up our EXTENSION CARRIER; or WING FEEDER and DUMP RACKS, we have them all and fully warrant them to be the very best that can be had.

If you will give us an opportunity we will prove our statements to be true by SHOWING YOU right on your own Separator on your own farm.

**YOU CANNOT GO WRONG.  
 WE TAKE ALL THE RISK.**



Write us today and let us tell you some more about this Famous Feeder.

## The Garden City Feeder Company, Limited, Regina, Sask.

GENERAL AGENTS

A. E. GARDINER & CO., SASKATOON, SASK.

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McMAHON & QUINN, LETHBRIDGE, ALBERTA



# HART-BROWN WING CARRIER

**We Will Furnish Half Your Threshing Crew. How?**

By furnishing you devices that will do half the field work of threshing.

By using the Hart-Brown Wing Carriers and Hart Universal Thresher Racks you save half the bundle wagons and drivers and all of your field pitchers, and feed your machine better than it was ever fed before.

F. A. Snook, Cupar, Sask., writes: "I am more than pleased with your Wing Carrier and Thresher Racks. They are all you claim for them, great savers of grain and labor. Anyone who has ever used them would not do without."

Notice from cut below the Carrier is supported by main sills and main frame separator—no weight on feeder.

**CAN BE ATTACHED TO ANY SEPARATOR WITH ANY FEEDER**

A 1912 IMPROVEMENT Each Wing is provided with an adjustable friction clutch which prevents breakage and allows either Wing to be thrown in or out of gear independently of the other. Let us tell you about the other new improvements. State kind of Separator you use.

POSTAL BRINGS 1912 CATALOG STATE KIND OF SEPARATOR YOU USE



HART GRAIN WEIGHER CO., PEORIA, ILL., U.S.



# HART UNIVERSAL THRESHER RACK PERFECTION WEIGHER

Unloads instantly by a pull off gate. No time is wasted in unloading. No sprockets, gears or cog wheels. No machinery means no other.



THE HART UNIVERSAL THRESHER RACKS WILL SAVE YOU \$25 TO \$50 A DAY

The HART RACK can be used on any wagon or truck gear, and can be unloaded at machine without stopping the team. Therefore, you can dispense with half the bundle wagons and drivers, and save all the field pitchers. The driver pitches his own load.

ASK FOR CATALOG.

Insist on having The PERFECTION. It's cheaper in the long run. The elevator chain is stronger. The sheet steel is heavier. The shafting is heavier. The Elevator is longer. The Grain spout is made telescoping.

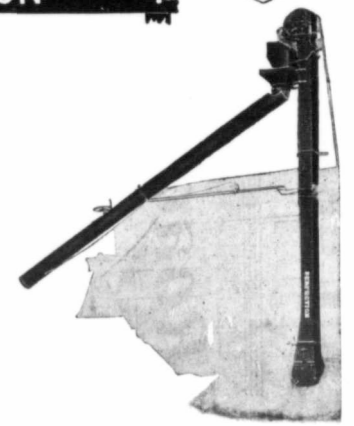
We were the originators of the PERFECTION type of Weighers and Baggers.

Doesn't it stand to reason that the PERFECTION is the safe machine to buy?

We have the correct attachment for your separator.

We keep immense stocks of repairs at Winnipeg, Regina, Calgary, and other points.

The maker of your separator will furnish you the PERFECTION if you insist.



POSTAL BRINGS 1912 CATALOG STATE KIND OF SEPARATOR YOU USE

Down sheep. He received his primary education at the Guelph Collegiate Institute and is a graduate of the Ontario Agricultural College. His early training has made him familiar with every phase of the breeding and management of sheep, and, since his appointment to the position of Professor of Animal Husbandry in the New Hampshire College, he has devoted himself especially to experimental work in feeding and breeding and has made a study, under

very advantageous conditions, of problems relating to the production and marketing of wool. He has organized, amongst the farmers of New Hampshire, a co-operative scheme for the sale of their wool clip, and, in addition, has undertaken considerable extension work which has given him very valuable experience. He is now recognized in Canada and in the United States as a specialist in sheep husbandry and has won for his work the attention of some of

the most eminent experts in breeding and experimentation. Mr. Arkell is to join the staff of the Live Stock Branch before the middle of the current month and will proceed immediately to the provinces of Saskatchewan and Alberta to advise with the wool growers regarding the handling of their present season's clip and to make preliminary arrangements for the undertaking of an extensive experimental shipment of Canadian wool to Great Britain in 1913.

A systematic collection of wool samples will also be commenced immediately to provide for illustration exhibits of wool, requests for which have already been received from several of our Agricultural Colleges and Winter Fair Boards. A comprehensive effort to systematize and improve the methods employed in connection with the production and sale of wool will, undoubtedly, greatly assist in encouraging sheep farmers throughout the Dominion and in stimulating a wider interest in the business. This work, therefore, will receive Mr. Arkell's first attention and will constitute the primary step in an active and energetic propaganda which it is hoped may promote the organization of a prosperous and progressive industry.

He can take off his coat and go to work anywhere at any time. A new place is as comfortable to him as an old one, and a change in position does not materially lessen his usefulness.

New management, new system, new methods are barriers easily over-ridden by the man who fits in.

Before you give way to anger, try to find a reason for not being angry.

**From Factory to Home.**

If a man has anything worth while telling to the world, he ought to give the world the benefit of it. It is a duty that he owes to Society, but the satisfaction of discharging the duty is a mere bagatelle to the pleasure every broad minded soul enjoys when he takes it as a privilege (as all broad minded men do) to open his heart to the people. If he has any product of his own brain or brawn that will help, however humbly, to increase the general wealth, he will "out with it," and in the very act of giving will proceed at once to enrich himself.

That is what a number of the manufacturers of Canada have recently done through the very costly medium of a specially equipped train which made a long itinerary of the Western Provinces, demonstrating in a way that no language or species of advertising could do just what Canada is able to do for herself in the arts and crafts.

The most popular and probably the most imposing detail of this great object lesson in Canadian Industrial progress was the splendid car-load of pianos and player pianos made and exhibited by the Mason & Risch Company of Toronto. This house has a world wide reputation. Nearly a quarter of a century ago we can remember the honors that were theirs by indefeasible right as the outcome of the fine exhibit they made at one of the great International Expositions held in London, England. When that historic show closed its doors, the Mason & Risch piano was secured by her late Majesty

Queen Victoria and it now adorns the suite of apartments in Windsor Castle which were specially fitted up for the reception

of the Emperor of Germany. Since that red letter day in his calendar, the house of Mason & Risch has never permitted itself

to rest on its laurels. Every new season it has demonstrated by some fresh outburst of creative work that the attainments

## Ann Arbor MAKE MONEY "THE BALER FOR BUSINESS" Out of Your Hay Crop.

Ann Arbor "Columbia," with 10-16 H.P., Bales 25-75 Tons per day.  
Ann Arbor "35," with 6-10 H.P., Bales 20-35 Tons per day.  
Ann Arbor "20," with 3 1/2 6-H.P., Bales 12-25 Tons per day.  
Ann Arbor Horse Presses, 10-20 Tons per day.

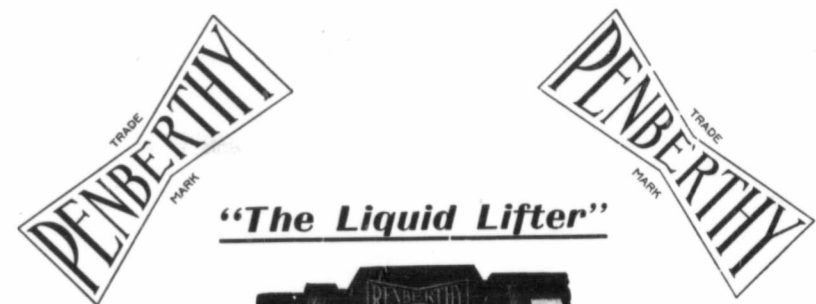


Get The Baler That Always Does The Business The Baler That Always Works.

25 years on the market.

1912 Catalogue No. 6 NOW READY.

MANUFACTURED BY THE ANN ARBOR MACHINE CO., Ann Arbor, Mich.



**"The Liquid Lifter"**



LIFTS 22 TO 25 FEET. ELEVATES 25 TO 100 FEET. 30 TO 100 LBS. PRESSURE

## Traction Engine Ejectors

Owing to High Steam pressure carried by these engines considerable trouble has been experienced with the Injector handling the heated water as delivered to engine tanks by steam syphons. We have a special XL-96 Ejector which delivers water to these tanks at 30 degrees less temperature than that of other ejectors, which decrease of temperature overcomes all trouble with the Injector. We cannot too strongly recommend that this Ejector be used on threshing engines, road rollers and engines of such type. Specify the PENBERTHY Ejector for your traction engine. Stocked by all leading jobbers and retail hardware stores throughout the country.

Manufactured by

**Penberthy Injector Company, Limited.**  
Windsor - - Ontario

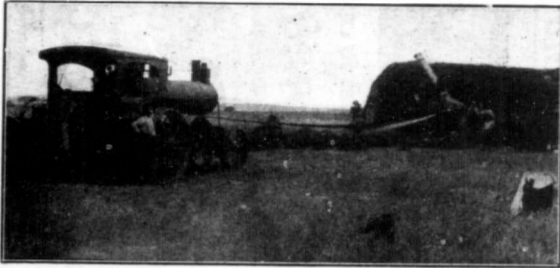


# The Power YOU NEED For Threshing

## HARVESTING

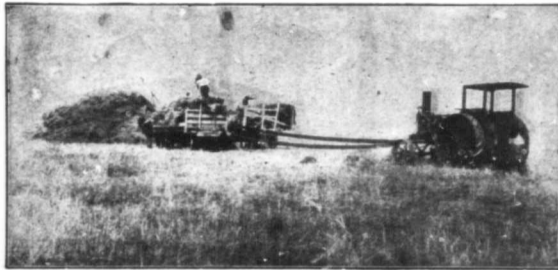
### Fall Plowing, Hauling and Road Grading

THESE AVERY MACHINES WILL MEET THE NEEDS OF ANY MAN.



Threshing with an Avery Double Cylinder Steam Engine and a "Yellow Fellow Grain Saver" Separator.

The double cylinders give you a strong and steady power and the Under-mounted feature makes it easy for one man to put on the drive belt alone and to oil and adjust the engine from the ground without having to climb around over a hot boiler.



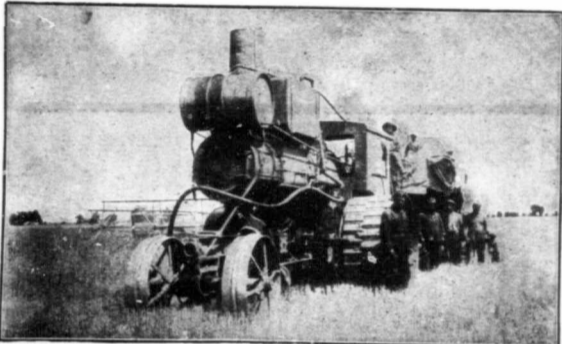
Threshing with an Avery Gas Tractor and a "Yellow Fellow Grain Saver" Separator.

You get a steady power with the double opposed motor on the Avery Tractor governed by a standard 2-inch Pickering governor. Exhausts as regular as a steam engine and with but little noise. Runs with almost no vibration.



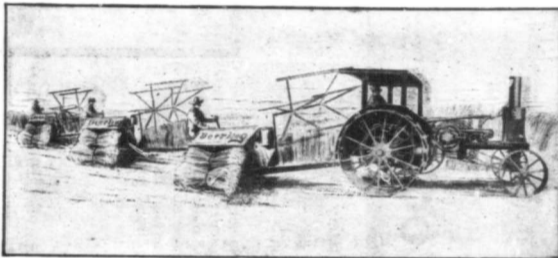
Threshing with an Avery Gas Farm Truck and an Avery "Yellow-Kid" Separator.

An Avery Farm Truck can be used for any ordinary kind of belt work—threshing, shelling, sawing, feed grinding, and other similar work in addition to pulling machinery or wagons behind and hauling loads on its own bed.



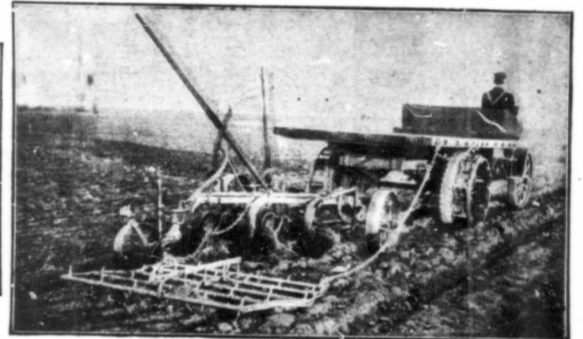
An Avery Double Undermounted Steam Engine Pulling a Combined Harvester.

This is the way harvesting is largely done in the Western States. An Avery Undermounted Engine does the work better and cheaper than a long string of mules or horses and doesn't get sun struck.



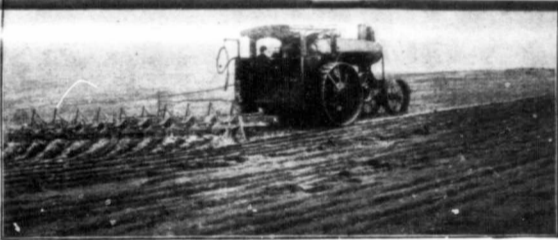
Harvesting with an Avery Gas Tractor.

You can push the work without any danger of overheating and in many cases it will mean the saving of a large part of your crop to harvest it at just the right time.



Plowing with an Avery Farm Truck.

Put on the extension rims on the rear wheels and you can go out into the field and plow, harrow, disc, seed and do other kinds of field work with an Avery all round farm truck.



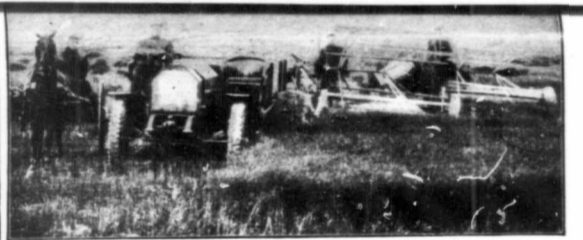
Breaking with an Avery Double Undermounted Steam Engine and an Avery "Self-Lift" Plow.

You get the power when you buy an Avery Undermounted Engine. That's what you need for plowing. Straight line pull from cylinders to load. The only steam engine really built from the ground up for plowing and other heavy traction work.



Plowing with an Avery Gas Tractor and an Avery "Self-Lift" Plow.

A light weight Tractor that doesn't pack the ground. You can get into the field earlier in the Spring or after a rain. Doesn't waste fuel moving useless dead weight. With the Avery "Self-lift" Plow one man or boy can run this entire outfit alone.



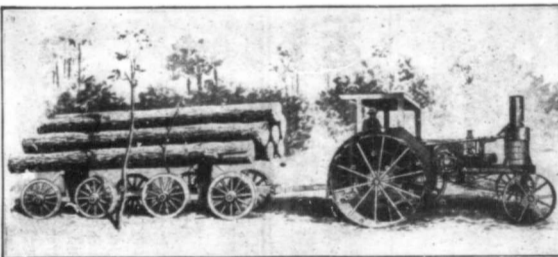
Harvesting with an Avery Farm Truck.

An Avery Truck will go out into the harvest field and travel right along hour after hour as long as you want it to go. It is a handy all round farmer's machine.



Hauling with an Avery Double Undermounted Steam Engine.

You can haul grain to market, crushed rock for road building, do lumber hauling and other kinds of heavy hauling. We sell a large number of Under-mounted Engines every year for heavy hauling purposes.



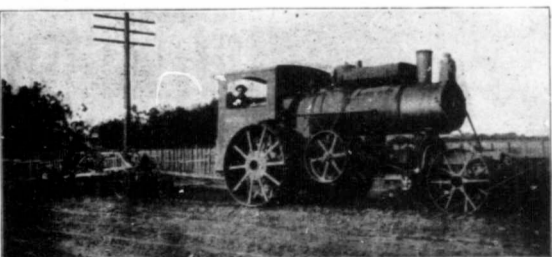
Hauling with an Avery Gas Tractor.

This Avery 20 h. p. Gas Tractor develops a wonderful amount of pulling power. Its light weight which means that it wastes less power moving itself and delivers a larger percentage of its power at the draw bar for pulling the load.



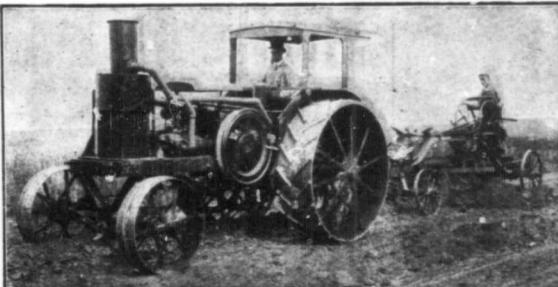
Hauling with an Avery Farm Truck.

