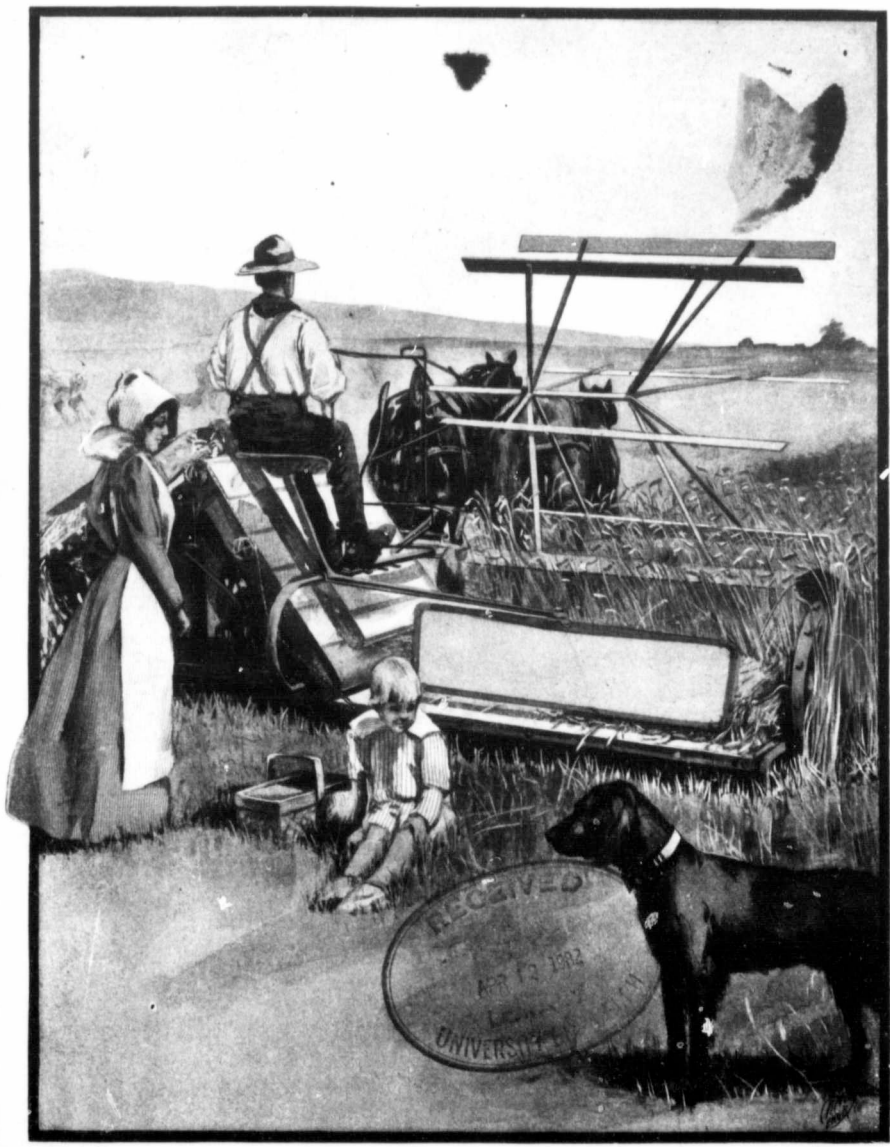


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THE CANADIAN THRESHERMAN and FARMER

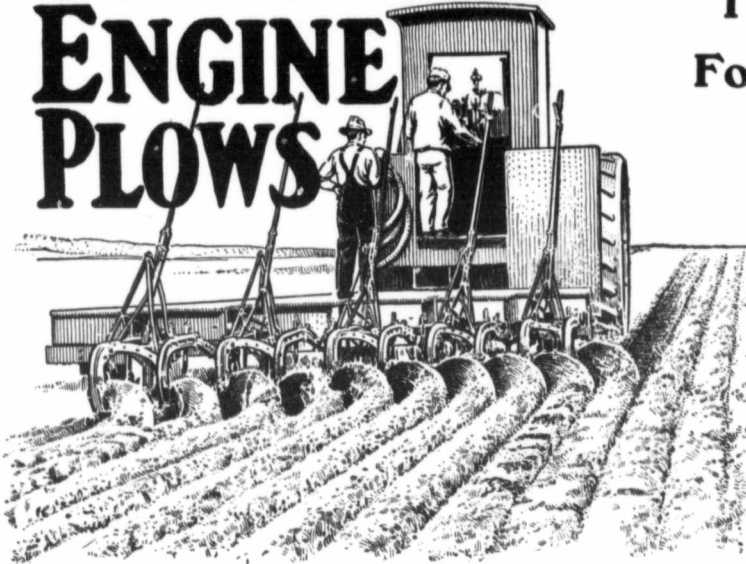
CANADA'S FARM MACHINERY MAGAZINE
WINNIPEG · CANADA

JULY, 1911



E.H. Heath COMPANY Publishers

JOHN DEERE ENGINE PLOWS



Four, Six, Eight,
Ten, Twelve, or
Fourteen Bottoms

Equipped With

Deep Suck, Quick
Detachable Shares
Handiest Feature
Ever Put on an
Engine Plow.

USE JOHN DEERE ENGINE PLOWS

Because these plows have the longest successful field record back of them, and more of them are in use than of any other make, which is the best evidence of their efficiency.

Because it is a safe bet that farmers generally will not buy an implement unless it has been proven satisfactory.

John Deere Engine Plows are very strong, pull easy, handle easy and do the finest kind of work.

They are strong because of the high grade material used.

They pull easy because **John Deere** bottoms are light in draft.

They handle easy because there is only one lever for each pair of plows and every other desirable convenience is provided.

They do the finest work because the pulverizing and turning qualities of **John Deere** bottoms have never been equalled.

QUICK DETACHABLE SHARES ARE A GREAT ADVANTAGE

It takes a lot of valuable time to change shares on an ordinary engine plow.

John Deere Engine Plows are equipped with **quick detachable shares** which can be changed in one-fifth the time usually required for other makes.

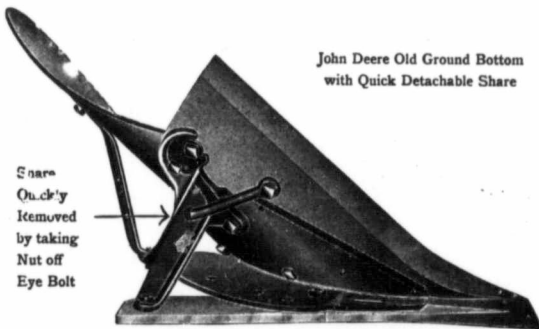
Each share is removed by taking off one nut, which is easy to get at, instead of four nuts inconveniently located.

Illustrations below give you a good idea of this feature.

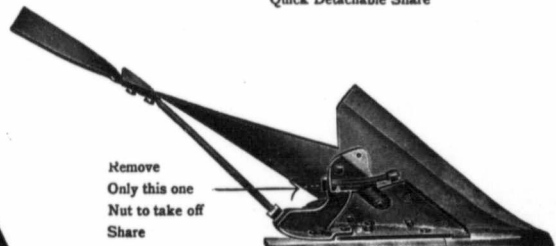
Another thing, the one eye bolt holds the share more securely than when bolted to frog in the old way.

Think of saving 80% of time ordinarily required to change shares. This means a lot—especially when in a hurry.

Write us for further information or send for Engine Plow Book. This book contains all available valuable information on Engine Plowing.



John Deere Old Ground Bottom
with Quick Detachable Share



John Deere Bearer Bottom equipped with
Quick Detachable Share

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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.

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.

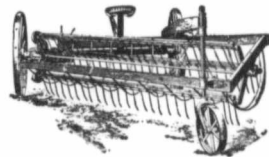
John Deere Engine Gangs will be used in the Plowing Contest, where a most practical demonstration will be given.

John Deere Plow Company, Limited.

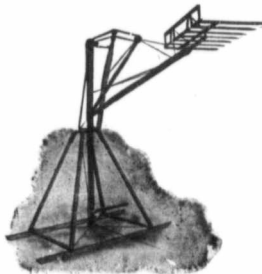
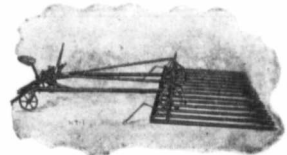
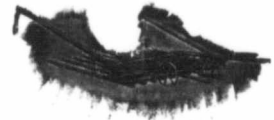
THE GREAT DAIN LINE



of HAY

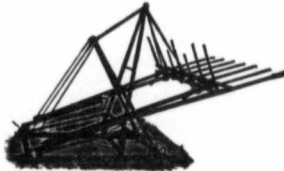
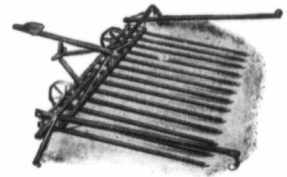


TOOLS

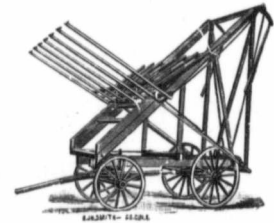


Hay is one of the most valuable crops raised on the farm, one of the most necessary commodities grown, and is getting to be more valuable each year. To make the most of it, you must have the right kind of tools, and good tools.

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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NEW DEAL WAGON

New-Deal Wagon

Is made of air-seasoned lumber.

Is equipped with double collar skein.

Skins are dust-proof, therefore will hold grease longer and run easier than others.

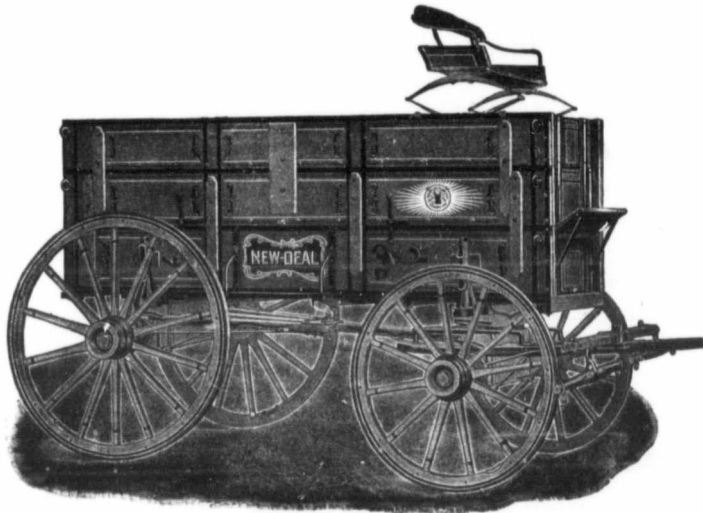
Skins are heavier; bell is longer and larger, taking more axle.

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



New-Deal Wagon

Spring seat with 3-leaf springs (not single leaf).

Steel bolster stake plates on side of box.

Neck yoke 48 in. long (not 42 in.)

Has trussed tongue, cannot break or warp.

Has a channel iron reach really indestructible.

Is extra well painted, striped and finished

Possesses a great many distinctive features of merit.

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Light Draft John Deere Gang Plow

HOW TO SELECT A PLOW. THE RULE OF FOUR.

Plow quality does not improve with age.

An inferior plow does poorer work, is harder to pull, and costs more for repairs every year it is in use.

Because certain things about a plow cannot be changed for the better after you buy it, care and study before buying, is important.

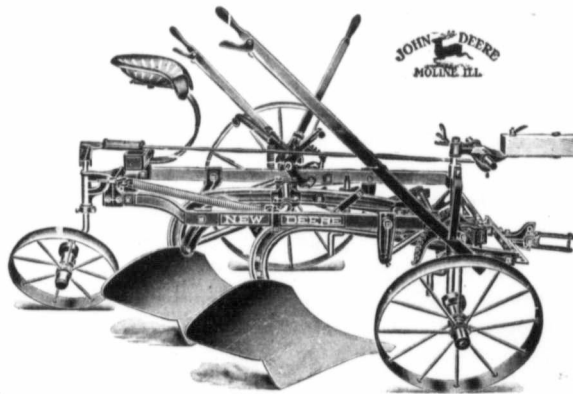
Judging the real worth of a plow is not difficult if four things are kept in mind.

First—Quality of work.

Second—Ease of management.

Third—Lightness of draft.

Fourth—Strength and durability.



WHY THESE FOUR QUALITIES—THE TEST.

First—Nothing takes the place of good work. Unless a plow does perfect work you cannot afford to own it, no matter what the price.

Second—Have regard for your own comfort—that pays. Get a plow that is easy to ride, and that can be operated with little effort on your part.

Third—Never work horses harder than necessary. Horseflesh and horsefeed cost money. An extra one-eighth horse-power added to the draft will cost you the price of a plow—very soon.

Fourth—Repairs are expensive a good plow lasts longer than a poor one.

The Light Draft New Deere—Why it Pulls Easy

Consider five things when judging the draft of a plow. **First**—the shape of the bottom. **Second**—Material out of which it is made. **Third**—Equal weight on all the wheels. **Fourth**—Proper adjustments. **Fifth**—Staunchness of the plow.

WRITE FOR LITERATURE, PRICES AND TERMS.

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To the Threshermen of Canada.

TALK No. 5



Be a Specialist

During the Fair
you can get
this Magazine
till January 1913
for \$1.00

If you bring the Coupon
with you.



The Canadian Thresherman and Farmer will not solicit subscriptions on the Winnipeg Fair Grounds this year. When you go to the Fair, you wish to see the Exhibits and to enjoy yourself; not to be bothered by subscription solicitors. If subscription soliciting annoys you we wish to be the first to cut it out.

We will have a cottage at the Fair this year and we want you to visit us, and if you wish to subscribe or renew your subscription, we will be tickled to death to take your money at the cottage. **But anyhow come and talk to us.**

COUPON.

This Coupon and \$1.00 if presented during Winnipeg Fair, July 12 to 22, 1911 will entitle you to The Canadian Thresherman and Farmer from August 1911 to January 1913.

Bring it with you.

The threshing season will soon be here. By the time this issue of our magazine reaches its readers the winter wheat in Southern Alberta will have begun to take on the color of harvest time.

There is every indication this season of there being a bumper crop with a large amount of straw to put through. This will mean that it is up to you to have your outfit in good shape.

In the first place, you will want to see that your engine is thoroughly overhauled. It will want to be thoroughly repacked; all the line shaft boxes carefully gone over and re-babbitted, if needed. See that all stay bolts are tight and do not take any chances on there being any weak flues. It may take some little time to go over your engine, but unless you are using it for plowing purposes you can do it on rainy days. A good plan, if you are near a blacksmith shop, is to run your engine into town as the blacksmith can in a great many cases help you out on things that it is not possible for you to do with your own equipment. And by the way, don't overlook the separator. The straw last year was short, was comparatively dry and easily threshed. The result was that your old outfit worked and worked comparatively well, but this year with long, heavy straw, unless your feeder is in pretty good shape, don't take any chances. It is the business end of the machine, and unless you have something that will put the straw into your separator right, you certainly cannot get the bushels out of it.

See that your cylinder and concave teeth are in good shape. It does not pay to furnish power to drive a separator cylinder, the teeth of which are only doing half a job. It takes more power to drive it and you certainly do not get the results. See that all the boxes and journals from the largest to the smallest are carefully gone over and tightened up, using babbit where necessary. See that the oil holes are all cleaned out and that there is not a weak joint anywhere.

The smallest thing may ultimately develop into a big break that will cost you days of delay just when time means crisp handsome dollars to you.

See that your outfit is equipped with a good, substantial lifting jack, and that all the other little necessities, such as oil cans, pipe wrenches, water glasses, cold chisels, punches, lace leather, etc., etc., are all in shape.

If your engine happens to be of the internal combustion type, it is just as necessary that you put it in ship shape. Better take out the pistons and clean the inside of the cylinder thoroughly. See that your piston rings are in good shape, for a worn piston can burn up a lot of oil and not give you much power. See that you have on hand a generous supply of dry cells, or, at least, be assured that there is a supply within reach. Have a supply of spark plugs on hand and if your engine is equipped with a magneto you had better take it down and clean it thoroughly, or if you don't know how to do this yourself, get someone to do it for you. You cannot get an explosion without a good spark.

If your engine has given you trouble and some small parts have been in the habit of breaking carry some of those extra parts along with you.

Remember, the man for whom you thresh never excuses you for a breakdown and it is the outfit that goes on a farm, completes the job, and gets away without a mishap, that can come back again the second time and get its own price.

Just one word in conclusion. The heavy straw that we will undoubtedly have this fall is not going to be a money-maker for you as a thresherman. You have got to put through a lot of it in order to get a certain number of bushels and bushels are what determine your pay. Don't for the sake of your own dignity and respect, to say nothing about the welfare of your pocket book, cut your price. Charge a reasonable price and stick to it, and if you can't get it, pull your outfit in the shed. In fact, you had better give it away than take it out and lose money on it. The farmers of Western Canada have got to have you to thresh their grain. They can't get it into the elevator unless you do.

This does not mean that you are to hold them up, but you are entitled to a good, reasonable wage for your services. Do your utmost to render them a service and then charge them a price for it, and we do not believe that you will have many that are dissatisfied. You can't sharpen a pencil with a dull knife, neither can you do good job of threshing with a poor outfit.

This is an age of Specialization. To succeed in any one line you must be a Specialist, or in other words, an expert along that line.

Why not make yourself an Expert Engine Operator?

You can do it at home in your spare time.

The Heath School of
Traction Engineering

(by Correspondence)

teaches you by mail. A school for the beginner as well as the experienced engineer. The Lessons are easily and quickly mastered, and make very interesting, fascinating study.

Why be the water boy, the bundle hauler, or work in the dust and chaff about a separator, when in a few months' time you can fit yourself to be an engineer?

Just such a training as you have long promised yourself, and the long evenings with ample opportunity to read and study make this just an ideal time to start in and finish in time to start on a traction plowing outfit in the Spring.

The School is conducted under the auspices of The Canadian Thresherman and Farmer, which publication guarantees its reliability, and power to develop practical engineers.

Let us send you our free booklet explaining the Heath system in detail and with reduced drawings of some of the plates. Simply fill out coupon below and send to

E. H. Heath Co.
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WINNIPEG MANITOBA

Gentlemen: Please send, without cost to me, one copy of the booklet fully describing The Heath School of Traction Engineering (by correspondence).

Name

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Meet Us At Your Fair

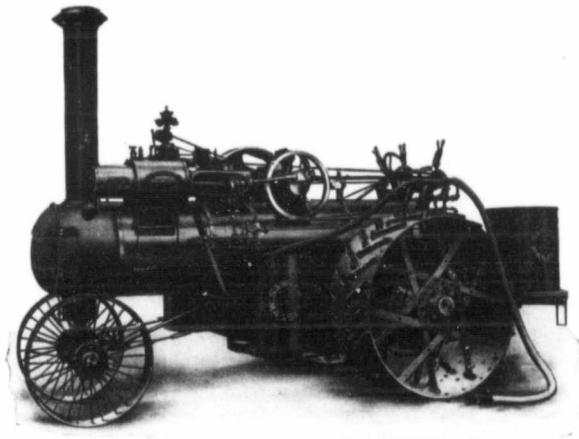
WE WILL SHOW YOU

OUR COMPLETE LINE

AT

**Winnipeg, July 12th-22nd; Brandon, July 24th-29th; Regina, Aug. 1st-12th;
Saskatoon, June 30th-4th July; Calgary, June 30th-7th July.**

If you are interested in **Plowing** and **Threshing Engines, Separators** and **Road Making Machinery**, and are not experienced—bring your expert friend along—let him examine our goods on your behalf—he will tell you why so many are now using our Machinery, and



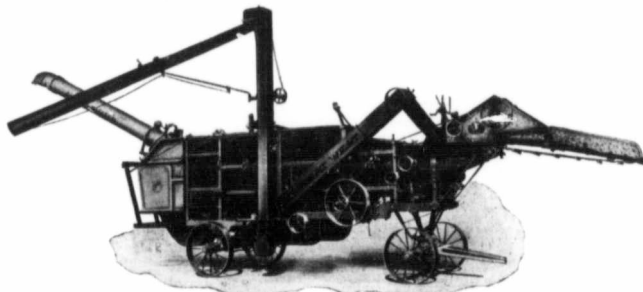
Built in 5 Sizes: 22, 25, 27, 30 and 32 h.p.

why they will have no other. If you are an experienced machine operator, the first move, after seeing our Exhibit, is to order. Take advantage of the opportunity to meet us and see our line at each of the Fairs mentioned above.

Make our tents on the Fair Grounds your Headquarters.

To get an outfit that has three-quarters of a century's experience built right into it means much to you.

You win right from the start. You are stamped at once as one of Canada's keen progressive and



"GREAT WEST" SEPARATOR. Built in 7 Sizes.

up-to-date purchasers of machinery. You are known immediately as a man who can and will do the work for which he contracts for our Machines are known throughout this land to do the work for which they are intended.

WRITE US for details, and at the same time tell us what Fair you intend visiting.

WE WANT TO MEET YOU. CALL AND GET ACQUAINTED. IT WILL BE A PEASURE TO SHOW YOU.

SAWYER-MASSEY CO.

Winnipeg, Man.

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The Largest Engine, Thresher and Road Machinery Manufacturers in Canada



The Romance of the Farm

By W. H. Belford.

Farming in the prairie country of Canada and the Northwestern states is as different from the farming of a generation ago as is travel in a fast, modern Pullman train from journeying by stage-coach.

Many dwellers in big cities do not know this, having an idea that in the country there is a settled order of things and that the farmer plows and sows and reaps and garners according to the customs of his ancestors.

People whose ideas of farming are derived from the literature of Thos. Hardy and George Eliot would find themselves in a strange world indeed on a modern prairie demesne, for the farm has been the stamping ground of wizards and the changes worked by the magic of invention are every bit as startling in the rural neighborhoods as are the more spectacular achievements of the busy genii who have worked their spells in the industrial world of the great centres of population.

It is interesting indeed to study the development of agricultural implements in the matter of efficiency. Few fields have offered more difficult problems to the inventor and in few have the results been greater. The march of progress in industrial affairs in the cities has been equalled, perhaps excelled, so far as pure ingenuity is concerned in the developing and perfecting of machinery for use on the farm.

The story of the harvester reads like a romance, consequently a little of its early history may be interesting.

From the oldest records that remain we find that the people of that early time were provided with crude hand tools for the reaping of grain. These primitive sickles, or reaping hooks, were made of flint and bronze, and are found among the remains left by

the older nations. Upon the tombs at Thebes, in Egypt, are found pictures of slaves reaping. These pictures were made 1400 or 1500 B.C. The form of the Egyptian sickles varied somewhat, but consisted generally of a curved blade with a straight handle.

The scythe is a development from the sickle and differs from it in that the operator can use both hands instead of one. The Flemish people developed a tool known as the Hianault scythe.

With the addition of the fingers the tool was given a new name, that of the Cradle Scythe, or the Cradle. And it was in this tool that the first American development took place. The colonists, when they settled in this country, probably brought with them all of the European types, and the American cradle was simply an improvement over the old country tools. The time of the introduction of the cradle has been fixed by Professor Brewer, of Yale, in

practicable and where the cradle has still work to do. Again, there are parts of the world where the reaping machine has never been introduced and where the sickle and the cradle are the only tools used for reaping. It seems incredible that any people should be so backward as to be using at the present time these primitive tools, yet it is to be remembered that even the most advanced nations used them for centuries, and apparently did not think of anything in the way of improvement.

History records several early attempts toward the invention of a machine for harvesting, but none reached a stage where they were practical until the eighteenth century. Plooy describes a machine used early in the first century which stripped the heads of grain from the stalk. The machine consisted of a box mounted upon two wheels, with teeth to engage the grain at the front end. It was pushed in front of an animal yoked behind it. The grain was raked into the box by the attendant as the machine was moved along. It is further stated that it was necessary to go over the same areas several times.

There were several attempts at the design of a reaping machine before 1806, but none were successful. They need not be considered in this discussion. It was in 1806 that Gladstone invented a machine which added many new ideas. In his machine the horse walked to the side of the grain, and hence the introduction of the side cut. It had a revolving cutter and crude form of guard. It did, however, have a new idea in an inside and outside divider. The grain fell upon a platform and was cleared occasionally with a hand rake. As a whole, this machine was not successful.

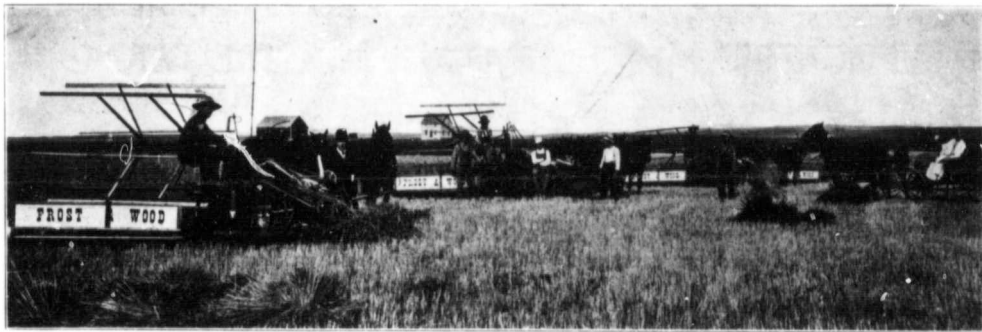


The original binder

It has a wide blade 2 feet long, having a handle about 1 foot in length. The handle is bent at the upper end and is provided with a leather loop into which the forefinger is inserted to aid in keeping the tool horizontal. The grain was gathered by a hook in the left hand. This tool was displaced later by the cradle. Development in scythes has consisted in making the blade lighter, lengthening the handle, and adding fingers to collect the grain and to carry it to the end

of an article written for the Census Report of 1880, as somewhere between 1776 and the close of the eighteenth century.

The American cradle stands at the head of all hand tools devised for the reaping of grain. When it was once perfected, its use spread to all countries, with very little change in form. It has been displaced, it is true, by the horse reaper almost entirely; yet there are places in this country and abroad where conditions are such that reaping machines are im-



A string of Frost & Woods in a field of Alberta Red.

In 1808, Mr. Salmon, of Woburn, invented the reciprocating cutter, which acted over a row of stationary blades. This machine combined reciprocating and advancing motion for the first time. The delivery of the grain was unique in the fact that the vertical rake actuated by a crank swept the grain from the platform upon which the grain fell after being cut.

In 1822, Henry Ogle, a school master, of Remington, in connection with a mechanic by the name of Brown, designed and built a machine which is worthy of mention. The use of a reciprocating knife had been hinted at by Salmon, but Ogle made it a success. This machine also had the first reel used, and was provided with a dropper. Accounts are not specific, but it is thought that the operator for the first time rode upon a seat.

The next machine was the most successful up to that time (1826). Patrick Bell, a minister of Cannysville, Forfarshire, has the honor of designing it. His machine has oscillating knives, each of which were about 15 inches long and about 4 inches broad at the back, where they were pivoted and worked over a similar set of knives underneath like so many pairs of shears. The rear ends of the movable blades were attached to an oscillating rod connected with a worm flange on a revolving shaft. It presented a new idea in having a canvas moving on rollers just behind the cutting mechanism, which carried the grain to the one side and deposited it in a continuous swath. Bell also provided his machine with a reel and inside and outside dividers. His machine marks the point when the development of the reaping machine was prac-

tically turned over to Americans. It never was very practical because it was constructed upon wrong principles, but nevertheless it was used in England for several years until replaced with machines built after the inventions of the Americans, Hussey and McCormick.

Beginning with the year 1803, a few patents were recorded before Hussey's first patent, which was granted December 31, 1833. These were not of any importance, since they did not add any new developments and were not practical. The only one which gave

and used before Hussey's, whose machine had the priority of the date of patents.

Hussey's first machine was indeed a very crude affair. It consisted of a frame carrying the gearing, with a wheel at each side and a platform at the rear. The cutter was attached to a pitman, which received its motion from a crank geared to the main axle. The cutter worked in a series of fingers or guards and perhaps approached the modern device much closer than any reaper had up to this time.

McCormick's machine was pro-

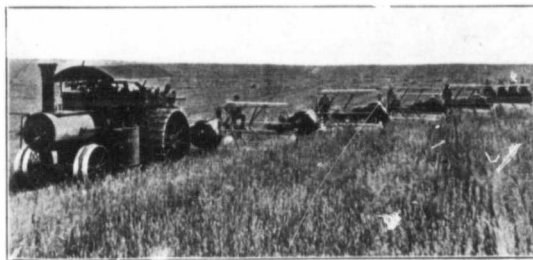
for them the honors for the first successful reaper. Hussey did not have the energy and the perseverance, and hence lost in the struggle for supremacy which followed. At first the honors were evenly divided. In 1878 McCormick was elected a corresponding member of the French Academy of Science upon the ground of his "having done more for the cause of agriculture than any other living man."

Palmer and Williams, July 1, 1851, obtained a patent for a sweep rake which swept the platform at regular intervals, leaving the grain in bunches to be bound.

The next invention of importance was that of C. W. and W. W. Marsh of Illinois. A patent for this was granted August 17, 1858, and gave to the world the Marsh harvester. This carried two or more attendants, who received the grain from an elevator and bound it into sheaves. The two Marsh brothers in connection with J. T. Hollister, organized a company which built 24 machines in 1864 and increased the output each year until in 1870 over 1,000 machines were built. This company was finally merged into the Deering Harvester Company.

George H. Spaulding invented and was granted a patent on the packer for the modern harvester, May 31, 1870. This invention was soon made use of by all manufacturers. John P. Appleby developed the packer and added a self-sizing device. He has also the honor of inventing the first successful twine knoter. The Appleby knoter, in a more or less modified form, is used on almost every machine to-day.

Jonathan Haines, of Illinois, patented, March 27, 1849, a



Five binders in a string, and a Reeves' steam tractor furnishing the power.

much encouragement was the invention of William Manning, of New Jersey, patented 1831. Manning's machine had a grain divider and a sickle which were similar to those used later in the Hussey and McCormick machines.

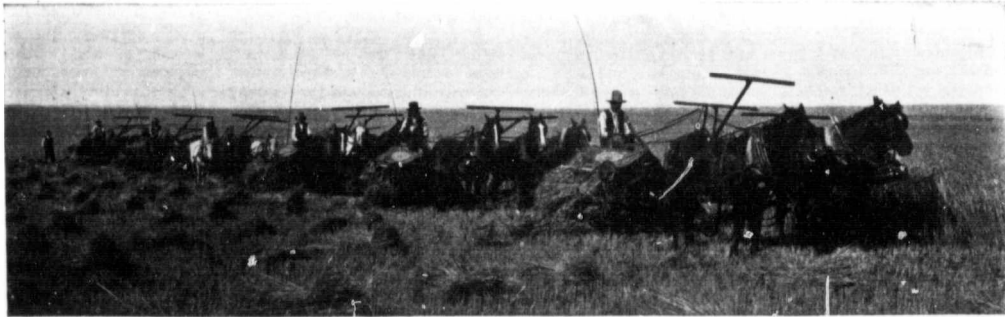
It was in 1833 when Obed Hussey, of Baltimore, Maryland, was granted his patent which marks the beginning of a period of almost marvelous development. Though Cyrus B. McCormick was granted his first patent June 21, 1834, it is claimed that his machine was actually built

with a reel and an outside divider. The knife had an edge like a sickle and worked through wires which acted for the fingers or guards of Hussey's machine. The machine was of about 4 1/2 feet cut and was drawn by one horse. The grain fell upon a platform and was raked to one side with a hand rake by a man walking.

One of the two machines, perhaps Hussey's had the more valuable improvement and it was nearer the device which proved to be successful later. Friends of both these men claim



A field of oats being made ready for the thresher by a Frost & Woods.



Six Frost & Woods doing a nice piece of work. All that is lacking is the Tractor

machine for heading the grain and elevating it into wagons driven at the side of the machine.

In certain parts of the West, notably California, where conditions are such that grain will cure while standing in the field, a combined machine has been built which cuts, threshes, separates, and sacks the grain as it is drawn along either by horses or by a traction engine. The first combined machine was built in 1875 by D. C. Matteson. Benjamin Holt has done much to perfect the machine. The development of the grain harvester may be summarized as follows:—

Gladstone was the first to have a side-cut machine.

Ogle added the reel and receiving platform.

Salmon gave the cutting mechanism, which was improved by Ball, Hussey and McCormick.

To Rev. Patrick Bell must be given credit for the reel and side-delivery carrying device.

Obed Hussey gave that which is so important, the cutting apparatus.

For the automatic rake credit must be given to Palmer and Williams.

For the practical hand-binding machine the Marsh Brothers should have the honor.

To Spaulding and Appleby the world is indebted for the sizing, packing and tying mechanisms.

Jonathan Haines introduced the header.

Many other handy and important details have been added by a multitude of inventors but all cannot be mentioned.

It is nothing short of romance to see in the simple sickle used by the reapers of the fields of Boaz the legitimate ancestor of the modern self-binder, which cuts the standing grain on twenty

acres per day, ties it up into neat, compact sheaves and deposits these in bundles ready for being built up into stooks. Yet such is the indisputable fact. Such a great advance was not made in a single bound, but was rather the patient process of many centuries.

In discussing the various implements of the modern farm it is probably better to begin with harvesting machinery despite the fact that other operations such as plowing and sowing must precede the reaping.

Many living to-day can remember the first successor of the an-

The move forward from the cradle to the first crude reaper required many years of toil and study on the part of the inventor. The first reaper was a heavy, unwieldy affair, requiring a man to drive the horses and another to follow behind with a rake to pull the fallen grain off the table. A later development included an automatic "hand" which swept the grain off and which was considered by the gaping rustics of a bygone age as a marvellous device. It is reported that one man on seeing this "arm" working for the first time, as it revolved with unfailing regularity, left

portion of the Dominion of Canada. The never resting inventor, however, has not been satisfied and has been working toward the perfection of a stooking attachment. Some of these have been built and used in the West already and they promise to become a regular part of the equipment of the prairie farmer very soon, perhaps during the coming harvest. With the stooking attachment satisfactorily developed the farmer of the West will not be so grievously embarrassed on account of a lack of harvest hands.

Another agricultural operation which has offered a wide field to the resourceful energies of the inventor is that of the threshing of the crop. The development of machinery for the separating of the grain from the chaff has been even more remarkable than the development of machinery for harvesting.

If we go back to scriptural times we find that the patriarchs used oxen to tread out the corn, the sheaves being placed upon a threshing floor. This quaint mode has been used in Canada in the early settlement days of the Eastern provinces. Not so long ago, perhaps to this day in some parts, peas are threshed in this way except that horses are used instead of oxen.

Another method, which was used in by-gone days was that of pounding out the grain with a flail. The art of flailing was one not easy to master, for the flail was like a whip with a lash only that the lash was a piece of heavy wood attached to the longer handle with a stout thong. The non-dexterous flailor, or the greenhorn, was more than likely to ever and anon administer to his own cranium a smart thump



The wind-board tells the tale.

cient sickle—the cradle or scythe. This simple implement, which in its time was considered a wonderful device, consisted of a long sickle-like blade surmounted by a sort of long, wooden fingers which carried the grain as the cradle was propelled by a swinging two-arm stroke depositing it in straight rows with the heads all pointing one way. An expert "cradler" could cut from three to five acres per day. Behind him would come a man with a rake who would tie the fallen grain into sheaves. In some rough districts of Eastern Canada and in parts of new Ontario the cradle is still in use.

the field precipitately declaring "It isn't earthly."

Later came a set of rakes which could be regulated in their action so that the sheaf could be made of any desired size. Reapers, so equipped, had a great vogue twenty-five years ago and many of them with various improvements are in use in Eastern Canada to this day.

The idea that a machine could be invented which would cut grain and tie it into sheaves used to be considered as the dream of visionaries. This, however, was successfully accomplished years ago, and the self-binders are in use at present over the greater



This farmer likes the Massey-Harris. He is using them to the tune of 8.

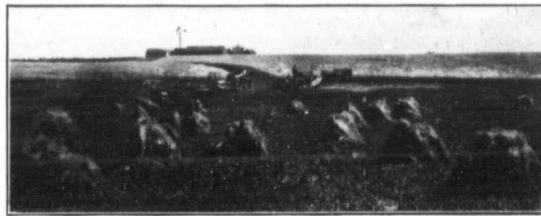
which he had intended for the sheaf.

The first real threshing machines were crude affairs with open cylinders and of small capacity compared with the great separators which thresh from three thousand bushels upward of oats in one day and which are in general use in these times on the farms of Western Canada. The motive power of these first separators was the horse treadmill and later what was known as the "horse-power machine" came into use. Most Canadians of middle life who were bred on the farm can remember these outfits and the hours spent in boyhood watching the five or six teams going around in their circumscribed route all day, wearing a deep path which afterward made an excellent playground for thistle-pierced bare feet. The power worked up in the series of big cog-wheels and this motive apparatus was transferred to the separator by what was called the "tumbling-rod". When properly going, it took some time to bring the apparatus to a standstill. The volume of threshing accomplished by these machines was much greater than had ever been done by means of any previous invention and for a time the concentration of inventors was devoted to perfecting the separator part of the outfit. Eventually separators were produced which turned out the threshed grain in a condition almost fit for the market and with a minimum of waste.

In remote agricultural districts of Ontario in the early eighties the fact that steam locomotives hauled railway trains was accepted by many people in much the same way as they accepted the dogmas of their religion—strictly by faith. Not all had seen the iron horse with their very eyes and a big majority had never been hauled over the landscape by the smoke-belching steed. Thus when it became noised abroad one day in a certain secluded neighborhood in Ontario that a steam thresher was at work in an adjacent neighborhood across the hills it created no small excitement. The writer well remembers two bare-foot boys making the journey over the hills to see "the wonders of nature" as one old farmer put it. He remembered how they spied the column of smoke and drew near to it, and how at last they gazed with awe upon the throbbing monster, of a type now sadly

out of date. He remembers how they watched the engineer oil the great and apparently living creature with what appeared to them a reckless bravado and how he turned stop-cocks here and there, emitting sharp spurts of steam. The writer remembers that the engineer suddenly pulled a cord at which the iron monster uttered a shriek that fairly shattered the tympanums of boyish ears that had never been disturbed by so loud and unseemly a sound. And he also remembers (for he was one of the boys) turned tail and fled, never stopping till they had put the hills between themselves and the object of their dread. They were sure the engine was about to "bust". This dire probability was in everyone's mind and even grown men lingered in the vicinity in a state of nervous apprehension.

But the steam thresher had come to stay. It is still holding the field, although, as previously



A Massey-Harris at Work Near Indian Head

stated, the first threshing engines were crude and weak compared to those of the present time.

The most striking advance in the manufacture of threshing engines has been the production of tractors. Most of the threshing engines now in use not only propel themselves from place to place but they haul the separator and other paraphernalia along.

Going back to the separator again we find that the inventor, never satisfied, has been achieving wonderful results. Among the attachments of the modern threshing-mill are several which were never even dreamed of by the farmer and thresherman of a quarter of a century ago.

Take the modern wind-stacker as an example. In the old days the straw after passing through the separator was carried by a set of circulating slats, up and along a chute and dropped on the ground. Here men had to take care of it with forks—a detest-

able job on account of the dust and stinging chaff.

Now the straw is blown through a tube which can be swung from side to side and a shapely straw stack is built without the sweating and groaning of human labor.

Another remarkable threshing device is the self-feeder, which takes the place of three or four men. The human "feeder" has to be assisted by men whose duties consisted in the cutting of the bands. Now the pitchers throw the sheaves into the automatic feeder and it does the rest with great precision, smoothness and untiring energy.

Still another of the recently perfected attachments is the automatic weights which drops the threshed grain into bags in the farmers wagon, one bushel or two bushels at a time as he may desire. In the by-gone days the grain filtered into bushel measures which had to be lifted and emptied—a heart breaking job.

But before there is grain to

straight rows. The young growing grain, so deposited, has a very pretty appearance the whole field looking as neat and trim as a gardener's onion patch. The groves in the soil are made in various ways, either by discs or what are called shoes. Each style has its ardent advocates among the farmers. Some of the modern seed drills are very wide, being drawn by four horses or a tractor and can cover a vast area in a day.

In the matter of harrows the advance has not been so spectacular. A harrow is a simple implement at best. Still there is a vast difference between the triangular wooden affair with iron teeth which the pioneers of Ontario used among the stumps and the neat iron framed harrows of to-day.

From the simple plow of the olden times to the sulky gangs of the present, with one to three shares, or steam plows with as many as twelve shares is a big jump but it was made in a comparatively short time. Of course many of the old-fashioned walking plows are still used, for the small farmer with only one quarter section to work is still a power in the land and may his tribe increase.

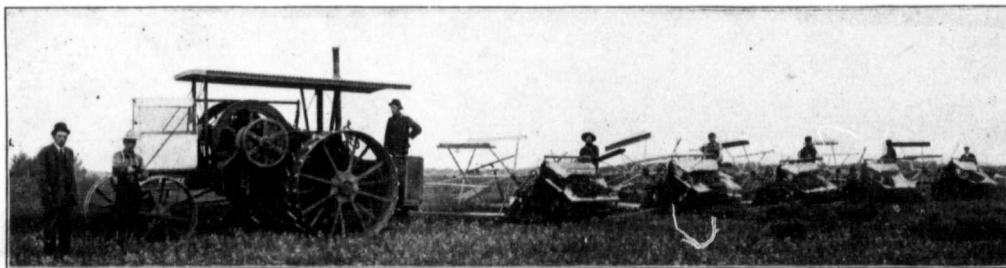
Besides the plows, harrows and seeders the prairie farmer counts in his equipment disc-harrows, packers, potato diggers, and many other modern implements. So great is the assortment that to the uninitiated a visit to a large agricultural implement warehouse is to the last degree bewildering.

He has to keep asking for the patient warehouseman. "What is this?" and "What is that used for?" until for very pity's sake he desists.

This story is already long enough without going into a detailed account of the many implements used by the farmer in the auxiliary but ancient and historic industry of haying. Highly developed mowing machines have taken the place of the time-honored scythe of which poets have sung and which has figured in the pictures of many famous painters. Tedders and rakes and loading machines have merry haymakers.

Life on the farm is not as it was fifty years ago. The farmer's boy may think life in the country

Continued on page 22



An IHC Gasoline Tractor Pulling Five McCormick Binders in Saskatchewan

Horseless Harvesting

In no other farming operation does the modern gas traction engine prove its efficiency and economy more strikingly than in harvesting.

Harvesting comes at a season of the year when the work is particularly hard upon both horses and men. It is usually the hottest weather of the summer, and the horses have to be driven remorselessly all day long in the hot sun, the flies stinging them to madness; it is by no means uncommon for them to fall exhausted or to die in their tracks under the killing work. The men sweat and grumble and shirk, often taking advantage of the farmer's helplessness to strike for higher wages, threatening to tie up the whole job unless their demands are acceded to.

At this trying time, so perilous to the outcome of the entire season's work, the gas traction engine is of inestimable value to the farmer who owns one. It walks steadily and tirelessly through the fields of ripened grain, pulling its string of binders—never stopping, never tiring, never complaining—sixty to 100 acres a day can be cut with it, and it can be worked all night and all day, if need be, at far less expense than that of horses and men.

For instance, this is what a gas traction farmer says: "Our wheat all ripened at once. Weather was so hot horses were dropping dead all around us. With the engine we were cutting seventy-five to 100 acres a day, and saved all from shelling out."

It was not until the gas traction engine had been in successful operation for several years that there was perfected a hitch which makes it possible to use the engine successfully in harvesting. It was comparatively easy to devise hitches for pulling plows, drills and harrows, for a long, light bar, well trussed and braced, was the only requisite; the engine had a straight pull and a clear field. It was another matter, however, to perfect a hitch by means of which several binders could be drawn after the engine, the engine running alongside the uncut grain and the binders following after and off to one side, each cutting its full swath. There must be no side draft and no running over uncut grain or bundles, and the natural side draft of the binders themselves must be overcome.

One great reason why engine manufacturers were particularly desirous of solving the problem of a satisfactory binder hitch was that it was the last link in the all-around efficiency of the internal combustion tractor. The engine was in successful use pulling plows, harrows, drills, sod crushers, packers and other implements, and trains of loaded wagons, and in threshing; but the manufacturers realized that until every

farm machine could be successfully operated with the engine it was necessary for the farmer to keep a large number of horses throughout the year with which to do his harvesting, and therefore the engine did not provide as profitable an investment as it would if he were enabled almost entirely to do away with horses.

By turning a tiller wheel at the seat of the binder the pole is offset more or less, as conditions require, thus allowing any desired width of cut. With this hitch it is not necessary to stop the engine and all the binders when one gets out of adjustment; the operator simply turns the offset out of the pole until the disabled binder trails

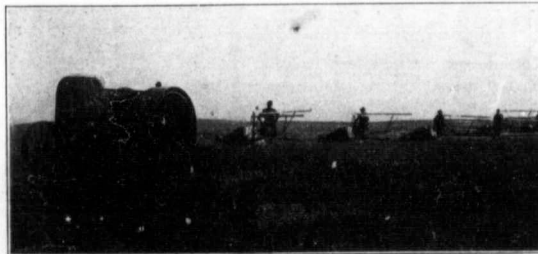
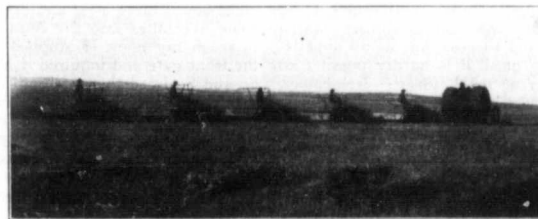
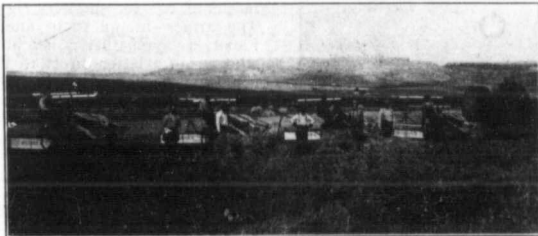
isolate the cost of any given kind or amount of work does not take into consideration the expense of feeding and caring for the horses during the idle seasons in order that they may be fit for service when the season of hard labor arrives. For instance, it would be misleading to change the breaking account or the harvesting account only with the feed consumed during the actual work of breaking or harvesting, since it is equally necessary to sustain the horses during intermediate time.

In this northern climate the long winter months mean large feed bills to the farmer who is dependent upon horse traction, and a period of dangerous inactivity for the horses. One hundred and thirty bushels of oats and four and one-half tons of hay must be fed to the ordinary work horse in a year, and the annual expenditure for feed is therefore fully \$90. Some farmers argue that they raise their own feed and that it does not cost them much, but it costs them just the amount of its market price on the farm. The farmer has been dependent upon horse traction for so long that he has come to look upon the labor and expense of caring for the horses as a matter of course, but it is nevertheless a source of great expense and trouble. Anything that will emancipate him in a large degree from his hired help will earn his gratitude.

The only expense which can possibly be charged to the gas traction engine when it is not actually at work is interest on the investment, and depreciation; the latter, if the engine is properly cared for, amounts to very little.

In farming, as perhaps in no other business almost everything depends upon doing things at the proper time and getting them done quickly. Horses can do only so much, and the farmer can work his horses only so many hours a day. The greatest value of the gas traction engine lies not in its ability to do the harvesting and other work much cheaper than it can be done with horses, but in the fact it enables the farmer to do his work just when he wants to do it and to get through with it quickly, while soil and weather conditions are just right.

Some gas traction farmers even go so far as to harvest, plow and disc at one operation, the binder being attached directly behind the engine and offset so that it cuts its swath off to one side, while the engine travels along at the edge of the uncut grain, and the plows and discs follow after the binder in a line directly behind the engine. One of our illustrations shows such an arrangement. A more practicable method, however, is to harvest with the engine all day and then plow during the night.



Gas Traction Engines at work in the Harvest Field.

It was not until the spring of 1909 that the problem was successfully solved by the perfecting of a hitch with which any number of binders of any size or make can be operated with any traction engine. Each binder cuts its full swath and runs exactly where the operator desires. There is no side draft and no running over bundles, and the sharpest corners can be turned perfectly

directly behind the one in front, following in this position until the necessary repairs are made, after which the tiller wheel is turned in the opposite direction and the binder resumes its proper position.

It is hard to make any accurate comparison in figures of the relative cost of harvesting with an engine and harvesting with horses, for the reason that to

Reminiscences of a Binder Expert

One of the principal things with which the harvesting machine expert has to contend is the question of food. To set up and put a machine in operation requires the greater part of a day's time for one man and consequently the expert is obliged to "break bread" with the farmer one or more times during the day. To the experienced expert a mention of this "breaking of bread" will invariably evoke a smile of remembrance of the variety of places at which he has eaten. The farmer's table is,



A Gaar Scott Steam Tractor plowing and harvesting at the same time
Outfit of John Christianson, Wynyard, Sask.

generally speaking, the acme of perfection, viewed from the stand point of epicure, but there are exceptions to the general rule, and it is the exception which lends spice to the bill of fare.

I remember one time of having to drive a distance of some twenty miles to erect and start a new machine for an old Irishman whose mechanical knowledge reached a little further than the scythe and cradle. He was one of those old "Sons of Erin" who emigrated to the new world during the famine of '47 and who, by dint of hard labor and much saving had finally acquired a small patch of ground and a roof to shelter him and his wife who was one of the best old souls I have ever met regardless of faults. Her housekeeping was, however, not carried out upon modern lines, and as a result her casual boarders were made to suffer. The dinner hour gave forth its melodious call, which call was greatly enhanced by the pangs of hunger about 11.30 a.m., whereupon we at once repaired to the house. After making our midday ablutions from a barrel of water that savored of age we (Pat and I) went into the house where I was most grandiloquently received by the hostess, a kind-hearted old Irish body, given far more to kindness than cleanliness. But such a house. Two rooms served the purpose of the couple, and in consequence one was used as a kitchen, dining room and living

room. A wood stove did duty as a cooker and its excessive radiation certainly "cooked" everyone within the room. My host and hostess were very sociable people and nothing was denied the cat, the dog, or the hens, in the way of accommodation. In fact, they were monarchs of all they surveyed, one adventurous Biddy alighting in the centre of the table, scattering food and dishes in several directions. It was evident it was a common occurrence, for with a "Shoo!" and a "Bad

drive dull care away and to make the sunshine brighter when the same appears.

One of the hardest things in the expert's work is to cover up the tracks of an unscrupulous salesman or dealer (they are few) for when once a thing is done and the farmer's confidence is lost it is a very difficult thing to win it back and still maintain amicable relations with him.

Reminiscence recalls a case where a binder had been sold to a Bohemian gentleman and on account of his being a foreigner and rather "green" the men with whom he originally dealt sought to take advantage of his inexperience and pawned off upon him an imperfect machine and a poor grade of twine to use with it. As a consequence it would not tie and little or no effort was made by those who sold him the machine to set matters right. The farmer in question finally found a sympathetic neighbor who wrote a letter direct to the company's nearest general agency which letter reached the said agency just as I had returned from a hard trip of trouble shooting. I accordingly received instructions to repair immediately to the scene of trouble, so catching the next train I was upon the ground some few hours later. I found the local agent away, and so receiving instructions from his office boy, I hired a rig and drove some five miles into the country to reach my man. I stopped at the front gate and inquired if Mr. So and So lived there, telling the lady who met my enquiry that I was a machine man come to repair their machine. She comprehended my mission at once, for such a stream of epithets I have never met before or since. I would hesitate to say that it

was profanity, but it was something that was very emphatic. There was a sufficient sprinkling of English thrown in to assure me that I was the point of attack and that she considered herself as having a strong case against me. I finally asked her to let me see her husband and the machine which she refused to do, and from what little information I could glean from her conversation I concluded that I would have to win the good grace of the lady in question. Her husband at length came from the barnyard and upon the battle ground of mutuality I persuaded the farmer to hitch his horses to the machine in order that I might determine the cause of the machine's not working. Inspection showed me that the construction of the attachment was faulty and that the twine that the farmer was using would not work on any machine. I accordingly returned to town, got a new attachment, hired a dray and brought it out to the farmer's field, put it on and had everything in ship shape by 12 o'clock midnight. The next morning the farmer hitched onto his machine and in a whole half day it did not miss a bundle. Grateful! I have never had better friends before or since than that farmer and his wife. My fame as an expert spread far and wide throughout the community, and during the next season I was able to close many difficult sales in that particular neighborhood just because of my Bohemian "pluggers." I had done nothing out of the ordinary in the way of making repairs, but I had simply acted square which always has and always will pay when dealing with the farmer, no matter whether it be dealer, salesman, jobber or manufacturer.

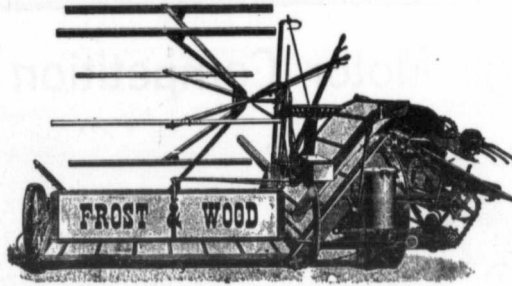


A Hart Parr Kerosene Tractor "killing two birds with one stone"

F. & W. Binders Do the Work!

IF YOU WISH TO GET A CLEAN-CUT IDEA OF BINDER PERFECTION, LOOK INTO THE MERITS OF THE F. & W. BINDER. TO LOOK FOR BETTER IS WASTE OF EFFORT.

BACK OF THE NAME FROST AND WOOD ARE INCORPORATED 72 YEARS OF EXPERIENCE IN AGRICULTURAL IMPLEMENT MAKING AND THE MOST ADVANCED METHODS OF MANUFACTURE



SPEED, ACREAGE, DEPENDABILITY, LIGHT DRAFT, CLEAN CUTTING, ALL COMBINED IN ONE, MADE THE F. & W. BINDER A ROUSING SUCCESS EVERYWHERE.

EVERY COCKSHUTT DEALER SELLS IT

The more rigidly you compare the Frost & Wood Binder with other makes, the more convinced will you be of its prestige and dominance in the agricultural world.

MAIN DRIVE WHEEL.

It will stand up under the most trying conditions. It's built to stand the bumps incidental to deep furrows and stony land, roots and stumps. Extra width of tread and extra strength of spokes make breakdowns on rough land impossible with rough handling, short of abuse.

POWER GEAR.

A frame set around main wheel keeps the power gearing and shafts in rigid alignment, to give easy running. These shafts are equipped with roller bearings. The steel ball and adjusting screw at the end of the cross shaft does away with friction.

KNOTTER AND SPROCKET.

A long-spoke and short-spoke eccentric sprocket-drive for needle and knotter prevents slowing down of binder at time of making sheaf. This means a constant high cutting speed, adding to mileage. It saves strain on binder and horses. Leverage takes the place of a demand for added power for knotting.

This is a unique Frost & Wood detail. It is the detail that adds to mileage of swath per day. It permits steady cutting at high speed all day long. The knotter itself is simple and positive. It is a sure-tie design.

GRAIN WHEEL.

Substantially built of best steel. It is provided with an easily operated adjustment for raising and lowering the outside end of the Table when the machine is being set for cutting. The outside Divider is firmly braced and properly set to do perfect work.

FORCE FEED.

No matter how light or how heavy the crop, the F. & W. Binder has Force Feed Elevators which meet any condition.

ROLLER BEARINGS THROUGHOUT.

Every place where Roller Bearings can be used in the Frost & Wood design, they are adopted. This reduces wear, draft friction, oil consumption and attention time needed during working hours. With high wages for harvest hands the extra speed of cutting obtained by these F. & W. devices shortens the entire work and makes a considerable wage reduction. A Frost & Wood pays for itself in saved wages within a year or two.

EASY TILTING AND REEL CHANGING

These levers are close to the driver's seat and may be moved with one hand. The speed of cutting makes a quick tilt desirable. The Frost & Wood can cut at ground level under lodged grain, and instantly be tilted back over a rock.

STRENGTH OF PARTS AND QUALITY.

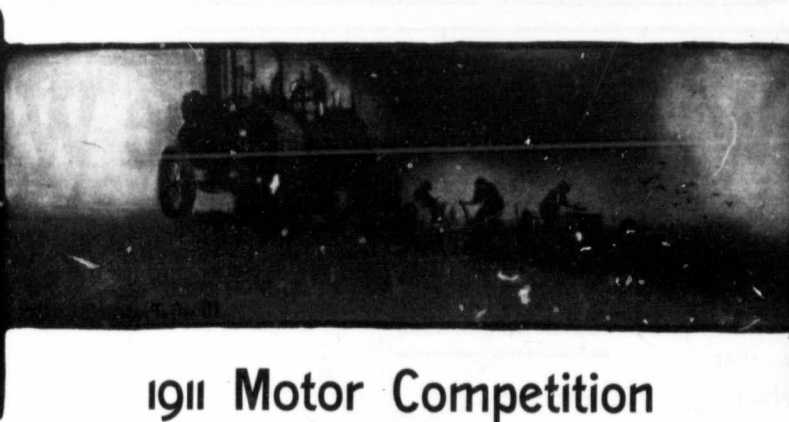
All material are of highest quality and perfect design. The careful proportioning of frame work and wheels in making the design self-protective under hard usage gives the Frost & Wood Binder long life. It is the best insurance against breakage and derangements.

SEE THE COCKSHUT DEALER.

Frost & Wood machines in 6, 7 or 8 feet sizes with fore-truck may be delivered within a short time if you act promptly. See the machine at the dealer's. Write us for the Binder Book. Get Binder-wise. By acting now, you can have a Frost & Wood Binder at your harvest

COCKSHUTT PLOW COMPANY LIMITED **WINNIPEG**

BRANDON REGINA SASKATOON CALGARY EDMONTON



1911 Motor Competition

The 1911 Motor Competition promises to be by far and away the largest of any that has yet been put on. This motor competition has developed into something more than a side issue or a mere fair attraction. It is an institution of such a size that the entire traction engine proposition of practically the whole world is for two weeks centered in Winnipeg.

After the competition is over and the results are known, for several months there radiates from the city of Winnipeg traction cultivation information that extends to all parts of the civilized world. The manufacturer wants it; the farmer needs it, and the agricultural departments of the various Governments acknowledge it with thanks for to them it means a fund of information that they can derive from no other source. It is even more than this, for it is an education along a line that sooner or later must mean the line of the whole world's agricultural action.

The traction engine is the greatest single factor that has ever come to Western Canada. Since the first of January, 1911, there has been sold in this Western Canada for traction cultivation purposes approximately four million dollars' worth of engines or about twelve hundred machines. These machines will easily average 25 horse power at the draw bar which would mean an equivalent to thirty thousand horses. They have all been put to use; consequently there is need for them. Just imagine Canada starting out this spring of 1911 to purchase thirty thousand horses and see what would be the result. It would be an impossibility to secure them and in consequence our wheat crop would materially decrease or would fall short of what it will be.

We often stop to wonder whether or not the wholesalers or the manufacturers of other lines of goods appreciate the full significance of the traction engine situation. A wholesale or jobbing house doing business in Western Canada realizes a material increase in sales every year over the previous year. They also realize that they make greater profits on account of the increase in volume of business. Ask these

same wholesalers the reason and they will say that it is the big wheat crop which produces more money and consequently larger buying power. But we must go back of that and if we do we will find that the traction engine as applied to Western Canada's prairie soil is the big factor in this increase.

The motor competition is an institution worthy of more serious attention. It has within it possibilities that will make Winnipeg the most talked of city on the American continent. It is almost an impossibility to hold such a competition across the border unless it be in the far west. When you consider the fact that sufficient engines have been entered in the 1911 motor competition to require practically five hundred acres in one piece for plowing purposes that such a competition can only be held where land is plentiful and where the soil is largely virgin.

Such a competition stirs up enthusiasm in the traction engine game. It brings the manufacturer to Winnipeg that would not otherwise come here. It gives him an opportunity to view Winnipeg's possibilities either as a manufacturing or as a distributing centre. Consequently, it is too big an institution for an industrial exhibition to handle alone. It needs and demands civic help. If ten thousand dollars a year were to be spent on such a competition by the City of Winnipeg, it would yield returns to the city ten-fold. It is not a private affair. It is a public one. It brings the farmer to Winnipeg who would not otherwise come. It puts him in touch with Winnipeg goods. It familiarizes him with Winnipeg trade marks. It brings big money to the city of Winnipeg.

We doubt if very many, if any, of Winnipeg's largest business men whose trade depends upon the West have ever gone into this matter of motor competition sufficiently to realize what it means. It is true that they are not interested in brake horse powers and draw bar horse powers, mean effective pressures and fuel consumption. They do not need to be. These things are only small parts of the whole, but the real significance of such a

proposition from the standpoint of Winnipeg is the enthusiasm that it stirs up in the traction engine game, which can have but one effect, viz., the promotion of the traction engine as a farm power, which in turn will give more acreage, bigger crops, more money to spend and a larger and more permanent buying power.

Viewed from the standpoint of the farmer, the motor contest has a very telling significance. It is designed with two things in mind, viz., to determine the belt power and the drawbar power of an engine. In other words how large a machine will a certain engine drive in the belt, how many plows it will pull and how big a load will it haul. This is primary.

Speaking secondary, the engines are divided into classes, there being three in 1911. The first motor competition that was held which was in 1908 consisted of only one real class, which was gasoline. In 1909 a class was made for steam engines. The same thing was true in 1910. There has, however, developed within the past year or two a new type of engine known as the kerosene engine, although some manufacturers have been building this engine for four or five years. The 1911 contest accordingly provides a class for kerosene engines.

The gasoline and the kerosene engine have been on the market only a very short time, comparatively speaking, and it is rather a problem viewed from the standpoint of the farmer, to know just what they will do. Sufficient time has not elapsed to permit of any very accurate data being worked out. The motor competition does not and cannot go all the way. It can determine fuel and water consumption. It can determine horse power, but it cannot determine durability. This is not possible because of the fact that a five hour plowing test is about all that it is possible to put through.

The farmer who comes to Winnipeg to view the 1911 motor competition wants to come with his eyes wide open. When he views the engines on the brake he wants to forget the brake entirely and try to imagine that the brake itself is a threshing

machine or some other implement being driven by belt power. That is really all there is to it. If it were possible to design an apparatus that could measure the power imparted to the cylinder of the threshing machine, the same thing could be accomplished as is now accomplished by the brake.

When it comes to plowing, the farmer of course knows just where he is at, as the plowing competition is nothing more than the pulling of a plowing load, due note being taken of time and fuel and water consumption.

You, as a farmer, if not already, must sooner or later get into this traction cultivation game. It is coming just as sure as we have land to cultivate in Western Canada. The power farmer is no longer a man with a hobby. He is a man who realizes that there is to farming a phase of economics just as much as there is in any of our larger industrial enterprises. It is nothing more than a question of producing a bushel of wheat with the least possible cost, and when this problem is worked out to the satisfaction of everyone, it will be found that the traction engine has done it.

**CORRUGATED
— PORTABLE —
GRANARIES**

**Fire, Lightning
and Storm Proof.**

Protects the grain—absolutely vermin proof.

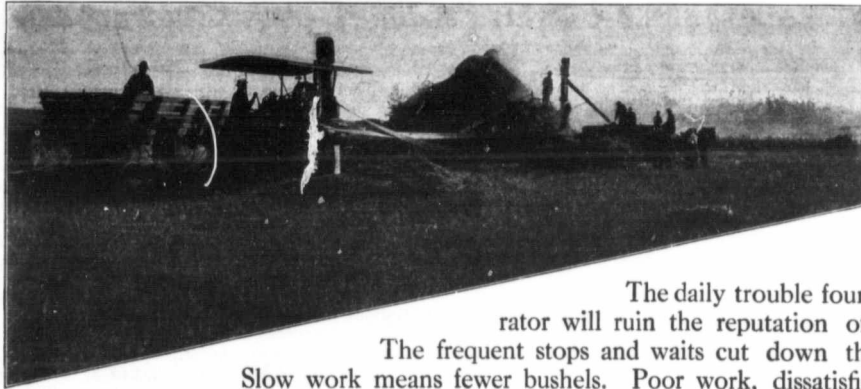
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Metallic Roofing Co.
LIMITED
MANUFACTURERS
TORONTO and WINNIPEG

Western Canada Factory
797 Notre Dame Ave., Winnipeg.

Do Both Ends of Your Outfit Make Money?

A SEPARATOR may be a good one, but if coupled with a poor engine, the run is sure to prove unprofitable. If the engine is not an easy steamer, it takes more fuel. Hauling expenses are greatly increased. If it is built flimsy and of poor material, breakdowns will be



frequent, bringing about costly stops and delays. This curtails the earning capacity of the outfit and the repair bills add greatly to the season's expense.

The daily trouble found in a poor separator will ruin the reputation of a good engine.

The frequent stops and waits cut down the daily capacity.

Slow work means fewer bushels. Poor work, dissatisfied customers and a lack of jobs. At both ends

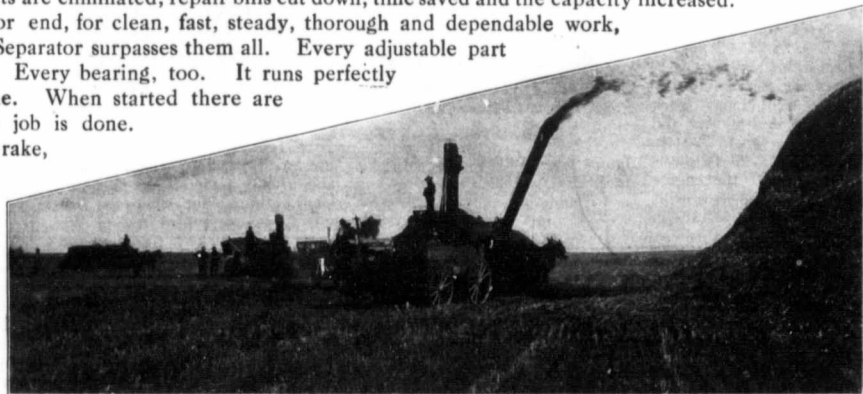
RUMELY OUTFITS

make money for you all the time. Both ends are *saving* and *earning*.

At the power end the Rumely Steam Engine, having a large roomy fire box, steams easy, saves fuel, water and labor. Being built simple, strong, rigid and durable, with every pound of metal just where it is needed, frequent stops and waits are eliminated, repair bills cut down, time saved and the capacity increased.

At the separator end, for clean, fast, steady, thorough and dependable work, the Rumely Ideal Separator surpasses them all. Every adjustable part is on the outside. Every bearing, too. It runs perfectly smooth all the time. When started there are no stops until the job is done.

The inclined chain rake, extra length of the machine, extra long chaffer, heavy cylinder bearings all insure the owner a smooth running machine of big capacity, with good saving and cleaning qualities.



At the beginning, Rumely outfits may cost a little more but in the end it will be found that it's cheapest to buy the *best*. Write for our literature.

1971 ROSE STREET
M. RUMELY CO., REGINA, SASK.

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.)

Prefers Oil Engines to Steam.

My experience in traction plowing has not proven as profitable as some have claimed before now.

I am using a Hart-Parr 22 H.P. 45 B.H.P. engine. I have run it two seasons and much prefer it to steam. I also have a Cockshutt plow eight bottoms, but I have never used over five in sod, which causes the plow to pull sideways. I wish I had gotten a smaller plow, as the one I have is too large, especially when the ground is a little dry.

In connection with the engine I use ten horses for harrowing and seeding. I employ four men, two to work horses and two at engine. When we have our plowing done we go out and help the neighbors with the engine.

We use about four gallons of gasoline per hour and in that time break one acre. In averaging the two seasons we used four gallons per acre and one acre per hour; consequently our cost here is \$2.25 per acre, not figuring the decrease in machinery. Our gasoline costs 31 1/2 cents per gallon.

I consider traction plowing 50% harder than threshing.

Regarding plowing in stubble will say that it takes as much fuel per acre on account of the extra pull in soft ground. When looking over the figures you must remember that we are in the toughest soil in Alberta.

Regarding a hitch for seeders or harrows. I used one last year. Take two chains, hitch them to the engine draw bar and the opposite ends about 20 ft. length to a 6 x 6 x 20 ft. piece, that crosses back of the engine and attach the poles of three drills there. If you want to attach harrows behind attach them to the drills or if you are discing run chains straight back to the timber same as on front and attach to them. The timbers drag over the ground for discing and harrowing, but for drilling use a shoe like a sled runner so that tongues to drills can only get down so far. The runners should miss the earth about two inches.

Yours truly,
H. J. Flock,
Raley, Alta.

Experience Necessary.

I own and operate a 30 H. P. Flour City gasoline engine with an Emerson combination plow. This I find makes a good outfit.

People make a big mistake in

thinking that the poor Sod Buster can step right on an engine and make it run day in and day out without a stop, as a gasoline engine requires more attention than steam. A good way would be for the companies to fix their price so that they could take their man right to the factory for a month. Then he could come home and get his engine and keep it going, as he would understand it then.

I think that an engine is hurt more the first two months by not being understood than two years wear after.

I had quite good luck with my engine as I had been used to steam before. I worked up my land last spring with the engine and broke 280 acres, also working that up. I pulled six fourteen-inch plows and always had plenty of power.

At the beginning it took 1 2/3 gallons of gasoline per acre, but

strides towards perfection as the internal combustion engine. Excepting the self binder none have so revolutionized farming.

Last spring we purchased a 20 horse power International engine. We commenced seeding on the 25th of March and had good satisfaction. Having plenty of power we put the grain in rather deep, which proved best for an early, dry spring, as the grain all germinates evenly. By fixing the drills so that there was extra pressure on the discs following the engine wheels it is impossible to tell where the wheel marks were after the grain was up. We seeded 500 acres this way at the rate of 50 acres per day burning about 15 gallons of gasoline per day.

As soon as the wheat was in we commenced spring plowing for oats, pulling five fourteen-inch plows. Having plowed 140 acres we commenced breaking. We

the discs to hold them down and double disced and harrowed 300 acres of breaking. This did a splendid job as the engine wheels assisted greatly in pulverizing the sods.

Harvest was on by this time; so we put two binders behind the engine and cut 500 acres. We could have hauled another binder if necessary. We used a Hansman Hitch on the first binder. To my mind this hitch operates too slow and there is so much friction that it is hard to operate turning the corners. On the head binder we fixed a 2 in. x 4 in. extending from the goose neck to the end support of the reel. This carried the tongue of the second binder. To guide it we put a pully on the rear support and another underneath the seat, with ropes attached to the tongue and run through these pulleys back to the man on the binder. He could turn a corner easier than the man on the head binder. We found it necessary to take an extra swath off the corners occasionally in order to keep them round.