Hauls a 3 ton load on its own bed and pulls a loaded wagon behind. Travels at speeds from 2 to 12 miles per hour. Takes the place of farm wagons. Travels faster than horses and hauls at much less expense.



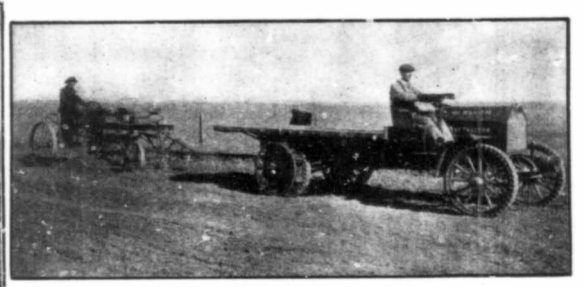
Road Grading with an Avery Double Undermounted Steam Engine.

Road building with a Traction Engine is far better than with horses. Many owners of Avery Undermounted Engines are doing road grading and making a nice sum of money at it.



Road Grading with an Avery Gas Tractor.

The cry for Better Roads is heard everywhere and Avery Gas Tractors are answering the call and building some of the finest roads in the country. They are strong, light and speedy—just what's needed.



Road Grading with an Avery Farm Truck.

This shows a test of an Avery Farm Truck before the Taxpayers and County Commissioners of Lyon County, Kansas. It was wonderfully successful. Besides being used to pull a grader, an Avery Truck will haul bridge and road building materials. It's a machine for all around work.

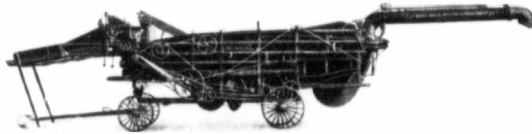
Get All the Facts about the Avery Line of Machinery. It leads all the rest in Original and Up-to-date Design and Construction. Power for any kind of Traction or Belt Work on the farm or in the country. Write for complete catalog describing any one or all of these Avery Machines.

**AVERY COMPANY, 675 IOWA STREET, PEORIA, ILLINOIS.**

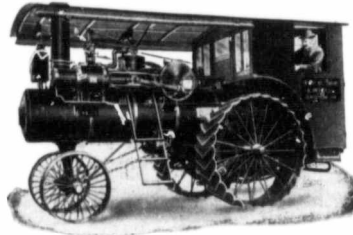
HAUG BROS. & NELLERMOE CO., LTD., WINNIPEG, REGINA, CALGARY, WESTERN CANADIAN DISTRIBUTORS



# THE IMPERIAL LINE



**Imperial Separators** have made fast friends wherever they have been introduced. Always satisfy everybody—the Owner—the Farmer—and we are satisfied with their unvarying good record. We make it a point to keep them right up to date every year.



Our 22-Horse Power Engines of the type shown above have always made good. As a threshing engine they have never failed to satisfy the most exacting. Some have even been used for plowing, and when handled with discretion have performed very creditably indeed.

For **PLOWING PURPOSES** (and it is a good investment for a threshing engine, too) we announce a new **Rear Mount Type** in the 26 and 30 Horse Power sizes. To see this Engine is to want it. We do not need to talk about its good features. They speak for themselves. Boiler is as fine a job as can be turned out by anybody. Government inspection allows us 175 pounds steam pressure. **THERE IS NOT A STUD BOLT OR CAP SCREW IN THE BOILER** except for attaching the furnace door frame **NOR IS THERE A PARTICLE OF THE TRACTION STRAIN TRANSMITTED THROUGH THE BOILER** from the engine to the Drivers. We carry the Engine, Gearing, (all open hearth cast steel) Shafting, Drivers, etc., all on a separate frame work of heavy steel channels and plates. Boiler does nothing but what it is intended for—make steam. We cannot describe it in detail here. Printed matter will soon be out describing it. Send for it. If in a hurry can send photo. Do not miss looking into this. **Greatest thing out.**

## THE ROBT. BELL ENGINE & THRESHER CO., LTD.

SEAFORTH, ONTARIO

WINNIPEG, MANITOBA

of human skill are not confined to any century or to any corner in civilization. From its acres of factory and warehouse space in Toronto it feeds fifteen distributing centres between the head of the Great Lakes and the shores of the Pacific.

Inclusive of its own products, it handles a large number of different makes of musical instruments representing about eighty different case designs in piano construction. It represents twelve of the leading piano manufacturing houses in the United States and Canada, and through the medium of a perfectly organized Exchange Department, it is able to offer its patrons the very choicest opportunities in used pianos. These are not to be regarded as ordinary "second hand" goods, but for all practical purposes are perfect instruments, and new in the sense that they have been thoroughly renovated by experts before being shipped to the purchaser.

A Mason & Risch piano is the best assurance a purchaser can secure of the highest possible attainment in musical excellence, and of unimpeachable value. Forgetting about price, the idea of quality dominates from beginning to end, and then the quality instrument is sold under conditions that give the Mason & Risch people a distinct advantage over other piano houses in their "Factory to Home" system.

It means that the middleman

has been entirely eliminated, and that the Mason & Risch people themselves take care of the sale from the moment it leaves the factory till it is placed in the parlor of the purchaser. In this way, there can be no "mixing of grades in transit," but the gilt edged guarantee is positively delivered by the "man himself" with the piano.

Beginning at Port Arthur and Fort William, the branch houses of this company continue right along the coast to coast "Canadian Pacific"—at Winnipeg, Regina, Moosejaw, Calgary, Saskatoon, Edmonton, Lethbridge, Fernie, Cranbrook, Nelson, Vernon, Vancouver and Victoria.

The Mason & Risch Company was the only house of its kind to "come out" with the Canadian Manufacturers in their Western Exposition trip. It is probably the case that many who would have gone to considerable trouble to see this fine exhibit were unable to do so, but visitors to Winnipeg exhibition are specially and cordially invited to make their home at the company's handsome new store at 272 Portage avenue (the Y. M. C. A. Building) the most conveniently located site in the city. A more extended display than could possibly be provided for on the train may be inspected here at leisure and under the most pleasant auspices. The utmost courtesy is assured to every visitor.

### Stray Thoughts of a Farmer Boy.

Continued from page 23

is brought out quite forcibly by Longfellow when he says:

"Nothing useless is, or low;  
Each thing in its place is best  
And what seems but idle show  
Strengthens and supports the rest."

When making the seed bed a man must consider with due care the nature of the soil and if it be a stiff heavy clay it will require an entirely different method of cultivation to that given the light sandy soils. A farmer might just as well be at home sleeping cosily in his bed as to be out plowing stiff heavy clay when it is very wet, because when it dries out it will be so hard that a great deal of labor with the harrow will be required to pulverize it fine enough for a seed bed. On the other hand, if the clay be too dry when ploughed, it will be thrown up in lumps that will cause extra labor to the farmer. If in all his work of tilling the soil a farmer works in harmony with good old Mother Nature he will soon become happy, wealthy and wise, but if he violates her laws he will soon find ruination settling, slowly perhaps, but surely upon him.

In conclusion I would say to

all tillers of the soil, keep a clean, neat and tidy farm; in the cultivation of it use the most improved kinds of machinery, and in the manipulation of them use good common sense. By doing so the great tracts of prairie land of the Canadian west will prove to be a rich heritage, and a source of abundant wealth not only to the Dominion, but also to the mother land, and the name "farmer" will be one of which any man may be proud.

It is easy to understand the other fellow if you know what you would do under the circumstances.

When a woman starts an idle rumor it at once ceases to be idle.

Experience—the name we give our failures.

Impulse—what we regret next day.

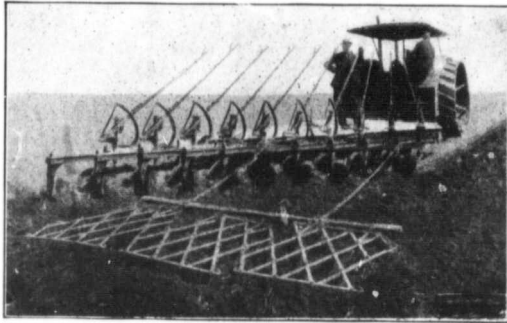
Don't waste your time figuring out why a black hen lays a white egg, but get the egg.

The fact that the early bird catches the worm is another indication of the foolishness of worms.

# THE CHRISTIANSON

## HARROWS and ATTACHMENTS are SPECIALITIES

And before you buy ask us for our reasons for the undisputed claims we make for them.

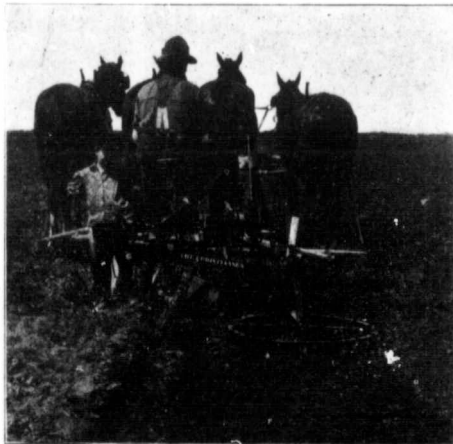


This is OUR way of adjusting, the right way, the profitable way because there isn't a single "dead head" in any operation.



This is the old way, the wrong way, the way of other makes and the WAY THAT WASTES ALL THE TIME.

This is the **Christianson Flexible Creeper Harrow**. It can be set at any angle without interfering with the path of the teeth: For Traction Engine use or draft with horses. **A PERFECT SUCCESS IN EVERY WAY.**



**Our Champion Flow Attachment.**  
Leads in every Competition. Fits all Plows.

FACTORIES:  
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**Kenmare, N.D.**  
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**Winnipeg.**  
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OFFICES at  
**The HARMER  
IMPLEMENT  
CO.,**  
Princess St.,  
Winnipeg.



The "Christianson Acme" Packer.  
Attachment has many obvious as well as hidden features to merit the trade.

WRITE US OR MEET US AT  
**WINNIPEG'S GREAT FAIR.**

THE  
**STEWART**  
 SHEAF LOADER  
 SAVES YOUR GRAIN  
 INSIST ON THE THRESHERMAN  
 WHO DOES YOUR JOB HAVING ONE

**Don't Fail To See It**

**AT WINNIPEG INDUSTRIAL FAIR, JULY 10-20, 1912**

Starbuck, Man., 2-12-11  
 I feel it my duty as a grain grower to congratulate you on the way the "Stewart Sheaf Loader" works. I consider it is essential to every farmer, not only to men who have a threshing machine, but also to the individual farmer for loading his hay.

I had a thresher here this fall who used one of your machines and I consider that it saved me half of the price of my threshing bill. A man pitching by hand leaves sheaves here and there, but your loader picks up everything. It is plain that to the thresher the "Stewart Loader" is a gift, doing the work of five men and five teams for the cost of two teams and one man. Again he has not the trouble of getting half the gang together, which, as everyone knows, is often a difficult matter.

(Signed)  
 P. H. COLE.



Starbuck, Mar., 11-11-11  
 The Stewart Sheaf Loader  
 Co., Winnipeg, Man.

Dear Sirs: I have worked your Sheaf Loader 34 1/2 days I can safely say that during that time it has saved me \$1000.00 in wages. I figure it this way: Last year I had 7 to 8 pitchers and 10 teams. This year I had 6 teams—2 teams on the Loader—but next year 5 teams should do the work. I figure \$5.00 a day was saved in board.

I tested it carefully, and am sure that it saves from 50 cents to \$1.00 per acre because it cleans up everything about the shock. This varies according to the field. Where the grain is short and poorly bound it will save \$1.00 per acre at a low estimate. It did its work just as well on the frozen ground. I timed it and it loaded 17 shocks in 50 seconds, and each shock contained from 15 to 20 sheaves, and it was doing the same work continuously. My outfit is a 40-60, and a 20 horse power steam Case outfit. Five wagons will keep it going. The Loader is as necessary to the thresher as the binder is to the farmer.

(Signed) WM. MILLER

The men who failed to thresh their 1911 crop, as soon as it was cut, failed because they had not the necessary equipment. They hadn't got the STEWART SHEAF LOADER. There will be no more snow-bound stooks in the field all winter if you own and operate a STEWART SHEAF LOADER. You cannot fail to get your harvesting done IN TIME and save on an average 25 DOLLARS A DAY in your field work if you use a STEWART SHEAF LOADER. Ask any man of the hundreds who have done it. Let us name a few of them to you.

**YOU CAN'T AFFORD TO BE WITHOUT IT**

The machine will pick the sheaves or stook from the ground when lying flat and deliver them into the bundle wagons. With proper handling it will load the wagons fast enough to keep any threshing machine in Western Canada supplied with sheaves.

**Get Your Order In At Once.**

**Stewart Sheaf Loader Co., Ltd.** 804 LOAN AND TRUST BUILDING WINNIPEG.

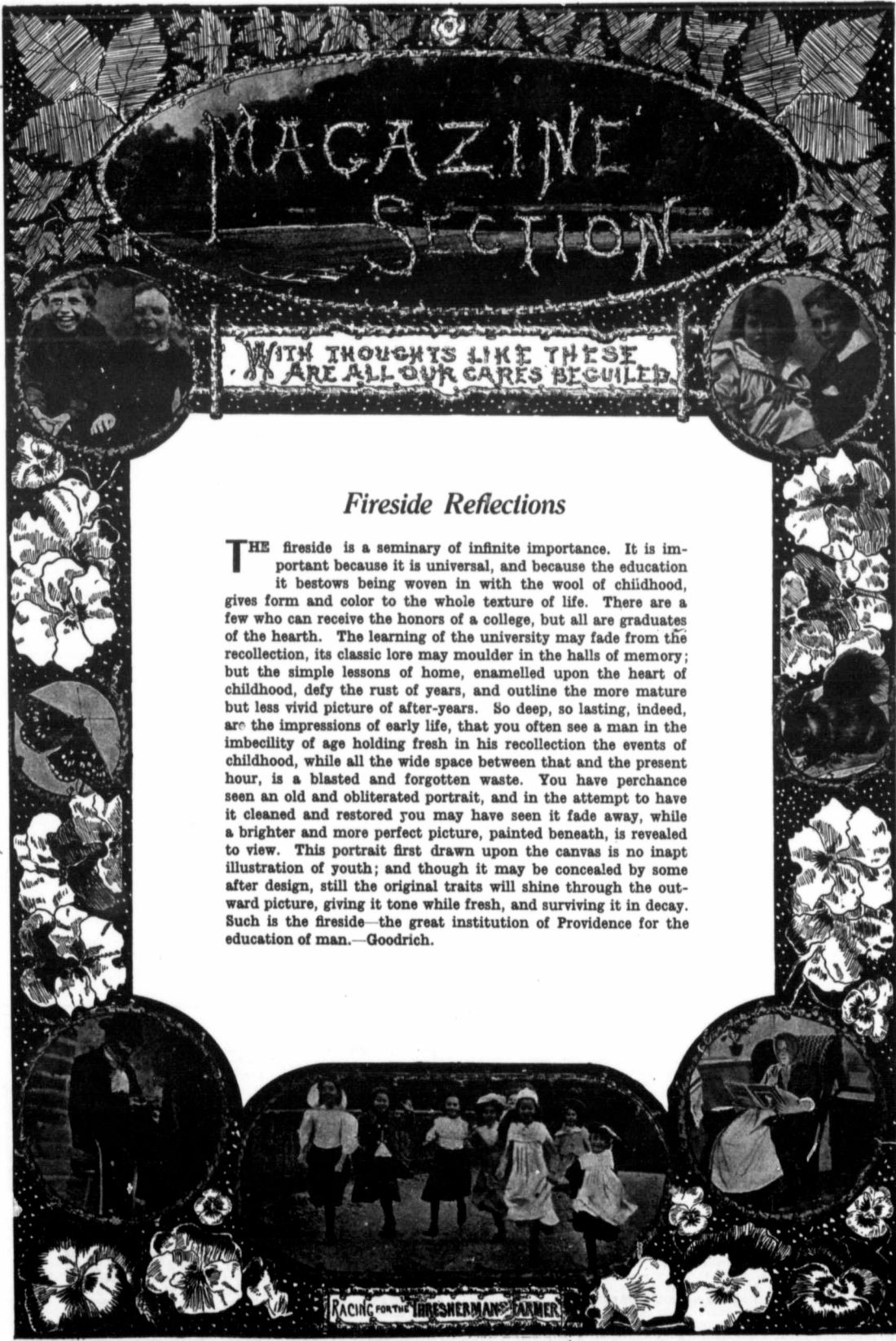
The Stewart Sheaf Loader Co., Ltd.  
 804 Trust and Loan Building, Winnipeg.