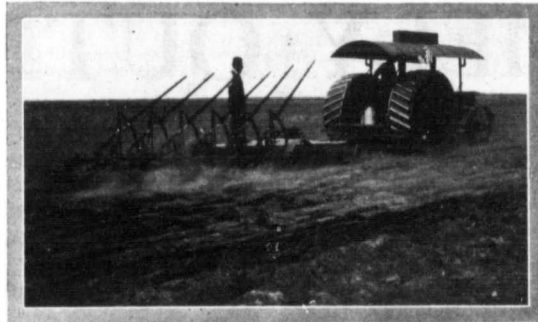
We drove a 27 x 42 inch separator for twenty days with good satisfaction and threshed as high as 1700 bushels of wheat per day. It takes more gasoline for threshing than plowing as it requires more steady power. Threshing is easier on the gearing, but otherwise the engine works just as well on traction.

After threshing we fall plowed and harrowed 250 acres, pulling five plows with the same width of harrow behind. The engine would draw this about the same as four bottom breaking.

Before it froze up we built a log float 36 inches wide in two sections and floated 300 acres, doing the job better than could be done by horses, because of the extra heavy float.

The International engine is cooled with water, requiring from one to two barrels per day. This can usually be hauled by a team working in the same field as the engine and thus requires no extra horses.

The engine has been busy from the time spring opened up until it froze up in the fall. We were tied up a few days for repairs as we could get most anything needed at the local agency three miles away. It has come very near to filling the place of the horses. Of course the two are most economical working together, but considering the present price of horses and the cost of producing feed, we find the engine does the heavy work cheaper than horses.



An Ideal Gas Tractor and a Cockshutt Engine Gang doing some real nice work

later when it became dry, it took 2 1/4 gallons.

I double disced for a little over ten cents per acre with a barrel of water per day. In plowing we use two men, but when discing one man.

I find plowing is harder on the engine than threshing as it is a steady pull all day.

When threshing I use a Rumely separator. The machine ran very smooth without a chug. That is one advantage of a four cylinder engine, your power is distributed evenly.

Yours truly,
B. A. Burton,
Fillmore, Sask.

A one Man Output.

We are glad to see you are alive to the times in giving traction plowing a good share of your attention. No other branch of farm machinery ever made such rapid

use a Cockshutt engine gang and usually pulled four fourteen-inch bottoms, but when the soil was moist we pulled five. We were able to make a round on the mile stretch in one hour and drawing four plows, that would be one acre per hour. One man would handle the complete outfit, but we usually worked long hours by relieving the operator.

Gasoline cost us 24 3/4 cents per gallon and two gallons would run one hour. The breaking averaged two gallons per acre. One gallon of cylinder oil at 40 cents and 1/2 gallon castor oil at 25 cents per gallon with a little axle grease and hard oil would run a day.

We broke 500 acres and commenced plowing summerfallow the last week of June. We turned 110 acres, drawing five bottoms.

This done, we attached two eight foot discs to the engine with a heavy set of harrows chained to



Heat And Flies Don't Rile THE BIG FOUR "30"



THERMOMETER 'way up in "G", swarms of vicious flies, no wonder the horse is a mighty inefficient harvesting power. The hot summer weather and pesky flies rile the poor brute so he simply cannot do his work properly. Inefficient power means delays. Harvest time delays spell ruin. The work must be rushed or the fruits of months of toil may be wiped out in a few hours. Insure harvest success—provide yourself with a power that laughs at heat and flies—that turns possible failure into positive success.

About Ourselves

ON June 1 the manufacturing plant and fixed assets of the Gas Traction Co., Ltd., of Winnipeg, became our property. We were the first and are to-day the largest builders of four-cylinder farm tractors in the world. Back of each engine we build stands a highly competent Service Organization whose one aim is to keep THE BIG FOUR "30" producing profitable results every moment its owner has use for it. We shall duplicate in Canada not only THE BIG FOUR "30," but also the Service Organization and the many other sterling features that have done much in the United States to make the name "Gas Traction Company" truly one to conjure with.

Immediate Delivery if You Wish it

THE BIG FOUR "30"

a splendid, four-cylinder, steel "Giant Horse" will pull five binders and walk steadily and tirelessly through your field—without a care for weather or flies—never stopping—never heating—always ready for more work. It makes positive and sure an operation that with another power is more or less of a gamble.

It Pays to Get Gas Traction Sense

Gas traction sense is simply knowing how effectively you can use the BIG FOUR "30" for every form of traction or stationery farm work. If you farm 320 acres or more, you want to find out all about this wonderful, all-purpose farm tractor. You want to know how it solves the horse and hobo problem—how it makes possible the yearly sale of your entire crop instead of only 80% of it. It pays to have this knowledge. Get it at once. Its free.



This Trade Mark on a Traction Engine is a Guarantee of Satisfaction, or No Pay

Free Facts & Figures on THE BIG FOUR "30"

Ask us to send you a free copy of our beautifully illustrated 112 page catalog, "The Book of Gas Traction Engines," which is crammed from cover to cover with straight-from-

the-shoulder facts and figures on gas traction operation—tells how THE BIG FOUR "30" comes to you subject to your approval—backed by a genuine "Golden Rule" guarantee. Get this full, free information to-day. Your name and address on a post card or slip of paper will do the trick. DO IT NOW.

GAS TRACTION CO.

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

156 PRINCESS ST., WINNIPEG, CANADA
Factories: Elmwood, Man. Minneapolis, Minn., U.S.A.

This Steering Device is worth \$1000 on any engine. An exclusive feature of THE BIG FOUR "30" and included with its regular equipment.



As to operate the engine, we have had no particular trouble. Any man with ordinary understanding of machinery should soon be able to run one successfully. We are chopping at present and can start in five minutes with the thermometer at at thirty degrees below.

Yours truly,
Chambers Bros.,
Delisle, Sask.

A Hitch Idea.

During the past year we farmed 500 acres most of which we plowed with our 22 horse power Hart Parr gasoline tractor and an eight furrow Cockshutt engine gang, which worked satisfactory. My brother and myself broke up 125 acres and part of the soil was so hard that it would just break up in chunks about four inches square and were as hard as stone.

Sometimes we had trouble going through scrub as the dead trees used to clog up between the shares and the little wheel in front, but we found out that by taking off the scraper it would give more room so that the thing would pass right through as the plow moved along. We have ten horses besides our plows and the engine, and employ two men to drive the horses harrowing and seeding and other work. At a good day's run with our engine we would use about two-thirds of a barrel of gasoline or kerosene, consisting of 39 gallons per day and about one-half barrel of water at a run from 7 in the morning to 9 at night, plowing from 15 to 20 acres each day at a cost of \$12.00 per day or 72 cents per acre.

We threshed about 45,000 bushels of grain last fall with our outfit. But did not have very good luck as it got cold and as we used gasoline we did not have the power. I believe the threshing is harder than plowing on the engine.

The way we attached our harrows to engine was to get a large scantling, good and strong, and tie it with logging chains to the draw bar of the engine, so that three feet struck out each end of the draw bar. First we tied one set of disc harrows with a short tongue to the center of the draw bar with a chain. Next was to chain another set on the scantling about two feet from the draw bar so that about one foot of the outside sets would lap over the work done by the first set with the short tongue. The reason of having the short tongue next to the engine is because when turning corners it would not get tangled up with the outside ones, and that the outside ones could lap over the work done by the first one when turning. From the draw bar was an extended chain 20 feet long fastened to a set of 24 feet

drag harrows. So that we could harrow and disc at the same time.

Yours truly,
F. N. Kirkton,
Gerald, Man.

Oil Costs 22 1/2 cents per Gallon.

I am using an I. H. C. 20 horse power gasoline engine and for plowing use a six furrow John Deere engine gang, using six bottoms for stubble. I can plow stubble at the rate of 22 acres per day on a consumption of 26 gallons of gasoline, and 12 acres per day on breaking, using about the same amount of gasoline. When breaking I only draw four breaker bottoms.

I have the teams that are working on the field take out gasoline and one barrel of water per day. I don't think stubble plowing is and harder on the engine than threshing, but I believe breaking is far harder, owing to the hummocks and badger knolls.

engine oil and machine oil and one pound of hard oil.

I also use the engine for cutting crop, using two Hansmann binder hitches. They work first class and the engine travelled as fast as good walking horses.

I got the outfit in 1909 in July, so I did not do much that year in the plowing line. I had no experience whatever with gasoline engines, so had to learn by experimenting, which is nearly always a dear teacher. My greatest trouble was packing the cylinder head. This I packed a number of times, never getting it to hold. An expert came and showed me where the trouble lay. It was the fact that when I thought I had both surfaces clean that was all that was necessary, but the expert showed me that this was not all; that all the little grooves needed scraping till they were clean as well; then the gaskets

In the fore part of the season we used gasoline, until we got used to the engine and knew how to handle it, then we used Engoline and water, which I think is best for a Hart - Parr. Gasoline cost 28 3/4 cents per gallon and Engoline 22 cents. For a good day's run it takes about 50 gallons of either oil used, and about a barrel of water with Engoline. Lubricating oil and grease cost about \$1.50 per day. We have no magneto on our engine, but I am sure it would be a time saver.

I like the oil cooled engines better than water in the frosty weather, as there is no danger of freezing.

I think the average cost for breaking prairie is about \$1.00 per acre. Plowing is harder on the engine than threshing.

I will try to describe a drill hitch which my father uses that I think is very good. He draws five twenty-disc drills. He drags

a timber eight inches square behind the engine and splices enough of them together to cover the same width of ground as drills. Then occasionally there is a shoe on the bottom of the timber about four or five feet long to keep it in position. It also has 2 x 4's about 2 feet long bolted to it sticking up with a 4 x 4 the whole length of the large timber to hold up the drill tongues and each drill are hitched to the timber with a crotch-chain.

Yours truly,
J. E. Stoughton,
Gull Lake, Sask.

Does Not Believe In The Big Outfit.

We own and operate an International 20 horse power Type C tractor, having used it since last March for grinding, plowing and threshing. We use a Champion grinder with nine inch plates which is small when compared with the power, but is large enough for our use.

For plowing we use the P and O disc plow with ten bottoms, we found too heavy for deep plowing on dry ground. So we changed the six bottoms for a four and in summerfallowing pulled two fours and a two section lever drag behind fastened from the plow with a cable. The six and four bottom discs made a side draft which takes lots of power.

Two men run the outfit in any kind of plowing, one man to steer and one for the plows, taking turns every other two rounds. This gives one man a rest for nearly half the time.

We do not use any horses except for riding to work and hauling two barrels of water, or less, per day and gasoline and other supplies. In plowing we use from twenty to twenty-five gallons

Continued to page 35



An I H C Tractor Pulling a 4-Bottom John Deere Engine Gang

When breaking I always have two men for stubble plowing often only have one. Although I believe it pays to have two men on the outfit.

I have done considerable discing. At first I used a plank bolted to the platform of the engine for a drawbar, but I found that with this rig it made turning too hard for engine. Now I use a truck made out of an old waggon truck cutting the axle in two and bolting an 8 x 8 inches on to each end thus making the truck pole on centre disc, long ones outside on harrow and scrub behind.

For threshing I have an Aultman - Taylor separator 27 x 42, using six stook teams and three pitchers in field. I have a man at both engine and separator. I average 550 bushels flax, 1200 bushels wheat and 2500 bushels of oats daily, using 22 gallons of gasoline at the cost of 25 1/2 cents per gallon and about 1/4 gallon each of gas

held and I have not had any more trouble with them.

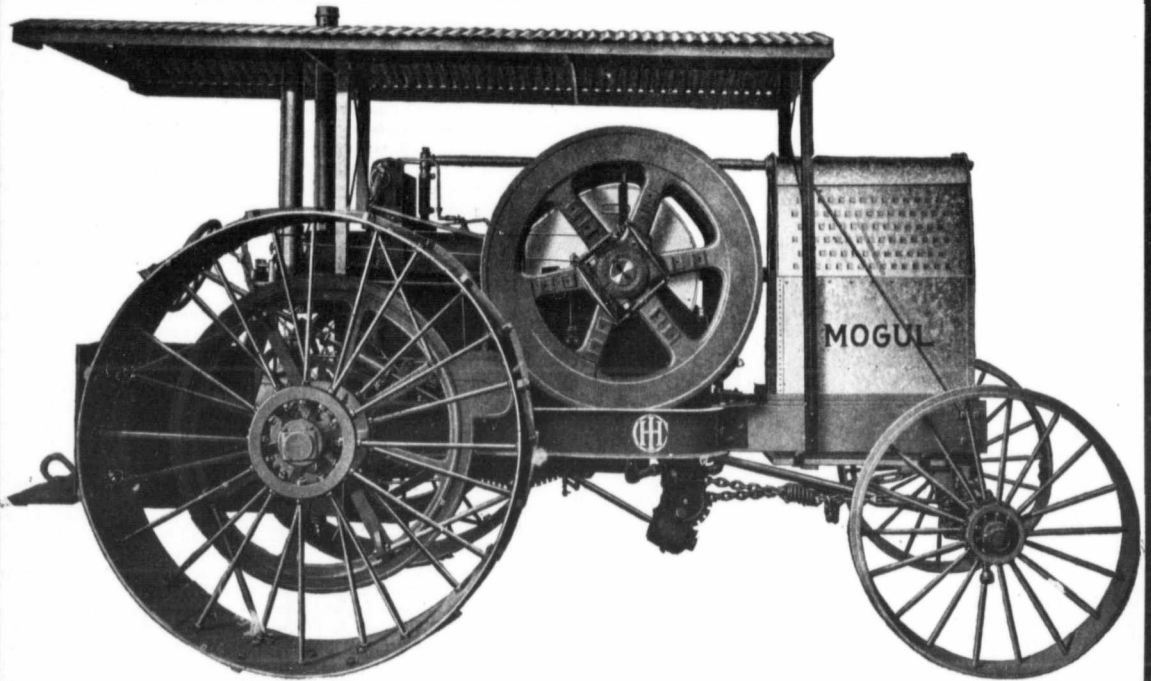
Yours truly,
Wilson Parker,
Cupar, Sask.

Likes the Oil Cooled Engines.

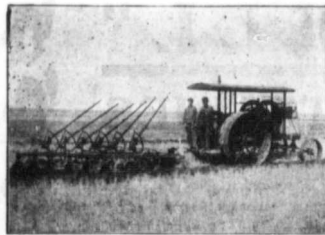
Our engine is a Hart - Parr 22 H. P. and have found it a very strong engine and it will do all it is expected to when properly handled. What we lacked when we started was experience. When they say an inexperienced man can run an engine successfully, they are apt to make a mistake. Surely anyone can run an engine while it is all right, but it is the man with experience that can keep it running.

We handled a six bottom fourteen-inch John Deere engine gang and had plenty of power to do so. We had two men with the rig and one to do the running around and to sharpen shares. We also ran a cook car, and kept a cow and one team with the outfit, which made it complete.

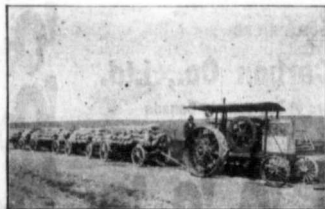
I H C Gasoline Tractors HAVE PROVED THEIR WORTH



20-H.P. I H C Tractor Pulling 6-Bottom Plow



20-H.P. I H C Tractor Pulling 6 Breaking Plows



20-H.P. I H C Tractor Hauling Grain

At the Winnipeg contest, held in Winnipeg in 1910, I H C tractors established new world records for the percentage of brake horse power delivered at the drawbar, and for low fuel consumption.

In the field thousands of farmers and threshermen testify to their economy, durability, and simplicity. They have made good under the most severe conditions—in many cases where others have failed.

You can find no power that equals the I H C gasoline tractor for plowing, disking, seeding, harrowing, harvesting, threshing, or hauling, and for all other heavy work where economical and dependable power is required. It is to your own advantage to get all the facts concerning an I H C tractor. See the I H C local dealer and let him tell you all the reasons why I H C tractors make good.

CANADIAN BRANCHES—International Harvester Company of America at Brandon, Calgary, Edmonton, Hamilton, Lethbridge, London, Montreal, North Battleford, Ottawa, Regina, Saskatoon, St. John, Weyburn, Winnipeg, Yorkton.

**International Harvester Company
of America**

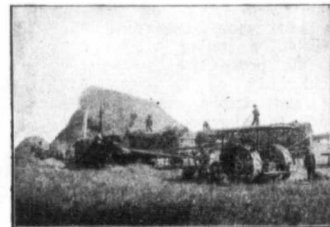
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CHICAGO

USA



20-H.P. I H C Tractor Pulling 3 McCormick Binders



20-H.P. I H C Tractor and Thresher



45-H.P. I H C Tractor Pulling 6-Bottom Plow, Harrow, and Land Packer.

Course in Gas Engineering

Conducted by D. O. BARRETT.

This is a new series of lessons that will continue for two years. These will consist of a number of practical talks on the theory and practice of the gas, gasoline and oil engine. They will be simple, illustrated where necessary, and of such a nature that the gas engine owner may easily adapt them to his daily engine work.

Lesson IX.

As discussed in some of the preceding lessons, the power developed by an internal combustion engine is primarily dependent upon three things: bore, stroke and speed. Of course, there are other factors affecting the power delivered, chief of these being the compression. While not at all true, all well designed engines may be assumed, for the sake of argument, to carry the same compression so that this factor may be neglected in all ordinary calculations. In detailed analysis, the value of the compression is, of course, taken into account in calculations of this sort.

Now, the total pressure on the piston at any time is proportional to the area of the piston, or in other words, proportional to the square of the bore, also to the length of the stroke, and to the speed. Increasing any of these will increase the power delivered in practically the same proportion. In these formulas we shall consider that ignition occurs at the proper moment, that valves are properly designed and timed, and other parts of the engine properly constructed.

Manufacturers' ratings are very deceptive and tell little of what their engines will really do, not all manufacturers allowing the same overload capacity, in fact some allowing none at all, so that their engines will hardly develop their rated horse-power.

As an example, the engine rated by one concern at 2½ h.p. has 4½ inch bore, 7 inch stroke, speed, 350 r.p.m.; another 4½ inch bore, 6 inch stroke, speed, 375 r.p.m.; another rated at 2¼ h.p. has 4½ inch bore, 5½ inch stroke, speed, 450 r.p.m. This goes to show how utterly unreliable a rating really is, and the prospective purchaser should insist on knowing the bore, and stroke and speed in order to make proper comparisons with other engines.

Let us look into the above engines as regards the ratios of the power produced by each. The power will be proportional to the product of the square of the bore, the stroke and the speed. For the first engine, then, 4½ x 4½ x 7 x 350=49,610; for the second 4½ x 4½ x 6 x 375=40,650; for the third 4½ x 4½ x 5½ x 450=52,945.

The first engine will then develop more power than the second in the ratio of 49 to 40 or about ½ more; the third will develop more than the second in the ratio of 52 to 40 or about ¼ more.

This affords a ready means of comparing any two engines, though, of course, nothing is said as to the actual power delivered.

The only proper method of determining what an engine is really capable of doing is by means of the brake test, but it is usually impossible for the purchaser to see an engine thus operated unless he should happen to be at the factory. In purchasing a second hand engine, however, it is well to insist that a brake test be arranged, and the engine kept operating under a load long enough so that any ordinary defects will show up at that time.

There are almost as many formulas for calculating the power of gas engines as there are makes of engines, but we shall give only one or two of the more generally used of these.

As discussed in lesson 6, the regular horse power formula may be used, and in this case the mean effective pressure must be assumed. The formula: $P \times A \times L \times N \div 33,000$, where P is the m.e.p., L the stroke in feet, A , the area of the piston in square inches, N , the number of explosions, or in the case of a four cycle gas engine one-half the number of revolutions. In the engine under discussion in lesson 6, the m.e.p. was found to be 85 pounds per square inch, and this is a fair average. However, using this value would give the indicated horse power, but we can assume a mechanical efficiency of 80 per cent., so that to obtain the brake horse power the m.e.p. used would be .80 x 85,

or from 68 to 70 pounds per square inch. Also the power produced by oil, gas or gasoline, will vary to some extent, but in a rough estimate of this kind these need not be considered.

The formula used by the Association of Licensed Automobile Manufacturers for rating high speed automobile engines is: the square of the bore times the number of cylinders divided by 2.5. Here the stroke is not directly considered in the formula, but this rating is assumed to apply to a piston speed of 1,000 feet per minute.

The more common method is to base the power delivered upon the piston displacement in cubic inches per minute. The speed is thus automatically taken care of. An average value of 11,000 cubic inches per minute may be used. The formula then becomes $.7854 \times D^2 \times L \times N \div 11,000$, where D is the bore in inches, L the stroke in inches, N the r.p.m.

Since in the above formula there is a constant factor of .7854 this is often eliminated and the following formula is a common one: $D^2 \times L \times N \div 18,000$, notation as above. The value of 18,000 is rather large for a well-designed engine, this bringing the power delivered too low. In formulas of this kind personal judgment comes in to a large extent, the compression, general design of the engine, etc., being taken into account.

Stroke-Bore Ratio.

At the present time there is much discussion through the columns of our technical journals regarding the "stroke-bore" ratio. This, however, more particularly applies to automobile work. A query was recently received regarding this point and will be here discussed. By a "long stroke" motor is meant one in which the stroke is 1.5 times the bore or greater. In the horizontal stationary type of engine, the long stroke engine prevails, because there is, in the first place, no necessity from a mechanical standpoint for shortening the engine. One of the most successful engines to come under the writer's observation was one in which the stroke was twice the bore. One of the chief points in the design of an engine is to keep the compression space of such a shape so that the area of the walls at the maximum compression shall be as small as possible. The theoretical form of compression chamber for minimum area of wall surface would be that of a sphere, but the nearest approach to this in practice is where the compression space is simply a continuation of the cylinder bore, the valves being located either in the head, or the cylinder proper. Engines are often built with pockets at the sides and, so far as can be determined, just as good results are obtained, but this construction, enables the designer to



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"XCELL"

DRY BATTERIES

Our batteries have proven the very best where a reliable, hot, blue, long spark is required.

Particularly adapted to either Stationary, Portable or Traction, Gasoline or Kerosene Engines. Long-lived—produce a sure strong spark.

We are now prepared to make prompt shipments of absolutely fresh cells from our Winnipeg Factory.

ASK FOR OUR PRICES

The Canadian Carbon Co., Ltd.

The Largest Manufacturers of Dry Cells in Canada

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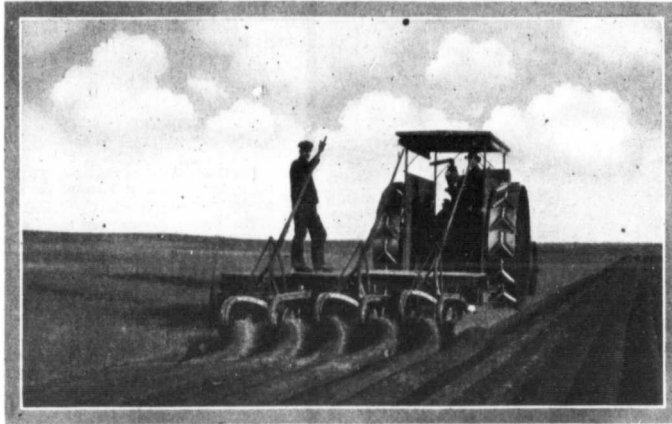


The "Flour City" Tractor

The Most Economical Power for Plowing, Threshing and General Farm Work

It is accurately balanced, free from vibration and delivers a steady motion to the belts

It does not require a fireman; it dispenses with the waterman and team; likewise the fuel man and team. It is not subject to boiler troubles and the danger of fire is eliminated.

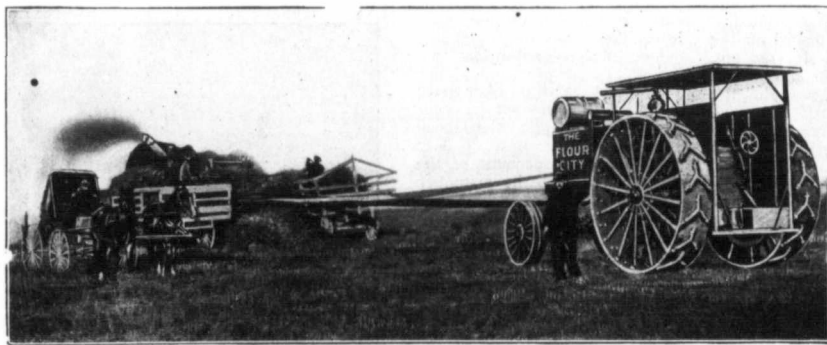


It is especially designed for plowing, and its general construction, simplicity, horse-power and weight, together with its large drivers, appeal to any one who has given the matter thoughtful consideration.

The rigid construction and excellent workmanship embodied in the "FLOUR CITY" minimises the liability of breakages under the severest strain.

Kinnard-Haines Co. 828, 44th Avenue North
Minneapolis, Minn., or

Ontario Wind Engine & Pump Co., - Toronto, Winnipeg, or Calgary



CATALOG SENT ON APPLICATION

CATALOG SENT ON APPLICATION

more easily overcome some of the mechanical difficulties presented in the design of the engine.

Another reason for the stationary engine being of the "long stroke" type is that they are usually built to operate at a low rotative speed, thus allowing a longer stroke without producing an excessive piston speed, which would rapidly wear the piston and cylinder.

Vertical engines are usually constructed with shorter strokes, and higher rotative speeds. One reason for this is that it is desirable to keep the height of the engine as low as possible. Inertia effects must also be considered as vertical engines have rather a

small base area compared with the horizontal.

For the past few years, the general trend of automobile design has been to use the short stroke motor. However, with the advent of lower powered cars, and in some cases, the reduction of the number of cylinders, the long stroke motor is coming into its own. The principal reason for the use of the short stroke motor was that for the same space and height available under the hood of the machine, a higher powered motor could be used. The mania for high powered cars is gradually dying out, and other factors are being taken into consideration to a greater extent.

For the same power the long stroke motor will, of course, have the smaller piston diameter. This will mean that the shock produced by the explosion will be less than in the other type. The long stroke engine is also more flexible on account of the greater radius at which the force of the explosion acts. It is thus possible to operate this type of engine over a greater range of speed and thus eliminate considerable gear changing, which is somewhat tedious to the operator. The short stroke motor operates at a higher rotative speed so that the number of shocks to the motor are greater in number as well as in value, so that the long

stroke motor is considered to be somewhat longer lived on this account.

Firemen frequently find it necessary to play the hose on their fellow firemen to protect them from the intense heat of the conflagration which they are fighting. Borrowing from this idea, an inventor has devised a helmet formed with a spray nozzle, which is connected to a small hose line. The water spouts out from the nozzle in all directions, causing a miniature cascade around the body of the fireman, enabling him to attack at close quarters fires that would be unendurable under ordinary conditions.—Ex.

Questions and Answers For Gas Engine Operators

This month we begin a new 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. Being a subscriber to the Canadian Thresherman and Farmer, I have taken a great interest in the Gas Engine Course. Having a 6 h. p. kerosene engine, I have had trouble with the crank head which was babbitted with hard babbitt, nearly as hard as brass. I have babbitted it with the best babbitt I can get, which is too soft to last any time, as the engine runs at a high speed, 700 r.p.m. Please let me know through your question column how I can make the babbitt harder. Would pure block tin do to mix with the babbitt, and, if so, in what proportion? H. L.

Ans. From all indications, the fault lies with the lubrication. We presume that your engine is of the vertical enclosed crank case type, as this is the style of engine most commonly used for kerosene. If the engine is lubricated by splash in the crank case, the amount of kerosene which passes the piston is sufficient to so dilute the oil as to soon destroy its lubricating qualities. Also solid particles of carbon residue find their way into the oil, and will assist in cutting out the babbitt. The proper system of lubrication for this style of engine is to allow the crank case to drain continually; a ring oiler being placed on the crank to supply oil for the pin, this coming from an external oil cup. It may be possible that the bearing is too small for the size of the engine, the pressure on the babbitt being too great for good wearing qualities. However, babbitt is the best material for the bearing, giving better results in most cases than brass. We should not advise trying to improve the babbitt by the mixture of tin. You should, however, get the best grade of babbitt possible.

Q. Will you kindly explain through your question box how to figure the road speed of my gas tractor. The engine runs at 275; the first driving pinion has 18 teeth, the large intermediate gear has 95, the bull pinion, 14, the bull gear 81, diameter of rear drives, 70 inches? F. R.

Ans. In calculating a train of gears, multiply the speed of the driver by the diameter, or the numbers of teeth in all the driving gears, then divide by the diameters or the numbers of teeth in all the driven gears (according to which quantity was used in the first case). The result will be the speed of the last driven gear in revolutions per minute. In your case, $275 \times 18 \times 14$, divided by 95×81 , gives 9 as the number of revolutions per minute of the rear driver. The circumference of the driver or the distance it travels per-

revolution is 70×3.1416 , or 220 inches, or 18.3 ft. Multiplying 12.3 by 9 gives 164.7 feet, the distance travelled per minute. Multiplying now by 60 to get the distance per hour in feet, and dividing by 5280 to reduce to miles, we have 1.87 miles per hour.

Q. I recently saw a large engine fitted with two mixers. I was told that one was for gasoline, and the other for water. Not wishing at the time to show my ignorance, I asked no questions of the engineer. Will you kindly tell me what the object of the mixer using the water.

W. M. D.
Ans. The engine you saw was probably supplied with a high compression. At heavy loads the heat retained in the valves, cylinders, etc., produces pre-ignition, which is destructive to the engine. As the water goes into the cylinder with the mixture in the form of a spray it cools the mixture and a portion of the heat generated by the compression is used to change the water to steam, this heat being again given out as useful work by the expansion of the steam. In operating the engine enough water is supplied to just overcome the "knocking" in the cylinder, due to pre-ignition.

Q. Is the spark on high speed automobile engines set to occur earlier than on the slow-speed stationary type? J. N.

Ans. Yes, on account of the less time it takes the piston to move from the point at which the spark occurs to the outer dead center.

The Romance of the Farm

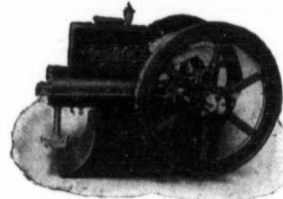
Continued from page 10

is slow and he may pine for the delights and distractions of the great city but if his great-grandfather could spend a week on the prairie demense of his descendants the worthy old gentleman could utilize every minute of the day during that week in the investigation of what would appear to him as miracles.

And besides his agricultural equipment the farmer is getting telephones and automobiles, wind-mills for pumping water, gasoline engines for sawing wood, a house with hot water heating delicately constructed cream separator and many other wonderful contrivances.

Really, great grand-dad could spend a year on his descendant's farm before he would become fully accustomed to all the marvelous changes which time and the inventor have wrought in agricultural life.

The Manitoba Gasoline Engines are Great Labor Savers on the Farm



They are always ready for work, in winter as well as summer, are not affected by cold weather as every engine is Hopper Cooled. No large separate water tank with small connecting pipes and circulating pump to freeze up or leak.

Have a perfect Cold Weather Automatic Mixer that requires no priming to start.

The Gasoline Supply tank is carried in the base below the intake valve. No possible chance of Flooding the Engine, Leakage or Waste, as with gravity feed engines.

The hopper, cylinder and base are all cast separate; in case of an accident can be repaired at very small cost. Quite different to those that have these parts cast all together; the latter method cheapens the first cost but not the last.

All small wearing parts are case hardened tool steel (never wear out). Has automatic battery and fuel cut out which insures long life to the batteries and economy in fuel consumption.

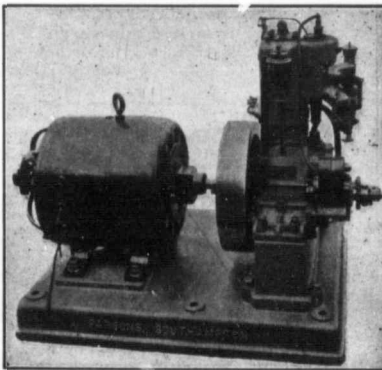
Write today for free catalog giving complete description of all sizes from 14 to 25 H.P. We also manufacture a complete line of Power and Pumping Windmills, Grain Grinders, Pumps, Saws, etc.

OUR FACTORY IS IN THE WEST

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

DEALERS! HAVE YOU PARSON'S AGENCY

AN ENGINE WITH A WORLD WIDE REPUTATION IF NOT, WHY NOT



Farmers want good Engines—PARSON'S ARE BEST FOR ALL FARM PURPOSES.

The admiration of all for Design, Material, Workmanship.

DURABLE
RELIABLE
ECONOMICAL

Simple to operate. Gasoline or coal oil.

BRITISH MAKE

Quality tells and sells.

You will have no complaints from purchasers if you sell them Parson's Four Cycle Magneto Ignition. No batteries or coil required. Phosphor-bronze bearings throughout. No Babbitt timing drive on magneto. Very economical on fuel. Will run all day at maximum power. Made in sizes from 7 h.p. to 180 h.p., and from 1 cylinder to 6 cylinders. Applications wanted for agencies in unrepresented districts. Write for territory, terms and booklet Canadian Agents: BRITISH-CANADIAN MOTOR CO., 317 PORTAGE AVE., WINNIPEG

Acorn Quality GALVANIZED CORRUGATED SHEETS

Guaranteed Not to Rust

For building Garages, Barns and Outbuildings

Write for Booklet

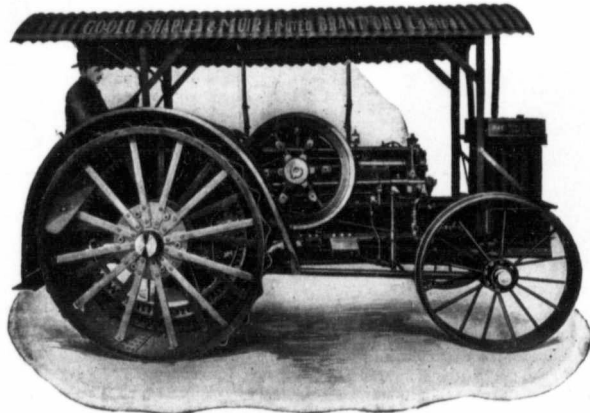
CLARE & BROCKEST LTD. 246 Princess Street
Winnipeg

Hart-Parr Kerosene Tractors (The Modern Farm Horse). See us at the Winnipeg and Regina Fairs.

THE "IDEAL" Gas Tractor

HAS NEVER BELIED ITS NAME AS A

And the best evidence the makers can offer the farmers of Western Canada as to its perfect efficiency as an **IDEAL PLOW ENGINE** and a tractor that can successfully handle every description of haulage and belt work is the very large number of Western farmers who are using it. We hold the most conclusive and flattering testimony from scores of practical farmers.



TWO SIZES—25-20 and 45-30

BUILT UP TO A REPUTATION — NOT DOWN TO A PRICE

The "IDEAL" engine is constructed on the sound mechanical principle: two cylinders opposed, placed horizontally on cast bed pieces; pistons are operated by a two throw crank shaft, placed in heavy bearings between two cylinders, insuring a perfect balanced engine, and obtaining the maximum power at the minimum cost of operation. The IDEAL has been carefully designed and built throughout, special care having been given to properly housing the gears to prevent dirt or dust affecting the wear and durability of the engine. The construction has been based on exhaustive field tests, from which nothing was omitted that could help in any way to ascertain most definitely what were the normal extreme capabilities of the engine. **They are the Simplest and Easiest of all Tractors to operate.**

GOULD, SHAPLEY & MUIR CO., LIMITED

BRANTFORD

WINNIPEG

CALGARY

Uses Portable Gas Engine for Threshing.

We have a Fairbanks-Morse 20 h. p. portable gasoline engine and a Waterloo Champion separator 28 inch cylinder and 42 inch body and we found this to be a splendid threshing outfit. It is a good outfit for the farmer's individual use.

We got the outfit too late last fall, so that we did not have any record run, but still we could have done worse, as I had no experience at all in running a gasoline engine and a separator.

We got the outfit running ourselves before the expert came, when all at once the loose pulley on the engine caught fast to the axle of the engine and that caused us a lot of work and time to get it fixed up again. Well we got running again when the engine stopped all at once and I couldn't make out what the matter was. So I went right to work and took the electric igniter out, but as I did not understand it very well I put it back again. The trouble, however, was caused by it as I found out later. Before trying the engine again I set the igniter to ignite a little earlier and we could get it to run, but it would misfire and be weak. So I stopped again and took the igniter out and then I found a little piece of metal lying in chamber and then I saw there was a little hole in the fixed electrode where the contact point should be; consequently, I saw that the contact point had fallen out. So my father and I went to

work and riveted the piece of metal which we found to the fixed electrode and then tried the engine again and it went fine for a while until the contact point loosened and fell out again and the engine stopped. We then took the fixed electrode out again and had a piece of iron braced in it instead of the other little piece of platinum and the engine went alright, excepting once in a while when the piece of iron would burn out a little, when I would have to file it. After that we did not do so badly. I had the cylinder journal hot once in a while and some odd troubles like that.

We had two stook teams and I ran the outfit, so in all we were seven men. We should have had two or three pitchers in the field, but could not get any men.

We averaged about 710 bushels of wheat and oats a day and we used an average of 22 gallons of gasoline per day at a cost of 19c. per gallon. We charged 5c. a bus. for wheat and 6c. for oats, that is stook threshing. I let the engine use too much gasoline. We should only have used between 18 and 20 gallons of oil. I learned quite a lot about the engine and next fall I hope we will do still better. The engine had plenty of power; in fact we couldn't feed hard enough to show any affect on the engine, the separator having full equipment.

The separator we have is a grain saver and it cleans the grain fine.

Yours truly,
Roy Forsman,
Earl Grey, Sask.

Please Make a Note of This.

For the convenience of customers in the tributary territory of Regina, the Maytag Company Limited, Successors to the Parsons - Hawkeye Mfg. Company of Winnipeg, have placed a complete stock of repairs and extras for all their self feeders at Regina with Mr. H. A. Knight to whom orders may be sent.

A new use for the vacuum cleaner was discovered by a Chicago electrician who freed his dog of fleas with one of these modern machines.

Send out into the world a mile every day. It is worth more than the longest Marconigraph ever sent across the sea.

Hart-Parr Kerosene Tractors (The Modern Farm Horse). See us at the Winnipeg and Regina Fairs.

OILDAG

Deflocculated Acheson-Graphite
—DAG—and oil

REGISTERED TRADE MARK

Graphite does not dissolve in any liquid or break under pressure, and these qualities, added to the unctuous softness and purity together with its non-coalescing nature, makes Acheson-graphite ideal for lubrication purposes.

The process of deflocculation takes Acheson-graphite powder so fine that it will go through a sieve having 40,000 meshes per square inch, and subdivides each grain of this finest powder into many still smaller particles—so small that they are invisible under a powerful microscope.

Oildag is this Deflocculated Acheson-Graphite suspended in oil, where it neither floats or sinks, but is evenly distributed throughout. Oildag will flow anywhere the oil alone will go.

Mr. Robert A. Ross, E.E., of Ross & Holgate, Consulting and Supervising Engineers, Montreal, after running a 1910 Model T Ford car with Oildag, in reply to an anxious inquirer, wrote the following letter:

A. B. Grove, Esq., Airdrie, Alberta.

Dear Sir:—Referring to yours of May 8th with reference to Oildag, I would state that the Ford Company warned me against its use, but being an electrical man, I reasoned it out for myself and came to the conclusion that, while a graphite was a conductor and if used alone would short circuit the magnet, oil was an insulator and that each small molecule of graphite was surrounded by a sphere of oil, so that in effect no short-circuiting could take place, and this has been proved in my case and doubtless in others. I may say my car is of the model of 1910, with the magnets in the oil bath. I do not think you need be alarmed on this score. Yours very truly, etc. (Signed) R. A. ROSS, E.E.

May 13th, 1911.

WRITE FOR OILDAG BOOKLET 778

FACTORY AT
SARNIA, ONT., CAN.

ACHESON OILDAG COMPANY

We are General Agents for GREDAG made by the International Acheson-Graphite Co.

PORT HURON,
MICH., U.S.A.

A Unique Tillage Machine

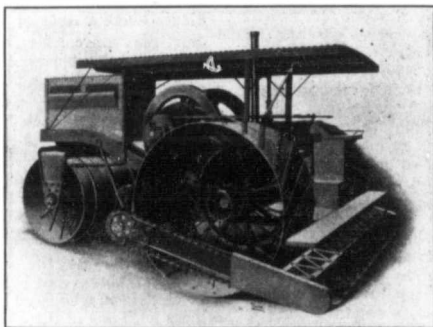
A Description of a Recent Invention in the field of Tillage Machinery by the Inventor
PROFESSOR HOMER M. DEER



Homer M. Deer, Brookings, S.D.

With the success of the traction engine gang plow has come a need for greater capacity and efficiency in soil tillage implements. The necessity of maintaining a large number of horses to perform the farm work that could not be accomplished with the ordinary plowing engine has tended to reduce the real worth and practicability of traction farming.

Herewith is illustrated and described a new traction tillage machine that will in the judgment of its inventor as well as prominent agriculturists and manufacturers, create for itself a place in the development of the great northwest and revolutionize methods of tilling the soil.



Motor Soil Tillage Machine

It makes no difference how hot the weather, how numerous the flies, an engine will keep going at the maximum speed all day, every day, early and late, will plow the hardest ground, harrow and seed, cut the harvest, thresh the grain and haul it to market. Notwithstanding mechanical power is being used so successfully on the farm, there is one link in the chain of operations that has not reached the degree of perfection that it should. Up to the present time, there has been no other tillage operation that will begin to compare with that of the big engine gang plow for efficiency and thorough work; that is, for a given amount of energy expended, no operation in the preparation of a seed-bed following will result in so much benefit to the soil as the act of plowing itself.

Plowing done is only preparation of the seed-bed well begun. If horses be used in disking, harrowing or seeding, a large amount of their energy is consumed in moving their big clumsy bodies over the soft ground, leaving only a part of their effort to be utilized in actually pulverizing the soil. In the way that mechanical power has been used for the same purpose, not only is the weight of the engine so concentrated on its drive-wheels as to injuriously pack the soil, but there is a much greater loss of energy proportionally than if horses be used to draw the implements for tilling the soil.

At the Winnipeg agricultural motor competition last summer, it was conclusively demonstrated that the tractive effort on prairie sod of nine of the leading makes of gasoline and kerosene tractors and of six steamers, was on the average just a trifle over 62 per cent. of the delivered horse power of the engines. If 38 per cent. of the power of the engine is dissipated when pulling on a firm footing, how much more will go for naught drawing harrows and

seeders over plowed ground? It will be seen from the description of the functions of the various elements of the motor tilling machine shown in the cut, that the engine required to move its weight over soft ground is put to useful account, viz., that of firming the lower layers of the soil and putting the surface into such a condition that the action of the pulverizing spiral will be most effective, in contradistinction to that of the energy of the horse or usual form of tractor which is almost entirely dissipated, or at most results in only a few foot-prints or the uneven compacting of the soil by the engine drive-wheels.

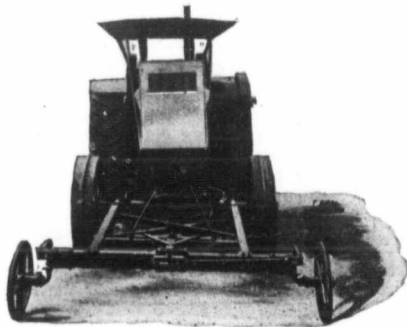
In order to prepare anything like a seed-bed and seed in a single operation with engine power, so many disk harrows, spike-tooth harrows, packers,

You Can't Make A Straight Furrow

AND KEEP IT SO, WITHOUT A Cuddy Steering Device

The CUDDY STEERING DEVICE is for use in steering a Traction Engine while plowing. It is also a self-steering device when the engine is being used for disking, seeding or harvesting. It is adaptable to any engine and will keep it so that perfect plowing is the result. It has been tried under all kinds of tests and conditions in various kinds of land—has been used in disking, breaking—and has proven a complete success. This is the only self-steering device on the market, which can be attached to ANY engine.

When a plowing engine is used without a steering device, the strain on the man standing at the steering wheel staring at the furrow and guiding his engine, for from 12 to 15 hours a day, can only be realized by a man who has actually had this experience.



The cut shows the CUDDY STEERING DEVICE attached to a 20 h.p. International Gas Tractor. At the Winnipeg Exhibition Trial Grounds in 1910, this device was demonstrated and was unanimously acknowledged to be the solution of all engine steering troubles.

Claims which you can Prove by Seven Days' Trial which we give to bona fide purchasers

1. It is a well-constructed, perfect steering device, is made of I beam steel, and is practically unbreakable.
2. It will follow the furrow and insure good plowing instead of continually cutting and covering. Front plows will cut full width always—thus the plowing will be straight and uniform.
3. ONE MAN is easily able to do perfect work as he has absolute control of engine at all times. He is enabled to fill oil and grease cups, and keep grease cups screwed down, tighten all nuts, which become loose on engine and plows, and still keep travelling.
4. It is easily and quickly manipulated, as the leverage is so arranged that the engine will respond to the impression of ONE FINGER on the steering wheel. With a few turns of the wheel the engine is at its shortest turning point, which will save from 4 to 6 rods in the average round. The operator can lift the plows at the ends without stopping.
5. It is no encumbrance to the engine, as it is only about five feet from the engine axle to truck axle, thus increasing instead of decreasing the efficiency of the engine.
6. It is a great saving on the engine as it is carried in a straight line, instead of being subjected to the continual twisting and jerking of the front end. The engine is therefore more steady in motion.
7. It is reasonable in price.

REFERENCES:—The International Harvester Co., Winnipeg.
A. G. Schreiber, Emmert Land Co., Oak Bluff, Man.

Always state type, make, H.P. and year of purchase of your engine when ordering.

Further information gladly furnished.

Responsible Agents Wanted among Agricultural Machinery Dealers

Manufactured and Sold by

The Western Steel & Iron Co. Ltd.

WINNIPEG CANADA

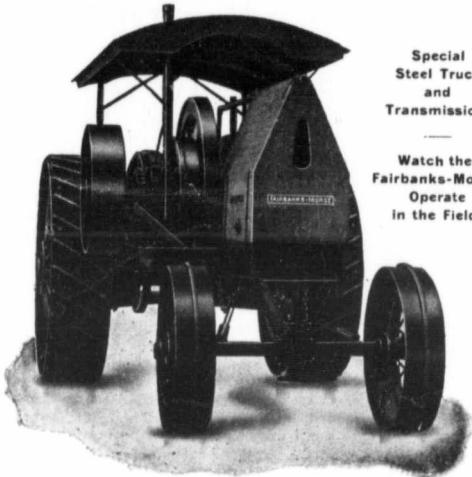
FAIRBANKS-MORSE TRACTOR The Most Successful Plowing and Threshing Engine

ALL THE SPECIAL PATENTED FEATURES of Fairbanks-Morse stationary and portable engines embodied in their construction, and these combined with a most substantial steel truck and transmission make it an engine of great economy on fuel, simple to operate, reliable under all weather conditions, and special transmission enables it to transmit great draw bar pull.

BE SURE TO INVESTIGATE THE FAIRBANKS-MORSE BEFORE ORDERING. See them at work at Winnipeg and the other exhibitions, also let us refer you to our many satisfied Tractor customers.

PRICE AND TERMS ARE RIGHT.

Slow engine speed insures long engine life and profitable investment.
SPECIAL CONTROL—Only One Control Lever.

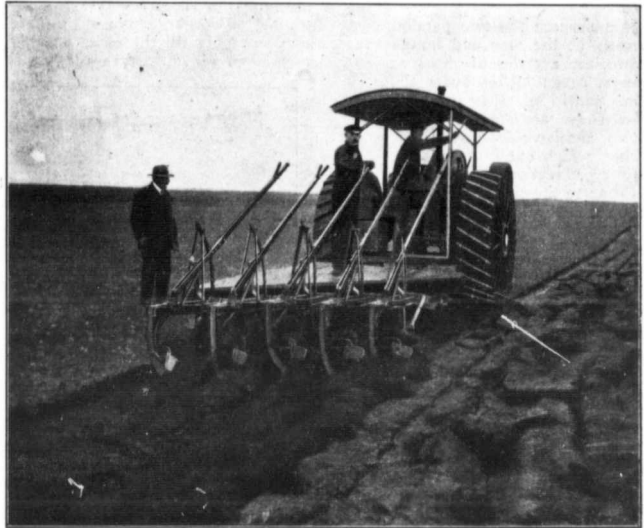


25-Horse Power Fairbanks-Morse Tractor.

Send for Catalogue and full information—

Special Steel Truck and Transmission.

Watch the Fairbanks-Morse Operate in the Field.



Outfit at work—Breaking on Farm of J. W. Johnston, Yellow Grass, Sask., on the Soo Line.

The Canadian Fairbanks Co., Ltd., 92-94 Arthur Street, Winnipeg, Man.

SASKATOON. CALGARY. VANCOUVER. MONTREAL. TORONTO. ST. JOHN, N.B.

plankers, seeders and what-not must be attached in a series as to require a good sized field in which to turn around; and even then, the results are not what they should be. If the power is available, why not condense the operation into small compass, and make the operation of pulverization positive and forcible? In the ordinary way, energy is spent with no avail in pushing aside many a big hard clod, whereas if force were brought to bear in the proper way, it would result that they would be crushed and thoroughly pulverized. With this engine not a single square inch of surface can escape the action of the cutting spiral from one end to the other. The question will naturally arise in the mind of the reader, what will happen in stony ground? Small stones will be handled as readily as with the common mold-board plow. They will not be pulverized, however, as the machine is not designed for a rock crusher; neither can they wedge fast between the spiral and its cutting edges. Such stones will be forced out behind from beneath the spiral. The shoes underneath the framework preceding the spiral will effectually lift the pulverizing device bodily over a large stone.

The size of machine shown in the illustration is driven by a twenty horse power gasoline engine and travels at the rate of 2.5 miles per hour. It weighs about seven tons, covers a strip twelve feet wide, has a drawbar

to which the widest seeder made may be attached, and the preparation of the seed-bed and seeding accomplished in a single operation. Its weight is uniformly distributed on one front or steering roller, made in three sections, and two rear drive-rollers. The latter are connected with differential gearing to facilitate turning, and the front roller is controlled by a friction steer-

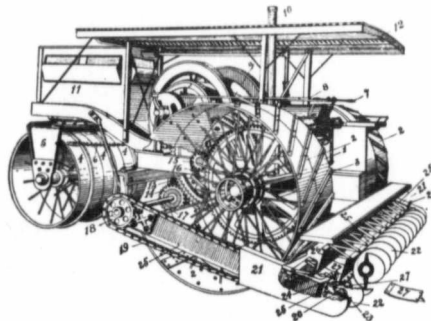
ing device, making the work of guiding the machine very easy. As all soils are rendered more or less open and loose by plowing, the value of a heavy rolling like this machine is designed to give can hardly be overestimated in its effect of establishing good capillarity with the deeper soil water. Clods are severely crushed, furrow-slices after the sod plow are pressed into firm con-

tact with the damp solid earth below, and all large cavities are effectually closed. Besides increasing the amount of moisture in the soil by thus firming its texture, its conducting power for heat is greatly increased thereby, and ground that is naturally cold in the spring will warm deeply at a more rapid rate.

This machine will not injuriously pack the soil. Builders

uniformly distributed on two rear rollers and one front roller over a strip twelve or more feet wide, will have none of the bad effects that may have been anticipated.

After the rollers have passed over the furrow slices, pressing the latter well home, very large clods or clumps of earth cannot now exist anywhere in the plowed ground, for the pressure of the rollers is over one thousand pounds per lineal foot, and is sufficient to crush them all from top to bottom. Having restored better contact of the plowed ground with the solid earth below and its never-failing supply of moisture, the next step is to thoroughly pulverize enough of the surface to make an ideal seed-bed. This is accomplished by means of a cast steel spiral driven at a rapid rate by power communicated from the engine through sockets and steel roller chains as shown. The action of this spiral is somewhat like an auger, except that the cutting, of course, takes place along the disk-like edges on the side instead of at the end. There is available for each cutting edge of the spiral, a force of more than fifty pounds moving literally at a rate of over 600 feet per minute. This latter fact will convey some idea of the wonderful pulverizing effect. The combined motion of the machine forward with that of the cutting edges of the spiral laterally several times as fast, gives a re-



The Machine in Undress.

of gasoline tractors claim an advantage over the steam engine in that their machines are much lighter, and are very successfully used for disking, harrowing and seeding without danger of injurious results. If an engine having drive-wheels twenty inches wide and front wheels ten inches wide will do no harm, it is self-evident that this machine, which has its weight

sultant diagonal movement across the furrow slices that is the most effectual that could be desired in cutting down the high places and filling in depressions on the surface. In conserving moisture in a windy plains country, the levelling action above mentioned is of no little importance.

Underneath the two parallel channels at the rear and bolted thereto, are a series of shoes or runners, seven inches apart the entire width of the machine. These shoes are curved on the bottom, and have downward projections which cut into the soil. Their cross-section at the rear conforms to the circular shape of the spiral, and forms in combination with the flange on the lower side of the rear channel, the edge along which the pulverizing spiral cuts. The shoes carry the weight of the pulverizing device when in action, neutralize any side-draft that may be occasioned, and prevent the earth from escaping the positive and forcible action of the cutting edges of the spiral. At either end of the spiral are self-aligning ball-and-socket bearings, which may be raised or lowered within certain limits by means of a screw motion, thereby regulating the depth of the cut.

The framework of the pulverizing device is made of structural steel channels, well latticed and braced, and is free to move up and down about the axis of the driving shaft in front of the

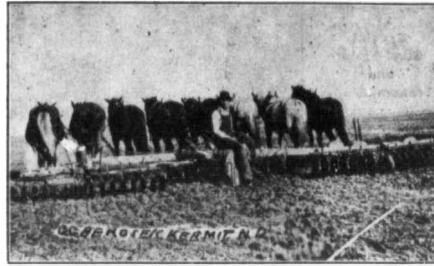
drive-rollers. It is raised for transportation, or when not operating, by means of a friction device geared to main engine shaft, and controlled by a foot-lever convenient to the operator. The spiral and its connection with the engine can also be thrown out of gear. Besides being a machine that is in every way designed to conserve moisture, and thoroughly till the soil in an economical and ideal man-

ner, it may be divested of its extraneous parts and used for any of the many purposes to which any tractor is adapted. In regard to the daily accomplishment that may be expected of this machine and the cost of operation, take for example, such conditions as exist in the Dakotas. We will suppose that we are preparing the seed-bed and seeding in a single operation. Gasoline will cost about eighteen cents per gallon, and the engine

will consume very nearly one pint per horse power per hour. Assume the cost of two men for operators at \$3.50 and \$1.50 per day respectively, and the cost of oil at \$1 per day. Then, if the working day be ten hours, 36.25 acres will have been prepared for seeding and seeded at a cost of twenty-nine cents per acre. However, at that time of year, it is daylight about fifteen hours out of twenty-four; and as this machine is designed to take the place of the ordinary mold-board plow which is in almost universal use. This, however, is not the case. The average farmer would be quite reluctant to adopt such a plan, even if it could be demonstrated that there is some other method of turning up the soil which will accomplish the desired end with a less expenditure of time and energy. Many inventors have studied this problem, as evidenced by the numerous patents issued in the United States and foreign countries, for plowing machines of one kind or another; but none of them seem to have been successful in getting these devices into general use.

The writer is of the opinion that the mold-board plow in its present state of perfection fills a place that no other farm implement can. No other instrument devised up to the present time penetrates so deeply into the soil and effectually brings lower layers to the surface; and it is well known in agriculture that it is very desirable to develop and maintain a deep soil. Another difficulty in the way of any kind of mechanically operated plowing device seems to be that they are not well adapted to place beneath the surface manure, stubble and other organic matter where it will not be in the way and where it may be rapidly converted into humus.

There are undoubtedly occasions in certain sections of the



A Fair Tillage Machine.

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the machine does not get tired and the work of the men is very light, most farmers would prefer to keep going more than ten hours. In twelve hours, 43.5 acres can be prepared and seeded at a cost of twenty-six cents per acre; and if the crew are so industrious as to be willing to work a little less than fourteen hours, fifty acres may be the day's record, at a cost of twenty-four cents per acre.

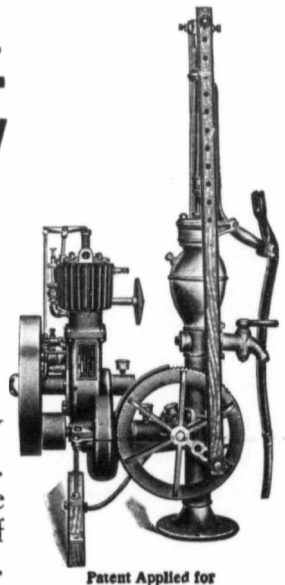
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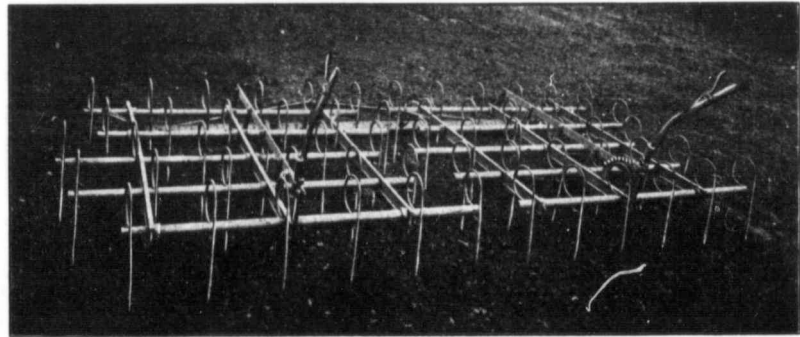
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northwest and other parts of the world, when it is expedient to use a disk harrow and omit the plowing operation. In such cases, a powerful and efficient mechanically operated tilling device will not only take time by the forelock, but accomplish the work in a much more satisfactory manner. Nevertheless, there is a necessity to plow deeply some-

It cannot be disputed that under favorable conditions, traction plowing is superior to that done with horses, and leaves but little to be desired as far as that operation is concerned; but in the tillage operations following, all the multiplicity of packers and disk harrows that can be fastened to an engine will fail to produce in a single operation a seed-bed that

thoroughly firm the lower layers of the soil, in order to establish capillarity with the ground-water and moisture in the sub-soil. It should be capable of thoroughly and intensely pulverizing the surface of the soil to any depth that is desirable for a seed-bed. This latter operation aerates the soil, causes a rise of temperature in the seed-bed, and forms a

even germination and the best results. If the plants get a good start and are well rooted into the soil, they are in a condition to resist drouth; but in the way that land is ordinarily prepared for seeding, during the several harrowing operations the soil may become so dried out that none of the seed will germinate for a considerable length of time, or until rain falls, and some will not germinate at all or will be blown out of the ground by the wind. As between the two methods then, in a certain kind of season, there may be all the difference between success and failure; and in any case, no matter what the season be like, the machine that does all the work in a single operation has everything in its favor.



One of the Summer Tillage Possibilities

Special attention is called to the use of this machine in preparing new lands on which it is proposed to sow flax for the first crop. In regard to the proper depth to break virgin prairie sod, there are varied operations. Some contend that shallow breaking is best, claiming that the sod will rot quicker, and that flax seed sown upon it will soon penetrate it and reach the moist solid earth below, thereby acquiring a good foothold in the soil. It is very doubtful if the above views are correct. It is true that thin slices of sod will soon become as dry as a carpet, the roots will die, and there is but little sustenance therein for the

times, and this can be done most successfully with mold-board plows.

Since the advent of traction engine plows, farmers have become more swinish than ever in their tillage methods. Larger areas are cultivated, hired help is becoming scarcer, more high-priced and unreliable every day, and not enough horses are kept to properly prepare a seed-bed.

is even passable, and certainly not comparable to the good work of the plowing.

What we need to-day is a counterpart to the traction plow—a powerful mechanically operated "tilling" machine in the true sense of the word,—a machine that will really prepare a seed-bed as it ought to be done, do it quickly, and at small cost. It should be a machine that will

mulch on the surface, thereby effectually preventing the loss of moisture by evaporation. Such a machine should be operated by engine power, be self-propelling, and capable of drawing a seeder of the same width. It will then be possible to thoroughly prepare the seed-bed and seed in a single operation. Sowing the seed while the soil is quite moist will insure the quickest and most

THE GASOLINE ENGINE ON THE FARM

By R. WHITEMAN

One of the most labor saving machines of recent years is without doubt the gasoline engine. Its ease of operation, and cheapness of fuel make it a very desirable power for farm work. There are so many jobs now done by hand, such as sawing wood, pumping water, grinding grain, and a host of others that take a great deal of time, let alone labor, which the gasoline engine can do. Also it greatly shortens the time required to do these jobs, giving the farmer more time as well for his work, thereby saving time which means money on the farm as well as elsewhere. With one of these handy machines, it is possible to get the work done when most convenient. If the supply of ground grain for the stock runs low, all that is necessary is to start your engine attached to the chopper or grinder, and by the time it would have taken on the road to town for chop, there will be enough crushed to last several days.

There are numerous makes of engines on the market, any one of them are capable of doing good work under proper conditions and also depending on the man running it. The best engine for the average farmer is a portable one, because it is hard to so localize the work that a stationary engine could run all the machines for the different jobs required of it, while a portable can be moved from place to place, quickly as required. When purchasing an engine be sure to get one of sufficient power not only to suit the present needs but those that are sure to follow the advent of the engine on the farm. For as sure as the engine runs well on a few jobs many other jobs will follow for it to do. Therefore, get an engine of nearly twice the present requirements. No power whether steam or gasoline can do efficient work if overloaded and the waste in fuel alone amounts to a considerable item in a short time.

So many uses open up for a gasoline engine on the farm that it is impossible to deal with them all here, but a few are worth mentioning. One of the most backbreaking jobs on the farm is cutting of the year's supply of wood. It requires several days of steady sawing by hand to complete the work, but with an engine it is a matter of a few hours. Another job is that of pumping water for the stock during the winter months, but by getting a pump jack attached to the pump and belting up the engine, all that is necessary is to start the engine and the stock can get a full supply of water while you stand by and look on, which is considerably easier than bending over a pump handle. Again with a small engine the

seed grain can be put through the fanning-mill during winter time when there is no rush of work, and one man can do it, because he is not needed at the handle, thus leaving him free to put in the grain and take away the bags of cleaned seed. These are only a very small number of the uses to which a small engine can be put around the farm.

In the dairy, the cream separator can be belted to the engine and with a speed governor on can be run at a more uniform speed than by hand. The churn can also be belted to run, and if a power butter mixer is procured the heavy work of the dairy will be lessened. This means a great saving of work for the women folks. The work can be done more quickly because when the engine is running the various machines other work can be done at the same time. The milk can be separated, and, at the same time, the previous gatherings of cream can be churned, thus you see with the same amount of power expended two operations are going on, which by hand would cover a considerable period of time.

If the farmer so desires, an electric lighting system can be installed. The house can be lit up from cellar to garet, and no coal oil lamp will be necessary. What a splendid thing it would be to go out to the barn or one of the other out buildings, and, instead of carrying a lantern around (with its constant risk of fire), all that would be necessary would be to turn on the power, when the building would become flooded with light. The expense of installing a system is not very great once you have the engine and as the coal oil bill is quite an item each year it would not be long before it paid for itself.

All these uses and many more are waiting for the gasoline engine on many Western farms. Men who a few years ago purchased one are loud in their praise, claiming they couldn't possibly do without one now, which proves that a trial is only necessary to prove their worth. The foregoing has only touched on the smaller portable engines for those requiring a light farm power. But for the farmer with large areas under cultivation, there are the many tractors to choose from; these will do his plowing and threshing besides running smaller machinery. Still there are many farmers on small farms who, by purchasing a small engine, of perhaps 5 to 10 h.p., can save a man during the winter months whose wages would make a big payment on the engine. It gives the farmer more time to attend to other things by the speedy way it does a job, lessens the drudgery of chores, which sickens so many farm boys and gives him more

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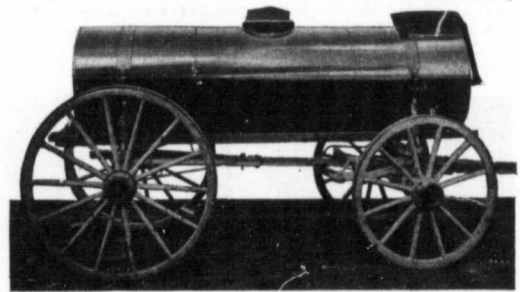
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time for the social side of life. The gas power is here to stay, and by its use the farmer can do more work, and better work in less time than can be done by hand.

By JOHN BRYCE

In this scientific twentieth century age we claim that farming is a most noble profession which will easily compare with any other, if not ranking as the highest. There is no other occupation on civilized territory that receives more support and encouragement from the various governments than the farmer. If farming is so important and holds so high a place in the up-building of a great and mighty nation, it must be carried on along business lines. It requires men with business ability, men who are clear-minded, and are willing to spend much thought and energy to make their business a decided success.

Therefore, if the farmer of today is to keep pace and compete with other up-to-date and successful lines of business, he must be willing to instal the most up-to-date machinery. Many very valuable and useful machines may be installed to eliminate to a certain extent the strenuous, busy life on the farm. The most important of these labor saving devices or machines, in my estimation, is the gasoline engine, or in other words, the internal combustion engine. At no time

in the life of the Western farmer has there been a machine more gladly welcomed than the above mentioned one. Yet there are many farmers who seem to be so conservative, so prejudiced, against any new invention that they will still uphold the idea that they are not a success. Why should this be the case? Every farm should be as it were an experimental station, the owner of which should earnestly endeavor to improve on that which he now has. If he is mechanically inclined, he will be the better able to cope with the many puzzling problems which he will be facing from day to day in the up-building of an ideal home on the farm.

The gasoline engine, for many operations, to my idea, is the ideal power for the farmer. By this I do not mean to say that it is the cheapest power available, because there is the wind-will, the horse power, and the steam power, which will, in many cases, furnish cheaper power than the gasoline. The great advantage of the gasoline engine is that we do not loose time, it is always ready for work if kept in proper running order. I repeat this again, because the gasoline engine claims for itself and for its services that it must receive attention, every part must be kept working in harmony with each other, if not, there is sure to be dissatisfaction, and thus the machine becomes a handicap to the farmer's progress.

The gasoline engine has not yet reached a state of perfection because each year the many different manufacturers see new and more up-to-date improvements, however the farmer is safe in investing in almost any of the engines from one horse manufactured by reliable firms of power up to forty horse power to-day. This being the case, I see not why almost every farmer or at least all those who can afford such a machine should be without such a luxury and labor saver.

In mentioning a few of the strongest points in favor of the gasoline engine, I would say that however little experience the buyer has had in the past with the development of power, he will find that there is little or no danger from explosion as in steam engines, this in itself is a decided advantage in favor of this type of engine.

Secondly, there is no danger from fire if one is careful in the handling of the fuel, but when operating a steam engine on the farm one has to be continually on the look out for fire, and no matter how careful the engineer may be there are always some heavy losses incurred by fire.

Thirdly, the engine can be adapted to almost any kind of work you wish to do. It has a very wide range of usefulness on the farm. For proof of this we need only to visit a few of the most progressive and up-to-date farmers of progressive dis-

tricts. It is capable of operating successfully the smallest and most delicate of machinery as the cream separator and the sewing machine, or, on the other hand, machinery as the large threshing outfit or the large elevating road grader which does such effectual work on our roads. Some would consider that road-making is not farm work, but I consider it one of the most important of farm operations, as it goes hand in hand with good farming.

Fourthly, it will work satisfactorily in all kinds of weather. They may be used during the warmest days of summer or the reverse of these conditions which we are all so well acquainted with during our winter months. They also have a decided advantage over the steam engine. Those working around the steam engine know that the wind causes much trouble, as in firing, lack of power, and consequently leaky flues, thus money is lost and much valuable time is wasted. Mention might be made here of the safety from fire from using the gasoline, because if we give it a little thought we can easily see that the risk would be almost eliminated.

Very few farmers in our Western country realize how many uses this machine can accomplish. Some have an idea they are only capable of plowing and threshing, but this is not the case. They have proven in the

Continued to page 70

JULY



The Canadian Thresherman and Farmer

CANADA'S FARM MACHINERY MAGAZINE

PUBLISHED MONTHLY BY
E. H. HEATH COMPANY
LIMITED
WINNIPEG - CANADA
Members Western Canada Press
Association
Authorized by the Postmaster General,
Ottawa, Canada, for transmission as
Second Class Matter.



E. H. HEATH
PRESIDENT AND MANAGER
E. W. HAMILTON
SECRETARY
F. C. BRAY
TREASURER

1911



"Everything begins and ends with the soil."

Fairs are Provided for Amusement and Instruction, or at Least They Should Be

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No advertisement is allowed in our columns until we are satisfied that the advertiser is absolutely reliable and that any subscriber can safely do business with him. If any subscriber is defrauded E. H. Heath Co., Ltd., will make good the loss resulting therefrom, if the event takes place within 30 days of date advertisement appeared, and complaint 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."

BY the time this issue of our magazine reaches our readers the summer fairs in Western Canada will be in full swing. The agricultural fair is designed for the farmer. It comes in most cases at a time when work is not so pressing, and he is enabled to get away with his family for a few days and enjoy himself.

It is true that the faker at the fair ground is an ever present nuisance. Like the poor he is always with us. He makes a business of such things. He outlines his campaign as carefully as a politician and he plies his trade as religiously for he reaps many golden dollars, and in few cases does he give value received.

But apart from this side of the fair there is much to see that is instructive. Every lover of a good horse likes to watch the showing and the race track. Every lover of a good cow and sheep or pig finds no end of enjoyment in the stock barns, and to the farmers of this Western country the machinery exhibits should prove most valuable and interesting.

The best that the manufacturer has to provide is shown here and competent men are on hand to explain each and every detail. The gathering together of so much machinery forms a most excellent basis for comparison, enabling the farmer to choose his machine more intelligently.

Here-to-fore it has always been the custom of newspapers to solicit subscriptions at the fair grounds. Rightly pursued, this is a perfectly legitimate business and insures the farmer the renewal of his subscription to his favorite publication or publications with very little effort.