Please send me full particulars of the "Stewart Loader" as advertised in the Canadian Thresherman and Farmer.

Name .....

Post Office .....





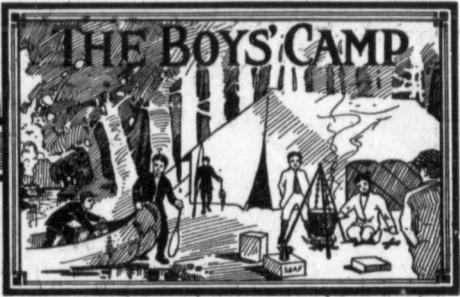
# MAGAZINE SECTION

WITH THOUGHTS LIKE THESE  
 ARE ALL OUR CARES BEGUILED.

## Fireside Reflections

THE fireside is a seminary of infinite importance. It is important because it is universal, and because the education it bestows being woven in with the wool of childhood, gives form and color to the whole texture of life. There are a few who can receive the honors of a college, but all are graduates of the hearth. The learning of the university may fade from the recollection, its classic lore may moulder in the halls of memory; but the simple lessons of home, enamelled upon the heart of childhood, defy the rust of years, and outline the more mature but less vivid picture of after-years. So deep, so lasting, indeed, are the impressions of early life, that you often see a man in the imbecility of age holding fresh in his recollection the events of childhood, while all the wide space between that and the present hour, is a blasted and forgotten waste. You have perchance seen an old and obliterated portrait, and in the attempt to have it cleaned and restored you may have seen it fade away, while a brighter and more perfect picture, painted beneath, is revealed to view. This portrait first drawn upon the canvas is no inapt illustration of youth; and though it may be concealed by some after design, still the original traits will shine through the outward picture, giving it tone while fresh, and surviving it in decay. Such is the fireside—the great institution of Providence for the education of man.—Goodrich.

RACING FOR THE THRESHESMAN AND FARMER



The Girls' Cozy Corner

GOOD-NIGHT.

Some things go to sleep in such a funny way,  
 Little birds stand on one leg and tuck their heads away;  
 Chickens do the same, standing on their perch;  
 Little mice lie soft and still as if they were in church;  
 Kittens curl up close in such a funny ball;  
 Horses hang their sleepy heads and stand still in the stall;  
 Sometimes dogs stretch out, or curl up in a heap;  
 Cows lie down upon their sides when they would go to sleep.  
 But little babies dear are snugly tucked in beds,  
 Warm with blankets, all so soft, and pillows for their heads.  
 Birds and bees and babe — I wonder which of all  
 Dream the dearest dreams that down from dreamland fall!

—Child Lore.

Girls' Prize Letter.

Pierson, Man.  
 Dear Cousin Doris, — I thought I would perhaps brighten your page a little by telling some of my adventures and amusements. I lived in England from the time I was born until we came to Canada, a little over three years ago. Well, once when we lived in the old country my two sisters and I went down to a country farmhouse to stay with a friend for a while. We used to take nice walks together. One day we were walking along the road and we noticed a flock of sheep grazing by the roadside. I was only a little girl then and I wanted to go and pat the sheep, so my sisters said they would wait for me. When I went over to them the sheep ran away, but the ram ran after me with his head down and butted me into the ditch. However, I was more frightened than hurt. Another day the lot of us were strolling among the heather in some of the thickest parts when we heard a hissing noise, and on looking back, saw a huge snake quite near behind us. We ran for our lives till we came to a road and turned down it, but the snake did not follow us. That is the largest snake I have ever seen. All the snakes I have seen out here are very small. Have any of the cousins a "Band of Hope"? I used to go to one in England. When I joined the "Band of Hope" I paid one half-penny (that is one cent) and they gave me a ticket with a hole punched in it. We went in, one at a time, till all the tickets were done, and the place was full. Then we took our seats. A large hymn sheet was hung in front, printed in large letters, so that everyone could read it. After we had sung the hymn, the man in conduct made a speech about our Heavenly Father. Then anyone who liked could go up in front and recite any poetry they liked. We sang a few more hymns, and then went home. Very often they had a concert. I went every week regularly till my ticket was full of holes. Then they gave another ticket and repeated the same

process. One night a magician played with cards and eggs. He cackled like a hen and made them come out of his mouth. When you have been a member long enough to get two tickets full of holes, they take you to a treat. That is to say, each one receives a badge, so they will know you are a member. We all had to wear our badges and gather together on a certain day. Then we all marched along the road with a banner in front to the station. They had a special train for us. Any of the children's parents can go if they like to pay, but the members don't have to pay. One place I went to was Green Hill. I had some money to spend, but only bought a few candies and an ornament. Then they gave us tea, bread and butter and cake, after which we came home. Another place I went to was Herne Bay. My mother and a school-mate of mine went with me. We went out in a boat for a row, and the water came in the bottom of the boat. We arrived safe on shore, but felt a bit sea-sick. Then we paddled in the water and enjoyed ourselves very much. Don't you think it a good idea cousin? At Christmas time it was fine. When we went in each member had to sign their name to a text. There was a man dressed up as Santa Claus playing a piano. After it was over, Santa Claus called out each member in turn and gave them the text with their name on it along with an orange and a bag of sweets. When I walked to the Old Crook Log, which is a place selected for freaks of Nature, I saw a cat with three legs and a dog with six legs. I will close now. Wishing your club every success, I remain, your sincere cousin,—Wood Violet.

Girls' Prize Letter that was Not Published.

Jonesville, Sask.  
 Dear Cousin Doris,—This is my first letter to the Girls' Cozy Corner, and I hope to see my letter in print. Papa takes the Canadian Thresherman and Farmer for I do not know how long. I like to read the boys and girls' letters. We live on two sections of land 70 miles from a town named Moose Jaw. I am ten years old and will be 11 years on the 14th of May. And am in the third grade. We have got no school out here, but I guess we will pretty soon get one. I have three brothers and four sisters; and I have one sister that is dead, too. And one of my brothers is only nine weeks and four days old. And we call him Robert. My other two we call Norman and Henry. All my sisters' names are Anna and Alice and Mabel. We have four horses and their names are Frank, Kate, Alex, and Ted. We have five cows and six calves, and five pigs; and a lot of chickens and turkeys and ducks. The cows' names are Beaty, Crown, Molly, Red and Betty. The calves names are Daisy, Queen, Lilly, Jenny, Rose and Billy. We call one of our big pigs Grunt, and the other four have got no names. For pets we have two cats and one dog; two rabbits and one great big hen. The cats names are Kitty and Tupens, and the dog's name is Coaly, and the rabbits' names are Ted and Jack. We call the old hen for Old Mother. I suppose you folks have a dandy time sleigh riding. I like to go skei riding. We have got a big hill about a half a mile away,

and in the winter we have a dandy time riding down there. Do you girls cook your much and sew? I cannot cook, but I do all the sewing for three dolls. I have made about two dozen aprons for myself and my sister, and I can knit stockings and mittens. I have made quite a few rugs. Have you, girls, tried to hair dress much? I like that more than anything else. I can do up hair 16 kinds of ways, and often do my big sister's hair when she is going away any place. My brother has got a violin and can play a few songs on it. Papa was talking about buying a piano, but I do not know if he will buy one. I wish he would because I like to play on it. Do you girls like drawing? I like it and like reading, too. I hope that I will win the prize book this time. I am going to send for that doll that is in your paper. There is a boy out here that will sell the cards for me or else I would not have bothered. But I think it is quite an oer, don't you think so? I know that I sent for a doll in the paper called the Happy Hours for a two cent stamp. I got the doll, but it was so small that you could lose it any time. I put it in a box right away and got a lot of clothes with it and toys for it. I have it yet. I might send for the little sewing machine that is in the children's page. I sent for a post card book and paid fifty cents for it. It is a fine one for the money. I sent for some ribbons and a cushion toy, and a lot of other things. I am going to send for some toys to make the new doll a little house. Perhaps my brother will write a letter to the Boys' Camp this month. I hope that the girls will beat the boys this month, because the boys won last time. Well, I think my letter is getting pretty long, so I will close. Wishing the club every success, —Esther.

The Canadian Boys' Camp

FRIENDS.

By J. W. Foley.

He's not afraid, no matter where  
 We go, because I'm big and strong;  
 He looks up and he sees me there,  
 And takes my hand and goes along.  
 And if it's dark, and he can see  
 Big black things where the shadows fall.  
 He's not afraid when he's with me—  
 'Cause I'm his friend—that's all.  
 When he goes berrying with me  
 He takes his pail and goes so far,  
 To get some big ones, he can't see  
 If I am there, the bushes are  
 So thick and leafy where he went,  
 But pretty soon he hears me call,  
 And knows I'm there, and he's content—  
 'Cause I'm his friend—that's all!  
 He seems to think that I can do  
 Most every kind of thing there is,  
 And he knows I will help him through,  
 Because I am a friend of his.  
 And he'll look up at me and say,  
 "My, but you're awful big and tall!  
 I hope I'll be like you some day!"  
 'Cause I'm his friend—that's all!  
 And when he sees me anywhere,  
 That's where he always wants to be;  
 And if he has a thing to share,  
 He saves the biggest part for me.  
 He likes to go on trips with me,  
 And does not seem to feel so small.  
 He gets more courage, don't you see,  
 'Cause I'm his friend—that's all!

BOYS' PRIZE LETTER.

Ohaton, Alta., May 25th, 1912  
 Dear Cousin Doris:—I see that the girls are ahead this month and the boys have all died out. That will not do boys, even if we are busy in the field. I live in the country near a lake called Dried Meat Lake. There are lots of old buffalo heads and bear dens along the lake. Near our place there is a creek which flows into the lake. Last summer it was about eight or ten feet

**Children's Dresses**

STYLISH  
 Little suits and dresses can be made for the children out of father's or mother's, or the older children's discarded garments by Dyeing them with

**DYOLA**  
 ONE FOR ALL KINDS

and then making them over.

Send for Sample Card and Story Booklet. 24  
 The Johnson-Richardson Co., Limited, Montreal, Can.

deep and deep. I found in men drove the boat went. O so he could boat again the boat the other was only shore.  
 I like it. My acres of have about fifteen hling in the school to see t yours tr  
 Dear C camp las that I t what is t yet and  
 I woul of you t club. I t Stacey a had the the phon  
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 Here is nights it time it l little sno The snow We had first exan had 30 j spelling a was on h And in re We hav spelli The pa lot of gr The sn would fr I would remain,

deep and now it is not more than a foot deep. There were two skulls of persons found in the bush near the lake. Two men drowned last summer in the lake. Two men were out fishing in a boat and the boat suddenly upset and in they went. One had big rubber boots on and so he could not swim but they got in the boat again and rowed to land to empty the boat and when he came back again the other man had drowned although he was only about eighty feet from the shore.

I like the country just as good as the city. My father has about five hundred acres of land under cultivation. We have about 35 head of horses and about fifteen head of cattle, I like to go bathing in the lake when it is warm. I go to school three miles and a half. Hoping to see this letter in print, I remain, yours truly, Roy Peterson.

Hepburn, Sask., Mar. 24th, 1912.

Dear Campers:—I got shelter in your camp last night and felt so comfortable that I will join again and help to do what is to be done. I am going to school yet and like it better than I used to.

I would like to correspond with some of you scouts who are writing to the club. I am 12 years of age. William G. Stacey asked how many of the scouts had the phone in their home. We have the phone which we find very handy.

I believe I will have to stay home from school some time for I have to help in cleaning the grain. We have quite a lot of wheat to be cleaned and oats also. After that I think I will start again. I am in the fifth grade.

As soon as the snow is gone I will have to walk again. It is not far to the school; it is only about a mile. So this is just a good walk for us. In the last examination which was about geography I got 85 per cent.

I will tell you something about our hay time. We got everything ready on the day before we are going to begin, which is usually about the 24th of July. The next day we get up early and get everything ready, feed the horses and when they have eaten enough we hitch them to the rack and rake, the mower and the bull rake with which we haul the hay to the stack. I usually do the raking but sometimes my brothers do it. There are five of us who help in doing this. We make from one to two stocks per day. I and my small brother did most of the stacking this year. We made 100 loads of hay last summer. This year we will have to make some more for we have more stock. I hope this letter will take a leap over the waste basket and be in print. I wish you all a happy time and I will try and have the same. I am still your member, Jno. P. Friesen.

Hepburn, Sask.

Dear Cousin Doris:—I was glad to see my letter in print, and would like to write again.

Our folks went to church. I was not in church. I was to go to school tomorrow if Ruth is all right.

I think John and David will start. He has not been in school for two months.

We have got a telephone and Doney too has the telephone.

I have three sisters and five brothers. Was sick for two weeks. My little sister was very sick. We had twice the doctor. There is a lot of sickness passing around.

Now I will tell you what we play: Baseball, cricket, tag and hide-and-go-seek.

Here is not very cold now only in the nights it is a little cold. But in day time it is warm. Up here is only a little snow. It was very warm today. The snow was about two feet deep.

We had examination on Friday. The first examination was geography, and I had 80 per cent. The next was on spelling and I had 79 per cent. The next was on history, and I had 43 per cent. And in reading I had 34 per cent.

We have arithmetic, composition, reading spelling and some geography.

The pasture is quite big. There is a lot of grass in it.

The snow went fast away like you would freeze to death.

I would like to see my letter in print. I remain, your friend, Jacob P. Friesen.

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CLASS "A"—Prizes to be awarded to the four farmers in each province who use most "Canada" Cement on their farms in 1912.

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CLASS "C"—Prizes to be awarded to the four farmers in each province who send the best description, telling how any piece of concrete work was done with "Canada" Cement. (Entries for this prize must be accompanied by photographs of the work.)

In addition to thus being divided into classes, so as to give small users of cement an equal chance with those who use more, the Contest is also divided into nine divisions, one for each province. So you see you need only to compete with the other farmers of your own province, and not with those all over Canada.

Don't think that because you have never used cement, you cannot win a prize. Many of last year's prize winners had never used cement before they entered the Contest. We will send you a free book, "What the Farmer Can Do With Concrete," that will not only help you in the Contest, but will tell you everything you could want to know about the use of cement on the farm.

Don't delay, but send us your name and address to-day and get this free book and full particulars of the Prize Contest right away. Use a letter, postal or coupon.



Send me particulars of your 1912 Prize Contest.

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## Womans' Department

Conducted by **PEARL RICHMOND HAMILTON**

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



### Mother's Corner

#### THROUGH AMY'S EYES. Cora A. Matson Dolson.

The sunset stole across the land,  
And brook, and bridge, and meadow  
spanned,  
Making each farmhouse window bright  
In glowing squares of radiant light.

When little Amy, five years old,  
Her ringlets shimmering in the gold,  
Pointed one wee hand towards the  
West,  
Toward the far hills' glowing crest.—

"Before God shuts them, see, oh, see!  
The open gates of heaven," said she.

#### SIDE BY SIDE. By Eugene C. Dolson.

There is need that brothers and sisters  
In heart stand side by side,  
Whether at home together,  
Or sundered far and wide.

Each for the others' welfare  
Through life should ever seek—  
In the world there are many pitfalls;  
The strong must aid the weak.

And well for the children's guidance  
If wisest their parents teach  
In earliest years the lesson  
Of loyalty each to each.

"The woman who enjoys not her  
home, but lives in an imaginary future,  
is generally a spur and a whip to her  
husband and family, rather than a  
healthful influence. It is better to  
count up our blessings and find joy in  
simple things."

Don't say that motherhood prevents  
brain work. On the contrary. We have  
seen mothers learn Latin and Greek in  
the evenings from their hard-working  
husbands, to, in turn, teach their boys,  
whom they were too poor to send to  
school, till they were ripe for the uni-  
versity.

Brain power is very great in woman-  
kind. Never a man but had a mother,  
remember, and there are mothers who  
have only highly gifted children in  
every possible direction.

Sunshine is acknowledged to be an  
essential to prosperous growth. A  
mother's smile is the sunshine of a  
home. Without it, the growth of hap-  
piness, and even of goodness, will be  
stunted indeed. "Her smile was  
prodigal of summery shine." The words  
are vividly descriptive of what the  
mother's smile ought to be—prodigal of  
the summer's sunshine—full of what  
produces light, warmth and loving  
kindness.

Notice.—The article on Helps for Ex-  
pectant Mothers will be sent free to  
any wife who writes to this department  
requesting it. Scores of wives have asked  
for it since it has been put in book-  
let form. P. R. H.