However, within the past year or two there has been brought into the country by some unscrupulous individuals a hoard of subscription solicitors who are nothing more than gamblers and fakers. They care nothing whatsoever for the newspaper game and will dupe the farmer in every way that they see fit or at any time that they get a chance. From the time that the farmer enters the fair ground until he leaves it he is followed by this gang and importuned, threatened and bothered to excess until he, the farmer, becomes so disgusted that he will not subscribe for any paper.

The selling of a newspaper subscription is just as legitimate a business as selling a piece of farm machinery, and we believe in some cases more so, as more value is given for the money. But when the farmer is short changed, loaded up with premiums that are of absolutely no use to him, and bothered until he subscribes for a paper that he does not want, the business is anything but legitimate.

It will doubtless be welcome news to many of our readers who will attend the Canadian Industrial Exhibition at Winnipeg in 1911, that there will be no subscription soliciting on the Winnipeg fair grounds. The Association is to be complimented on the move that it has made. If anyone wants to subscribe, it will be necessary for them to go to the paper's place of business, as no canvassing on the fair grounds outside of such places will be allowed, and any of our readers who are solicited in any other

place for any publication will confer a favor on The Canadian Thresherman and Farmer and on the other legitimate publications here by reporting.

We believe that this movement will meet with your hearty approval, and without in any way trying to place credit where it is not due, we must however state that this magazine was the first to advocate such a move. Almost a year ago we took it up with the Exhibition Association and they at once saw the advisability of such a thing, with the result that every publication has been advised that there will be no subscription soliciting on the Winnipeg fair grounds, and if any publication does attempt such a thing outside of their own place of business, there will be trouble.

This does not mean that we do not want to meet our readers, but we want to meet you in such a way that you will be glad to come and see us again. We have accordingly prepared an unusually nice exhibit for you.

Instead of the old time tent that we have used for years, we have had constructed at considerable expense a house. This house is made wholly and solely for subscription purposes and is of the portable type, so that it can be easily taken down and stored during the winter time. It will be full of good comfortable chairs. There will be an ample supply of good cool drinking water, and we want you to make it a point to come and see us and bring your friends. Arrange to meet your friends there.

The "White house with the green roof" is designed especially for you and we want you to make use of it. If you as a farmer have business in and about the fair grounds, leave your wife and family there. They will be more than welcome and every courtesy and attention will be shown that is in our power.

We want you to come and hand us that renewal and, as mentioned elsewhere in this issue, we are going to make you a most liberal offer. All subscriptions received at the Winnipeg fair grounds at \$1.00 per year will be for the balance of 1911 and all of 1912. This offer applies only at the Winnipeg fair.

We want you to come and see us. We want to have a good talk with you. You will be under no obligations to subscribe. You will be just as welcome whether you do or whether you do not. By your liberal support in the past you have enabled us to build up what we think is a good publication and you are entitled to some consideration from us. Consequently, we want you to take advantage of what we provide for you.

Don't forget to look for our sign. It will be prominent and if you miss it it is your fault. We have some very attractive premiums to offer you, and among them you will doubtless find something that you have been looking for. The building will be equipped with a telephone so that you can call up your friends in the city. In fact everything will be done to make it just as comfortable for you as possible. Don't forget the "White house with the green roof."

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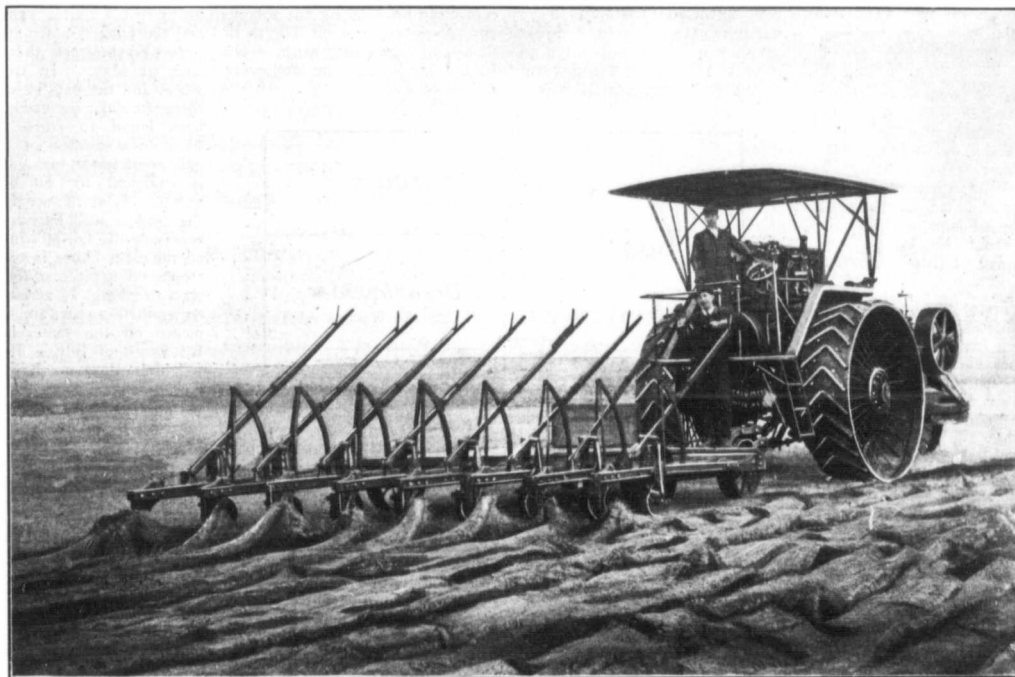
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Gentlemen:—

The Triplex Gas Tractor that I recently purchased from you is working fine. I broke about 40 acres in heavy clay soil then changed to stubble and am plowing in stubble now. In breaking we pulled an 8 bottom Cockshutt plow and done the work well. The engine runs smoothly and gives good power. I believe that when your tractor becomes known in Canada that you will do an immense business in Saskatchewan as well as at other points that your tractor is introduced, for your tractor is surely a grand success.

Yours truly,

J. E. BATTELL.

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The Buffalo Pitts Triplex Gas Tractor has made good wherever used. This Tractor will run a Thresher equally well as the plows.

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A Three Year's Program as to the Equipment and Cultivation of a Half Section of Land in Saskatchewan, with 20 Acres Broken

By G. A. EWART.

First Prize Essay, 2nd Year Student, in the Canadian Thresherman and Farmer Contest, by Students of the Manitoba Agricultural College.

About fifteen miles southwest of Indian Head on the main line of the C.P.R., will be found some of the best grain growing land classified as a rich sandy loam, in western Canada. The soil is containing plenty of humus, and thereby making the soil moderately valuable. Unbroken prairie in this vicinity is worth about twenty dollars an acre, and cultivated land with good buildings will be worth thirty-five dollars an acre.

This is a somewhat rolling country, and in some places is very stony, so it will be found more profitable to use horses than motor power for cultivating the land. We will suppose then, that an unmarried man settles on a half-section of land in this district on about the 1st of April, with a capital of three thousand dollars.

In the first place he will buy four good horses and a waggon, and enough feed to last his horses the summer months. Then after he has chosen the site he will draw lumber and erect a fairly substantial house and barn. He does not buy any more stock just now, but waits until his capital increases, and work is more plentiful. After his buildings are completed he buys the necessary implements and commences spring work. He does not backset the breaking, as would undoubtedly be the best plan, but owing to lack of time, he just gives it two or three double strokes with the disc harrows and harrows it fine with the smoothing harrows. The seed is then prepared and sown, taking great care to use only pure, clean seed on the new land. He puts in five acres of wheat to provide seed for the second year; a little garden including a small patch of potatoes, and carrots, and the remainder of the field in oats. He then harrows it thoroughly to cover up the seed and form a good mulch to prevent evaporation.

He must now provide a small pasture for his horses, so he fences off a small patch close to the barn to serve as a temporary pasture for three years. He must also dig a well. The water supply is very plentiful here and can generally be reached at about 20 feet. By the time he has this completed the breaking season has commenced, so after picking off a few of the larger stones, he starts work with four horses and a sulky plow, carrying a pick with him to pick out the rest of the more troublesome stones. During the later part of May, and the month of June, he breaks seventy-five acres and picks the stones off

the same. He and his neighbor then go haying together. They put up about twenty loads of good prairie hay apiece, and by this time the breaking is thoroughly enough rotted to work. As I have mentioned before it is probably more satisfactory to backset the breaking than to disk it, the object being to thoroughly break up the sod; hasten its decay and form a good seed bed for the following year, but owing to the lack of force and equipment for the first three years, he pre-

By this time the weather is beginning to get pretty cold so he completes the summer's work and makes things comfortable for winter.

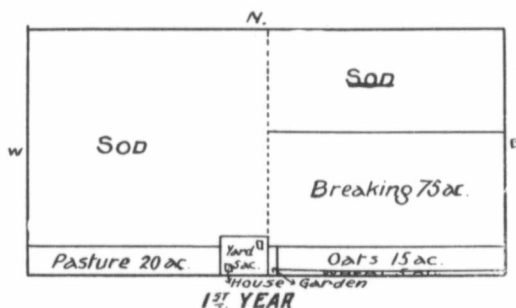
After freeze up he starts drawing wood for fuel. He draws about twenty loads and cuts it, then he does not do much during the remaining winter months except clean his seed for the following spring and get his horses in shape for the spring work. He feeds the horses the following ration:—

spring opens, in the early part of April, he harrows his fall plowing well and starts seeding. He puts wheat in all his breaking sowing it as early as possible in the spring.

The fall plowing is seeded down to five acres of corn; a small garden, and fifteen acres of oats. The oats are sown as soon as possible after the wheat, and the corn is sown (for fodder purposes) between the 15th and 24th of May. In treating the wheat and the oats before sowing them formalin is used. It has been found to equal bluestone, when in a solution of 1 lb to 32 gallons of water, and this quantity is sufficient for 80 bushels of grain. After the seeding is done the land is well harrowed and if necessary the fall plowing is packed the next chore is to clear the stones off a piece of ground and start breaking. 75 acres are broken again this year, and the stones picked off the same, before the first week of July. He and his neighbor then go haying again and put up twenty loads apiece for another year's provisions. If the corn is not ready to cut now he will start working up his breakings but the corn should be cut for fodder just when the ears begin to dent or glaze and the lower leaves begin to dry out. It should then be stooked up well and left in the stooks until needed. When the crop is ripe (that is when the straw in the wheat turns yellow just below the head) he buys a binder, cuts and stooks it, and then finishes working up the breaking, giving it the same cultivation as in the previous year. He then takes up his roots and builds a granary before going out threshing.

He only works about a month on the machines this year and then he comes home and plows up his twenty acres of old land again.

This being done he commences to draw out his wheat. He sells it all except 250 bushels which he reserves for seed for the following year. Winter is now close at hand, so after making the necessary improvements towards winter comforts he starts his winter work. He may first have to draw some more wood, but if not he will proceed to scatter straw around his 70 acres of breaking stubble he intends to burn in the following spring. He must also clean up enough seed to sow 135 acres of wheat and 20 acres of oats, or in other words he will require when cleaned about 125 bushels of wheat and 50 bushels of oats, sowing the wheat at the rate of 1½—1¾ bushels per acre and the oats at 2½ bushels per acre.



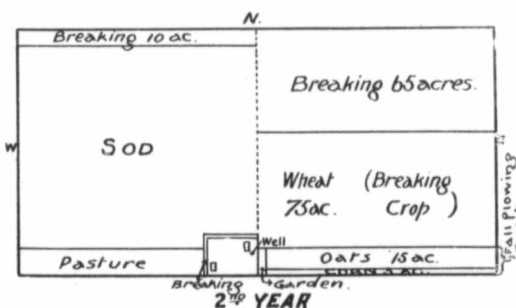
fers to double disk the breaking and harrow it fine with the smoothing harrows, occasionally crushing with a clod crusher if necessary. This is inferior to backsetting because it does not turn up any subsoil, and it only works up the top of the breaking sod, leaving the bottom part, unbroken. Consequently it would take a longer time to decay and break up into plant food.

Grain:—3 parts oats and 1 part bran, feeding 1½ lbs per 100 lbs, live weight per day.

A little boiled grain or bran mash three times per week.

The bran has a beneficial effect in its laxative nature. It is cooling upon the system; it varies the taste; and it is cheaper than oats, but it is not wise to use more than 1 part to 3 parts of oats.

Roughage:—Hay three times



When his crop is ripe he will have to discontinue his work on the breaking for a few days until the grain is cut and stooked. He does not buy a binder the first year, but borrows his neighbor's for a day. He then finishes harrowing: takes up the vegetables; and starts threshing. He works on the threshing machine about two months, then comes home and plows the twenty acres of stubble.

per day, preferably timothy hay feeding 1 lb for every 100 lbs live weight per day, the larger part being fed in the evening and the least at noon.

A little corn fodder every day at noon, a few carrots every day and salt once per week.

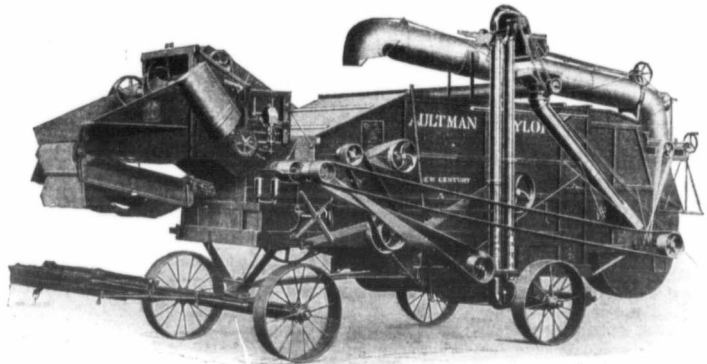
The grain ration is reduced ¼ on days when the horses are standing idle.

He is now ready to start his second year. As soon as the

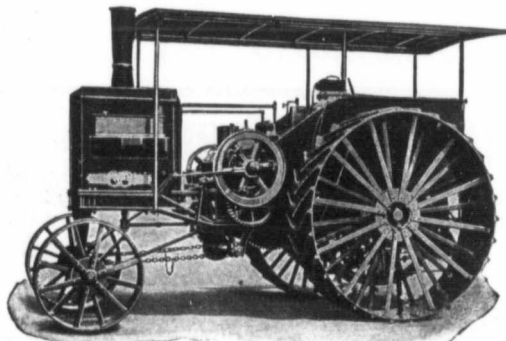
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You can't afford to be outside of "Our Fold." Begin the season right by buying a New Century Separator. The Separator with a world-wide reputation

THE POPULAR NEW CENTURY SEPARATOR CAN BE DEPENDED UPON TO DO MORE AND BETTER WORK IN A GIVEN LENGTH OF TIME THAN ANY OTHER MAKE OF SEPARATOR. WHY? BECAUSE ITS PRINCIPLE OF SEPARATION IS FAR IN ADVANCE OF THAT USED IN ANY OTHER MAKE OF SEPARATOR.



No Other Separator has ever been so successfully operated by Gasoline Power
To make your Threshing a Success, insist upon having a



"New Century"

"The New Century Separator, 27 x 42, that I bought of you the fall of 1909, has given every satisfaction and is a great saver of labor and money. With four stock teams and two men in the field and myself to look after the outfit, I threshed 24,000 bushels of wheat, oats and barley in three weeks and loaded nine cars at loading platform. We used portable granaries and stopped threshing while loading cars and had to stop two days for wet. We could not have stacked the crop alone for the same labor."

Yours truly,

JNO. S. IRWIN,
Bincarth, Man., Can.

Write for Gasoline Engine Catalog. You want to know more about this Engine

"We are pleased to report that the 42x64 Aultman-Taylor Separator, purchased from you this season has given us satisfaction in every particular. It is difficult to separate the grain from the heavy straw we usually have in this section of the country, and we are very much pleased indeed with the thorough separation that we can get with this machine. For ease of operation and clean, fast work we have yet to see the machine that will anywhere near equal it."

Yours truly,

NORMAN STEWART,
WM. DOUGLAS,
JOSEPH TEMASEK,
Penhold, Alberta, Can.



The International Harvester Co. of America

Canadian Sales Agents for "New Century" Separators

The Aultman & Taylor Machinery Company

Mansfield, Ohio

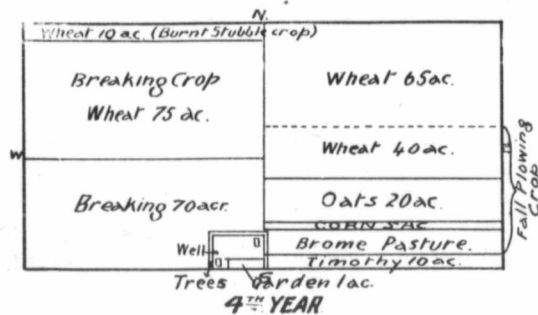
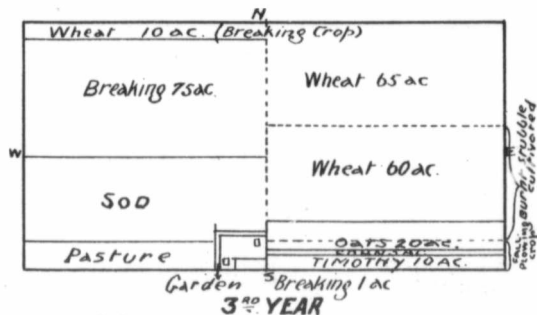
Sales Agencies: Minneapolis, Minn.; Calgary, Alta., Canada

This will be the beginning of his third year on the farm. When spring opens he will commence his work by harrowing down his fall plowing. The object in leaving untouched through the winter is to catch all the snow and moisture possible and to let the frost into the soil to break it up into a more granular condition. Where on the other hand if it was not plowed until spring there would be a lot of cold, sour, soil turned

he will borrow a cultivator and cultivate the stubble land thoroughly before seeding it. This year he puts in all his breakings in wheat and 60 acres of his stubble land: 5 acres of the fall plowing is put in corn: 10 acres in timothy and the remainder of the land is put in oats and a small garden. I have not mentioned before that the corn is sown in drills wide enough to cultivate between and the seeds are dropped about 2

hires a man for a couple of months to help him through with his fall work. His grain is cut and stooked and he finishes up the work on the breaking. He then sends his man away threshing with one team while he stays at home himself and builds a granary. He also enlarges his house finishes it and builds an addition to his stables. After his threshing is done he buys a new gang and plow, a team of good brood mares. Then

enough capital to support a good wife and home, so he gets married and settles down to a happy and prosperous married life. He no longer has to buy his provisions ready cooked but he must buy a good dairy cow to provide for them in milk and other foods, and also a few good hens to furnish them with eggs. When the hired man has finished plowing he is allowed to go, and he himself starts drawing out his



up which would not have time to break up and sweeten before the crop was sown, and therefore the spring plowing would tend to be injurious rather than beneficial to the crop.

After working this up thoroughly, he continues with his seeding until the ground is dry enough and the wind is favourable to burn his stubble. This will only take a few hours, and when he has finished sowing the breaking

or 3 inches apart, and is sown at the rate of 1/2 a bushel per acre.

The timothy is sown with an ordinary grain drill at 6 lbs per acre: After this is all harrowed he starts breaking again, he breaks another 75 acres this year, but instead of putting up prairie hay he cuts the timothy, which yields from 2 to 3 tons per acre. He then proceeds to give his breaking the usual cultivation. When harvest time comes he

he brings his man home and starts him fall plowing with six horses on a gang plow. He plows 10 acres of old land, and the 75 acre field on which he had the stubble crop, leaving the 10 acres of timothy grass to produce the crop in the ensuing year. While his man is doing this he completes his stable and house and well furnishes the latter. He thinks now that he has batched long enough and that he has saved

wheat. He saves 350 bushels for seed for the following year and markets the rest of it. He then fixes things up for winter and starts drawing wood for the succeeding year. When this is done he scatters straw around his stubble and cleans his gran.

He is now in a position to settle down to more scientific farming. In the spring he sows twenty acres of brome grass and fences it with four foot page

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MOLINE PLOWS AND OTHER FLYING DUTCHMAN FARM TOOLS.

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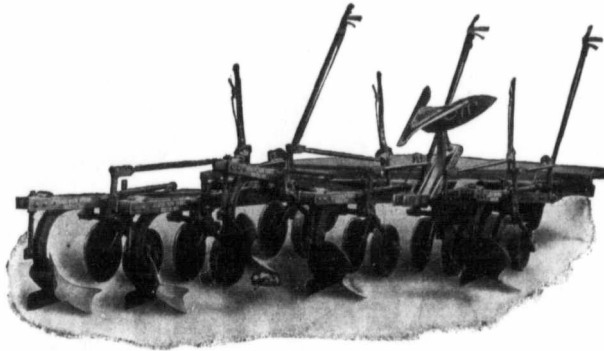
CALL AND SEE US WHEN AT THE WINNIPEG FAIR. MAKE OUR OFFICE AND WAREROOMS YOUR HEADQUARTERS. HAVE YOUR MAIL ADDRESSED IN OUR CARE. A BELT LINE CAR BRINGS YOU RIGHT TO OUR DOOR

CANADIAN MOLINE PLOW CO., WINNIPEG

Branches at CALGARY and REGINA

IS SHARE PROTECTION WORTH ANYTHING TO YOU?

Then buy a
J. I. Case
Engine Gang—
the only Engine
Gang with a
Break Pin.



Made with
4, 6, 8, 10, 12 or 14
Bottoms

Striking an obstruction with sufficient force to break the wooden Break Pin permits the plow to swing up and over the obstruction, thus preventing the breakage of shares or bending of beams. In stony ground this exclusive **J.I. Case** improvement is indispensable. One man says: "the Break Pin saves me shares every day."

Besides, notice in above picture how easy it is to change shares or bottoms. Merely remove the Break Pin and turn up the bottom, which places every bolt within easy and comfortable access.

And remember, **one lever lifts two plows**, and at the same time each bottom can be set for depth independently of its mate. One man can easily handle even the largest outfit and do first class plowing.

Write us for printed matter and the name of the nearest **J.I. Case** Dealer.

CANADIAN SALE AGENTS:

THE HARMER IMPLEMENT CO., Winnipeg, Manitoba
OR
J. I. CASE PLOW WORKS, RACINE, WIS.



wire, for pasture. He does away with his other pasture, and breaks up the remainder of his land, leaving about five acres for a good yard and garden. He plants five or six rows of trees around the yard and digs another well for household purposes.

He also pays more attention to mixed farming. His two mares have colts in the spring, and the dairy herd also increases; so he is now on a good foundation to continue with profitable and up-to-date farming.

It will be noticed that he has broken seventy-five acres each year; thus dividing his farm into four equal parts, the purpose being to have a three year crop rotation and the fourth year he will summer fallow or sow some legumeous crop to conserve the moisture and uphold the fertility of the soil.

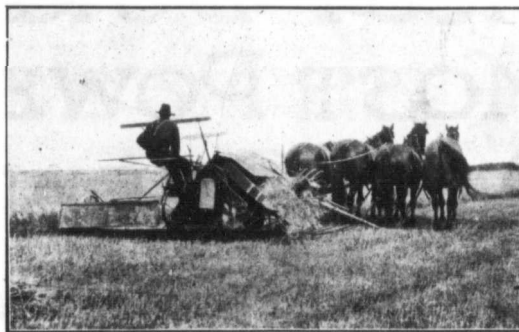
Continued to page 00

Gasoline Traction Engine

Continued from page 18

gasoline per day, which costs about 27 cents laid down in Macoun. We also use about one half gallon of gas engine oil per day. We use cup grease for the oil cups on the plows and gears on the engine.

In threshing we pull a 27 x 42 inch Aultman - Taylor separator, which the engine handled very easily in any kind of straw. We can easily thresh 1000 bushels of wheat or twice as many oats in an



John Deere Binders at work on the Portage Plains



The above represents the new John Deere Binders at work near Portage la Prairie. It will, doubtless, be good news to many of our readers that the land turned by the John Deere Plow can be harvested with a John Deere Binder.

average day's run. Threshing is much easier on the engine than plowing because there is not so much of the engine working and there is not so much grit and dirt to wear the bearings.

I use a hitch for drills made from a 4 x 12 about 18 feet long, which I fasten in the middle to middle of the drawbar on the engine. I hitch three drills to it, two on the extreme outer ends and drop one back a little in the middle. By hitching to the centre of the draw bar instead of the both ends I can turn the engine in a shorter circle, also hitch. The drills in the middle will let them swing and by tying the short tongues to the evener, will not swing too much.

I believe gasoline tractors are far ahead of horses and steam for plowing but I would not advise a big outfit for a moderately large farm, the larger the outfit the more hired help and less work in proportion to expense.

Yours very truly,

Eugene Hursh,
Macoun, Sask.

We have some 2nd hand Flour City 30 H.P. Traction Engines for sale at a big snap. Some that have been traded in on 40 H.P. are in good shape. Write us for particulars and price quick. Ontario Wind Engine & Pump Co., Limited, Winnipeg—Calgary.



CASE MACHINERY IS

.. STRONGEST
MOST ECONOMICAL
MOST DURABLE
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MONEY SAVER..



WRITE FOR OUR CATALOG NO. 68

J.I. CASE THRESHING MACHINE CO.

INCORPORATED

RACINE, WIS. U.S.A.

CANADIAN BRANCHES, TORONTO WINNIPEG - REGINA - CALGARY

CASE MACHINERY DOES

FASTER WORK
CLEANER WORK
MORE WORK...
PLEASES THE —
GRAIN GROWERS
MAKES MOST MONEY



Chicago
Eng'g Co

TRACTION PLOWING

AS TOLD BY THE MEN WHO DO IT

On this and the following pages 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.

Bothered with Lime in Water.

In the spring of 1910 we gave our order for a Rumely Oil Pull engine, but owing to the shortage at the factory, we were unable to get one in time to do our spring work.

Through chance we were able to purchase a 30 H. P. Rumely steam engine, which had been sent to Stettler as a sample. By so doing we were able to begin work at once on April 8th.

We bought a ten bottom Cockshut engine gang and soon began to learn to operate same. First, I might say I employed a first class engineer and was lucky in doing so, as I find it takes a hustler to be a desirable man for the job. We paid him for 100 days' work at \$5.00 per day and consider he was cheap at that price, being one that took great interest in the new engine and keeping it in the best of condition as long as he ran it. He was very particular regarding the kind of water he used and saved lots of trouble by doing so, as he kept the boiler clean and had no trouble regarding the flues or boiler scaling.

The most of the water used had considerable lime in it, which bothered the injector a great deal at times. Some of it was taken from wells and was clean and fresh. We thought it more profitable to use this even though we had to haul it 3½ miles. By doing so we had to use two teams and hauled each day about seven tanks holding from 12 to 13 barrels. The ground was hard and dry and took lots of water.

We first plowed 20 acres of sandy loam to try our outfit, which went fine. Next, we tackled the stubble which was dry and dusty, and after a few days found it did not pay, especially plowing for our neighbor. By this time we found our steam gauge wasn't correct with pop valve, which delayed us a few days. That fixed we began on the prairie again and made things hustle, but as we had not figured on a steam outfit, we had not secured a supply of coal and lost some time waiting for it.

We also found coal mined in our neighborhood was no use, and very unsafe as the sparks would set fires and were quite bothersome. So we shipped in our

coal from Calgary from the Hillcrest Coke and Coal Co. and it gave good satisfaction. We used it throughout the season. My advice is to use the best coal as it is the cheapest in the end and saves hauling and time, besides making steadier power and less clinkers, also saving time.

We used on an average of about one ton to ten acres of breaking, depending on the condition of the land. Some water lasted longer than others and the more water used the more coal it takes to heat it. Snow water takes less fuel than hard water. Using the snow water we traveled ten miles, pulling ten-fourteen-inch plows four inches deep with 1500 pounds of coal, this being the best run of the season.

out four sets of shares and took an immense amount of work on the shares to keep them in proper shape. Skimming the ground is no use we think, and we kept them in deep, on an average of 4 ½ inches. We gave up a couple of jobs, it being so dry we could not do first class work, we did not care to do otherwise.

We had our own blacksmith and did our own work, saving many trips to town, as well as delay. He was a thorough plowman and did all the share work. We had five men and one team with us, a cook shack and smith outfit, two men doing three jobs, cooking, smith work and handling plow. We kept the cook shack at the end of the field, so that no time was lost at meal hours. We

finishing up a land, the plow which had to run over the plowed land would gather dirt and fill up until we had to stop and clean out.

As for the hitches for drills and drags. We had no trouble so far as we have tried them. We use the harrow behind the plows in stubble and the discs on breaking.

I think all machinery having a tongue should also have trucks like a binder in front, as they would follow around the ends better and not cut off so short and piles up on short turns.

We were intending to do some discing with the engine. First we will hitch two drags made of 4 x 6 - 14 ft. long, placed three feet apart and made to drag in a slanting position, the outer ends to pull about forty-five degree angles and to bear together in the middle, each pulling independently of the other.

Behind this we pull 4 discs, and after these two harrows, cutting a strip of 28 ft. on each round.

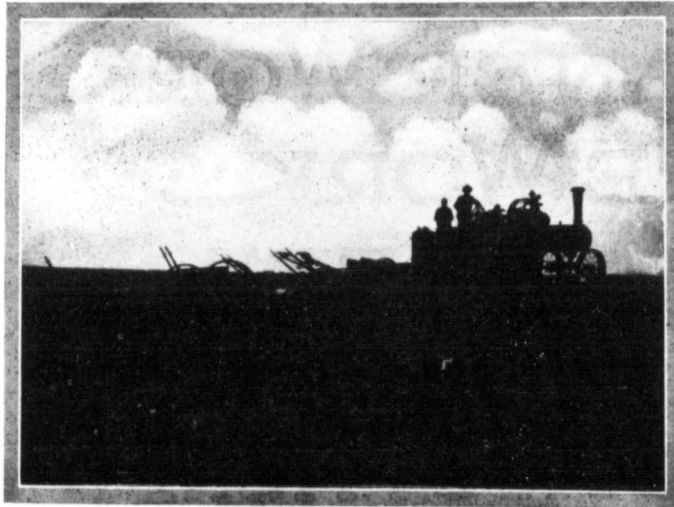
We pulled the discs while breaking, and by this method we think we will have no trouble in putting the ground into good shape and ready for drills. I find it keeps one man busy attending to one drill and do it right, and we don't intend drilling with the engine.

I consider plowing is much harder on an engine than threshing, as standing still does not jar the engine. Old roads and badger holes are pretty hard on engines. As to the price per acre, this depends on the distance that coal and water have to be hauled. But considering everything including wear and tear, we think \$2.50 per acre is as low as we can figure the cost vice to break in this locality.

Yours truly,
Porter Bros.,
Gadsby, Alta.

Economic Running

I have a 26 horse power American-Abell engine which I used last summer for plowing. I used an eight bottom John Deere engine gang plow. This being my first experience with steam plowing I kept an account of all expense. I will tell you the way I arranged my work.



A Case 75 H.P. Steam Tractor doing a tillage stunt in Saskatchewan

With a 33 ton car of coal we plowed 300 acres, pulling two seven-foot discs behind the plow on 200 acres of it, this being one half mile stretch.

We then made a seventeen day run averaging 25 acres, without a mishap. Then our steam gauge gave out again. We received a new one we put it on the dome instead of rear end of boiler, and we had no more trouble in this line. We had trouble with water glasses breaking and tried everything we heard of, but our efforts were useless. Whenever there was a cold rain they would break. We had no trouble with glasses while threshing.

It cost us on an average of \$1.00 an acre to produce steam. We had plowed 1900 acres in 100 days. It being so dry we were

plowed five hundred acres for ourselves, doing the rest in the vicinity. We found much moving meant loss of time, 305 acres being the most plowed in one field.

We had some trouble after showers, crossing the burnt out holes. The driver would slip. We would have to uncouple and run out. But we carried a 20 ft. cable for this purpose, having it attached to the engine and a coupling link in the other end, and pulled the plows through without throwing them out of the ground. Would then uncouple again. I think all plow engines should be constructed for such emergencies.

Stubble plowing is much harder on engines than breaking, as the rdust is very hard on gearing and all machinery on the engine. Also it is worse on the plows. When

Cockshutt Engine Gang Quality

When you have to do all kinds of Tractor Plowing work in land that varies from minute to minute, the evenest, finest and best work is done by the Cockshutt Engine Gang.

This is because it has individual plow units flexibly hinged by strong bars to the platform. No plow can compare with it for adaptability to the land as it is plowed. The Cockshutt strength and flexibility combined have sold it all over the world.

It is designed to be as automatically self-adjusting as possible, and with great reserve strength.

Sells it All Over the World - - -

Several simple principles distinguish the Cockshutt Engine Gang.

Individual plows are hinged by a double straight heavy bar to a wide adjustable hinge on a drag bar. These parts are so strong that plows may be finely adjusted to exact position for perfect furrow work.

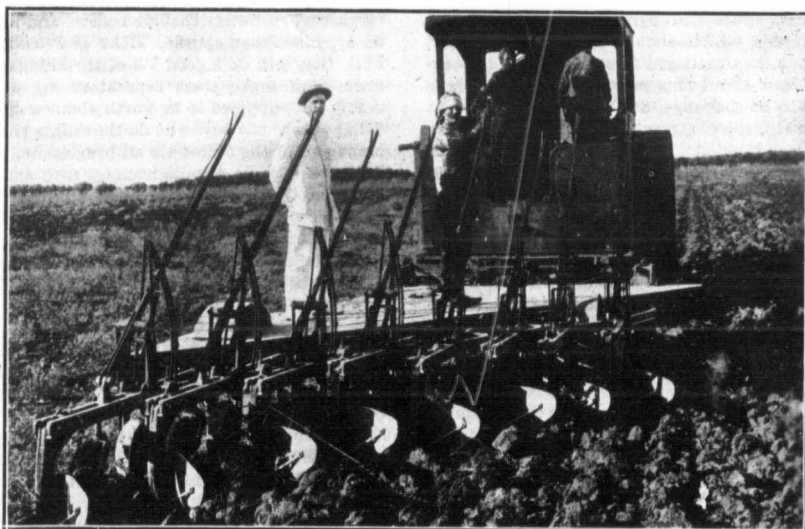
Depth is maintained by adjustable gauge wheels in soft ground, and by weight and "set" of plow unit on beam, which keeps it down in hard ground.

Extra heavy soft-center hardened-surface shares give long wear. The soft center prevents breakage from rocks. The strains on shares in actual plowing is tremendous under momentary conditions that arise.

Every Cockshutt share is put on to stay yet is easily removable.

The low line of pull and constant flexible rise and fall of plows make easy plowing. You can cover the ground swiftly to the capacity of your tractors. Often with the Cockshutt Gang your tractor can cut two extra furrows.

See the Cockshutt Dealer, or see our exhibit at the Winnipeg Fair. The good points for the Cockshutt Gang will be shown to you by your own observation better than we can tell you. Our "Horseless Plowing" Book shows Cockshutt Engine Gang all over the world. Shall we send a copy?



Note this 7-Plow Cockshutt Engine Gang in Syria, Palestine. This Outfit has often to Plow 12 in. deep, yet it can also Skim the Ground with a 2 in. Furrow. The Ground is Hard Baked, as may be Seen, yet the Plows do not rise. They are Shown Plowing Cotton Land, which is full of the Tough Roots.

These points save much labor, and avoid breakdowns. They mean continuous plowing without stopping the tractor for adjustments.

You cannot put a Cockshutt Engine Gang entirely out of business by any accident. Plows are interchangeable. Parts are extra strong. Rocks cannot scrape shares off. Your Cockshutt Plow never ties up your tractor and operators while repairs are being made.

It is an ideal plow for contract work, as it suits all kinds of ground and handles extra hard jobs where many plows would be broken.

5, 6, 8, 10 and 12-plow sizes of Cockshutt Engine Gangs include choice of interchangeable stubble or breaker or rod breaker bottoms with rolling colter for stubble and fin cutters for breaker sets. Every device for increasing strength, saving wear and power, and saving labor, is found in the Cockshutt Engine Gang. Note the quality of its Work.

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WE CORDIALLY INVITE YOU, AS IN PAST SEASONS, TO MAKE THE COCKSHUTT BUILDING YOUR HEADQUARTERS DURING THE WINNIPEG INDUSTRIAL FAIR. THE BUILDING IS CONVENIENT TO ALL CARS FOR THE EXHIBITION AND ELSEWHERE. MAKE USE OF OUR OFFICE FOR RECEIVING MAIL AND PARCELS, AND WRITE YOUR LETTERS OR KEEP APPOINTMENTS AT THE COCKSHUTT BUILDING. WE ARE PLEASED TO OFFER OUR FACILITIES TO YOU AS HEADQUARTERS WHILE YOU ARE IN WINNIPEG.

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Successors to The Parsons Hawkeye Manufacturing Company, Winnipeg, Canada



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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 DO A FASTER CLEANER AND BETTER JOB OF FEEDING AND TO WEAR LONGER AND COST LESS FOR REPAIRS THAN ANY FEEDER MANUFACTURED BY ANY OTHER COMPANY IN THE WORLD

THE MAYTAG CO.

REMEMBER, and do not forget to carefully consider all that you may read in this column. It means big, round dollars in your pocket if our suggestions are followed. For several years the threshermen of Canada have had a sort of a snap, that is, as far as the "business end" of their separator is concerned. As a rule, the straw has been short and light weight, so that your old Feeder, which should have been scrapped long ago, has managed to pull through the season. How about this year? Looks like there is going to be a change, don't it? We are sure to have a big crop of straw, and it will be long, heavy and some tangled. It always is when it rains in the Spring and early Summer, as it has this year. The question is, will that old Feeder be able to handle it so as to satisfy the customer you are threshing for. Chances are against the proposition. What are you going to do about it? Wait until you get "stuck" and then send for a RUTH or a HAWKEYE Feeder, and lose from ten to fifteen days time, or order it now and be in shape to properly handle any job you have and keep going from the time the first sheaf is pitched until the end of the season. **ORDER NOW** and be ready for business at the same time that the business is ready for you. It is not necessary to fill up this space telling you WHY you should buy one or the other of our Feeders. It is hard to find a thrasher but what has owned one of them or has seen them at work. **ASK HIM.** After you have done this, if there is anything else you would like to know **ASK US.** We are the only firm in the world that make a business of manufacturing Self Feeders. That is our business, and that is one reason we can furnish as strong a guarantee as we do—we know what we are talking about. Did you know that the **FIRST SUCCESSFUL** Feeder ever built was made by us at Newton, Iowa? We have been supplying every country under the shining sun where small grain is grown ever since, with the most of the Feeders used. Remember once more, that **NOW** is the time to send in your order. Prices and terms are also right.

UNLESS we change our mind before this column is written, we will say several things we have said before during the past ten years, as there are a few fundamental facts connected with the Self Feeder business that will bear repeating. There are a large number of different makes of Separators for sale in Canada, and we are in dead earnest when we say that we believe, and in fact we are more than satisfied **THAT IF PROPERLY FED,** they will do a good job of threshing. The firms who make these Separators are all, or nearly all, supposed to be worth about a million dollars each; the boys who do the selling and the Managers of the offices are all progressive, wide-awake, up-to-the-minute business men and understand the Separator business from A to Z, but it does not necessarily follow that they know much about the Self-Feeder end of the proposition. Their business is to build and sell **SEPARATORS,** while ours is to build and sell **FEEDERS.** That is one reason we can put a warranty on our Feeders that none of them have ever dared to put on any Feeder they have to sell, unless they bought it of us. In the past we have told you that **ANY** Threshing Machine Company doing business in Canada could supply you with any one of our Feeders and that they would fit on their Separators. When we said **ANY THRESHING MACHINE COMPANY,** we had reference to all of the following:

- | | |
|-----------------------------|----------------------------|
| Sawyer & Massey Co. | Nichols & Shepard Co. |
| International Harvester Co. | Reeves & Co. |
| Waterloo Manufacturing Co. | Case T. M. Co. |
| The Rumely Co. | Burridge Cooper Co. |
| Robert Bell E. & T. Co. | Buffalo Pitts Co. |
| Geo. White Sons & Co. | Canadian Port Huron Co. |
| American Abell E. & T. Co. | John Goodison Thresher Co. |
| Haug Bros. & Nellermeoe Co. | Aultman & Taylor |
| Gaar, Scott & Co. | |

We have sold Feeders in the past to **EVERY** One of these Companies and are ready and more than willing to supply them with all they will order. When buying a Separator with any of them **INSIST** on having either a **RUTH, HAWKEYE** or **PARSONS** Feeder.

THE whole story is told in the RUTH Feeder warranty. Could you ask for anything more? Read it over again and see if we have left anything out. This Warranty covers the RUTH with or without the Swinging Elevator Attachment, which has been "nick-named" White Wings. If you now have a RUTH these wings can be attached, and if you will put them on and buy a set of **DUMP RACKS,** you can make an extra thousand dollars this year with your rig. This sounds too good to be true, but we have the proof and if you want it, drop us a card and it will be sent by return mail. Half of the teams in the field and half of the pitchers can be saved besides being able to thresh at least 500 bushels more every day. Ask for the proof **TO-DAY,** not tomorrow. If you attend the Winnipeg Exposition this month, be sure and find us. We will be right in line with the bunch and will have a RUTH **WHITE WINGS** on a separator so you can see **EXACTLY** how it works. When looking over the rigs notice how many are using our Feeders. That should mean something to you. We will have a tent and chairs, so call and make yourself at home. Sit down in the shade and let us get acquainted and talk this matter over. We have a Belt Guide that will look good to you and a Cylinder Wrench that is one of the best we ever saw. The Acetylene Gas Headlight will look good to you and an Expert will convince you that the Madison-Kipp line of Oil Pumps and Lubricators are the "best Ever." If you have a headache when we get through we will try and furnish a cure, and if that fails we have a story or two that will make you forget all your troubles. Call and see us any how. Keep in mind at all times that there is no Self Feeder made by any other firm in the world that is "just as good" as ours. Remember that is the same to us if you buy a Feeder of the Company you get your Separator of, **PROVIDING** you get one we make. For the convenience of those now owning our Feeders we have a stock of extras and repairs at **REGINA.** If more convenient send your orders to Mr. H. A. KNIGHT, Regina, Sask.

HAWKEYE—Sounds quite familiar, don't it? Thousands of Threshermen still swear by the "Old Reliable," and well they may. It's strange how people get attached to inanimate things, such as a Self Feeder. One never goes back on a tried and true friend, be he black or white. Did the **HAWKEYE FEEDER** ever fail you in time of need? No, and it never will. We are still selling the Hawkeye and it looks as if we always will, and why? Because there is nothing else that will satisfy. Some have had one, some two and some even more, and as they have always filled the bill to the dot, why change? Another thing, they cost just a trifle less than the RUTH and once in a while that is taken into consideration. The general design of the **HAWKEYE** is such that it embodies **GOOD WORK WITH SIMPLICITY, CAPACITY** with **LIGHT DRAFT, RAPIDITY** with **EASE, LIGHT WEIGHT** with **STRENGTH, DURABILITY** with **PERFECT WORK,** and was the **FIRST** Self Feeder equipped with a **PERFECT STRAW GOVERNOR**—that is what makes it so much superior to other Feeders. We have all sizes in stock and can make prompt shipment. If it is a **HAWKEYE** you want, the Thresher Companies can supply it just as easily as they can a **RUTH** or **PARSONS.** That reminds us that we have used up about all our space and said nothing about the **PARSONS.** Well, it is not necessary. The **HAWKEYE** has been called the "**DADDY OF THEM ALL,**" and that is true, but the **PARSONS** is the "**GRANDDAD.**" For an old fellow he is just as active, will do as much work in a day, and do it just as well as ever, so if you prefer a **PARSONS,** say so. It is your money that is being paid out and surely you are entitled to just what you want, and we are here to supply you with **JUST WHAT YOU WANT,** and that reminds us that when some one comes along with a Feeder to sell that is not made by us tell him that you have made up your mind that you want a Feeder made by the **MAYTAG COMPANY,** and as it is your own money you are going to spend, that you do not need any advice from him.

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 DO A FASTER CLEANER AND BETTER JOB OF FEEDING AND TO WEAR LONGER AND COST LESS FOR REPAIRS THAN ANY FEEDER MANUFACTURED BY ANY OTHER COMPANY IN THE WORLD

THE MAYTAG CO.



... things were going. Another match lit 40 ploughs.

Threshing Machinery Reaches State of Perfection

A Self Feeder Runs for Five Seasons.

Vinden, Man., Nov. 3, 1910. One of the oldest threshers in this locality pulled into town yesterday after completing a most successful season. He had threshed this year over forty stone and bushels, the greater portion of which was wheat.

One of the remarkable features of his fall's run was that all the grain was put through a Hawkeye Feeder which was five years old. His repair bill for the year was less than seven dollars. He states that his feeder is still good for another season's run.

Church-Union. The Committee

... will a and root a. To save constant forging... and the st... is probably... the other lead birds... are large eaters, gorging... when the opportunity... whose weight is too... digestion is very rapid... perfect, a great quantity... relation to the body weight... every day.

Hawks and owls are to each other. While has and keep diurnal mamma... whose weight is too... light and before dawn... Again, owls... hawk and... they remain in... range.

A New Device in Threshing Helps Solve the Labor Problem

Many Dollars Saved to the Farmer and Thresherman.

High River, Alta., Sept. 8, 1910. Some of the fine and wide awake threshermen in this vicinity have found a new device which helps solve the labor problem.

This consists of a Ruth White Wings Feeder and a set of Perfection Dump Racks. It is claimed by those who have used them that a great deal more grain can be put through in a day and that at the same time a considerable saving in cost is effected. It also reduces the number of men and teams required, which is a valuable consideration at this season of the year.

At Sir Walter Scott's table one

... was in... and never... I wish the... And never... I lost lungy... the bones that we... have that were... like steel at their bloom... the dove... Far, far away! the lost... mind... things... that on the tree... spiky bring!... the happiest hours... days gone by... again, as I have dreamed... was heard! Eye!

Threshes 4,500 Bushels of Barley in 10 1/2 Hours

Remarkable Record on Portage Plains.

Portage la Prairie, Sept. 23, 1910. One of the most remarkable records in the way of threshing was made yesterday on a farm about four miles north of the city. The run lasted for ten and one half hours with the result that forty-five hundred bushels of first class barley were threshed.

All of this grain was put through a Ruth Feeder, which ran during the entire time without a stop.

Missing. The miners in Scotland... I urged long and vigorously for shorter... Now they have 'ep

... "some," said Sir Walter... may say as you like, but take my... for it, 'tis skill leads on to fortune!"

Bumper Crops Create Big Demands for Threshing Machinery

Old Machinery Not Equal to the Task.

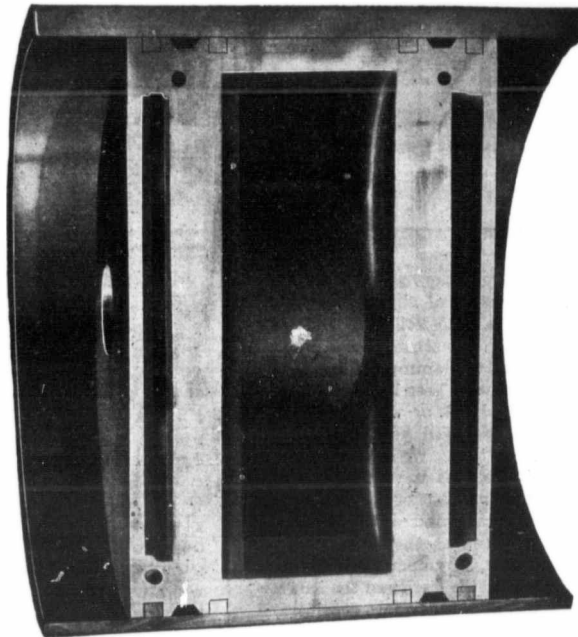
Saskatoon, Sask., June 15, 1911. The bumper crops in this vicinity this season have created a big demand for threshing machinery.

Several new outfits left here yesterday for the surrounding country.

Two things were noticeable, viz., that the size of the separators are smaller than in previous years and that practically all were equipped with Ruth Feeders.

Unsuspecting lies a head that wears... it to... "Aye," said th... "not was Willie"





Why the Demand for Gould Balance Valves on Traction Engines in the Field?

Because no engine is complete without a balance valve. No engine gives the best service that is in it with a common 'D' slide valve. No engine that wastes from 18 to 30% of its power performing a needless service is giving the best there is in the engine to its owners; and if some manufacturers hesitate to put a Gould Balance Valve on their engines their customers will do it themselves, for you cannot keep them from having the best there is. They are doing it every day. One customer ordered his fifth engine equipped with this valve, another his fourth, while we have hundreds of customers who have equipped their second and third engines with a Gould Valve. These men tried the valve and know what it will do. They are not guided by the musty records of by-gone ages regarding the benefit of a Gould Balance Valve to their engine, but like all the notable achievements of today, defy the predictions of failure by realization.

Our Catalogue and "Evidence" tells you what to do. Send for them

GOULD BALANCE VALVE CO. Kellogg, Iowa.

GEO. WHITE & SONS, LTD., London, Ontario,
Manufacturers in Canada.

which holds 1000 pounds. Then I have from a quarter to three-quarters of a mile to haul the water. I have two tanks that hold enough water to run one half day. My engine loads the water by means of a siphon into the tanks. I run the engine to the water and load it while I have my dinner and then I pass the coal bin and load the coal bunker which holds 1000 lbs. Then I am off to the field. This supply of fuel runs me the half day and in the evenings when I come in I load up for morning, getting the good out of my last fire.

My coal I draw from the railroad in winter. So you see that I do not use any horses.

My expenses were as follows:

1 ton coal per day ..	\$6.00
1 man at	2.00
Oil and grease65

Total cost per day ..\$8.65

I have averaged sixteen acres per day. I run the engine myself and did not count my own labor. I am going to try disc plowing this summer, which I believe can be done cheaper.

Yours truly,
W. E. Davis,
Wilcox, Sask.

Plowing in Stones

I have been running a breaking outfit for two years. We have a 25 h. p. J. I. Case engine which is fine. This country is not an open prairie and it is so stony that I can hardly stop my engine any place without the four

wheels are standing on stones. Some who have seen the ground would say that it would be impossible to break it, but we have been doing pretty well. This season we broke about 300 acres and we are getting from \$6.50 to \$9.00 per acre, and the farmers furnish us the wood for fuel, and we get our board where we break. We use about one good load of poles per day and we cut it up

our blacksmithing while we are moving.

We purchased a John Deere platform made for eight plows, but we cannot pull all of them here. We made our own plows extra heavy. We bought 3 John Deere hard mold board fourteen-inch shares and got some oak 6 x 8. The first plow is eight feet, the next one is 10½ and the last one 12½ feet long. We have to

three to six acres per day. I believe in going pretty slowly with the engine, as I think it is easier on everything.

We have a seven-barrel tank and use three and four tanks per day. If I give the engine all the water I think it will work well with and fill it up with wood and start out with 125 pounds steam I can break three-quarters of a mile per hour.

We have not threshed yet as this is a new country and there is an outfit in here now, but I think it is harder on an engine breaking than threshing around here anyway.

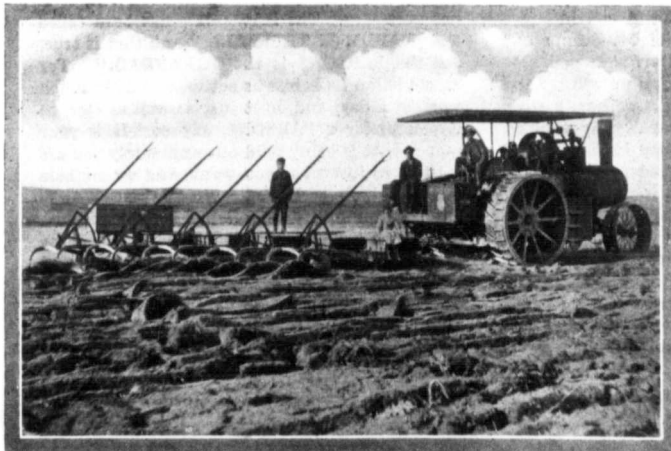
We have been breaking scrub land most of the time. So we had to make our plow higher than any other plow as the roots would get in front of the coulter and clog up there. We make our own coulters from coulter steel, 1 x 5 inch. It makes a good strong coulter and I find it is cheaper than buying them ready made, and, besides, the ready made ones would be too short for our plows.

The repairs for our engine since I have owned it have amounted to \$3.00 which I think

is pretty cheap. Wishing the Canadian Thresherman and Farmer a good season and all that have anything to do with traction cultivation, I remain,

Yours truly,

Louis Ulestad,
Inwood, Man.



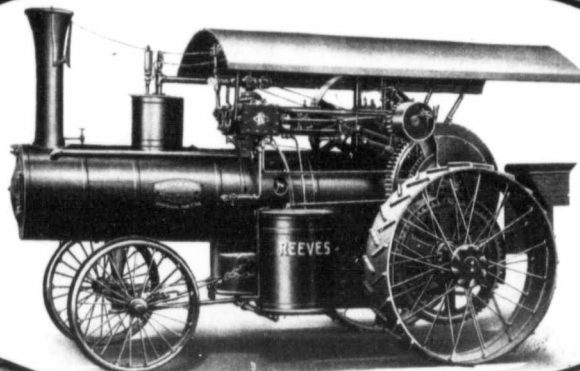
A Rumely Steam Tractor and a 10 bottom John Deere Engine Caring getting ready for Western Canada's 1911 Bumper Wheat Crop

with a saw driven by the engine. We generally cut our wood after quitting time or whenever we have to do some repairing on the plow, which happened every day in these stones. We have our blacksmith shop right with us. It is built of one-half inch lumber and we built it on a pair of skids and pull it after the outfit wherever we go, so that we can do

plow from eight to twelve inches deeper in order to get under the stones. If not, the plow would be jumping on top of the stones all the time and would not do any job at all.

I run the engine and my partner does the blacksmith work, and then we have a fireman, one plowman, tankman and team. As a rule, we break from

REEVES



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:

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

Reeves & Co., Columbus, Ind.

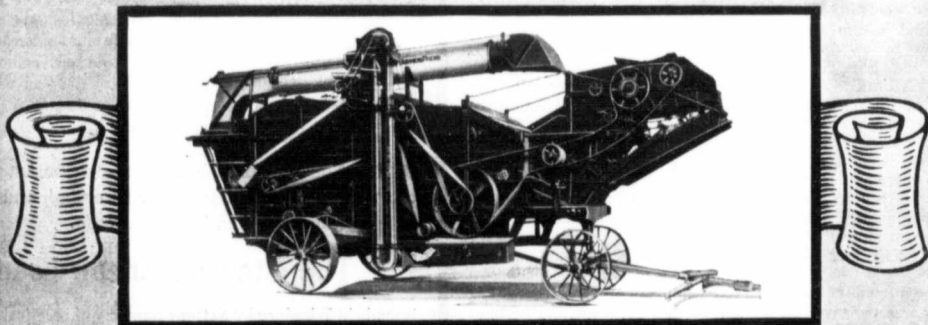
Dear Sirs:—Have you on hand lower pan for 40x60 separator No. 1052 bought in 1900? If you have, let me know and send price. This is the first repairs I have had to buy in eleven falls. I run this separator six falls in Illinois and five falls in Dakota, and it is still in first-class shape excepting 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

A Freight of Currency

BEING THE LAST REMITTANCE OF
CAPTAIN JOSHUA WINDLASS

Old Captain Joshua Windlass believed he had at last come to his deathbed. He knew it by certain ghostly pronouncements which are as real factors in the life of the average sailor man as the solar light by which he takes his bearings on the trackless deep.

That he was on the point of "crossing the bar", he had fully made up his mind; and when a man has made up his mind that he is about to snuff out, generally speaking he is as good as dead.

With old Cap' Windlass, however, it was different. In prospect of his approaching dissolution he was spending the last hours that remained to him in arranging as to the disposal of his goods and chattels, and dictated his instructions with no less avidity and attention to details than had marked his conduct of the business of ship chandler for well nigh a quarter of a century.

If ever a man had a purpose in life and stuck to it, that man was Joshua Windlass. The great business of his life had been to accumulate, to purchase, or appropriate every scrap of material value he could seize and retain—from house property to "surrender values", and from spent bullets to second-hand coronets.

What it had amounted to, no living creature save himself knew or could guess at, but a carefully compiled inventory in the neat handwriting of the Captain certainly existed and accounted for every chattel, jewel, or trinket down to the merest collar stud.

The Captain's wealth in real and illusive property was known to be considerable—by some even placed at a fabulous figure—and already at least one bird of prey hovered around within striking distance ready to swoop down the moment the last flickering gleam of life died out.

The ghoul in this case was a human wretch of the most depraved caste, one of those predatory creatures that seems to come from nowhere and scatter to the four winds of heaven the carrion crows that gather wherever there is the merest morsel of flesh still remaining on the fast whitening bones.

What was expected to be the death chamber was the small back parlor of a wheezy, old wooden structure, wedged into a pile of dilapidations close to Cherry Gardens Pier, Rotherhithe. The window commanded a wide sweep of the fairway of the Thames with its multitude of crafts of all kinds, from the bobbing little skiff of the pilot to the gigantic ocean liner, and nearby were the East India Docks, whence, for the greater part, of old Windlass had drawn the cumulative revenue

which was now exercising the last moments of his life.

It was late in the afternoon of a black November day. The little apartment, crowded to excess with rickety furniture and the amazing paraphernalia of a chandler's stores, possessed not a single ray of comfort saving the spectral flame of an evil-smelling oil lamp. The odor from its long neglected wick blended at times with a whiff of the slime and garbage of the river and the sulphur laden dampness of a genuine London fog that oozed in at every crevice.

The dying man was the sole occupant of the room, not article or adornment of which, in many years had responded to the tenderness of a woman's hand. He lay on a couch, buried for the most part by a confused heap of bed clothing, top coats, and rugs to sing impatiently and starting up from time to time to look at the clock and listen to some expected footstep.

At last it came, followed by a shrimp of a lad wringing wet from the unwholesome dew of the fog, his face glowing with the proud feeling of youth in its triumph over difficulty.

"I found him Unc' Josh!" the boy began excitedly and proceeded as his breath mould permit him. "I saw the tug down Blackwall Reach—O Lor' it was thick! I knew it was the "Sparrow Hawk" by her ugly nose and there sure enough, was the "Mermaid" in tow. I pulled in and there was Sam right for'ard. Wanted me to geet on deck right away but I told him—couldn't leave you. Said you wanted to see him quick. They are wrapping her in now and he is coming along as soon as they made her fast."

"Good boy, Sonny!" and the old man almost sprang from his deathbed with the satisfaction the lad had brought him.

"Now you go and get tea ready Sonny; got any sassage?"

"Ra-ther! Got all the truck an' I brought you a tin o' lobster Unc' Josh, thinking as ow you'd fancy it."

"Young rascal," muttered the old man to himself with a suppressed chuckle in his voice; "he knows they pizen me, but he likes a bit himself, and old Sam would eat nothing else if they would let him."

"Say, Unc' Josh; have ye seen Elmer hangin' round since I went out?" the boy inquired in a startled tone as he re-entered the room with the tea utensils.

"No, Sonny; why do you ask?" "Well I'd swear it was 'im I passed in the yard just now. It was a man his size, but he didn't have a beard like Elmer used

Save Men!

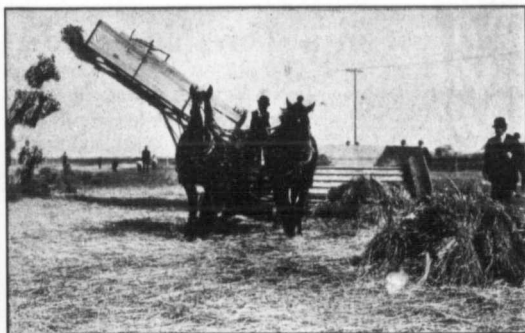
Save Horses!

Save Time!

Save Money!

The question of sufficient help at threshing time is a problem. It is hard to get and is more or less unsatisfactory when you do get it. Any machine therefor, that will reduce the number of men required is worth looking into. Such a machine is the

STEWART SHEAF LOADER



Reduces The Number of Teams and Will Save \$35 a day in Men's Board and Wages

The "Stewart Sheaf Loader" is guaranteed to load even more accurately than a man pitching with a single fork over his shoulder. It will carefully lift and pitch sheaves either when stooked or lying loose on the ground. Will handle short grain much better than a man can deal with it, and will make a complete load in two minutes—frequently in less time. It is an easy pull for two good horses, but three might be necessary for best work on a field of unusually heavy straw.

NOTE—This machine almost entirely eliminates the item of manual labor in stacking or threshing, and the safety of the grain is assured in a wet season.

The Stewart Sheaf Loader

is made in Winnipeg by a strong company of practical men—leading business men and farmers—and in sending out a machine perfect satisfaction is guaranteed.

Write for full particulars at once to

The Stewart Sheaf Loader Co.

LIMITED

715 McINTYRE BLOCK

WINNIPEG.

Geiser Sieveless Separators

And Gasoline Engines

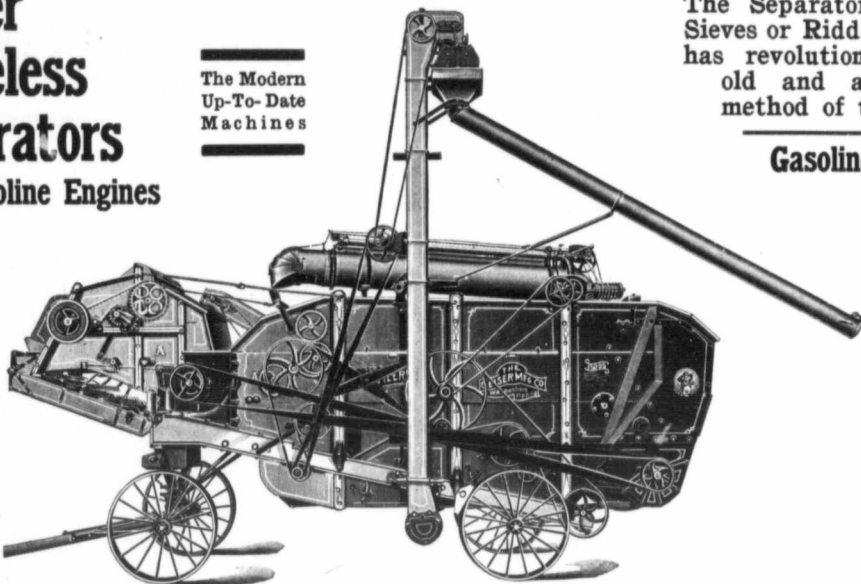
The Modern
Up-To-Date
Machines

Manufactured in
the following sizes:

27-39
26-46
30-46
33-50
36-56
40-60

Special Sizes for
Gasoline Engine
Power

Leading Features:
"Sieveless"
The Grain Plate
and Roller System
and Automatic
Blast.



The Separator without
Sieves or Riddles, which
has revolutionized the
old and antiquated
method of threshing.

Gasoline Engines

In the following
sizes:

16-18-20-22

Horse Power
Single Cylinder
Portable

25-30

Horse Power
Four Cylinder
Portable

50

Horse Power
Four Cylinder
Traction

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 quantities 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. See our exhibit at the Winnipeg Industrial Exhibition. For catalogue and information address:

BURRIDGE COOPER COMPANY, Ltd., 303 Owena Street
WINNIPEG, Man. BRANCH OFFICE: 1840 Dewdney St., Regina, Sask.
Canadian Agents for the Geiser Mfg. Co.

"have. I watched him when he couldn't see me and he looked all round and up to the window as if he were tryin' to see how he could get up to it."

The old man trembled with real alarm and his face blanched to a deathly palor as he nervously turned his eyes towards the window. There were wide margins around the shrunken blinds through which anyone from the outside could easily obtain a full view of what was going on within, and he instructed the boy to get a newspaper and obscure it completely.

The little fellow did as he was told, peeping out cautiously before he quitted the job but there was nothing visible save the murky atmosphere of fog and the faintest glimmer of a neighboring street lamp.

"Never mind gran'ar, we'll settle him as he makes hisself troublesome," said the boy in a brave attempt to reassure the old man, but the shattered nerves of ancient sea dog were not to be so easily quieted. The mention of that man's name filled him with terror and the circumstances of his prowling around boded no good, for there was every reason why at that period of time the cupidity of Dick Elmer should find a peculiar interest in the affairs of Joshua Windlass.

Meanwhile, in anticipation of the coming of "Unc' Sam," the boy had quickly transformed that dingy, malodorous junk store

into a comfortable little cabin. A bright fire with the sausages and onions sizzling to the music of the kettle on the hob quickly overcame the previous depression of the dank and clammy atmosphere, and a second lamp was lit to make a "real illumination" in honor of the expected guest.

Hardly had these homely preparations been completed when the well-known heavy foot-step was heard on the creaking stairs and the next moment the captain of the brigantine "Mermaid" swept into the room like a tempest of sunlight shattering the gloom of a prison cell.

"Well! Well! Well! I thought we were coming home to a burial, but here's a show like a wedding!" and the two worthies almost embraced each other while the boy's face told them that his little heart danced in a transport of ecstasy.

It was a great re-union and they kept it up till the night had far advanced and the lad was peremptorily ordered aloft to his hammock. He usually slept in a bunk within the call of his grandfather but to-night it was to become the couch of the visitor.

When the lad had gone and might reasonably be supposed to be fast asleep, Windlass solemnly informed his friend that he had something of serious import to say to him which could no longer be postponed.

"Sam: I've had a vision, and my hour has come at last. There aint no doubt about it, I've paid

out the last o' my cable an' I may bring up at any moment. I've hung together a long time now but my old timbers have been in too many cross seas to stand it much longer. I'm about to break up as sure as eggs are eggs."

Evidently the skipper of the "Mermaid" knew his man, or the staging of a deathbed scene presented so little of the nature of novelty to his observation, he did not so much as raise his eyes in response to this awful announcement from his old shipmate. A long silence followed, and then it was Sam who spoke.

"Seems to me Josh, you're going to take a mighty long time to cross that "bar" you keep talkin' about. Why, you were tryin' to make it last time I came home, and the time afore that!"

"Ah! Sam, but I'm goin' into port this time sure enough. Anyhow, I've made up my mind to get off my chest what I ought to have coughed up long ago. Listen mate:"

"I've seen a vision since the last time we smoked a pipe together, an' I know as sure's you're settin' there that I've dotted the last 'i' in my log book." (In sepulchral whisper) "I've seen Marv! Its twenty-one years ago last Sunday since she died, and on Sunday night as I lay here, she came in at that there door an' smiled on me like she uster when I tried to argue with her about cookin' things. She spoke never a word but I could see it in her face as

plain as print could make it—"Come home Josh"—an' then she glided across to where the boy lay sound asleep, patted him on the brow an' then slipped out at the door again—which was locked an' bolted all the time, mind ye."

"Were'nt that the night ye et the "whole lobster afore bedtime, Josh!" Praps it were, but the lobster nor nothing in the sea or out of it had to do with that vision, an' ye can't shake it out o' me that she wants me, and I've got t'go to'er. Our lass Elsie in Ameriky is the very picture o' her. Poor Elsie! I've made her lot a mighty hard one, but I'm going to soften it for her now poor little lass, an' I want ye to help me, Sam."

"I've been a croos-brained pig-headed old ass, and if I went to hell for the way I've served that girl I'd have no rights to complain. You know I wanted her to marry Elmer, but she had set her heart on George Allan, and now look at it! She has done a bit o' hard sleddin' since she crossed the Atlantic with George, but would'nt it have been hell if she had got moord for life to Elmer."

"It was Elmer, the villain, who ruined George financially, and George had no redress; but he had the heart of a man and not one drop of that cowardly, white-livered cur's vindictiveness in his whole make up. Could you conceive a bigger blackguard than that great lubber of a fellow. He has hounded me ever since Elsie

Red Cross Thresher Belts

ARE THE BEST

Because heavier duck and better friction are used in their construction. Only expert workmen are employed in their manufacture, and back of all this is the Broad Goodyear guarantee that they are perfect in workmanship and material--Good Belt is good insurance in Thresherman that your outfit will not be tied up at any time this fall. Try some Red Cross Insurance. We are not experimenting, we have been making this material a great many years.

All Mechanical Rubber Goods bearing our stamp is a Gold Bond Insurance Policy.

We carry a stock of Brass Accessories, Reels, Tank Pumps and Hose.

The Goodyear Tire and Rubber Co. of Canada, Ltd.

41 PRINCESS ST. - WINNIPEG, MAN.

BRANCHES AT REGINA AND CALGARY.

married, and God knows what is in his mind. His three year's stretch at Portland was up last week, and do you know, Sonny believes he saw him skulking about the backyard this night, ogglin' the window of this same little den."

"Sam that man will be the death of me even if he never touches a hair of my head. The thought of him and the horrible sensation of knowing he is at large are too much for my nerves to stand much longer. I tell you I'm breaking up fast."

"Stand by there, old friend; don't you get on easy. The devil is a main smart chap, but there's always a shipmate somewhere in every plot a bit smarter than he is. What's ver game?"

Windlass raised himself slowly on his couch till he painfully reached the vertical. With a haunted look towards the window he seized the friend by the wrist and charred him by all the sacred ties of friendship to stick absolutely to the letter of trust he was about to impose on him.

"Did I ever fool ye Iosh?" the honest skipper urged in a tone in which there was more than a suspicion of pique.

"No, Sam; you'se been a loyal shipmate, an' I aint doubtin' ye one bit my hearty. You know how I've scraped and screwed an' pinched—an' what has it all amounted to? I've got a pile o' money an' a housefull o' junk; but seriously now, do you know a more miserable den on God's

earth than this place is, or a more discontented old reptile than I have been?"

Sam's answer to this query indicated that he was emphatically in accord with the captain's appreciation of himself and his environments. At all events he was in no humor to argue the point even if his quiver had been full of reason to the contrary.

"Well Sam, I've bin woke up to the fact that all them year's I've swindled Elsie out o' the best o' her life's happiness; made a drudge o' her when she was with me, and then denied her the only thing she ever really begged of me—the right to marry the boy she loved."

"O yes! I've woke up o' nights, many an' many's the time thinkin' about her strugglin' in a bit o' a shack away out on the American Prairie; and that them times if it adn't been for the sight of Sonny lyin' sleepin' there his innocent little face the very image o' his dead mother's, I'd a gone mad. But that call o' the wife's last Sunday night capped it, an' God and Sam Slimber hepin' me, I'm goin' to make restitooshin. Gi' me a hand to git up, Sam."