The following letter is from one of  
our readers. As she is the mother of  
a beautiful pair of twins, I publish her  
letter, as I am sure it will help other  
mothers. I wish we might have more  
letters from mothers, for our young  
wives need these letters of experience.

Young wives write me letters, urging  
me to give them helps on the care of  
children. If other mothers could read  
these letters I am sure they would  
gladly help these young mothers by  
giving some of their experience. Though  
I am a mother, I have not had the ex-  
perience that covers all cases.

P. R. H.  
Dear Mrs. Hamilton,—I always turn  
to the Mothers' Corner when the Cana-  
dian Thresherman and Farmer comes,  
and I receive great benefit from it. I  
notice in this month's issue an article  
on Milk and Babies. I notice it says  
the greatest good a mother can do to  
her baby is to breast feed it; but that  
is not always possible. For instance,  
with my twins I could not feed one  
from the breast, as the milk went  
away completely after the first month,  
but you could not find two healthier  
babies around. They each weigh over  
24 pounds and are only ten months old.  
I have fed them on the bottle, but it  
has been quite an experience to me. I  
would not be afraid to bring up fifty  
babies on the bottle. I found the chief  
thing with the bottles is to keep them  
sweet and clean. I had four bottles. I  
kept two in water with a little borax  
in all the time and the nipples in the  
same way. I also found that by put-  
ting a very small mite of baking soda  
in the milk it kept the babies from be-  
ing sick. I would advise any one who  
has a bottle baby never to give the  
bottle the second time without washing.  
Another little thing I found, that castor  
oil is the best and safest medicine to  
give them. Of course, it may not suit  
all children, but I scarcely have to give  
them any now. But at first I had quite  
a bit of trouble.

Wishing the Mothers' Corner every  
success, I am your faithfully,

A Mother.

If any mother would like to know  
more about the way this mother fed  
her babies—the kind of food used—  
write to me and I will forward the  
letter to her. I agree with what she  
says about castor oil. I used it success-  
fully with my little one. P. R. H.

Band for Whooping Cough.—As chil-  
dren sometimes strain convulsively  
when coughing with an attack of  
whooping cough, a band broad enough  
to cover the abdomen, pinned comfort-  
ably away, will decrease the danger of  
rupture.

There is nothing like Roache's em-  
brocation to break up whooping cough.

### POULTICES.

The four cardinal symptoms of in-  
flammation are heat, pain, redness and  
swelling. The heat is due to the ab-  
normal tissue change, the redness to  
congestion, the swelling to the increas-  
ed amount of blood in the parts and to  
the inflammatory exudate, the pain is  
due to the pressure on the end organs  
of the nerves. Associated with the local  
disturbance there is usually an increas-  
ed body temperature.

The treatment of inflammation in the  
early stages, is to apply heat or cold  
which may cause the inflammation to  
subside, otherwise abscess formation  
may follow. In the latter case, an open-  
ing must be made to allow free drain-  
age of the pus, otherwise it will take  
the line of least resistance and may find  
its way into a blood vessel or some  
body cavity and produce serious conse-  
quences.

A counter irritant is any agent which,  
applied over an inflamed surface, will

relieve the congestion by bringing the  
blood to the surface and, therefore,  
away from the affected parts.

Poultices and hot fomentations, ap-  
plied, soften and relax the skin and tis-  
sues, dilate the blood vessels and  
quicken the circulation so that pure  
blood may flow through and relieve the  
tight, painful feeling and also carry  
away the products of inflammation.

If ice is applied at first it contracts  
the blood vessels and may prevent con-  
gestion of blood in the parts. Ice is  
valuable only in the early stages of an  
inflammation. If pus has commenced  
to form, heat should be applied so as to  
"bring it to a head," in other words, to  
bring it to the surface.

The most common form of counter ir-  
ritants used by the home people is the  
poultice.

Perhaps the most generally used poultice  
is the flaxseed poultice. This is  
made of flaxseed meal. The meal is  
first mixed with a little cold water and  
then stirred into boiling water until it  
is the consistency of mush, after which  
it should be removed from the fire and  
beaten to remove the lumps. A layer  
about an inch and a half thick is then  
spread evenly on a muslin cloth. This  
is covered with another muslin cloth,  
and the two sewed together firmly. The  
poultice must be replaced by a fresh  
one before it has become cold. A cold  
poultice is very annoying to a patient,  
besides being productive of much harm.

A charcoal poultice is sometimes used  
where there is a disagreeable odor to  
the affected parts, as the charcoal ab-  
sorbs the odors. This poultice is made  
by mixing one part of powdered char-  
coal with two parts of flaxseed meal  
and proceeding as for an ordinary flax-  
seed poultice.

A jacket poultice is fashioned by cut-  
ting the muslin in the form of a jacket.  
This should be made in two pieces, a  
front and a back, which are applied  
separately and then pinned together  
with safety pins under the arms and  
on the shoulders. These jacket poultices  
are frequently used in pneumonia and  
are filled with various ingredients.

A bran poultice is made by sewing  
the bran up in the muslin, then heat-  
ing the whole in the oven or wringing  
it out of boiling water.

Starch poultices are used to relieve  
irritations of the skin. An ordinary  
boiled starch is made and applied either  
directly or on a thin piece of muslin.

A spice poultice is made by dipping a  
bag of spices in hot alcohol or vinegar.

A yeast poultice is used as a  
stimulant to a slowly healing wound.  
It should be applied hot, and of the  
consistency of bread the first time it is  
mixed.

A slippery elm poultice is made by  
wringing a bag of slippery elm bark  
out of hot water. Hop poultices are  
made in a similar manner. On account  
of their lightness, these are useful in  
cases where the patient cannot bear the  
weight of other poultices.

An onion poultice is made by slicing  
the onions and frying in olive oil or  
lard for fifteen or twenty minutes. An-  
other method is to slice and pound the  
onions and then heat them in the oven.  
Where an even, dry heat is required,  
salt bags are frequently used. The salt  
is sewed up in a muslin bag and then  
heated in the oven. Such a bag will re-  
main hot for several hours.

Bread poultices or plasters are ap-  
plied cold, the bread being soaked in  
milk and applied directly to the surface  
and then covered with a muslin cloth.

Mustard plasters are applied cold. To  
make a mustard plaster, take equal  
parts of flour and ground mustard and  
mix with sufficient cold water to form  
a smooth paste. This is spread thinly  
on a piece of thin muslin and applied  
to the surface. It must be removed as  
soon as the skin becomes reddened or  
it will produce a blister. Another way  
to make a mustard plaster that will not  
blister is to mix two tablespoonfuls of  
mustard and three of flour with the  
white of an egg and enough olive oil to  
form a smooth paste.

For spice plasters all spices but pep-  
per and mustard are used. Take equal  
parts of powdered cinnamon, cloves and  
allspice, mix with sufficient oil or water  
to form a smooth paste. The effect of  
such a plaster is similar to that of the  
mustard, only it is more mild and,  
therefore, more adapted to the tender  
skins of children.

In hospitals, the most common  
method of applying counter-irritation is  
by the use of hot water, either alone or  
in combination with some drug.

Hot fomentations or hot stupes are  
cloths wrung out of hot water and ap-  
plied to the skin. An old flannel cloth  
should be used. White flannel is pre-  
ferable, as the dye from colored flannel  
may be poisonous. The flannel, which  
should be of two or three thicknesses, is  
dipped in boiling water and then  
wrung dry. This is best done by plac-  
ing it in a towel or stupe wringer. The  
latter is made of a piece of strong  
cloth about eighteen inches square,  
with a hem at each end through which  
runs a stick. By placing the wet  
flannel on the stupe wringer and then  
twisting the ends in opposite directions  
the flannel may be wrung dry very  
easily. It should be carried to the bed  
in the wringer so as to retain the heat.  
After being taken from the wringer, it  
is shaken quickly so as to allow the  
confined steam to escape. The fomen-  
tation, after being applied, is covered  
with a rubber cloth and a pad of cotton  
or wool and held in place by a bandage.  
The rubber cloth should be larger than  
the flannel cloth so as to keep the  
patient's clothing dry. If properly ap-  
plied, neither the patient's clothing nor  
the bed should become wet. The fomen-  
tation should be replaced by a hot one  
before it has become cold. The second  
one should be prepared and ready to be  
applied before the first one is removed  
so that there will be no danger of chill-  
ing.

After discontinuing the stupes, a  
warm pad should be applied over the  
parts for a day or two to avoid chilling.

Turpentine stupes are applied by mix-  
ing one part of turpentine to eight of  
olive oil and apply a little of the mix-  
ture to the patient's skin, then apply  
the stupes wrung out of plain water.  
These applications are especially valu-  
able to relieve gas in the intestines.  
They should not be used in inflamma-  
tions of the kidneys, and should any  
blood appear in the urine, they should  
be discontinued immediately.

Mustard fomentations are made by  
adding a tablespoonful of mustard to a  
pint of hot water. The mustard should  
first be mixed with a little cold water,  
otherwise it will form in lumps.

The above is taken from an article  
written by Edith M. Lowry, M.D.

### HOME ECONOMICS. VIRDEN.

The memory of my visit to the Vir-  
den society in May will long remain a  
pleasant memory. Three splendid ele-  
ments—the combination of which will

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CREAMIEST BISCUIT**

**"LET MOONEY DO IT"**

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SODA BISCUITS**

Made in the big sanitary factory in Winnipeg.

The biscuit that's good for every meal of every day. In air tight, dust proof, damp proof packages or sealed tins.



make a success of any society — form the foundation of the Virden organization; they are—harmony, ambition and patriotism. It is no wonder that Virden is such a progressive town because of the splendid spirit existing in this society. I heard only expressions of praise for everyone from everyone. I am sure that this spirit has raised the value of the property in Virden as well as in the surrounding district. The fact that the men in Virden who have prospered remain there instead of moving to larger places speaks well for the community. When a stranger visits a place, if ever, one is patriotic toward his own town, the stranger feels that he is in a progressive and prosperous community, but, on the other hand, if, as soon as he steps in a town, someone tells him that the town is dead, the stranger feels that such a place is a poor community for investment. A patriotic spirit in one's home community raises the value of its property because it promotes an inviting environment. True patriotism begins in the home community; and surely Virden impressed me as a splendid example of a real, genuine patriotic community. When I mention Virden, I mean the town with the surrounding country — the Virden community—for there the town people and those living in the country are one. There is no division.

Mrs. Dayton, the president of the society, deserves great credit for her splendid executive ability. She is ambitious for the society and works hard to make it a success. She has excellent support from the vice-president, Mrs. Hosmer, and from the secretary, Mrs. Bayne.

The society supports a rest room. The rest room really consists of three rooms—a kitchen, a reading room and a dining room. I believe if every society could support a rest room the effort would yield splendid results. The town women as well as the country women enjoy it. A rest room in a town brings trade to the place because people are willing to drive farther if the women can have the comforts of a rest room while in town. It furthermore promotes sociability for both the women in the town and in the country. This society is also doing good work in improving the cemetery.

One other thing that impressed me was the splendid co-operation with the

men. Indeed the women seem to give the men the credit for the splendid results of the society's work. When such as Col. Hosmer, Mr. Simpson, M.P., the Mayor and other influential men lend their support in dollars as well as sympathy, the society is bound to prosper. In Virden women seem to get their rights without the vote. This organization now numbers one hundred and forty-three members. An inspiring patriotic address was delivered at the May programme and we enjoyed two good vocal selections. After the programme Col. Hosmer very kindly gave some of us an automobile ride around town and to his home, the description of which is in another part of this number. Then in the evening we enjoyed a very pleasant hour at the beautiful home of Mr. Simpson, M.P., where Mrs. Simpson and her charming daughters add the important womanly element to an ideal home.

P. R. H.

**MORRIS.**

Another visit that I shall remember with pleasure is the one in June at the organization at Morris. Mrs. MacKenzie, the president, is an educated woman, and is well qualified for her position. She is very energetic and with the support of such women as Mrs. Ohisholm, the former provincial president, Mrs. Lewis, Mrs. Collins, and other capable women, the Morris society is in a very prosperous condition. When one considers the population of the Morris community, the organization has an unusually large membership.

Manitoba is indebted to the Morris organization in two ways. The first Home Economics Society in the province was organized at Morris, and the first president was Mrs. Ohisholm, who lives in Morris. She filled her position with such excellent executive ability that her service naturally brought honor and respect to the society from which she came.

The ladies of the Morris society are very hospitable and I enjoyed every minute with them. They are progressive and their society is a power in their community. The oldest lady in the organization belongs to the Morris society and she never misses a meeting. Her presence is an inspiration to the members.

Their programmes have been interesting and instructive. In May a patriotic

programme was given and all felt that it was a credit to the organization.

A fine spirit of helpfulness and generosity exists among the members and the great heart of charity reaches out to aid those in less fortunate communities. After the meetings refreshments are served and the visitor feels that true homemakers live in the community of Morris.

**MIAMI.**

**Every Flag Must be Lowered in Tribute to Ours.**

The May meeting of the Miami Home Economics Society was held in the Presbyterian Church on the 17th May, at four o'clock. In accordance with the resolution passed at the convention in February, the subject was "Patriotism."

The ministers were asked to be present and the school children, also the local band. The children sang "Britannia" and "O Canada" very heartily, and were well applauded. The band rendered suitable patriotic selections.

Mr. Beattie, the Presbyterian minister, spoke enthusiastically of our great Empire of Britain; how every flag must be lowered in tribute to ours; and the enlargement of our province, making it large and above the stigma of the "postage stamp."

Mr. Leach, the Methodist minister, in his address, said that he was glad to see the ladies studying economy, and especially glad when it came time for them to be buying new hats. He also spoke of the greatness of our Empire, and of our Canada which contains one-third of the area of the Empire. He reminded us that the best way to be a good citizen of the Empire was to be a good citizen of our home town—Miami.

The addresses and music were greatly enjoyed. It was decided to hold a picnic in June. As usual another member was enrolled at this meeting. Yours sincerely,  
(Miss) Lily N. Bowman, Secy.-Treas., Miami.

**WOMAN'S KINGDOM.**

The Hamiota branch of the Home Economics held a meeting in the Council Chamber on the afternoon of May 7th. Although the weather was very inclement there was a full attendance. After the opening exercises, the roll was called, each member being asked to give in response to her name a hint on

house-cleaning. After the local business had been disposed of a very interesting paper was read on Woman's Kingdom in Church, Home and Society. In this it was claimed that through these channels her power is so great that the franchise is scarcely needed by her to strengthen it. Following this another paper was read on the very unusual subject, "The Worth of Worry." In this it was said that worry instead of being the vice usually considered might be a misused virtue. Much trouble might be saved by us doing more worrying, if, by so doing, we sought to remove the source of the worry.

A new and pleasing feature in the programme then followed by a number of little school-girls singing a patriotic song.

This was followed by a talk on Current Events, and afterwards by a talk and discussion on Children's Literature. The meeting then adjourned after the singing of the National Anthem.

E. S.

**Splendid Co-Operation in a Successful Patriotic Programme.**

The Emerson Home Economics Society is in the second year of its existence and the meetings are increasing in interest and attendance. We have a mem-

**WELL, WELL!**

THIS is a HOME DYE that ANYONE can use

I dyed ALL these DIFFERENT KINDS of Goods with the SAME Dye.

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ONE DYE—ALL KINDS OF GOODS

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bership of over fifty and there is hardly a meeting at which two or more do not join. The executive prepare the programmes for several months and some subject appropriate to the season is considered at each gathering. In March we had house cleaning; in April gardening (vegetables and flowers); and in May Empire Day celebrations. The school joined the Home Economics Society in this and an especially enjoyable time was spent. The gathering was held in the Town Hall and was well attended; several adjoining schools had secured a half holiday and united in making the event successful. The school children gathered at the school, and headed by the Town Band, marched to the hall. A varied educative and inspiring programme was given. There were patriotic choruses, splendid addresses on the British Navy, the British Empire, Canada, and Our Flag by the four resident ministers; three good solos, a recitation by Miss McRae (Mrs. Colin Campbell had it sent to the Home Economics Society), and a flag drill by 16 girls. The drill was probably the most appreciated of anything on the programme. The girls had been well trained by their teacher, Miss Cuthbert, and the exercise was thoroughly enjoyed by those present.

The celebration was a pronounced success, and all dispersed from the flag-decked hall feeling our object had been accomplished.

Our society is offering two prizes—1st and 2nd—for the best kept lawn (front and back yard to be considered). Last year we offered similar prizes for the best pansy bed. We also intend offering some special prizes at our regular summer fair to Home Economics members and have other plans ahead, of which more anon.

E. E. Root, Secy.

**MANITOU.**

A Birthday Book was Presented to the President, Mrs. Brown, as a Token of Good Wishes.