And Sam again humored his friend without even the mildest protest against the idea of a dying man getting out of his bed. Having assisted him to a huge, moth-eaten, chintz covered armchair, Sam was commanded to carefully inspect what appeared to be an old brandy keg converted into sort of coal bin.

It was in fact what it appeared to be, but there was "a power o' deception" as to its real purpose. Having jettisoned three or four handfuls of the coal, Sam came to a false bottom that bisected the keg into nearly equal parts. There was a small iron ring in the centre of this false bottom or trap door which Sam was requested to seize hold of and raise gently. As he removed this false bottom it disclosed a large canister of sheet iron which perfectly fitted the circumference of the keg.

It represented a dead weight of about twenty pounds, and Sam's first business was to place it on a stool by the side of its owner so that he could conveniently handle its contents from where he sat.

"You recollect when the "Liberator" bust don't you Sam? Well a whole lot of people I knew went down in that wreck, and I was as near as a touchin' in it, too. But I got the wink in time an' took my stuff out the day before the doors were closed an' I've been my own banker ever since. There's nothin' like 'avin' the gold an' the notes under yer own thumb. Ye know they're there, but if they are in some rotten bank or Builidin' club "like the "Liberator" that goes to pieces—where are ye?"

There's only one bank that's safe, Sam, an' that's the Bank o' England. But, blow me! they give you such measley interest, you can do better investing your chink on a cat's meats barra. So

you'll find this here box contains exactly seven thousand eight hundred poun' in Bank o' England notes an' two hundred an' twenty gold sovereigns. Then there's forty-five gold Napoleon's an' a bit o' diamond jewelry that it would be hard to value now."

"My wife's father swapped them Napoleons an' the bit o' jewelry for ready cash with one o' them up Duchesne crowd when they were driven out o' France an' came over here. They settled at Flamborough where my wife's father did a little bit o' a jewelry trade, an' that's how he got the stuff. I never knew what he gave for it; any how he would be on the safe side as he was a hard nail at a deal o' that kind. I had the jewelry valued ten year ago or more by old Battenburgh and the British Museum chaps. The pawnbroker offered me four hundred pounds, and the museum man said it was worth three times as much to them. But I didn't sell an' there it is.

"It was the wife's, and now honestly belongs to her child, more than to me, and so I want you, Captain Sam Slimber, to take it to her along wi' the whole contents o' that there box. Its a tall order, I know, but I've no faith in a living soul to do the job except yourself, old sport.

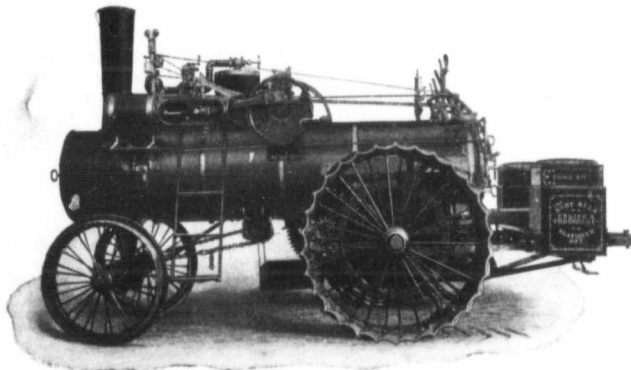
"But I'll recompense ye for doin' it alright Sam. I've a bit by me besides what's in that pot, and I'll give ye the price o' a good freight to Boston an' back if the "Mer-

BEST DESIGNED—BEST BUILT—BEST FINISHED

OF ALL FARM MACHINERY IS

THE "IMPERIAL" LINE

With Best Record of any Machinery in the West



Engines

22, 26 and 30 h.p. Simple. 22 h.p. Compound.
Boilers of extra fine construction, heavy plate, thoroughly stayed, beautiful workmanship and design; Extra Long Tubes, 9 feet long, in the 30 h.p. size, High Pressure carried of course, 150 to 175 lbs.; Shafting, Axles, and all parts properly proportioned and of ample strength and size.

Separators

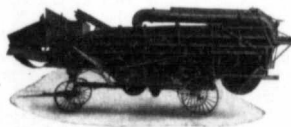
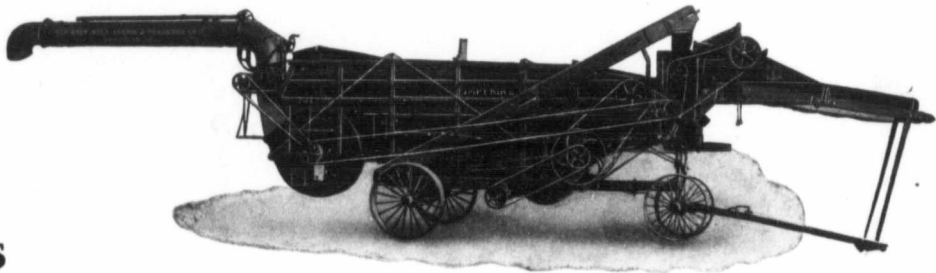
36 x 60, 32 x 54, 32 x 50, 28 x 42, with "Ruth" Feeders Side Fan, Stackers and Attachments.
"Imperial" Separators and attachments have no peers in Western Canada to-day for clean, quick work in the harvest field, and you cannot buy

Better Value

DON'T BUY

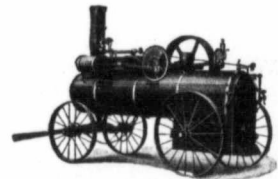
Till you have looked into

OUR GOODS



An Exceptional Chance

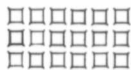
To individual large farmers or syndicates of farmers is offered in our 28 x 42 in. machine with light traction and portable re-built engines.
These can be seen at our Winnipeg Warehouse. Their quality and price represents an opportunity of unusual attractiveness to any extensive farmer.



The Robert Bell Engine and Thresher Co., Ltd.

SEAFORTH, ONT.

WINNIPEG, MAN.



The Men Who Make No. 1 Hard



Mr. Jas. Todd, a British Columbia Thresherman.

Go Over The Outfit Carefully.

I have had about eighteen years experience in threshing with different outfits. Four years ago I purchased a Sawyer-Massey 13 horse power return tube traction engine and George White separator 36 x 54 and also I own a Sawyer-Massey Monitor clover huller. I threshed about 130 days last season, charging \$13.00 per day. I only hire two men and pay them \$1.50 a day. I do all my own repair work myself.

I find it pays to go over my whole outfit every fall before I start threshing. In this way I do not have much trouble with the machines.

I am thinking of getting a 20 horse power engine this year, as I have got some steep hills to go over and some muddy places. I find that when I get stalled in a mud hole the best way to get out is to put two pieces of rails or whatever might be handy, back of the road wheels and back engine on to them. Then put more in front of wheels, as the engine will back when it will not go ahead, on account of the load it has to draw.

I have also run a J. I. Case 25 horse power engine in Saskatchewan near Lumsden. One thing a person must be careful of in the West is fire.

Wishing you every success I remain,

Yours truly,
C. W. Macklin,
Roseneath, Ont.

Used Separator 10 Years.

I bought my first threshing outfit in 1898. It was a 12 horse power horse rig. I bought this rig second hand and ran it two seasons. I then, purchased a 14 horse power portable steam rig new. This rig was of Waterloo make. Then, three years ago I traded my portable engine for an 18 H.P. tractor made by the McDonald Mfg. Co. of Stratford, Ont., which is a good engine, both on the road and in the belt.

I also got a blower on the old separator which has now run ten falls and does just as good work as it did ten years ago.

Threshing in this locality is done by the hour or set. The changes are from \$1.00 per hour to \$2.00 according to the rig used; that is, according to whether it is a plain portable rig or a tractor with self feeder and blower. The horse power rigs are going out of use altogether.

I also operate a sawing outfit in winter.

In the fall I had a bad breakdown with my engine. When going up a sand hill one of the counter shaft brackets gave out and we had to pull the engine up with horses. We have some bad hills and bad bridges in this locality.

I was out 54 days in the fall. I had two men with me as feeders and run the engine myself. The farmers furnish the other help, also fuel and water. We had some long moves, the last one coming home being fifteen miles. I live one hundred miles northwest of Ottawa.

Yours truly,
H. A. Schultz,
Locksley Station, Ont.

acres twice in three days and I think that pretty good.

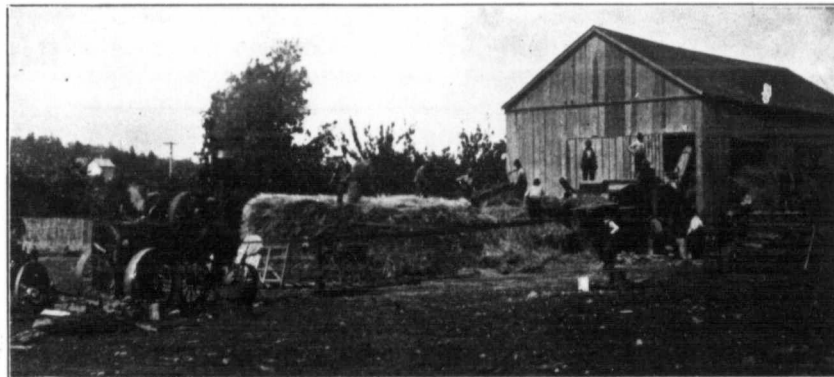
And now regarding threshing. We have an Aultman and Taylor separator a 27 x 46 and it is very satisfactory. It does first class work and leaves no grain in the straw and our engine handles it very nicely. Our largest day's work of wheat was 1600 bushels and oats 3300. We never threshed much flax at a time, so I don't know what we could do for it.

We have always made our outfit pay ever since we purchased it and we got it in the fall of 1909 and threshed two seasons with it. Our engine is not worn very much yet on account of good care. I believe that oil is cheaper than engines and machinery.

Yours truly,
J. M. Clark,
Swift Current, Sask.

Has Threshed For 23 Years.

Seeing so many letters from threshers in your magazine I will try to give you some of the experience I have had.



6-H.P. Advance Portable Engine and 32 x 52 Toronto Combination Separator in the vicinity of Victoria, B.C., owned and operated by James Todd

Has Always Made It Pay.

We have a 20 H.P. International tractor and we pull four plows in prairie breaking, and six in stubble, using about 25 gallons per day, which costs us 28-3/4 cents per gallon. I consider this power much cheaper than steam. I run it practically by myself.

We use the Cockshutt plows. They certainly are good for our work, but I think them a little heavy for a light engine like ours. We plowed about 500 acres with our outfit the past year and it did good work all through the season.

I did some discing in the fall, pulling four discs and eight sections of drag harrows at a haul. I had my discs running so as to double disc it as I went over it once and the drag harrows after the discs, so that I got over the ground pretty fast. I discd 100

acres. I have had as much experience as some of the other fellows, as I have only threshed 23 years in Manitoba and Saskatchewan.

I was the first man who bought a traction engine west of Brandon to Alexander. That year I ran 120 days, some of them pretty cold ones too. I had a good run, as I had good men, who are hard to get nowadays.

I always ran steady, but I never could get that big hundred dollars of profit that the other fellow tells about. It makes one laugh to hear what great big work they can do. I always made out to pay my men and machinery, and that is more than lots have done.

One thing I make it a point to do and that is put the grain in the sack, not in the straw. I have also run boiler with the same tubes seven years.

I have had two separators burnt and have used five different makes of machines. Now I have got down to the Sawyer and Massey truck and I find it suits me all right, and I can warrant a six hour's run at one time if the sheaves can be got up. I don't believe in piling more stuff in a machine than it can take. One is sure to break something.

Once I bought a second hand machine. It certainly was second hand. It boiled 110 barrels of water a day and burnt nearly all the straw threshed. Besides, it took two men to fire, one on the right and the other on the left, forkful about. It leaked everywhere. I could not stop the leaks. I worked every night but it was no use. The shell was too thin and tube sheets were also too thin. However, I got rid of the engine after a costly law suit.

In all these twenty-three years of threshing the most wheat I ever threshed to the acre was 28 bushels. I have on different occasions had farmers tell me that their crops had gone 35, 40 and

45 bushels to the acre. I would ask them how many acres of wheat they had, and the reply would be "Well I don't know." Anyway why does the forty bushel man not get rich. I have been getting rich at from 18 to 28 bushels to the acre, so I can't understand how it is the forty bushel man is getting poorer each year. Last year I made an estimate of the bushels that the ground was growing in this vicinity and the average crop was 15 bushels.

DAVID KENNEDY,
Strongfield, Sask.

Believes In The Large Cylinder.

Our outfit consists of a 22 H.P. Waterloo Double Cylinder engine, nine years old, and a 32 x 54 Case separator equipped with Hawkeye feeder and wagon load-



The Indiana Manufacturing Co. Indianapolis

WIND STACKERS
PROTECTION IS FOR YOURS AS WELL AS OURS
THIS TRADE MARK
TO ALL PERSONS BUYING AND USING
IMPORTANT!



THE FARMERS' FRIEND
"THE RISING SUN"

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Conducted by
Professor
P. S. Rose

Practical Talks to Threshermen

Talk No.
XLVII.

The upper straw racks have been pretty well discussed in preceding lessons and all of the different types have been described and illustrated. All of the grain and chaff that fall through the upper racks fall upon the sieves or grain conveyor below and eventually reach the shoe. In some cases this load may be pretty heavy and several firms have made use at various times of an auxiliary fan to take care of a part of this load of chaff and prevent it from falling through. In the Buffalo Pitts separator, illustrated in figure 87, we are showing a

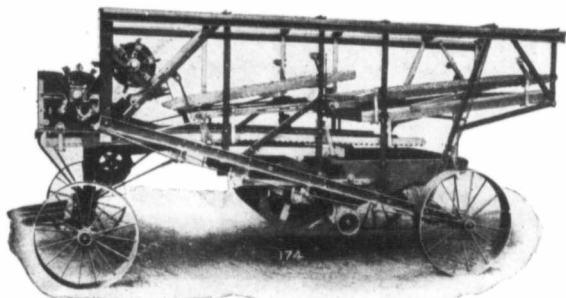


Fig. 87. Interior View of Buffalo Pitts Steel Separator, Showing Auxiliary Fan.

machine thus equipped. In this machine the fan is placed well toward the front of the machine and the blast is directed backward and toward the opening between the first and second straw racks. The idea is to catch the light stuff as it falls through and blow it back into the straw and thus relieve the cleaning devices of a part of the work. It must be remembered that as the blast of air leaves this fan it is slightly compressed and has a tendency to expand in every direction. This causes a slight blast of air to impinge upon the entire under side of the first straw rack which has a tendency to prevent the chaff from falling. It passes over the rack, while at the same time it helps to project the chaff upon the rear rack where it is carried backward by the moving column of straw to the straw pile or blower as the case may be.

Another machine that makes use of this principle is the Advance Shaker machine. Here the auxiliary fan is placed close up to the opening between the first and second straw racks and the blast at that point is quite strong. In the new Advance machine this principle was dispensed with. Both of these machines have proven very successful in the severest service in the great wheat growing regions, but we do not presume to say how much of their success was due to the use of the auxiliary fan. We merely illustrate them to show an-

other one of the many devices that have been and are still used on some of the best machines.

The grain pan or conveyor is located directly below the straw racks. It consists of a tight wood platform with slats every few inches over which the grain rolls on its way to the shoe where it is cleaned. This pan is given a short quick back and forth motion by means of suitable link work. The sides of this pan are made grain tight by means of side pieces, while at the front end of the machine a piece of strong canvas prevents any grain from sifting

out at that point. The chaff and grain are propelled to the rear of the machine where they are dumped upon the shoe.

The shoe, so called, is nothing more or less than a fanning mill through which the grain is passed in order to clean it for market. The shoe proper contains the sieves and screens while just in front and a little below is located the fan, which furnishes the necessary blast to do the cleaning. At the present time all shoes are of the end shake type, that is, they are given a short back and forth motion of a few inches in the direction of the axis of the machine in order to agitate the grain and cause it to roll about on the sieves just as in an ordinary fanning mill. The exact amount of back and forth motion varies slightly in different machines and is generally made adjustable. The adjustment is accomplished by changing the pivotal point of the bell crank hanger which gives the motion. Two or three holes are provided to accommodate the necessary adjustments. About five or six inches of shake is the maximum provided for and this amount is necessary only in damp heavy grain, where very violent motion is necessary in order to give it sufficient motion on the shoe. In some of the older types of machines side shake shoes were used, after this a combination of side and end shake was tried, but at the present time all of the machines, so far as we know, are

equipped with end shake shoes. These have proven to give the best satisfaction generally and adapt themselves easily to a more perfect balance of the whole structure because all motion of a vibratory character is in the same general direction.

In figure 88 we are showing a view of the Avery shoe and fan, which gives a very good illustration of the general disposition of all the various parts. In this mill an overblast fan is used, that is, one in which the top of the fan tips travels toward the shoe. Some machines are built using an underblast fan. Both kinds are common and give about equal results when properly placed in relation to the other parts. We will reserve the full discussion of fans for a later consideration and proceed now to examine the grain conveyor and shoe carefully. At the rear end of the grain conveyor and forming a part of it, we find the chaffer. This is located just above the shoe and consists in some cases of open wooden slat work, but in most modern machines of coarse lipped adjustable sheet metal sieve, whose amount of opening may be adjusted while the machine is running, to best meet the conditions of the grain. The function of the chaffer is to separate the sticks and coarse stuff from the grain and fine chaff and prevent it from reaching the sieves. This coarse material is cast back to the rear of the machine and mingles with the straw, while the good grain and some chaff drop through to the shoe. Back of the chaffer and forming a part of it is a set

The amount and the character of the tailings is a good indication of the work the chaffer and sieves are doing. The tailings should be small in amount and contain only a small amount of chaff and little plump grain. In case many unthreshed heads are returned it is evident the cylinder is not doing its work properly. Either the spacing of teeth between the cylinder and concaves may be wrong or the concaves need raising. If too much good grain appears in the tailings the operator should determine if it comes over the shoe sieve to the tailings auger or through the conveyor extension. If it comes by the latter route the conveyor sieve should be opened a slight amount to give the grain a better chance to fall through. In general, an angle of about forty-five degrees will be found most satisfactory. On the other hand, if the grain is coming over the shoe sieves, the probabilities are that the conveyor sieve is open too wide and that the shoe sieve is loaded so heavily that it cannot take care of the burden. The remedy, of course, is to close the opening in the chaffer slightly and not let so much chaff through. If a great deal of short straw is found in the sieves and in the tailings relief may be obtained by taking out some of the concaves. Grain which is returned with the tailings is liable to be cracked by the cylinder on rethreshing which, if the tailings are heavy, may be of more than passing importance. In any event the tailings should be light as they represent half done work

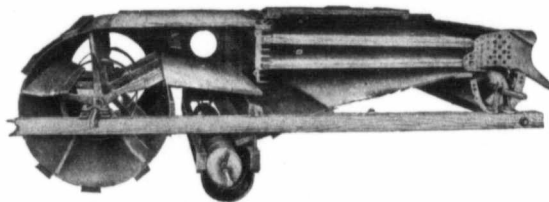


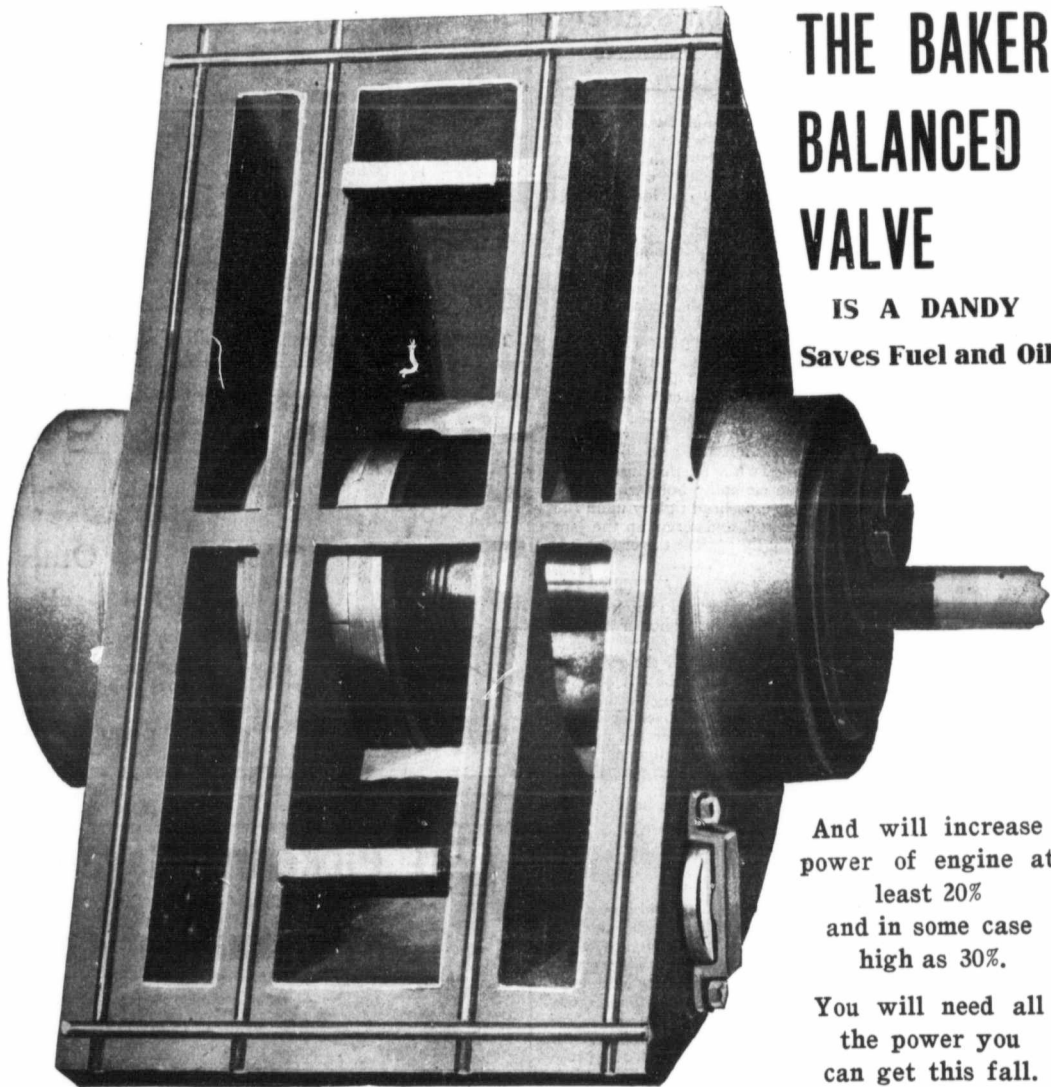
Fig. 88. Avery Fanning Mill and Shoe Fan of the Over Blast Type.

of fingers called the chaffer extension, while just below is located the tailings auger at the bottom of a sort of hopper over which these fingers extend well toward the rear side. Any unthreshed heads or chaff containing grain, being heavier than the chaff, is supposed to fall through these fingers and be returned by means of the tailings auger and tailings elevator back to the cylinder to be rethreshed. There will also be some unthreshed heads which pass through the chaffer upon the sieves and these will be carried by the blast back to the tailings auger and thence to the cylinder.

in the first place and when heavy are an unmistakable evidence of faulty adjustment at some point.

And now there is an "aerial post card." It is to be dropped from an aeroplane, and bears a printed request that the person finding it on the ground mail it at the nearest postoffice.

Owing to the excessive humidity on the Canal Zone, good housekeepers burn an incandescent lamp inside their pianos at all times to prevent the wires from rusting.



THE BAKER BALANCED VALVE

IS A DANDY
Saves Fuel and Oil

And will increase
power of engine at
least 20%
and in some case
high as 30%.

You will need all
the power you
can get this fall.

The Baker Balanced Valve will relieve your engine of all wear and strain on Valve, Gearing and Eccentric.

You can reverse your engine under full Head of Steam

with perfect ease, and can leave Reverse Lever stand between notches at any point of cut off, and it will remain indefinitely. Can be used in any kind of bad water with perfect satisfaction.

The Baker Balanced Valve will pay for itself in one fall's run, and you would not take twice the price you paid for it after running one fall.

We mean what we say, and we say what we mean, when we say that **The Baker Balanced Valve** is the finest Valve ever placed on an engine. You will never regret making the change. **Try us and see.**

Write us at once for Order Blank and terms. **Do it Now.**

Henderson, Neb., Nov. 28, 1910

September 5, 1910

Baker Valve Co., Minneapolis, Minn.

GENTLEMEN:—I fitted the balance valve bought of you to my 20-horsepower Avery engine out in the field in about an hour's time. It works out to perfection. It has saved enough in oil and coal to more than pay for itself, let alone the increase of power and wear on the reverse gear, which is quite an item to look at.

Yours truly,

W. F. ENDERLE, Agt.
Henderson, Neb.

To Baker Valve Co., Minneapolis, Minn.

GENTLEMEN:—I purchased a Baker Valve from your agent, W. G. Henry, and can positively say that the engine required about two-thirds less oil. I adjusted the valve gear in starting up for the season and did not have to touch it during the threshing season. The engine ran quietly. I threshed with dirty water where I could not have used a slide valve.

F. A. KISER,
Tipton, Kan.

Be sure and see our Exhibit at the Winnipeg Fair.

100 JAMES ST.

BAKER VALVE CO.

WINNIPEG

The Thresherman's Question Drawer

Answers to Correspondents

S. T. Q. How can I fix the crosshead on my engine? The upper shoe is worn and cannot be adjusted. The lower shoe can be adjusted by a screw. When I screw it up tight it throws the piston rod too hard on the gland of the stuffing box and makes the piston rod heat. The engine pounds worse when under the belt or turning under. Can it be remedied without taking off the crosshead?

A. The piston rod should be parallel with the guides of the engine. If the piston rod needs to come down to make it so, you should put a liner between the crosshead and top shoe. By taking back the lower shoe as far as possible, you can get the crosshead down enough to drive the upper shoe off far enough to put the liner in, as the top shoe is simply fitted on a hub or stud.

L. A. Q. Will a governor on an engine when put in a horizontal position run as regular as one that is upright? When the balls go up they will go slower, and faster when they are down on other side, and will be closer to top of shaft than bottom.

A. This depends upon the construction of the governor. Most spring governors will run as well in a horizontal as a vertical position.

F. W. Q. My engine when pulling a reasonable load runs smooth and all right; but when pulling a heavy load it pounds and knocks. What do you think is the matter?

A. The knocking or pounding of engine when working under a heavy load may be due to the fact that there is considerable play or looseness in the main crank shaft bearing. This bearing should be kept adjusted as closely as possible without causing it to heat. The main box cap should rest firmly upon the liners or shims and the nuts screwed up firmly so there will be no play or movement of the cap. The wrist pin brasses should also be keyed up as closely as possible and great care should be taken to adjust these boxes gradually so that they will not heat. The crosshead pin boxes should be adjusted as close as possible.

The best way to adjust this box is to remove the strap and wrist pin brasses and then adjust the boxes. Try to move the rod vertically. By doing this there will be no danger of getting it too tight.

If the engine still knocks after these parts have been looked after it might be possible that the piston head is loose on the piston rod. To find out if this is the case it is necessary to remove same from the cylinder and by tapping the head with a hammer

you will notice at the riveted end of the piston whether it shows any looseness. If the piston is loose in the head it ought to be sent to the factory for refitting. This, however, can be done in the field.

We would recommend making a small wood fire, placing the head with the rod up on the coals so that the head will become heated. It does not require very much heat for it to expend. The piston should then be driven in as firmly as possible and allowed to cool, and the riveted end should be riveted more firmly.

It occasionally happens that the piston is loose in the crosshead. To fasten this tighten up on the clamping bolt, which will set the crosshead tightly upon the piston rod, and screw up the jam nut tightly against the crosshead.

T. O. Q. Where will the governor of an engine do its work best, next to the boiler or next to the engine?

A. The action of the governor on the engine will be felt quicker when the governor is close to the cylinder. If the governor is too far from the cylinder the regulation is apt to be sluggish. The proper place for the governor is close to the cylinder.

C. S. Q. Can an injector be run or made to work against boiler pressure with compressed air?

2. How is a railroad boiler filled with water out on the road?

A. An injector will not work with compressed air. The source of power in an injector is due to the condensing of the steam which increases the velocity of the water and thus enables it to work against the pressure of the boiler which supplies the steam. Not being able to use air in this manner it would not work at all.

2. The modern locomotive boiler is fed by an injector.

L. B. Q. How shall I set the eccentrics on an engine, centre crank, link reverse and each eccentric independent of the other.

The engine I am running has a link motion. One of the eccentrics slipped on the shaft. Is there any rule for setting them?

A. The first thing to do is to divide the valve. Throw the reverse lever to the extreme end of the quadrant. Now turn the eccentric (which is connected to the end of the link which is in line with the valve rod) to one end of its travel. Note the port opening, then turn the eccentric to the other extreme and note the port opening on that end. Now move the valve so that the port opening will be the same on both ends. Then place the reverse lever on the other end of the quadrant and

TURN NIGHT INTO DAY

by the use of the

Glare Headlight

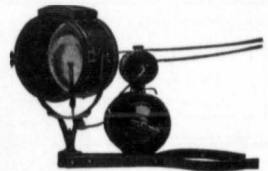
Made to attach to any make of engine, steam or gasoline. Cost of operating about 1¢ per hour. Get one before threshing season begins when you have to move a long way after dark, you have too much at stake to lose when you may save it by investing a few dollars in a headlight that is a headlight. Write for prices and terms to-day. Use the "DO IT NOW" system.

Have you ever had the experience of taking out an old set of flues with the old fashioned "goose neck." If you have you will appreciate the "POPE ADJUSTABLE FLUE CUTTER," one that cuts the flue without burring the ends. Price within the reach of every thresherman. Why pay a man \$7.00 per day to cut out your old flues when you can do it yourself. Learn to cut costs. You can do it with this flue cutter.

Do you remember the fires which were caused last season by the use of a poor spark arrester? If it had been a GULLICK you would not have had a fire. IT GETS ALL THE SPARKS. Try one. Write for catalogue.

The Maytag Co'y, Ltd., Winnipeg, Man.

Estate of E. M. POPE, Watertown, S. Dak., U.S.A.



Sawyer Drive Belt

Is Not
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Same



As Any
Other
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It lasts longer. The Lap NEVER comes apart. It never gets Stiff in Cold Weather. Dont cost a bit more.

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SAWYER BELTING CO.

CLEVELAND, OHIO.

Pickering Governors

made for

Every Build of Engine

A Record Breaker for Output and
Reduced Operating Expenses

Did you ever figure your Expenses for stopping to fix up that Governor that was causing all your trouble and then the fixing did not last?

PATENT BALL RANGER SPEED CHANGER SUPPLIED ON ALL
GENUINE PICKERING GOVERNORS

If you have Governor troubles write

The Pickering Governor Co.

PORTLAND

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DON'T TAKE CHANCES!!

Your Customers demand it.

Your own Safety depends upon it.

WHAT?



The Safety Spark Arrester

This Spark arrester has been on the market for 6 years, and the first one is yet to be returned.

Guaranteed not to obstruct the draft.

Easy to put in. Simple and Durable. Safe and Reliable. Made to fit any make of engine. Send for description and sample of screen to

NATHANIEL MARTIN, Seaforth, Minnesota.

Something New For Every Thresherman. Clipper Belt Lacing Outfit

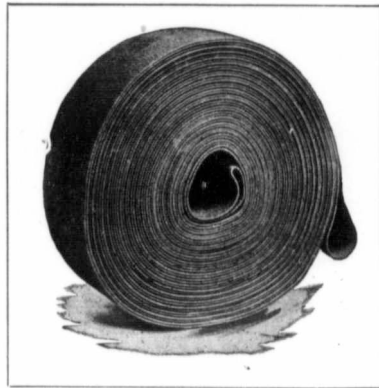


Turn hands of ECCENTRIC PIN upright so that pressure is off before placing Hooks in slots alternately, long and short ends. Then insert loose pin and turn ECCENTRIC PIN from you until hooks are held firmly in place.

Any thresherman purchasing one of these outfits saves time and money. Guaranteed to save 25 per cent. of your belting bills. If your implement dealer does not handle this machine write us direct, and we will be pleased to give you full information as to price, etc. This outfit is done up in neat case 12x8x6, containing all tools required and 1000 of each size of hooks, and remember, a boy ten years old can operate it. We would be pleased to have you call at our Warerooms at any time.

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"Dreadnought" Sewn Canvas Thresher Belt.



Manufactured in England, from the highest grade cotton duck, and in accordance with specifications to suit the Western Canadian Market. Every belt guaranteed to give satisfaction. Large stock carried by the sole importers.

Threshermen, write at once for samples. Ask your dealer, if he does not handle our belt, to procure same for you.

Dealers wanted in every locality.

see if the port opening is the same on both ends. If it is not, the adjustment should be made on the eccentric rod. After this the engine is put on dead centre and the eccentric moved in the direction indicated by the reverse lever till the valve opens the port at the end in which the piston is located. Now place the reverse lever to the other end of the quadrant and turn the other eccentric in the direction the reverse lever calls for till the valve opens the proper amount for the lead on the end of the cylinder where the piston is located. The eccentrics are now set. The engine may be turned to the other centre to see that the proper lead is on that end also, and in case of any discrepancy in the work it can be corrected by going over the form again.

To simply set a slipped eccentric, put the reverse lever at the end that will bring the eccentric rod in line with the valve rod, put the engine on dead centre, and proceed to turn the eccentric in the direction indicated by the reverse lever till the proper lead is obtained at the end of the cylinder at which the piston is located. Turn the engine over and watch the port opening, running both forward and backward to see that you have not made any mistake.

R. S. Q. A young man says that he set the valve on a traction engine with link reverse and when the engine was on centre

and the valve had one-eighth inch lead with reverse lever in last notch, and when moved up to centre notch it had one-fourth inch, and he says the valve was set right. What is your opinion? Engine had the same lead at both ends on either centre, but when the lever was brought to the centre notch it increased the lead one-eighth inch.

2. Can the lead be changed on a single eccentric reverse after it leaves the factory? If so, please explain.

A. The link has a radius equal to the length of the eccentric rod, but since the centre of the eccentrics are not with the centre of the crank shaft the link does not run exactly true with the shaft, so that every link changes the lead of the valve somewhat at the different points. For an ordinary size engine this lead is too much. One-half of this amount would be sufficient.

2. The lead can be changed on a single eccentric valve gear by changing the length of the valve.

E. B. Q. My engine has Woolf reverse gear. When engine is on centre the valve moved 1/16 inch. If I move eccentric on shaft it will not move on one centre, but turn it over to the other centre and it makes valve move one-eighth inch. Dead centre being found with a transit sent by the company. That is, the valve moved when the reverse lever is moved back and forth.

Can you tell me what the trouble is? Is it possible to set a valve when valve moves one-sixteenth inch as above described?

A. A part of your trouble is in the setting of the reversing shaft. It is either too high or too low. It is more likely too high, as the crank shaft wears down and the reversing shaft does not. You can either fix this by raising the crank shaft box or lowering the reversing shaft box. To find out which way to move this you can put the engine on its centre and have some one pull the reverse backward and forward while you watch the movement and the right way and part will suggest itself. Between the moving of the crank shaft or tumbler shaft and the eccentric you can get the valve to stand still, while the reverse lever is moved backward and forward. From your description of the case we think half of the error is in the location of the reversing shaft to the crank shaft and the other half is in the location of the eccentric.