The regular monthly meeting of the Manitou Home Economics Society was

held on Saturday, May 18. The president, Mrs. Brown, was in the chair. The meeting was an open one and there was an extra large attendance. The minutes of the last meeting were read and adopted. They have collected \$4.75 during the year for bulbs. The manager of the Blue Bird also donated \$5 to the Society. Mrs. R. W. McLung, of Winnipeg is expected as a guest of the society about the middle of June. They have appointed a committee to look after the management of a social afternoon to be held in the Town Hall in honor of Mrs. McLung. She will be asked by the women of Manitoba to hold a public meeting and speak on "Votes for Women."

Next came the well prepared programme: Instrumental, Miss F. McCharles; reading, Miss Owens; instrumental, Miss Mable Govier; vocal duet, Mildred and Nellie Cram; paper, "The Government of Canada," Miss Gayton; instrumental, Miss E. Tait; vocal duet, Merle and John Hamilton; address, "Patriotism," Mrs. Swinton; instrumental, Miss R. Dales; chorus, Dominion Hymn, four girls. Just before the close of the meeting the vice-president read an address to the president, and a birthday book was presented as a small token of good wishes. Meeting closed with the National Anthem.

Mrs. T. A. Pybus, Correspondent, Manitou, Man.

**MINNESOTA.**

**Roll Call Answered by Patriotic Sentiments.**

The Minnedosa Home Economics Society's Empire Day programme was entirely patriotic. There was a good attendance and after all had partaken of the dainty tea that was served the meeting was opened by the singing of The Maple Leaf. The regular business was soon done with and then the patriotic programme started. The roll call of members was answered by some very good patriotic sentiments. Mrs. Cooper's definition of loyalty was particularly worthy of note, as was also Mrs. Boyd's reading, "What Empire Day Should Mean to Us." One member ex-

pressed her loyalty well in the song, The Flag.

The roll call ended, there was a gramophone selection, followed by a splendid address from Major Dyer, "The Practical Side of Loyalty." Major Dyer started by saying that he thought it was scarcely necessary to speak to women of loyalty, for it is well known that most of the patriotic movements are and have been from the earliest days started and kept alight by the efforts of women. After quoting "the hand that rocks the cradle rules the world," he went on to state that the women had it in their hands as to whether this country should be a great and noble part of our Empire, or an ignoble, corrupt kingdom soon tottering to decay. The future citizens and rulers of Canada are the present children and what they will be depends largely on the mothers, for they have to a great extent the moulding of their characters and should train them to be honorable, true and loyal citizens and Empire builders. No person need think themselves too insignificant or their power of influence too small. Every-one can do something to help their country.

Another gramophone selection was followed by an excellent address from the Rev. G. A. Wells, "Loyalty from an Ethical Standpoint." After defining ethical and loyalty, he explained loyalty should start in the family life, from this spreading out to the different relationships, it would soon embrace the country and after that loyalty to the Empire would naturally follow. Loyalty requires us to be faithful to our country, our faith, our king and our friends. This is merely a short synopsis of the inspiring addresses given. The meeting closed with the hearty singing of "God Save the King."

E. M. Ewens, Sec.-Treas.

**SWAN LAKE.**

**Will Improve the Cemetery.**

The regular meeting of the Swan Lake Home Economics was held on Saturday afternoon, May 26th. The good attendance and good programme

made the meeting a most successful one. The latter consisted of a paper on "Salads" by Miss Couch and Empire Day exercises by the school children.

The meeting was opened and conducted by the president, Mrs. Gordon, in her usual able manner. Miss Couch's address was evidently the result of thought and study. The subject was first dealt with in a general manner—the ingredients, parts, characteristics and preparations of salads being given.

Next Miss Couch gave receipts for different salad dressings and salads. Tomato, cheese, Waldorf salads were amongst those mentioned. A definition of cooking from Ruskin who said it meant the combined knowledge of all herbs, arts and science concluded this most interesting paper.

Patriotic recitations were then very ably delivered by the Misses Cassie McPherson, Wilwa Couch, Mary Vermerre and Master Jimmie Fox. Miss Eva Simpson read an admirable essay on "Patriotism."

The work before the Society at present is the improvement of the cemetery. Various plans were discussed as to the best method of doing this and a committee of four ladies—Mesdames Hartwell, Downey, Couch and Parks were appointed to look into the matter.

According to programme the next meeting should have taken the form of a picnic at Mrs. Armstrong's, but as that lady will be absent in June, she announced her inability to entertain the members then. Much regret was expressed on all sides at this intimation and it was suggested that Dr. Rice be asked to address the next meeting.

Messages of sympathy have been sent to the Misses Docking and Mrs. C. K. Wilson and a vote of thanks was passed to Miss Borthwick and the children for their assistance. Lunch was then served which, as usual, proved a very enjoyable feature of the programme, and the meeting closed with the singing of the National Anthem.

Our readers would be pleased to have the recipes mentioned for publication in this department.

**EXHIBITION VISITORS!**

We would like to have every visitor to the city call and see our exhibit of Pianos and Player Pianos, by far the most worthy and most beautiful instruments ever brought into Western Canada. These new instruments will be shown in the Main Building, next stand to Eaton's, and will be well worth going miles to see.

As is customary with us, we give Special Discounts during Exhibition Week. High-Grade Standard Pianos at \$285, \$300, \$350, \$400, \$450, etc., on Easy Terms, three years to pay if desired.

**Your Chance for a Slightly Used Piano**

If you ever thought of buying a slightly used Piano here is your chance. Read the detailed description of these Pianos and Player Pianos we give below; take particular notice of the prices and terms of sale.

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- GERHARD HEINTZMAN.—7 1-3 Octave Upright Piano, by Gerhard Heintzman Co., Toronto, in dark mahogany case, with plain polished panels, full length music desk, ivory and ebony keys. A piano which has been received in exchange for a player piano, and has had very little use and is in good order. Sale price. **\$263**
- SHERLOCK.—7 1-3 Octave Upright Piano, Louis style, with plain polished panels. This piano has been received in exchange for a Gourlay Angelus; is a splendid toned piano and is in perfect order. Sale price. **\$275**
- GOURLAY.—7 1-3 Octave Cabinet Grand Upright Piano in rich figured mahogany case, simple and attractive in design, with plain panels, Boston fall board, three pedals, etc. The piano has had very little use, and is just like new. Sale price. **\$305**
- BOUDOIR PLAYER.—Mahogany case, in use a short time only. Regular price \$600. Sale price. **\$385**
- AUTO PIANO PLAYER.—This is a sample instrument and a splendid Player. Fine Spanish mahogany case. Regular price \$850. Sale price. **\$485**
- GOURLAY ANGELUS PLAYER.—Grand Piano Scale, could be sold for new. Exceptionally fine player, including stool and music. Regular price \$950. Sale price. **\$650**
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### PRIZE ESSAYS.

Last winter the Canadian Thresherman and Farmer offered prizes to the girls in the Domestic Science department of the Manitoba Agricultural College. The prize essays will be published in this department during the next three months. We publish this month two first prize essays. Next month the first prize essay on "A Well Balanced Meal," by Madeline C. Nicholson, will be published and also the second prize essay on the same subject.

Edith Bolingbroke won second prize on the subject The Daily Care of an Invalid. Her essay will also be published. Manitoba is indebted to Principal Black and his staff for the excellent instruction they are giving the girls. People are beginning to realize that a girl's preparation for life should include training in home-making.

It is a good sign and I hope parents all over Manitoba will inquire into this course for if they do I am convinced that hundreds of girls will be given the opportunity of the course. The cost is very little compared with the results. Our people do not realize what this course means. I have visited the exhibitions at the close of the five months' term, and when I told a mother that in that time a girl learns to make her own dresses, underclothing and hats; learns to cook and launder as well; and added to all this she receives practical instruction on food values, nursing and other places of home-making, my word is doubted. It seems impossible but it is a fact. If parents would be convinced they can do proof by sending the daughter to take the course.

Parents cannot inflict greater punishment upon a daughter than to allow her to enter womanhood without a practical knowledge of the requirements of home-making. No study is of greater importance to a girl. Money and love combined does not form a safe guard where there is domestic incapacity. Let us educate our daughters to be true womanly women. A woman is most satisfactory to herself and those dear to her when she is a graceful home-maker, keeping her pathway through life bright and good.

### FIRST PRIZE

#### The Daily Care of an Invalid.

By

Rosa C. Christopherson.

Before commencing to write, I will try to make clear the different points of my subject, in order to arrange it properly.

First, the noun "invalid," means one that is disabled or sick.

Second, nursing, the act of one taking care of sick.

Third, daily care.

An invalid may mean a person sick in bed, or one that is able to move about, but in each case he needs nursing.

Florence Nightingale said: "Nursing is an art; I almost said the finest of the fine arts."

George Eliot's idea about nursing is expressed thus: "A motive that gives a sublime rhythm to a woman's life. She must often tread, where it is hard to tread, and feel the chill air, and watch through darkness. It is not true that love makes all things easy; it makes us choose what is difficult."

The duty of the nurse towards her invalid is one that not only calls forth her physical strength; but also craves her sympathy and love. A nurse must love her work; must always be willing to carry the burden of her patient, self-sacrificing and patient.

#### The Daily Care.

The principle things to remember in the daily care of an invalid may be classified under the following headings:

1st.—Cleanliness and bath.

2nd.—Diet.

3rd.—Ventilation.

4th.—Prevention of bed sores.

#### Cleanliness and Bath

The old saying, "Cleanliness is next to Godliness," has, I doubt, never found more reality than in the sphere of nursing, where it stands as an angel of guard beside the patient's bed, fighting battle after battle, winning glorious victories, one after another, against our most dreadful, unseen enemies, germs—bacteria.

"Cleanliness" and "duty" should be the watchwords, in our daily care of an

invalid. As a nurse I would always remember cleanliness, not only in personal appearance, but in all my daily care and nursing.

Once and twice, every day I will dust my patient's room, having the duster wet to prevent dust rising. Every morning the floor is also to be washed using carbolic acid in the water. The furniture, too, should be treated in the same way. Every morning when the patient's bed is made, clean sheets and pillow covers should be put on it.

#### The Bath

Whether the patient is confined to the bed or not, the daily bath should never be omitted. A tepid bath is generally preferable—temperature being from 70 to 90 degrees F. Before giving the bath everything needed during the operations should be at hand, such articles as:—

#### Face and Turkish Towels.

One good sized pitcher of hot water.  
One good sized pitcher of cold water.  
One bath basin.

One soap-jar.

Two single blankets.

Soap, alcohol, borax.

The face and Turkish towels should be warmed before using by hanging before a fire.

The alcohol bath is very refreshing. The face, neck and arms being first bathed, then chest and abdomen, next feet and thighs. The entire bath can be given under cover, or at any rate not more than one part need be exposed at one time. The whole procedure should not last more than fifteen or twenty minutes.

The water should be kept pleasantly warm by using changes twice or thrice during the course of the bath.

If my invalid feels exhausted after it, a glass of milk or some light food may be given. For most cases a rubbing after the bath is very preferable either with hands or good towel.

#### Diet

The importance of diet and its relation to means of system whether in health or sickness can hardly be over-estimated.

We may group food as follows:—

- (a) Albuminoids or protein.
- (b) Fat.
- (c) Carbohydrates.
- (d) Inorganic constituents.
- (e) Water.

But of these five classes of foods I will make my list of diet for the invalid, which again may be classified as:

First.—House diet: Soups, meats, fishes, eggs, cereals, vegetables, fruit, deserts.

Second.—Soft salad: Creams, sweet-breads, toast.

Third.—Soft diet: Soft cooked eggs, milk, toast, junket, boiled custards, jellies.

Fourth.—Liquid diet: Broths, beef extracts, beef teas, milk, gruels, egg nogs, coffee nogs, cream soups, lemon juice, brandy and milk.

Fifth.—Special diet: According to doctor's order.

I have given a list of foods selected for every day. The food I must cook as well and handle in every respect as carefully as possible, bearing in mind that the patient's strength is to be kept up, so that he may utilize food to the greatest extent possible to repair or prevent tissue waste.

Milk I give to my patient as it is considered the perfect food, containing albumen, sugar and water, besides salts of lime and potash.

The invalid should not be asked which food he desires, but he brought quite unexpectedly a small amount of various foods at a time, making the tray as tempting as possible by using the best china, and gradually changing each day both food and the china. Speaking cheerfully and wearing a happy countenance often has a great deal to do with a patient's appetite.

A clean glass pitcher and glass containing ice water should stand on the patient's table beside his head, also an invalid cup.

Flowers, fresh, beautiful and blooming should always stand in his room. Not only do they illuminate my invalid's room, making the air, at day more healthy by giving out oxygen and taking in carbonic acid, but they bring the invalid's mind up to a higher level by resembling innocence, beauty, pur-

ity, pointing as if to say: "Nearer My God to Thee."

**Ventilation**

Good ventilation is much more important than is popularly understood. As the old idea of danger of fresh air, especially in sick rooms, is still holding good in some places, it is losing ground before the light of education.

I would see that my patient gets enough fresh air night and day, in such way though as to prevent draft from passing over his bed. The importance of fresh air is no more necessary than a clean diet is. It is well, to bear in mind that an adult needs three cubic feet of fresh air every hour or about two cubic feet per second. As we cannot live without food so we cannot live without oxygen.

The best way of ventilation is to have the air enter from the top of the window instead of from the bottom. It gets slightly warmed by its circulation coming down. But the patient's head should always be placed in such a way that draft does not reach it.

**Bed sores.**

Causes:—Too much pressure on the same spot which lessens the circulation. Lack of cleanliness, or improper care, a wrinkle in the under sheet or anything which causes unsmoothness, such as bread crumbs, will cause it.

To prevent it great care in cleanliness, bathing twice a day, alcohol bath. Vaseline may be rubbed in or olive oil. Prevent too much pressure if possible on the same spot. Keep the under sheet as smooth as possible and prevent all wrinkles. A pillow and rubber rings especially made for that purpose will do a great deal to prevent bed sores.

**RECIPES.**

**Spiced Currants.**

Wash and trim the fruit from stems and leaves. For six pounds of trimmed currants take four and one-half pounds of granulated sugar, two tablespoonfuls of ground cinnamon, two tablespoonfuls

of ground cloves, one teaspoonful of ground allspice, one-half of a teaspoonful of salt, and one-half of a pint of strong vinegar. Heat the currants in a preserving kettle and add the sugar, vinegar and spices. Boil for one hour and a half, stirring frequently to keep it from burning. Then put it into jelly tumblers that have been standing in hot water. Let it stand for two days. Cover the tops of the glasses with paraffin.

**Currant Jelly**

Wash the currants until they are clean. Put them into the preserving kettle, mash them and boil them until they are thoroughly cooked, (about thirty minutes). Spread a piece of cheesecloth over a puresieve, dip up the hot currants and place in the sieve—and then press out as much juice as possible. Pour the strained currant juice into a jelly bag and let the mixture drip. Then measure the juice, allowing a pint of granulated sugar for each pint of juice.

Put the juice into a preserving kettle and let it boil for twenty minutes, skimming frequently. Add the sugar, but be sure to stir while pouring it in. Boil this for two minutes and skim it. Pour the mixture into the jelly tumblers that have been standing in hot water and let it stand for two days, after which cover with paraffin.

**How to Bottle Fruit.**

The best soft fruits for bottling are gooseberries, cherries, currants, raspberries, apricots, plums, damsons, blackberries, tomatoes, apples and pears. They are bottled in either water or syrup, and after selection of the fruit, the critical processes are capping the bottles and sterilizing. A good method of making the syrup is as follows: To every quart of water allow one cupful of sugar. Bring to the boil, and continue to boil at 212 degrees Fahrenheit for half an hour, taking care to skim when necessary. Pour the syrup into a vessel, and keep till quite cool before pouring over the fruit. Apples and pears must be carefully and evenly peeled before bottling.

**HOME MAKER'S DEPARTMENT.**

Conducted by Edith Charlton Salisbury.

**GOOD HEALTH TALK NO. II.**

Preventing Disease From Spreading By Infection. Simple Home Remedies.

Dear Martha,—That old saying, "An ounce of prevention is worth a pound of cure" is applicable to many things in the household, and especially so when applied to health. It is easier to keep well than it is to regain health after it has once been undermined. I told you last month that I am not an advocate of drugs nor medicines of any kind. While they are sometimes really necessary it is generally wiser and better to let Nature have a chance to do her own work, and adjust herself to conditions. The exceptions to this rule are the occasions when Nature has been abused too long; when her calls have been disobeyed so persistently that some organs, overtaxed beyond endurance have lost the power to work, and so must have artificial help until some degree of normal activity has been regained. At such time medicine is needed, but it should only be taken on the advice of a reliable physician, and then only until the human machine is running smoothly again. When that has been accomplished one would naturally suppose the individual would be careful not to transgress the laws of health again, but no, we go on making the same mistakes, maltreating stomach, liver, kidneys, or some other organ again and again, until we have another attack of illness, and are ready for another "drugging."

I am told there is a certain class of people, lacking sufficient work or outside interests, to keep themselves honestly employed, who are not content unless they are experimenting with this or that cure, but I do not believe the busy farm women of this country belong to that class. Still they are guilty very often of shamefully overworking the different organs of their bodies, and of considering them of very little account.

Of course, accidents occasionally happen, and there will be cuts, bruises,

sprains, and other chances for emergency nursing thrust upon the house mother. There will be attacks of toothache, sore throat, and other common ills, all unnecessary to be sure, but troublesome for all that, to call for "first aids" from the same tireless worker.

To be ready for the unexpected there should be a medicine chest or emergency closet in every home, kept strictly under lock and key, out of reach of the children, and in definite charge of some responsible person. This chest or closet need not be large or elaborate, but it should be dust proof, and be so constructed that there will be a special place for every article in it.

**Simple Remedies to Have Ready.**

The contents of a family medicine chest should include these articles: Sterile cotton and bandages, roll of absorbent cotton, clinic thermometer, small glass syringe, hot water bag (rubber), fountain syringe, small alcohol lamp, pair of tweezers, pair of sharp scissors, one large sharp needle, one small probe.

Four ounce bottle of sal volatil, aromatic spirits of ammonia, boric acid, peroxide of hydrogen, carbolic acid, olive oil, camphor, alcohol, methylated spirits, turpentine, collodion, anti-septic soap.

The first item on the list is especially important, because the occasions are countless when a piece of soft, clean cotton is needed for a bandage or dressing. This should always be sterile, else to apply to an open wound adds greatly to the danger from infection. Old sheets, pillow cases, handkerchiefs, and the less worn portions of old white cotton underwear make excellent bandages and dressings, and should be prepared beforehand for an emergency. They should be washed perfectly clean, boiled and rinsed, then dried and ironed until smooth. The long straight pieces

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## Two Big Shows

One at the Fair Grounds in our stands in the North Building, and the other at our **Palatial New Store, 324 Donald Street.** We want you to consider this a **personal invitation** to make our Exhibits your home while in Winnipeg. Have your mail come in our care, write your letters and meet your friends here. You will be welcome at all times, and our dealer in your section will probably be here to give you the glad hand.

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should be torn in strips one, two and three inches wide, and rolled tightly for bandages. The smaller pieces may be used for dressings. These should all be placed in a clean glass fruit jar, with perfectly fitting cover. Put the jar on the rack in a cold or cool oven, place a small piece of white writing paper beside the jar, then slowly increase the heat of the oven until it is hot enough to brown the paper the color of a well-baked biscuit. This temperature will be sufficient to kill all germs in cotton or jar. Do not remove the cover until a bandage is needed, then unscrew the top and lift the glass cover just enough to take out the roll of cotton with perfectly clean fingers, or, better still, the tweezers. The bandage is free from germs when it is taken from the jar, but it must be carefully handled, should not be laid on dusty clothing or table, and should be applied at once, or it may come in contact with germs which we must try to remember are always in the air, on our hands, clothing and every article of furniture. Some of them may be harmless, others may be the kind which will produce pus in the wound. In another letter I will try to tell you how to apply simple dressings and bandages; this month I want to explain more fully the contents of the medicine chest and the care of the sick room.

### Using a Clinic Thermometer.

A clinic thermometer very often serves as a safeguard against a serious attack of illness. In the first stages of a cold, when the eyes are heavy and cheeks flushed, there is likely to be at least a slight rise in temperature. If you have a thermometer, and know how to use it, to make sure whether there is fever or not, and if there is, to take means to reduce it at once, will prevent very often further trouble.

A thermometer costing from fifty cents to one dollar will answer every purpose. It should always be kept in its case when not in use, or if it is in use several times a day may be kept mercury bulb down, in a glass having a little absorbent cotton in the bottom,

and containing a ten per cent solution of carbolic acid. The thermometer is an extremely delicate instrument, and the cotton serves to protect it from contact with the glass or cup, and the carbolic acid is a germicide.

Never use the thermometer without making sure it has been sterilized, and never put it away after using without dipping it into some disinfectant. To use the thermometer first make sure that the bar of mercury stands below ninety-five degrees, then have the patient place the mercury bulb under his tongue close his lips over the tube, and keep them close for five minutes. By that time the mercury will have risen as high as the heat of the blood will cause it to go, and it can easily be read. Normal adult temperature is from 98.6 to 99 degrees F., and thermometers have lines to indicate degrees and tenths of degrees. If the patient is delirious, or if for any reason the temperature cannot be taken in the mouth, it may be taken under the arm where it will register about one-half degree lower than in the mouth. A child's temperature, or that of any person very ill, is sometimes taken in the rectum, which registers one degree higher than in the mouth.

I wonder if it is necessary to caution you against the clinic thermometer more than once, or in more than one mouth without sterilizing it! I don't suppose you will do that, and yet I am convinced there is no better safeguard, from, at least, seven common diseases than to be extremely careful to avoid infection. Nowhere more than in sickness and health is there a truer interpretation of the familiar saying, "What is one man's meat is another man's poison." One individual may be immune from infection by certain germs, while another may fall prey to the disease at once. For that reason very early in life train your children and everyone in your home to be very chary about those things that are classed as "common property." It is not "finicky" to prefer one's own towel, one's own comb and brush, one's own cup, plate and fork, or anything else

that has to do with one's food, drink, fresh air or person. To be particular about such things simply means that each person not only values his own good health, but also that of his neighbor, for when infection has started who can say where it will end!

### Care of the Sick Room.

1. Remove all carpets, drapery, clothing and furniture not needed  
2. Ventilate well. Keep windows up all the time. Fresh air is very important, bad air of itself makes well persons sick.

3. The room, nurse, and patient must be kept perfectly clean. Cleanliness aids recovery.

4. Admit no visitors without permission of the physician.

5. Keep out flies, mosquitoes, and other insects by screens and all practical methods. Insects worry sick people, thus preventing recovery, and they also carry disease in their bite.

6. Never allow a bad smell to exist. If ventilation, sunshine, and cleanliness do not keep out bad smells, then sprinkle dilute formaldehyde (one part formaldehyde to fifty parts of water) on to the carpet, or spray it into the air with an atomizer.

7. All body or bed clothing, towels, napkins, cloths, bandages, sponges, and also all dishes which have been in the sick room must be disinfected before being taken from the sick room.

### Disinfection of Clothing.

Take a wash boiler or tight box. Lay on the bottom a garment, cover with a piece of wash goods or an old towel, and sprinkle thereon three tablepoonsful of forty per cent formaldehyde solution. Continue to place garments so covered and sprinkled. Put on cover and let remain ten hours, then hang in air and sunshine. If there is still a smell of formaldehyde on clothing sprinkle with a little ammonia water to remove.

8. Discharges from the sick, whether from the mouth, bowels, or bladder should always be received in a vessel containing a disinfectant, and allowed to remain in contact with the disinfectant at least one-half hour before buried.

tant at least one-half hour before buried.

9. Consider that everything that has been brought into the sick room has become infected and carefully disinfect it before carrying out. Also, never leave sick room or eat without first washing hands with carbolic or other antiseptic soap.

### Disinfection by Formaldehyde.

Measure the room, and for each 1,000 cubic feet (a room 10 x 10 x 10 contains 1,000 cubic feet) use one quart of formaldehyde and thirteen ounces of commercial permanganate of potassium, as follows:—Place a large washbowl, crock, tin dishpan or galvanized iron pan or tub in the center of the room. Put in the required amount of permanganate of potassium, and then pour in the required amount of formaldehyde. Permanganate must go in first. Retire immediately, as a gas is promptly released that is injurious if breathed in any quantity. Keep the roof closed tightly for three hours at least, then open, air thoroughly, and clean in the usual way.

10. A standard disinfectant: Dissolve chloride of lime of the best quality in pure water in the proportion of six ounces to the gallon. Keep in a stone jar or jug. Use one quart of this solution for each discharge from a patient suffering with any contagious or infectious disease.—Your Country Sister.

### FOR THE TIRED HOUR.

Mr. Spooner (to her kid brother)—  
May I hope to see your sister pretty soon?

Kid Brother—You'll see her pretty, all right. She's fixin' up to beat the band.

Mrs De Style—Marie, I shall take one of the children to church with me.

The maid—Yes'm.

Mrs. De Style—Which one will go best with my new purple gown?

Owner of Coop—"Who's in there?"  
Rastus—"Ain't nobody in here, 'cepning us chickens."



## A Voice in the Darkness

A Story of real life by Eva Chappel.

In the early darkness of a foggy winter evening in Golden Gate Park, Barney Shannon—tall, broad-shouldered, a star on his coat and two stars in his Irish eyes—dismounted, and tied his horse. Late that afternoon he had seen a boy from the Naval Training Station on Yerba Buena Island sitting still too long and drooping over a letter.

"'Tis a lonely life those lads live," he said aloud, for words were necessary to Barney, and, lacking another listener, he talked to himself. "I'll be askin' him to go over to the house with me for awhile; maybe 'twould hearten him up," and he crossed the wet grass to the remembered bench. It was empty.

For a moment Barney stood perplexed. "I wonder, now!" he said, then, straight as if following a guide, he went to a latticed enclosure. It was built for a refreshment booth, but had long

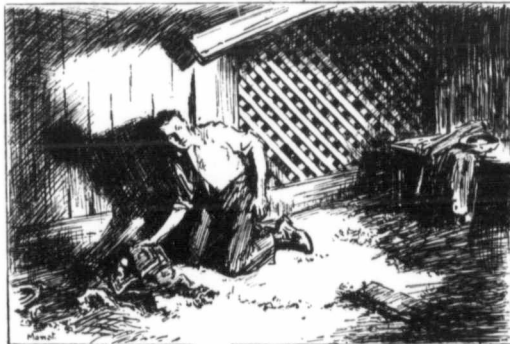
that's the way we're to begin," he said.

A smart scuffle followed. The boy dealt blows with the force of desperation; Shannon warded them off with skill. In the end, the boy was held in Barney's powerful grasp.

"Do you need any more to show you that you're beaten, lad?" he asked. "'Twas a good fight that you put up, and 'tis many that I've won easier. But 'tis a bad way you have of pitchin' into folks that speak to you civil, without inquiren' whether they're friends or foes."

The boy—his name was Belden—struggled until he realized that he could as easily escape from a steel vise. His fists being useless, he must use his head. Perhaps the man was a thief, and could be diverted.

"You startled me with your sudden light, and again, when you put it out before I had a



"Carefully removing the loose earth"

been abandoned, and, overgrown with ivy, was just the spot to tempt one who sought a guilty solitude. A sound, hushed, yet clearly audible, came to Barney, and, standing so that he could look in and still not be seen, he flashed a light. In the second that it flamed, he saw an athletic figure in tweeds on its knees, scooping out handfuls of the moist earth and leaves. A uniform lay on the ground.

"Ach! I thought I heard somethin' movin' in here," said Barney.

The boy sprang erect and toward the door. Trapped as he was, one chance remained. If he could get outside, he could outrun anything on two legs. He dashed forward in the darkness, his arms bent and his fists doubled, landing a hard blow on his unwelcome visitor. The visitor did not go down before it. He answered it in kind, then threw off his coat and helmet.

"I'm ready for you, lad, if

chance to look at you," he said, with a manner of frankness. "One hears a good deal about hold-ups, you know. I am anxious to keep what little money I have, as you'll judge by my making a bed in here. Were you looking for a place to spend the night, too?"

"No. I've got a home, praise be! And I'll be goin' to it by and by. I came to look for you because I didn't know what you might be up to, seein' as you was in trouble."

There was a pause until Belden, fearing words, fearing silence, took refuge in a questioning. "Trouble?"

"'Yis, trouble. You didn't look contented whin I saw you sittin' on the bench out there, nor any of the days that I've seen you about the park."

Belden clenched his teeth. The discovery, then, was no mere chance. The man knew him. It had been a wild folly to come here, where he had spent all his

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shore-leave enjoying the dismal luxury of a brooding solitude, and where his face must be known to many park habitués. At the moment of liberty he had been betrayed by his own stupidity.

"You've spied on me!" he flashed out.

The hand on his arm relaxed. "Spied, you say? Not that. But I have to be lookin' out. And a man with eyes can't help seein', and a man with a heart can't help bein' interested." Barney waited a moment, then continued in a tone of reminiscent sympathy: "Many's the time I've seen you out here—not down-town with the other Jackies lookin' at the movin' picture, or up to some good, hilty divilment, not even so much as noticin' the pretty girls as they passed you. Here you was, sittin' still, like an ould man with the rheumatiz—though I'm thinkin' a man with rheumatiz couldn't find a worse place to sit, it's that wet and cold—but with a look on your face such as no ould man iver had. They're all too long used to havin' the world not quite to their likin', iver to look so glum. But your uniform tells me what's the matter, and I says to myself, 'There's a lad that's homesick, and I'd best be keepin' an eye on him, or he'll be doin' somethin' disperate.'"

His voice rang with a sym-

pathy so genuine that Belden's heart bounded. There was still a peg to hang a hope on!

"Desperate! You don't know! And if you're really sorry for me, the matter is simple enough. It's nothing to you. You've only to go on, and I'll find a way out of my difficulty."

"What's that you say?" Barney's voice was angry, and in the darkness he saw red. Then it came to him that the boy did not know him for an officer of the law, and he spoke in his tone of friendliness.

"You'd like me to go away, lad, but I can't do it. Remember, I know the worst already. I know what you was doin' when I came here. 'Twas not a bed you was makin'. I saw you scoopin' out a hole to bury your sailor clothes in. Whatever you say can't hurt you. Let's put our heads together and talk it over. There's nothin' like talkin', lad—talkin' and cryin', if you're a woman, talkin' and swearin', if you're a man."

He had released the boy but his big frame barring the door destroyed any chance of escape. Belden turned away with an angry exclamation. If the man meant to help him, why didn't he do it without more ado? To stop for words when time pressed for action!

"Talking won't help, and swearing won't help," came over

his shoulder. "The only thing for it is to run."

"You're not in any trouble over at the Island?"

Barney often asked such questions, but he had a code of his own in regard to the answers. Whatever was incriminating that met his eye was told at headquarters. Whatever a prisoner said to him was his own private knowledge, not to be divulged in any stress. "I'm an officer whin I look at you," he had once formulated it—"a friend whin I listen."

Belden walked up and down the enclosure, "like a big cat in a cage, poor lad," as he answered:

"Not in trouble in the way you probably mean. I've broken no regulations and have kept out of the brig, but the whole thing is trouble. Lord! How I hate it! The monotony! The drudgery! The fellows! They're—they're not my kind of people. And the endlessness of it!"

The words came in a torrent. There was a relief in them, after all.

"How did you happen to go in?"

"Because I was a fool!"

"But—"

The boy broke in. "And I may be a worse fool for talking to you, but I can't help it. You know enough to ruin me. If I can make you see it all as it

really is—the life a fellow has to lead for four years—maybe you'll go away and forget that you've seen me. It's the only chance I have."

"The only one." Barney's tone was melancholy. It was no pleasant thing to be standing in the way of a boy's passionate desire.

"I must have been crazy when I enlisted—crazy with the blues, anyway. I hadn't been able to get work, and my money was running low, and—that's the way it happened."

"You had nobody to advise you?"

"No. I've no relatives in San Francisco. None anywhere, except my father, and he didn't know where I was or what I was doing. I came West suddenly because—my father and I—"

He floundered and stopped short. Not even in the darkness, and with his name unknown, could he talk of a family disagreement, or tell of the morning in his father's office when, after a college scrape, angry things had been said, and he had gone out determined to make his own way in the world. But the sentence was completed to Barney, who drew on his knowledge of the generations.

"Your father forgot he'd iver been young, and you forgot

you'd iver be ould, most likely. Go on."

There was a moment of silence while Belden grasped the simplicity of his tragedy—so great a coil about what was, after all, an every-day matter!

"That's probably the whole story," he said, "but neither of us knew it. Maybe dad does now, for—but I'll tell you about that in a minute. I came as far away as my money would bring me. I applied for several jobs, and didn't get them, and one day, when I was lonesome and discouraged, I found myself near a recruiting station, and I went in."

"And now you're for gettin' out?"

"I must get out! I can't stand it! You've no idea what it is. Think of four years of one's life—four years!—spent at that kind of thing! Besides—dad has written and asked me to come home, I was to get his invitation, and and sent me money and clothes."

"He has! He's sint you money, and clothes to run away in?" Barney's question rang with indignation. It was a far cry from the impetuosity of a boy to the scheming of a man.

"Oh Lord, no! Dad doesn't know that I'm in the navy, nor ever shall if I can prevent it. I didn't even enlist under my own name. He got from one of the fellows the number of the post-office box that I rented when I first came West, and he wrote to me, and sent on some things. You see, I left in a hurry and didn't stop for much. I got the letter this morning. . . . Do you know, I was an awful ass to come away as I did. . . . He says he needs me. . . . Wants to take me into his business. . . . It makes me feel pretty small—"

"Ach, poor lad, poor lad!"

No one ever told Barney Shannon a trouble that he did not share. "And you're the only one he's got?"

"The only one."

"Think of that, now! 'Tis little wonder that you're wantin' to go right back, without waitin' for leave. But—" he paused to weigh the matter—"they say 'tis bad luck to go in one door and out another. Likely 'tis worse luck to go in a door and out a windy."

"But there's no choice of ways. I've got to sneak and run. I don't like it—"

"I know all that. Whist!"

So much talking disturbed Barney when he was thinking—trying to get at the elemental justice in this distressing matter. In the silence, seeming longer than it was, the boy began to hope, but when Barney spoke, slowly, thoughtfully, he knew that the battle was not yet won.

"Tisn't like the countries where they make you do that kind of service."

Belden felt his cheeks grow hot. "I'd volunteer in a minute if there was a war! It isn't the danger nor the work that I'm shirking. It's the senseless throwing away of four years of my life."

"Yes," Barney agreed, "'tis fine to be a hero, but 'tis long, dreary work trainin' for it. I'm not blamin' you, lad"—at an exclamation from the boy—"I'm just thinkin'."

He called it thinking—the putting of himself in the other's place, tempted as Belden was tempted, feeling with the boy the smattering pride which had driven him from home, the discouragement, with its natural consequence of entanglement, the raging fever of desire for a different life growing out of the monotonous days, and now intensified by love for his father, tendered for the misunderstanding. And yet, and yet—

"'Twould be an awful thing whin the band was playin' in the park on Sunday afternoons, and it struck up the 'Star-Spangled Banner', and iverybody stood up—'twould be an awful thing to want to put your fingers in your ears for somethin' more than the screech of it."

There was a pause, out of which Belden's voice came hesitatingly: "I—I suppose I'd have thought of those things after-ward—"

"Depend on it, you would. And 'tis the after-thinkin' that hurts worse than a pebble in your shoe."

The boy sighed, and paced the enclosure. "Yes—I suppose so. Nobody can understand the temptation, though. It's like bein' in prison."

"Prison, you say! Ach!" Barney was on sure ground now. "Nobody blames a man for runnin' away from prison—not even them that catches him and takes him back. He was took there against his wishes, fightin' manfully the while, as like as not. 'Tis differnt whin you've done a thing willin'ly. I'm thinkin', lad, if you want now, you could niver look the picture of Robert Emmet in the eye again."

Belden's pacing stopped. "Robert Emmet—" vaguely.

"I was forgettin', but 'tis all the same. You've had his kind of men over here, and 'tis of them that you must be thinkin'."

There was a long silence. When the boy spoke, his tone was subdued. "But there's dad—"

Barney sighed. "Yis, and there you've put your finger on the hardest part of it. But I'm thinkin' he'd have less joy in seein' you, and less heart to be

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takin' you into his business, if he knew you'd broke your word to get to him—wouldn't he? And wouldn't you always be recollectin' that little grave over there where you'd buried somethin' besides your sailor clothes? He knows—and 'tis proud he'll be that you know it, too—that a man isn't much of a man till he's learned to take consequences with his head up and his eyes straight ahead."

"You'd tell him, then?"  
 "Faith, yis! As soon as I could get to pen and paper. Would you let him be grievin', thinkin' you might come and wouldn't? I'd tell him how glad that I'd accept it as soon as my prisint boss would let me off; that I was on the job for four years, and my father's son mustn't break contract. And I'd tell him who my bos was. Sure I'd tell him." Barney's big, kindly hand fell on the boy's arm. "And the life itself, lad—it can't be so bad as you're thinkin'. You can make a larke of it if you want to. 'Tis a big world you'll be seein' before the four years are up, and many's the brave tale you'll be tellin' your grandchildren about it."

Belden took his hand and wrung it. "I'll go over on the first boat in the morning, on my honor." He paused a moment just before the last word and spoke it gravely, as if it had taken on a new significance.

Barney straightened himself. "So you've concluded to stay with it? Well, I must be goin'."

Belden detained him, to say: "Let me thank you, first, for keeping me from disgracing myself. And I don't know who you are. You're just a voice—an Irish voice in the darkness."

"I've done nothin', lad, but listen to you talk yourself out of a notion. As for my name, 'tis Barny Shannon. Some day, when you're wantin' the sight of a friend's face, look me up in the directory, and come to see me. Now I must be off. You've kept me a long while with your beguillin' talk."

"One more favor, please. I'm going to change back to my uniform, and if it won't bother you, I'd like to have you keep these clothes for me. I haven't any place, you know."

"Sure I'll keep them, but be quick."

As Barney, with the tweeds over his arm, walked back to his horse, he said to himself:

"It doesn't look frindly not to wait for him, but I want to get my brass buttons out of sight. When he finds out later, 'twill not so much matter, but tonight he mustn't know that I'm a policeman and would have had to arrist him if he hadn't changed his mind. Though there was


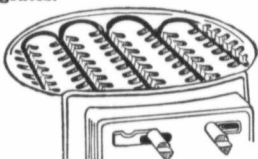
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slim chance that he wouldn't do that—he's such a fine lad!"

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**NUGGETS.**

Critics are sentinels in the grand army of letters, stationed at the corners of newspapers and reviews, to challenge every new author.—Longfellow.

Confess yourself to Heaven;  
Repent what's past; avoid what  
is to come;  
And do not spread the compost  
on the weeds,  
To make them ranker.  
—Shakespeare.

There is one excuse for every  
mistake a man can make, but  
only one.

Be on the lookout all the time  
for information about the busi-  
ness, and to nail the fact just as  
a sensible man nails a mosquito  
—the first time.

It's a weak man who has to  
display his strength.

Advertise as if you were com-  
pelled to.

A little audacity is an asset;  
too much is a liability.

The egg is not so large that  
the chicken rattles in it.

Women spend most of the  
money and men most of the  
time.

A dollar that costs more than  
a hundred cents isn't worth it.

An honest employment is the  
best inheritance that can fall to  
any one.

Would your advertisement sell  
your goods if you had an excuse  
for buying something else?

Nine-tenths of a man's life is  
not worth printing, and he  
wouldn't have the other tenth  
printed for the world.

It's a bad investment to let a  
good man escape.

**Japanese Proverbs.**

Patience is the rope of adv-  
vance in all lines of life.

The ignorant are never de-  
feated in any argument.

It is more easy to evade the  
trouble which Heaven sends us  
than that which we bring upon  
ourselves.

If the water be too pure, fish  
cannot live in it; if people be  
too exacting, fellow beings can-  
not stand beside them.

Where there are no birds, the  
bat will be king.



**The Howard Watch**

**S**OMETIMES you see  
a prosperous looking  
passenger inquire the  
time, and you wonder why  
he does not take out his  
own watch to compare with  
the conductor's.

It is not that he has no watch—  
but because he is ashamed of the time  
he is carrying. He has no confidence  
that it is anywhere near correct and  
he tries to save his dignity by not  
making a comparison.

What do you think of the type of  
man who will carry a cheap and un-  
certain timepiece because it does not  
have to be seen?

It is quite different with the  
HOWARD owner. He is ready to  
match time with all comers.

The HOWARD is the closest  
rating watch in the world. It is  
the only American watch ever  
awarded a certificate of the first  
class by the International Observa-  
tory, Geneva.

A HOWARD Watch is worth all  
it costs to any man of accurate habit  
and orderly mind.

The price of each watch—from the  
17-Jewel (duble roller) in a Crescent or  
Boss gold-filled case at \$40, to the 23-  
jewel in a 14K solid gold case at \$150—  
is fixed at the factory and a printed  
ticket attached.

You can buy HOWARD Watches  
in every part of Canada. Find the  
HOWARD jeweler in your town. Not  
every jeweler can sell you a HOW-  
ARD. The jeweler who can is a rep-  
resentative merchant—a good man to  
know.

Send us your name on a postal card and we will send you  
—free— the little HOWARD Book, full of valuable  
information for the watch buyer.

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have often been produced by the help of  
ABSORBINE**

as it strengthens the muscles and liga-  
ments, keeps out soreness, prevents  
fatigue, stops pain, reduces swelling  
and inflammation. It is a positive  
ANTISEPTIC AND GERMICIDE  
and therefore especially effective in  
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Used by successful exhibitors and  
trainers because ABSORBINE does  
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**KILLS PAIN AND STOPS LAMENESS QUICKLY**  
It is economical, as only a few drops full strength are required at an application.  
A bottle of ABSORBINE, diluted as per formula on label, makes three gallons of  
efficient liniment at a cost of 80 cents a gallon. You will find it a money maker for  
you in getting all your horses in better shape for regular work or sale and you might  
also make a prize winner by removing some blemish from them with ABSORBINE.

Frank Eriscoe, Osceola, Ont., writes May 1st, 1912,  
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can buy Absorbine at regular dealers, price \$2.00 per bottle or sent to you, express  
prepaid with full instructions. Write me about any special case on which you would  
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THE SIMPSON COMPANY LIMITED  
 ROBERT TORONTO

**When a Thing's Good, Say So.**

While visiting a friend a short time since I was much disappointed. Her home is beautiful, complete within and without for comfort. She has a kind, thoughtful husband and a little daughter. As we approached the house I thought surely I will have a delightful time. Soon, however, she began making excuses for not having done more for my comfort. Her husband exerted himself to relieve her of all tasks possible, but nothing he did was right, and the little daughter was prompt in running errands and administering to our wants, but only to be admonished for some previous offence.

When the first day was over I thought we could have a pleasant visit, as she had excused everything, good and bad alike. I was mistaken, for every day was marred the same way, and I was glad to depart at the end of a week feeling that I had been the cause of much disturbance.

I had learned a lesson, and resolved to profit by the same. My opportunity to try and experiment came when soon after my friend returned my visit.

I did not go to any extra trouble but served simple, dainty dishes, thus saving myself worry and my friend dyspepsia. My husband assisted me greatly in planning pleasures, and accompanied us many times, doing little favors for which I praised him. We all enjoyed the week, and my friend remarked at leave-taking that "You certainly have a good husband, and everything is so quiet and pleasant that I feel much rested by this week from home and care!"

Her husband was just as good but she could not see it; accepted all favors without noticing or speaking one word of praise. Her vacation had been a vacation from self, which she might have had at home if she had but known how.

A word of praise is not flattery, and like medicine it "tones one up." It benefits the giver as well as the recipient. Just try a dose and you will call it the pass-word to a "Mutual Benefit Society." It is surprising how many times each day we find an opportunity to praise a worthy act.

Ethelyn Brown Ansley.

We are all sculptors and painters; our material is our own flesh and blood and bones. Any nobleness begins at once to refine a man's features, any meanness or sensuality to imbrute them.

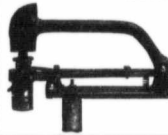
Whenever we find a man who enjoys a wide popularity, we may be assured, however bad his reputation may be, that he has some good qualities in an eminent degree.

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5. Because it expands under a spring pressure allowing flue to upset and reinforce in flue sheet instead of being crushed away as by other expanders.
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**Some Homely Counsel.**

She was a bride, and her pretty home shone in its spotlessness and newness.

"This is the living room," she explained. "See my cosy corner. I made the seat out of that big trunk that there wasn't room for anywhere else. Don't you think my cushions are pretty? I worked so hard on them."

"Entirely too pretty to be sat upon" ventured her friend.

"Sat upon!" exclaimed the bride; "I should just like to see anybody try it!"

The friend restrained herself in time from asking what the cushions were for. She also refrained from remarking that the seat was too high and too short to tempt a lounger. In fact it would have been a feat in athletics to get upon it, piled as it was with great hard cushions.

As specimens of designing and skill in needlework these were beautiful, but they suggested anything but lolling ease. On a stand stood a basket of fine fruit. But none was offered the visitor either then or upon later visits.

The fruit was provided on the same principle as the seat and the cushions—to give a look of hospitality and comfort.

"But my guest room is my pride," smiled the bride leading the way upstairs.

From the doorway the effect was dazzling. "It's a pink room, you see. I painted the chairs myself to match the walls and the iron bed. This latter was resplendent in lace draperies over pink. The bureau boasted a cover to match, and a pin cushion far too delicate and beribboned for mere use. Its top was a litter of bric-a-brac, things pretty in themselves but of no aid in dressing, and taking up the space to the exclusion of possible toilet articles. The whole thing looked like a model furnished room in some department store exhibit.

"These drawers are so nice to keep extra things in that I've no room for elsewhere," said the bride, pulling them open and showing them packed to the brim.

The visitor was dumb with consternation at the thought of the plight the room's occupant would be in. Her eye sought in vain for a foot of surface where one might lay one's "things." There was none—no wardrobe—oh! there was a door. "Oh! yes, come in here," cried the bride following the visitor's eye. "This little room was meant for a dressing room and closet, but see how I've fixed it up!" She opened the door and revealed a tea room, a charming Japanese apartment, with all sorts of eastern draperies and embellishments. A tea table and service stood ready for use, but it did

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is the best axle grease you can get for your tractors. Saves wear, saves power, saves fuel. Never rubs off. Never gums.

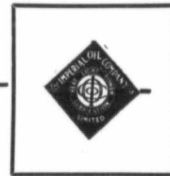
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Save your scrap heap even, etc. small cost. All meta The M 62 1/2



**THE BUTTER-BUYER said—**  
 "Your two lots of butter taste all right—but will they keep? What kind of salt did you use?"

**THE FIRST FARMER said—**  
 "I don't know—the storekeeper gave me what he had".

**THE SECOND FARMER said—**  
 "I used Windsor Dairy Salt".

**THE BUTTER-BUYER said—**  
 "I want your butter. I know all about Windsor Dairy Salt—and the man who is particular enough to always use Windsor Dairy Salt is pretty sure to be particular to make good butter.

I'll take all you make—as long as you use

**WINDSOR DAIRY SALT**

69D

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MILD, SWEET, MELLOW AND JUICY  
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Save your cracked or broken castings from the scrap heap. We weld cylinders, crank shafts, gears, levers, etc., retain original form and strength at a small cost. Metal added to worn out parts.

All metals welded satisfactory.  
**The Manitoba Welding & Mfg Co.**  
 62½ Princess St. Winnipeg.

not look as if it would welcome much use.

The visitor pictured the guest's enjoyment of this resort while in her bedroom, the floor and the pink chairs were submerged with her most cherished and perishable garments.

The chief essential in house-keeping is comfort. The worst possible taste in housekeeping is imitation comfort. Imitation hospitality is an affront. A cosy seat that isn't cosy is a blot upon a room, and to open your bureau drawers and find them filled is a dash of cold water in the face.

If you give up a room to a guest give it up without reserve, and have in it nothing too fine for use.

Everything in the home, like everything in the character, should be what it professes.

**Suspicion Toward One's Fellows**

"Treat every man as a rascal till you know that he is honest," dogmatically enjoined the experienced man of the world. The words kept ringing in my ears all the way down to the station, and even after I had boarded the train, for the worldly-wise man was one whose opinions I respected. It was a damp, muggy morning, just the kind when the mind is inclined to dwell on the meanness and pettiness of human nature.

Presently, my attention was arrested by a woman trying to open a window to let fresh air into the car. A man, noticing her fruitless efforts, hastened across the passage to her relief, and was soon successful. Then in him I recognized one of the very few kind-hearted exceptions to the worldly-wise man's rule.

At the next station a tired-looking woman entered the car in charge of six small children, ranging in age from one to ten years. She could not even pretend to control them all, and they swarmed over the car at will. By and by when the fruit vender entered, I noticed a dignified, middle-aged man unobtrusively beckon to him, pay him some money, and in a low voice give him some directions. A moment afterwards each little traveller was rejoicing over the acquisition of an unlooked for banana, while their modest benefactor gazed unconcernedly out at the window.

After I had reached my destination and was walking up the street, I observed an old man driving along in a buggy. When he reached the street car track he stopped his horse, for in front of him just between the rails he had spied a fine cabbage head, dropped from some passing grocer's or market gardener's wagon. A car was approaching, and the old man's desire to possess the cabbage head was struggling hard

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It is no experiment—you take no chances and you need no experience. Profits are big and sure to come. I'll show you how to do the work and help you get the jobs. All you need to start you is a

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Case, Ont., Dec. 14th, 1910.  
I have used your Spavin Cure for a number of years with good success, having during that time cured a Spavin on a valuable horse and have also treated bruised swellings, etc. effectively.  
Christian Bender

W. W. Brown, Content, Ala. writes, July 18th, 1910  
"I have used your Spavin Cure 62 years, and have completely cured Foot Rot in my herd of cattle, and Splints and Spavins on horses. I find that it cures whatever it is faithfully applied."

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with his prudence which warned him to remain with his somewhat frisky horse in the face of the approaching car. I was beginning seriously to consider braving the deep, thin mud, and securing the prize for the old man when the car came up and stopped just short of it.

The smiling motorman instantly took in the situation, and kindly asked, "Would you like to have the cabbage head?" And almost before there was time for an answer, he sprang from the car, picked up the trophy, and carried it triumphantly through the mud to the eagerly waiting hands.

All this time not one unkind act had fallen under my notice. As I reflected, I could not but doubt that the worldly man's wisdom was to be unreservedly accepted. I had no reason to believe that any of these people had ever met before, or could have any personal interest in showing kindness to a stranger. I wondered if it is not better to suffer wrong sometimes than warp one's soul by going through life in such an attitude of suspicion toward one's fellows. Do we not get much the treatment from others which we expect and deserve?

**Love.**

Love is the first comforter, and where love and truth speak the love will be felt where the truth is never perceived. Love, indeed, is the highest in all truth; and the pressure of a hand, a kiss, the caress of a child, will do more to save, sometimes, than the wisest argument, even rightly understood. Love alone is wisdom; love alone is power; and where love seems to fail it is where self has stepped between and dulled the potency of it rays.

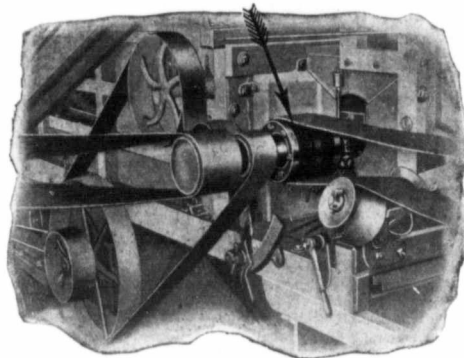
**Temper.**

Temper makes or mars more happiness than any other quality. How much influence there is in one of those bright, cheerful, wholesome tempers which neither makes troubles where they do not exist, nor meets them half-way when they do. Where others might be inclined to fret peevishly over this petty annoyance and that small trial, the good-tempered person makes light of the one, and bears with patience what cannot be avoided of the other.

If you would be miserable, look within. If you would be distracted, look around. If you would be happy, look up.

Half the world is on the wrong scent in the pursuit of happiness. They think it consists in having and getting and in being served by others. It consists in giving and serving others.

**The ROCKWOOD Paper Cylinder Pulley**



**A Pulley that delivers the full power of the Engine to the Separator**

- NO BOLT HEADS OR RIVETS TO CUT THE BELT.
- NO COVERING TO WEAR AND COME LOOSE.
- THE MOST EFFICIENT PULLEY FOR THIS SERVICE.

They'll supply one on your new machine—if you insist  
Ask your supply man—or write

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Agents wanted in unrepresented districts.

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 . . . . . \$21,243,598.00  
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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## Well Drilling Machines

Over 200 styles for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on gines or horse powers. Strong, simple, durable. Any mechanic can operate them. Send for catalog.

**WILLIAMS BROS., ITHACA, N. Y.**

### From the Mouths of Babies.

A Sunday-school superintendent, smug and self-sufficient, was fond of asking questions for the privilege of answering them himself, after encouraging the scholars into believing that they knew the proper reply. On an occasion when he was talking about cruelty to animals he discussed with much feeling.

"Only a coward would abuse a creature that had no way of defending itself," he said. "Why I once knew a little boy who cut off a calf's tail. Think of it, children, he took a knife and cut the tail right off! Can any one tell me a verse in the Bible that would have taught this bad, cruel boy not to cut off the calf's tail?"

There was the usual pause, followed by the uneasy shuffling of feet, and then a youngster lifted his hand. In reply to the superintendent's "What is it, my son?" he sturdily repeated:

"What God hath joined together let not man put assunder."

### A Budding Machiavelli.

Four-year-old Bob was playing with a little girl named May, who lived next door, when some one saw little May begin to cry and hurry home. Knowing Master Bob's propensity for rough games, his mother called him to her and questioned him carefully as to what he did to hurt May.

"Didn't do nuffin to her," was the only satisfaction she could obtain from the youngster.

His mother was not satisfied, however, and when luncheon was served there happened to be on the table a kind of cake of which Bob was extremely fond. "Now Bob," said she, "if you will tell me what you did to May I will give you a piece of cake."

The little fellow hesitated a moment, then answered boldly

"I just raised up my shovel, and it hit her foot."

In accordance with her promise his mother gave him the cake, and also a severe reprimand. After luncheon, he was washed and dressed and taken in ceremony to apologize to May, which he did with due solemnity.

"But Bob didn't hit me with his shovel," May declared, with innocent surprise. "I fell down and hurt my foot so bad I had to go home."

"Why, Bob," cried his scandalized parent, "what did you tell me that you hit May with your shovel for?"

"Because I wanted the cake," answered the youthful diplomat. "And I fought maybe I'd do it sometime."

### Darwinian.

Betty was just two and a half years old when she met her first organ-grinder, rough, black-bearded, with a clever little monkey, versed in many tricks, for a boon companion.

When his master's hat was thrown upon the ground, brim uppermost, over in a perfect somersault he would go, coming up with the hat held upon his head in his dusky little paws.

A few weeks later, in a distant State, Betty saw her second organ-grinder, accompanied by a pathetic, untrained little monkey. She was asked if she remembered the other funny little fellow. She quickly said, "Oh yes, I 'member, he turned a summerset in his farver's hat."

Her little cousin of the same age, when taken by her father to see her first organ-grinder, returned home to say excitedly to her mother, "Oh, I saw a funny sing—made out of a boy."

"Who can tell me, asked the Sunday-school teacher, "what became of the swine that had the evil spirits cast into them?"

Little Johnny, who reads the papers, raised his hand.

"Please, ma'am, they was all made into deviled ham."

### Costly Discipline.

A popular Eastern doctor tells this story of a boy, another bright doctor's son, who had reached the mature age of ten after an early career marked by many wild and mischievous pranks.

His restless nature has made him something of a torment to his teacher at times, and one afternoon not long ago she kept him after the others were



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1911.

Weekly Free Press and Prairie Farmer, Winnipeg, Man.

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Province of Saskatchewan  
 Regina Broadview North Battleford  
 Southern Fort Qu'Appelle Prince Albert  
 Saskatoon Moose Jaw Regina  
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- 1—AMERICAN SEEDING MACHINE CO., Winnipeg.
2—BEATTY BROS., Brandon.
3—BELL, ROBT. ENGINE & THRESHER CO., Winnipeg.
4—BRANDON PUMP & WIND MILL WORKS, Brandon.
5—BRITISH CANADIAN AGRIC. TRACTORS, Saskatoon.
6—BUFFALO PITTS CO., Moose Jaw.
7—BURRIDGE-COOPER CO., Winnipeg.
8—CANADIAN FAIRBANKS CO., Winnipeg, Calgary, Saskatoon, Vancouver.
9—CANADIAN HOLT CO., Calgary.
10—CANADIAN MOLINE PLOW CO., Winnipeg.
11—CANADIAN RUBBER CO., Winnipeg, Vancouver.
12—CANADIAN STOVER CO., Brandon.
13—CANADIAN SWENSONS CO., Winnipeg.
14—CASE, J. I. T. M. CO., Winnipeg, Regina, Calgary.
15—COCKSHUTT PLOW CO., Winnipeg, Regina, Calgary, Edmonton.
16—CRANE & ORDWAY, Winnipeg.
17—DEERE, JNO. PLOW CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Lethbridge.
18—DE LAVAL SEPARATOR CO., Winnipeg.
19—DOMINION SPECIALTY CO., Winnipeg.
20—DUS GEOR. & CO., Winnipeg.
21—EMPIRE CREAM SEPARATOR CO., Winnipeg.
21 1/2—GARDEN CITY FEEDER CO., Regina.
22—GAS TRACTION CO., Winnipeg, Saskatoon, Calgary.
23—GENERAL SUPPLY CO., Winnipeg.
24—GOODYEAR TIRE & RUBBER CO., Winnipeg, Regina, Calgary.
24 1/2—GOOLD, SHAPLEY & MUIR, Winnipeg, Regina.
25—GRAY-CAMPBELL CO., Winnipeg, Brandon, Moose Jaw, Calgary.
26—HAUG BROS., & NELLERMOE CO., Winnipeg, Calgary, Regina.
27—HARMER IMPLEMENT CO., Winnipeg.
28—HART PARR CO., P. la Prairie, Regina, Calgary, Saskatoon.
29—HERO IMPLEMENT CO., Winnipeg.
30—INT. HARVESTER CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Brandon.
31—LISTER R. A. & CO., Winnipeg.
32—LOUDEM HARDWARE & SPECIALTY CO., Winnipeg.
33—MANITOBA WINDMILL AND PUMP CO., Brandon.
34—MASSEY-HARRIS CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon.
35—MAYTAG CO., Winnipeg.
36—McLAUGHLIN CARRIAGE CO., Winnipeg.
37—McRAE ALEX., Winnipeg.
38—MELOTTE CREAM SEPARATOR CO., Winnipeg.
39—MINNEAPOLIS STEEL AND MACH. CO., Regina.
40—MOODY MATHEW & SONS, Winnipeg.
41—NEEPAWA MFG. CO., Neepawa.
42—NICHOLS & SHEPARD CO., Regina, Winnipeg.
43—ONTARIO WIND ENGINE & PUMP CO., Winnipeg.
44—PETRIE MFG. CO., Winnipeg, Calgary, Vancouver.
45—PIONEER TRACTOR CO., Calgary.
46—RAYMOND MFG. CO., Winnipeg.
47—REEVES & CO., Regina.
48—RENFREW MACH. CO., Winnipeg.
49—RHSBURY PUMP CO., LTD., Brandon.
50—RUMELY M. CO., Winnipeg, Calgary, Saskatoon, Regina.
51—SAWYER & MASSEY CO., LTD., Winnipeg.
52—SHARLES SEPARATOR CO., Winnipeg.
53—STEVENS BRUSH CUTTER CO., Daibury.
54—STEWART SHEAF LOADER CO., Winnipeg.
55—TUDHOPE-ANDERSON CO., Winnipeg, Regina, Calgary.
56—VIDDEN MFG. CO., Viden.
57—VULCAN IRON WORKS, Winnipeg.
58—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.
63 1/2—WINNIPEG CEILING & ROOFING CO., Winnipeg.
64—WINNIPEG RUBBER CO., Winnipeg.

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Hosier Wheel Disc... 17
International Diamond and Lever... 30
Massey-Harris Disc and Drag... 34
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Manitoba Tanks... 33
Ontario Pumps... 43
Riesbury Pumps... 49

# Are You Prepared For Harvest Time



Why risk your entire season's profits on a sudden turn of the weather? Lack of sufficient power may spell ruin.

Plenty of reserve power means a quick, full harvest. It's the necessary aid to bigger, better crops and larger profits.

So when harvest time comes, be sure *you* have plenty of power.

Don't depend on animal power. Play safe. Horses and men are profit wasters. Use the "ever ready" mechanical power of a Hart-Parr Tractor. Then you'll understand why

## Harvest Days Are Hart-Parr Oil Tractor Days

One Hart-Parr Tractor is more efficient than 15 to 30 horses and several men. Hauls 3 to 5 big binders with steady, even pull. Never tires. A blazing sun can't sap its strength or endurance. Exerts full power every minute you work it.

Depending on size, it will harvest 60 to 100 acres a day and save \$8 to \$10 daily over horses. Many a Hart-Parr owner pulls a 6-bottom gang plow and 7-ft. harvester behind his tractor and easily harvests and plows 20 acres a day. This kills weeds and insures a better crop next year. Here's Hart-Parr performance. Read this letter—ponder over it.

Watson, Sask., Can., Jan., 1, 1912.

Hart-Parr Co., Charles City, Ia.

Dear Sirs:—

When threshing began, we hired a steam engine to do our threshing, so that we might plow with our Hart-Parr Oil Tractor. The steamer did not prove satisfactory, so we ran the separator with our Hart-Parr Tractor and threshed about 15,000 bushels. Threshing was slow on account of bad weather.

After we finished threshing, the ground froze, and of course, we did not get much plowing done. We set our tractor aside; meanwhile it snowed considerably and got very cold, so that some steam threshing outfits got disabled by the cold weather and others quit altogether, with still quite a lot of threshing to be done in the neighborhood. Some of our neighbors asked us to thresh their grain. They offered us 4c. to 6c. a bushel, they to furnish everything but power.

Altho it was hard getting around in the snow and very cold mornings, of course we threshed. We got our Hart-Parr Tractor started any cold day. It was the only one that could pull a separator behind it in the snow.

It has got to be very cold when our Hart-Parr Tractor will not start with the first turn of the fly wheel. Very truly yours, F. J. Weber.

It's the easy-to-operate *One Man Outfit*. Uses cheapest kerosene for fuel. More reliable than horses. Costs nothing for upkeep when idle. Three sizes: 30, 40 and 60 B. H. P.

Write for our 1912 catalog. It tells all about this general purpose farm tractor.

### HART-PARR CO.

30 MAIN STREET, PORTAGE LA PRAIRIE, MAN.

REGINA AND SASKATOON, SASK.

We Are Agents For Hansmann's Binder Hitch



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EVERY ISELF  
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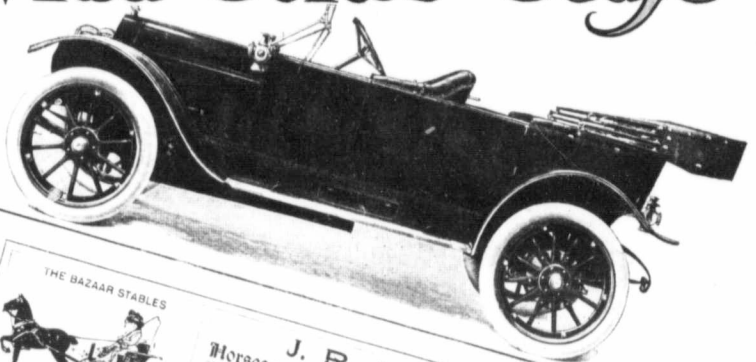
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# Read What Jones Says



THE BAZAAR STABLES  
  
**J. R. JONES**  
 Horses and Mules for Sale and Exchange  
 FINE LIVERY AUCTION EVERY TUESDAY  
 ONLY UP TO ONE TONNAGE  
 ALL and Complete Stock of Harness and Saddlery  
 YOUR CREDIT IS GUARANTEED  
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Greensboro Branch,  
 J. I. Case T. M. Co.,  
 Greensboro, North Carolina.  
 Greensboro, N. C., April 11, 1918.

Your representative, Mr. J. R. Crutchfield, has asked me for a testimonial; my observation has been that ordinarily testimonials are read with but little interest, for which reason I have some hesitancy in going on record in this way, and I would not do so were it not that the CASE CAR is a subject on which I am thoroughly enthusiastic.

Let me say that during the past two years I have owned three different cars. I have been a close observer of my own cars as well as those owned by my friends.

On the day I gave my order for the "CASE 40", six different cars (including the Silent (?) Knight) were thoroughly demonstrated for my benefit. I required a rigid demonstration of these cars, over all kinds of roads and streets, and on all available grades. The Case was the only car which would negotiate Broad Street Hill, in Richmond, Va., as I required it at the bottom on low gear, so through intermediate gears - making a better performance than I have ever seen on any car at any price.

My attention came to this car partly by accident, and after looking it over, decided not to investigate further, believing it was a higher priced car than I cared to buy. I was greatly convinced that the price was not as high as on some cars I had not so favorably impressed me. A closer investigation convinces me that YOU HAVE THE MOST REMARKABLE AUTOMOBILE VALUE TO BEING OFFERED BY ANY MANUFACTURER TODAY. TO prospective purchasers I can say in all sincerity the CASE is all and more than is claimed for it, and is truly THE CAR WITH THE FAMOUS ENGINE.

Yours very truly,  
*J. Jones*



That's what they all say  
 and that's what you'll say  
 if you buy "The Car with the  
 Famous Engine."

CALL at any of our Branch Houses nearest to you and get a ride in a Case Car or write today for The Case Automobile Catalog, describing in detail "The Most Remarkable Automobile Value Being Offered by Any Manufacturer Today"

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