F. B. Q. What is the usual cause of a boiler explosion?

A. The one great cause of boiler explosion is the inability of the boiler to withstand the pressure to which it is subjected at the time, and this may be brought about by any one of the following causes, viz.:-

1. Bad design, in which the boiler may not be properly

strengthened by stay bolts and braces; deficient water space preventing the proper circulation of the water.

2. Bad workmanship, caused by the punching and riveting being done by ignorant and unskilled men.

3. Bad material, caused by blisters, lamications, and the adhesion of sand or cinders in the rolling of the plate.

4. Excessive pressure caused by the gross carelessness or recklessness of the engineer or by defective steam gauges or inoperative safety valves, they being screwed down too far, overweighted, jammed, or otherwise out of order.

5. By being used too long as that the sheets become thin and weakened and thus give way to pressure.

W. R. Q. Which is the best; to have the old flues retipped when refuelling or to have all new flues put in?

A. This depends on the condition of the flues. They may be taken out and retipped several times, but when they become too thin it is not good practice to retip them.

E. H. Q. Will putting potatoes in a boiler injure it if it removes the scale too fast.

A. Potatoes will not injure the boiler, but too much of this diet might make it foam.



Admiring the "Universal."

History Repeats Itself

Once upon a time, so history records, there was a man who believed that the furrow should be turned and not simply rooted over as was done with the old wooden mold board. He was scoffed at and jeered to derision, and when it was said that he was sincere in his purpose the government was petitioned that he might be prohibited from putting his plow upon the market, for it was thought that he would ruin the land. He faced under the greatest difficulties but his determination gave to the world the greatest invention of mankind—the modern plow.

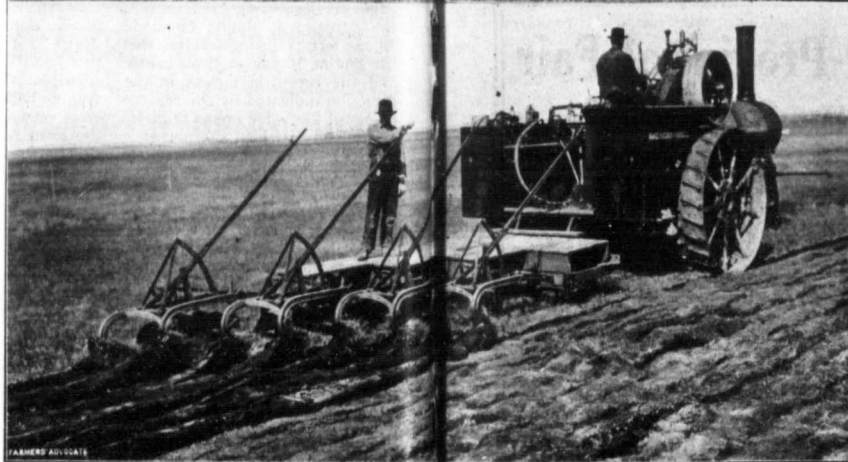
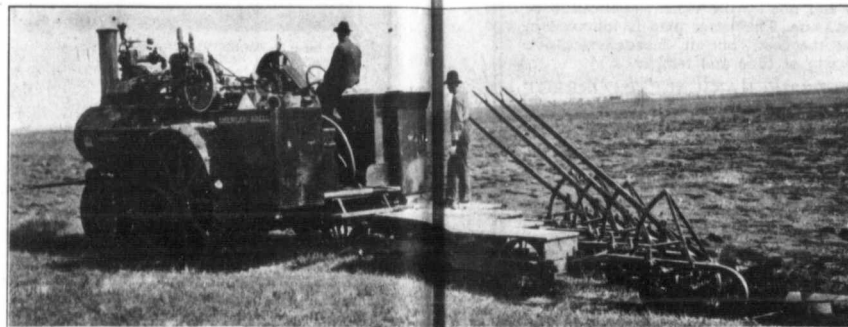
When traction engines were first used upon the land for cultivation purposes they were admitted to be good in theory, but in practice it was thought they would injure the soil to such an extent as to seriously impair its fertility. It took considerable practical demonstration and bumper yields to convince the farming public that there was something for which they had been looking and waiting and that within a very short time the horse and the ox would become a thing of the past. In other words "History repeated itself."



The "Universal" is a "one man" outfit

\$1.00 Wheat

History, however, was helped out by the fact that the world's bread eating population was increasing faster than its wheat production and the cries of the multitudes for more bread brought an increased demand for that stuff of which bread was made — Wheat. The price of this staple product kept steadily on the increase but the supply could not meet the demand. The natural result was that more land must be turned over, but the ever present question was how. Horse flesh was being taxed to the limit of endurance and production. Then came the giant power of steam to the rescue, "invisible hot as fire, the work of days was but a single hour to this servant that would not tire." Did it work? Just ask the thousands of farmers who have tried it and who have increased their yield ten, twenty, yes, a hundred fold. But the end had not been reached. The gas tractor came into existence with the result that we hear the farmers everywhere discussing "Horseless Farming," and they know what they are talking about, for they have tried it.

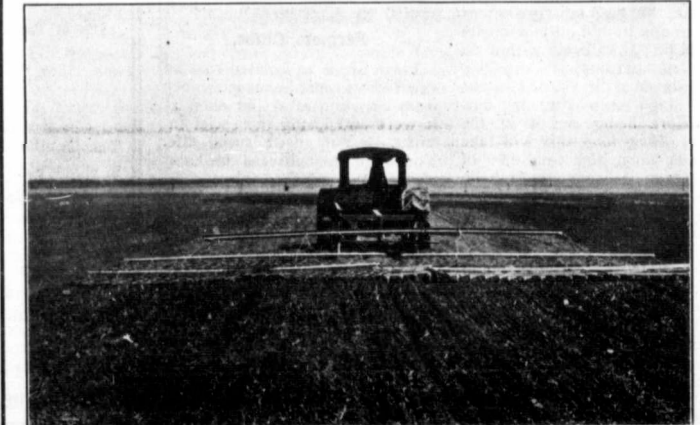


American-Abell 28-H.P. Simple Steam Plowing Engine at Work

The Power Farmer

Power Farming demands suitable machinery. It can be done and is being done every day but the tools must be right and adapted to the purpose. Upon these pages you will find five illustrations of machines at work. Those in the four corners represent the AMERICAN-ABELL UNIVERSAL FARM MOTOR at work performing the work of soil tillage, and from the business-like way in which the work is being done, we believe that you will agree with us that there is a great deal in it. Scores of these machines are at work in Western Canada at present and the amount of \$1.00 Wheat that they are producing is amazing. Every owner is a "Power Farmer," and he is proud of it.

The center scene is that of an AMERICAN-ABELL REAR MOUNTED 28 h.p. Steam Plowing Engine. It is built for big work and it is doing it throughout the West. It is built for plowing, and the way that it turns over the sod-locked prairie should make the hungry multitudes cry for joy.



Double Harrowing 100 acres per day on the Kenilmeaky Farm



They all like the "Universal." Try One!

THE AMERICAN-ABELL LINE

of Power Farming Machinery consists of AMERICAN-ABELL REAR-MOUNTED PLOWING AND THRESHING ENGINES, AMERICAN-ABELL UNIVERSAL FARM MOTORS, AMERICAN-ABELL SEPARATORS, WARREN-DETROIT AUTOMOBILES.

Our Creed: "We believe that honest goods can be sold to honest people by honest methods."

We want to get better acquainted with all who are interested in this power farming proposition. Write us. Make our offices your headquarters when in Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Toronto.

American-Abell Engine and Thresher Company, Limited

We Represent The Advance Thresher Co., Battle Creek, Mich. and The Minneapolis Threshing Machine Co., Hopkins, Minn.



Axioms for Making Good Butter
By Hollister Sage.

The Rules are Few, But They Must be Strictly Followed.

The rules for making choice butter are not many, but they must be adhered to. Some one has wittily said that a successful man must begin by making wise choice of the right grandparents. So with buttermaking—if the antecedents are not right, the product may be irreparably injured. The milk must be drawn in a cleanly manner; never milk with wet hands; brush off the udder and adjacent parts of the cow before milking; be sure the air is pure and the milking place clean. Myriads of bacteria swarm in vile stables and contaminate the milk as it leaves the cow, and the consequence no cream and butter resulting can be well-flavored. Even the feeding of the cow is important, that no objectionable flavors be imparted to the milk through the cow. The health of the animal must be closely watched at all times. She should never be permitted to become constipated nor feverish from any cause.

Having drawn the milk, let it at once be removed and strained, chilling it immediately if not separated. If set, it must be kept in a sweet place that is cold but not freezing, and the cream removed after twelve hours. Cream of all kinds is to be held at low temperature until ready to ripen, and never more than three days, even under the most favorable circumstances. The rule for rosy flavors is frequent churning. As more cream is added to the cream jar from time to time, the mass must be stirred well to mix it, and no new cream should be put with old within six hours of churning.

Cream must be ripened to the exact stage for making fine butter before being placed in the churn. How long this will take depends upon the condition of the cream, its age, etc. If held, let us say, two days, cold and perfectly sweet, and it is winter, probably eight to twelve hours will be needed.

Usually bacteria are present in sufficient numbers to ripen the cream naturally if the temperature be raised to 68°. If difficulty be experienced, a special starter may be prepared or bought, which will produce a rosy flavor. But the ripening must be stopped at the right time, for it may proceed so far as to give the butter undesirable qualities. The cream

should have a pleasant, acid taste that is suggestive of good butter, and should drip off a ladle with a velvety action that is soon recognized. When cream has reached this condition it must be chilled to the proper churning temperature as soon as possible and whipped to butter at once. What is this temperature? The rule is to churn at as low a point as the season and conditions will permit. In summer, get as near 50° as possible; as the season advances and the cream shows a tendency to churn slowly, raise the temperature from churning to churning, until in winter, and in late lactation, the temperature will be as high as 70° or even 75° sometimes. What kind of a churn? Any kind that is made of wood, so that when it is wet the butter will not stick to it. That churn is preferable which has no interior mechanism.

Stop churning when the butter shows in granules the size of wheat, draw the buttermilk and add cold water, revolve a few times and repeat. This is called washing the butter, but it is not desirable if the butter is to be eaten at once. In this case, take it out of the milk, work it well, perhaps rinsing it slightly on the worker, salt to the taste of the customer—usually one ounce or less to the pound—wrap in prints (use parchment paper) and give full weight. After all is said, it is not difficult to produce a high-flavored and desirable butter. The principal part to play is to eliminate all carelessness in the handling of the goods from start to finish, to think, observe and compare and never let circumstances make you their victim.

Farmers' Clubs.

Farm life is so isolated that an extra effort must be made to keep from crawling into your shell as it were and losing the social instinct. You need social life. You ought to cultivate the habit of flocking together. There's no danger that it will be overdone in the country. Town folks are on the go too much. Not so with farmers.

You don't have to get very old to feel inclined to stay at home. In the first place the work is hard and the young couple are anxious to pay the mortgages as soon as possible. So they overdo. Then the little family grows and the babies keep the farmer and wife at home. The habit of staying home grows and becomes a part of life itself

**CLEAN WORK GREAT PROFIT
LITTLE EFFORT**

is in brief the complete story of the

"MAGNET CREAM SEPARATOR"



No machine in the hands of dairy farmers to-day holds a cleaner skimming record than the "Magnet."

No dairy utensil is so easily kept clean and nothing in Cream Separators is more easily operated.

In every vital point of a perfect Cream Separator, we challenge the most severe test with any other machine.

Quality of material, simplicity of parts and sanitary points considered, it is the cheapest of all Cream Separators.

The power is put on to the "MAGNET" by properly graded steps or gears and not by the violent application of a large wheel to a small one. The latter plan is followed in most machines to save the cost, but it means excessive wear, breakage, and waste of time and temper.

The "MAGNET" is MECHANICALLY CORRECT and stands as STEADY AS A ROCK on its base, holding the gears without vibration or possibility of accident.

Send us a post card and we will give you a full demonstration of the "MAGNET" in your own dairy without expense or obligation on your part.

The Petrie Mfg. Co., Ltd.

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**The Inter-Provincial Fair
BRANDON, MAN.**

JULY 24th to 28th, 1911.

BIGGER AND BETTER THAN EVER.

Live Stock Department

It's at Brandon that is seen the best Horses, Cattle, Sheep, Swine and Poultry that are in the Country.

Machinery Department

The Exhibit of Farm Machinery in 1910 was the best ever seen in the West. Indications are that it will be larger this year.

We invite Manufacturers to send exhibits.

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DE LAVAL SEPARATORS

THE KIND CREAMERYMEN USE

Catalog Free

THE DE LAVAL SEPARATOR CO., Winnipeg.

You need to mix with folks. After all, what is life anyway without folks? You can't chum with hogs and calves. You can't expect the women folks to associate only with the chickens, and the house cat. The young folks will have their fun with other young folks, even if they have to steal away to do it.

Where there is a country club there is a new country spirit—a better neighborhood to live in. When farmers and their wives get out only once a month and meet with their neighbors they take a greater interest in everything. Choose a moonlight night each month and get together. Have some discussion on a live topic of general interest, then chat a while. It will make you younger, more agreeable, better business men, better wives and mothers and proud of being farmers. The boys and girls will not long for the city quite as much if they have a chance to meet their friends often at home.

The greatest need of farm life to-day is more social life. There is too much living unto yourselves. That is bad enough in the cities but infinitely worse in the country.

The Horses' Noon Hour

The noon hour being the period immediately following a strenuous half day in the fields, and just preceding another hot and heavy one in the afternoon, it is of vast importance that we strive to make this hour as comfortable for the horses as possible. Remove the hot, sweaty harness immediately after unhitching for dinner. Horses cannot rest with the harness on, neither can they eat comfortably, and besides they are liable to break them or get tangled up in them while fighting flies or lying down to roll.

Unless the teams are extremely hot, a cooling draught of fresh water should be given at once upon unhitching, one being careful that the animals do not overgorge themselves by drinking too fast or too much. Dash some cold water on the shoulders and necks to wash away dust and dirt, cool the skin, and help solidify the flesh, thus adding comfort to the animals and guarding against sore necks and shoulders.

Don't torture the already weary horses by placing them in a sweltering stall while they eat their noon-tide meal. Tie them under some inviting shade formed by a tree or old, open shed where the breeze will reach them freely; arrange troughs or boxes to feed in. Indeed, one had better tie them out right in the glaring sun than in a close stifling barn or closed stall of any kind. The breeze thus secured will more than counterbalance the effect of being in the shade with little or no air supply.

Before returning to the fields, curry and brush those briny looking spots from the hair, where the sweat has collected around and

underneath the harness and dried. This not only contributes to the comfort of the animals at that time, but tends to prevent the skin from becoming scalded, and the hair dropping out later on. It also removes the danger of sore necks and shoulders, which are frequently the result of this dirt and grime working into and irritating the skin till a break is formed in it. Brushing the collars before harnessing is another important item that should receive the most careful attention at this period, and the accumulated filth is so easily removed if one will do it while the collars are still damp with sweat.

The Calf in Fly-Time

It is a cruel practice to subject calves to the hot sun and the torments of flies during hot weather; yet it is a very common thing to see calves tied out in the hot sun all day long and where they just have to pant to get their breath. A combination of the heat with the fly pests is sufficient to cause any animal not to do well, and often they cannot even hold their own.

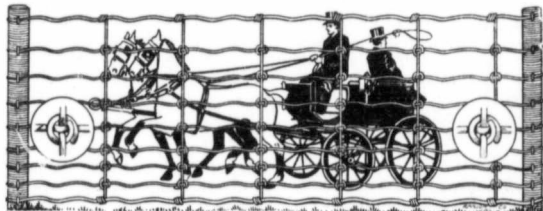
If the calves are to be tied out during the day some shade should be provided. If there is no means of getting a shaded place, they should be kept in the barn at least during the hottest part of the day.

Grass is excellent feed for them, it is true, but unless there is some means of protecting them from the sun and flies it should be cut and given to them in the barn. Fresh, cool water is another thing that a calf relishes during hot weather. They get thirsty on hot days the same as we do, and need water in addition to the skim-milk ration. When they are tied, a pailful or two of water may be given to them daily and it will do them lots of good.

A great deal can be done to prevent the suffering from flies by spraying them with the same mixture used on the milch cows. I am afraid that cows are more often sprayed to facilitate the milking and to make it easier for the milker, than it is for the cow's sake and to keep up the milk yield. The suffering of the calf when it is fighting the flies does not so greatly inconvenience us as the milch cow does, and spraying is very often neglected.

A mixture of three parts of crude oil to one part of crude carbolic acid, applied with an ordinary spray pump, is effective.

The odor and taste of this mixture is distasteful to flies and although a few may land on the back, they will do little biting, and cause no annoyance. It is cheap stuff and stock will do enough better to pay for it many



GREAT WEST WIRE FENCES & GATES

Cost no more than others and yet QUALITY in stock and workmanship is our hobby. No imperfect goods are allowed to leave the "Great West" factory.

Write to-day for Catalog, illustrating 30 different styles of farm and lawn fencing.

The Great West Wire Fence Co., Ltd.

74-82 LOMBARD ST., WINNIPEG.

Hail Insurance

Many who read this will remember what a muddle Hail Insurance was in Western Canada eleven years ago. How certain Companies had secured patronage on promises that were never fulfilled, how insurers were sued for their premiums when they could not get a dollar of indemnity for loss, and how the Provincial and Territorial Governments were obliged to take action to straighten out the tangle.

So keen and general was the distrust of Company Hail Insurance when our plan was first introduced in 1900 that we found it most difficult to convince anyone that we had something based on sound business principles and which could be relied upon to do what we claimed for it. But we had the courage of our convictions, and under the closest scrutiny and most severe criticism, by actual demonstrations of its merits we gradually won for our plan and the manner in which we administered it, the confidence of all classes in any way concerned with Hail Insurance, with the result that when the Government system of Hail Insurance was abolished in Saskatchewan two years ago our plan was the first to receive permission to transact business in that Province, and in 1910 there was more business written on this plan than on all others combined.

Anything that could win out against such odds must have the qualities people look for in good business, and those who know the history of Hail Insurance in Western Canada and what our plan has done to put it on a sound business basis are our staunch friends, yet

"Fools Rush in Where Angels Fear to Tread"

and certain competitors from outside with little or no experience in Hail Insurance business, having no knowledge whatever of conditions in Western Canada, undertake to point out the weaknesses of our system and extol the merits of what they have to offer. They may win a place after a while if they make good, but in the meantime the majority of those who give thought to these matters will decide that what has been tried and proved to be all right is what they want.

Full information will be furnished on application to any local agent, or;

INSURANCE AGENCIES, LIMITED

General Agents

BRANDON, WINNIPEG and REGINA

The Central Canada Insurance Company

The Saskatchewan Insurance Company

The Alberta-Canadian Insurance Company

times over. It should be applied once or twice a day as needed.

When calves are kept in the barn, the stalls should be kept clean, as otherwise they make a favorable breeding place for flies. An application of lime will keep the stall pure and sweet, and also act as a preventative of fly breeding. Fly time, with the accompanying hot weather, is a critical time in calf raising, and steps should be taken to prevent the harmful effects resulting from the unfavorable conditions.

Without Engine would quit farming—Sparkling troubles.

Two years last fall I decided to take a plunge, so bought a 22-40 Hart Parr plowing engine and a 36 x 60 American Abell separator. When work began next spring I tried to break sod with a solid frame John Deere plow but it was not satisfactory. So last year I went into the field with a 5 bottom Cockshutt plow.

While I sometimes run the entire outfit alone I think it economy to have a man guide for me, leaving me to adjust the plows, watch for loose nuts and have an eye on all that is going on.

We average about an acre an hour, so that the amount done in a day depends mainly on how long the days are that we put in, but 12 to 14 acres is about the average.

When plowing I use coal and oil, which costs me about 17 1-2 cents net per gallon, and per acre the cost for fuel is 80 cents. I know this is a little higher than is claimed by some, but our soil is a heavy gumbo and I put my plows in the ground and don't merely drag them along on the top, as I have seen some do who claim to break on a much smaller consumption of fuel. I have no doubt, however, that in a light soil, good work can be done cheaper than with us.

However, it takes five good solid horses to handle a sulky breaker. So my engine is doing as much every hour as 25 head of horses and can be worked as many hours as we feel like driving it.

The first year I was in Saskatchewan I kept a five horse outfit, breaking from April 15th to June 25th, and last year we back-set it with the engine in exactly seven and one half days, which is an illustration of the two methods of farming. In this connection I might add that if I had had to depend on horses to do the heavy farm work a half section would have satisfied me; but with the engine to help me out my courage rose and now I have several half sections and am not at all sorry that I have them.

Frankly speaking, if I could not have an engine for my plowing I would quit farming.

The water question is not an important question with us as we use less than a barrel a day. Plowing is unquestionably harder on the engine than threshing.

A word about ignition system

and troubles. I have used dry cells, wet cells, storage batteries and magnetos, but I like the dry cells to start on and a good magneto and coils to match after engine gets up to speed. I have gone to see several engines in trouble and here is a rather common condition. The symptoms were a failure to develop much power. The engine would take all its explosion but die when load was put on. The trouble always was a weak spark and usually the batteries were worn out. Sometimes the fault was in buzzer points, of which I always carry an extra set purchased from the makers of the coil.

Users of internal combustion engines should bear in mind the fact that the power of the explosion is in proportion to the vigor of the spark. It often happens that a poor spark will continue to ignite all the charges, but do it so slowly as to give almost no power at all. Also it will fail entirely to ignite a good mixture with water enough in it to keep the engine cool enough to prevent pre-ignition.

Outside of new batteries and magneto and coils, which I had to purchase, my repairs have been very small, probably less than \$25.00. This is partly due I think to my not overloading the engine, as is quite commonly done.

For night plowing I have placed an acetylene auto headlight on rear platform, extending bracket out over the furrow, then I focus the light so that it strikes the side of front wheel and along the furrow. Still I am no friend of night plowing for I find with good daylight I am not able to watch things any better than is necessary.

When we get into soft mud holes, as we often do in the spring, we chain a good solid post to drive wheels, letting it extend clear across under the engine. By jumping over it and stopping before post strikes platform and repeating, we soon get to solid ground. While it is rather slow travelling, it beats doing nothing a whole lot.

Where two or more tools are being drawn tandem, as plows followed by pulverizer and that by seeder, each implement should be drawn from the one immediately in front of it. Of course that looks simple, but I have seen several wrecks where the operators insisted upon hitching each tool direct to engine with cable or chain.

I must stop somewhere, so here's luck to all who plow with engines.

Yours truly,
F. S. Fowler,
Kronau, Sask.

A Good One.

I have a 25 horse power gasoline engine made by the Minneapolis Gas Traction Company of Minneapolis, Minn. The engine works in a very satisfactory way. I use it on my farm at Barons, Alta.



CANADIAN NORTHERN RAILWAY

CHANGE IN TIME, JUNE 4th

NEW! AND IMPROVED SERVICE

DOUBLE DAILY TRAINS
WINNIPEG SASKATOON EDMONTON

THE CAPITAL CITIES EXPRESS

Daily between
Winnipeg, Brandon, Regina, Saskatoon, Prince Albert
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Daily between
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THE LAKE SUPERIOR EXPRESS

Daily between
Winnipeg, Fort Frances, Fort William, Port Arthur

THE SASKATCHEWAN EXPRESS

Daily except Sunday between
Winnipeg, Dauphin, Swan River, Prince Albert

THE DULUTH EXPRESS

Daily between
Winnipeg and Duluth

THROUGH SLEEPING AND DINING CAR SERVICE ON ALL TRAINS
SUMMER EXCURSION TICKETS ON SALE AT ALL STATIONS

Ask the Agent or write—

OSBORNE SCOTT,
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For good results use

**The Empire Brands of Hard Wall,
Wood Fiber and Finish Plasters.**

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Shall we send you the Plaster book?

THE MANITOBA GYPSUM COMPANY, LIMITED

WINNIPEG, MAN.

IT REQUIRES AN

ALARM CLOCK

To attract the attention of some—
there are others who hear a

DOLLAR BILL DROP

If you are among the latter class and therefore capable of appreciating a proposition that will drop DOLLARS into your pocket while you sleep, get our information on shipping cream and eggs. We are waiting to send it to you.

The Brandon Creamery & Supply Co., Ltd.

"The Old Reliable"

BOX 1023 - BRANDON, MAN.

Family Group Photos a Specialty

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STEELE & CO., LTD.

MAIN ST. AND BANNATYNE AVE.

WINNIPEG

We only succeeded in plowing 320 acres this season on account of it being so dry. We had practically no rainfall all summer, and these conditions were very unfavorable for breaking. We pulled six fourteen-inch plows, used an eight frame Canadian Cockshutt with two plows detached. We also double discd the land twice, pulling six eight-foot discs. We used the single disc and hitched them so that they overlapped each other. The hitch was made to angle, iron bolted on to the drawbar of the engine. As angle iron is not strong enough to pull discs, we used a chain to run from end of angle iron forward to frame of engine. This makes a very strong hitch and anything can be hitched behind; harrows or drags, or discs also if desired. I have not had any experience with drill hitches but will have this coming spring.

The only help we have when plowing is a good engineer. We don't need any plowman, as our engine is self steering, and when we make a turn at the end of the field the engineer just starts steering device in furrow, then steps down off engine and lets his plows in the ground and then his whole time is spent looking after the engine and plows. Discing is done with one man. We used about three gallons of gasoline in plowing the above stated land about three to three and a half inches deep with about one gallon of cylinder oil per day. Our engine is geared to travel about two miles per hour. Very little water is required for cooling purposes.

I don't think plowing is any harder on the engine than threshing. Of course the traction gears are not used for threshing, which is a saving on that point.

Yours respectfully,
 Bert C. Protzman,
 Barons, Alta.

Biography of the Mule.

And these are the children of Gibeon; both Ajah, and Anah: this was that Anah that found the mules in the wilderness, as he fed the asses of Zibeon, his father.—Genesis 36 : 24.

Praised be Anah for this discovery. The foregoing paragraph is not cited as a text for a homily. It is simply the first recorded reference to the mule. From that time forth we find his hoof-prints prominent upon the pages of history.

When Solomon was brought down to Gihon to be anointed as king, he rode King David's mule. We know therefore, that the mule had attained a post of honor at least 1,000 years before the Christian era. Although in the twenty-one instances in which this comely brute is mentioned in the Bible, he is not once made the subject of eulogy or the occasion of rhapsody—as is the war horse in the book of Job—yet his name is never taken in vain, and there is always something going forward whenever he happens to be the subject of remark.

According to Rawlinson the mule was in high favor among the

ancient Babylonians for both riding and driving, and was of great use in war. But history is too full of the "neighing steed" even to do justice to the mule. As for the poets, one may say that he is shunned by them almost unanimously. It was the head of an ass, not that of a mule, around which Titania twined her garlands. Only one of the poets, when he unbars the gates of song, attempts scant justice to the mule. This is Pindar, who, in his Sixth Olympic Ode, has this to say:

"Oh, Phintis! spurn each dull delay,
 And haste the vigorous mules to join—
 Pursue thy clear and open way
 To reach his ancestor's remotest line."

This occurs in the ode to Agesias of Syracuse, on his victory in the chariot mule race. Pindar's Fifth Olympic Ode is to Psauimis, victor in another mule race; the ode opening with these lines:

"Daughter of Ocean! this sweet strain
 Which Psauimis' lofty virtues wake,
 Whose mules untired glide o'er
 Olympia's plain
 And victory's fairest chaplet gain,
 With mind propitious take."

Nowadays the mule race is little more than the clown-event or the booby contest at the ordinary country fair. What a fall is this for the noble beast who won his laurels at the Olympic games!

Most mules of the present day are of Spanish descent, and in America there will be no dissent from the statement that the mule is decidedly the best thing that Spain has left us of all her proud domain. The mule's propensity to balk is preserved in the revolutionary tendencies of the Spanish-American republics.

The Missouri mule now claims precedence in America, and its clarion voice, mingled with the bray of numerous politicians, is now heard round the world. Texas, Missouri, Tennessee, Georgia and Mississippi, now have about 200,000 mules each, and these five states alone, if they choose to follow the military tactics of the ancient Mesopotamian nations, could put more than 1,000,000 mule-mounted cavalymen in the field.

Farmer Good Intention's Sale Bill

The undersigned will sell at Public Sale, at this farm, in Hay-barn township, on the Bulldoad road, and a short distance from the barn, all his belongings, viz: One Poland China bull, good

\$3,600 in Cash Prizes for Farmers

ARE you going to build that new horseblock, sidewalk or dairy house of cement? Then insist on your dealer supplying you with the "CANADA" Cement. Not only will this ensure your getting a pure, uniform and strictly high-grade cement, that will guarantee the lifelong permanency of the thing you build, but it will also entitle you to enter our Prize Contest. And in this contest you stand a good chance of winning a prize that will perhaps more than pay you for the cost of the work. Every farmer in Canada who uses "CANADA" Cement is eligible to compete. Four prizes will be awarded in each Province and these prizes will be divided as follows:

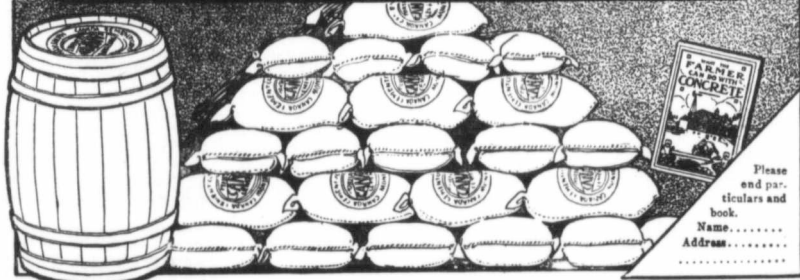
- PRIZE "A"—\$100.00 to be given to the farmer in each Province who will use during 1911 the greatest number of barrels of "CANADA" Cement.
- PRIZE "B"—\$100.00 to be given to the farmer in each Province who uses "CANADA" Cement on his farm in 1911 for the greatest number of purposes.
- PRIZE "C"—\$100.00 to be given to the farmer in each Province who furnishes us with the photograph showing the best of any particular kind of work done on his farm during 1911 with "CANADA" Cement.
- PRIZE "D"—\$100.00 to be given to the farmer in each Province who submits the best and most complete description, of how any particular piece of work shown by photograph sent in, was done.

Notice how we have purposely planned and imposed certain necessary conditions in order to give large and small users of cement an equal opportunity. As an illustration of this: In prizes "C" and "D," the quantity of cement used has no bearing whatever on the result. The farmer who sends us the best photograph of as small a thing as a watering trough or a gate post, has as much chance for prize "C" as a man who sends a photograph of a house—and the same applies to prize "D."

Don't hold back from entering because you think you don't know anything about concrete work. It's very simple. Besides, we have a 160-page book that we will send you free on request, which tells you all about concrete and how to make and use it. In this book, you'll find complete instructions for the making of almost everything you can think of in the way of farm utilities, floors, vats, troughs, stairs, posts, etc.

This free book—entitled "What the Farmer Can Do With Concrete"—will not only inform you—it will also greatly interest you. So send me it anyway, whether you intend to try for one of the prizes or not.

The Canada Cement Company, Limited, Montreal, Que.



Please send particulars and book.
 Name.....
 Address.....

100 YEARS' WORK

Only One Dollar and Fifteen Cents for Oil and Repairs. That is the Record made by the Matchless

SHARPLES Tubular Cream Separator



This hand-driven Tubular did work equal to 100 years' service in a live to eight cow dairy. Ask us to mail you the illustrated account of this great record. See the pictures showing how the parts of this Tubular resisted wear. Tubulars wear a lifetime. Guaranteed forever by the oldest separator concern on this continent.



Tubulars have twice the skimming force of others and therefore skim twice as clean. Repeatedly pay for themselves by saving cream others lose. Contain no disks. You will not be satisfied until you own a high quality, wear-a-lifetime Tubular. The only modern separator. The World's Best. Learn about it now.

Do you want to see the best of all separators? Our local agent will show you the Tubular inside and out. If you don't know him, ask us his name. Why consider any "cheap" separator? It isn't worth while. Ask for circular No. 33.



THE SHARPLES SEPARATOR CO. Toronto, Ont. Winnipeg, Man.

with their golden hair hanging down their backs; 1 old-fashioned wood-saw, with directions for use; 1 trifle-expansion patent lever bicycle, with full jeweled mud-guards 7 dungforks, three of which are equipped with fly-meter attachments; a lot of broad and narrow-tread horse gears; 1 Berkshire wheelbarrow, with ball bearings geared 120, can trot, pace or gallop; 27 dapple gray chickens, of the Egg-Sell (?) breed; 1 jagger-wagon with the jagers broken off; 2 fallen-top buggies and one on which the top fell; 1 large chilled landroller with valentine flounces; 1 fine cherry black jassack, with good open countenance and splendid "physique"; one double-breasted cupboard, fleeced-lined; 1 stationary bake-oven; 2 fine hand-painted bobb-sleds with automatic cut-off; 1 patent adjustable cross-eyed fountain-pen, just the thing for a left-handed person; 4 colored canines; 5 fine goats, 2 of which are Willies with red whiskers "a la mode." The goats do excellent tram work, as they are very strong. In addition to the above-named articles, there are others. Sale to commence at 11.30 P.M., when terms will be made known.

J. M. Good Intention.
June 24, 1911.

The Story of the Soil

By Cyril G. Hopkins.

Author of "Soil Fertility and Permanent Agriculture."

A very important book, now in its second edition, is "THE STORY OF THE SOIL" by Cyril G. Hopkins. Prof. Hopkins' "Soil Fertility and Permanent Agriculture" is the recognized authority on this vitally important problem, but it is technical and scientific, giving as the author says, "a thousand proofs" of the "true story" contained in this later book we are discussing. For this reason the author has woven fiction and fact together in his attempt to present as clearly as possible the great question of soil culture which to-day is a menacing problem before the American people. The purpose of introducing a story as means of emphasizing facts is done merely to clothe certain experiences with which the author was intimately related in the study of farm lands. It is because "truth is better than fiction" that fiction becomes a fit expression of truth. "The scenes described exist," Prof. Hopkins declares, "the references given can all be found and verified, and the data quoted are exact, although some of the story dates antedate the scientific data. The result is a fascinating as well as instructive book.

A young man, Percy Johnston, who with his widowed mother, owns a small and prosperous farm in the Illinois "corn belt", graduating from an agricultural college determines to engage in scientific farming, and with the intention of purchasing a worn out abandoned farm in the east, travels in Vir-

ginia, Maryland, Connecticut, Rhode Island, and Massachusetts, meeting farm owners, inspecting the soil and discussing with his hosts the advanced and scientific questions of soil culture and crop improvements. In these discussions are presented the results of the author's practical experience in soil fertility and not only the author's experience but the reports of similar experiences in Europe and America. One of the farms that Percy Johnson visited, Westover, the possession of Mr. Charles West in Virginia, furnishes in the daughter of its owner Adelaide, the romance which leavens the interest of this practical book.

The Story of the Soil.

should prove a liberal education to every farmer in fitting him to wrestle with facts concerning the productiveness of his soil. As the question of the soil, underlying the resultant quality and quantity of crops which in itself is the foundation of our prosperity, the source from which our industries flourish or decline, in fact the foundation of wealth, of civilization, of the very existence of our national institutions, this book of Prof. Hopkins has not only an interest and message for the farmer but for statesmen, economists sociologists and equally to the people whose "rights, liberties and pursuits of happiness" are dependent upon the fertility of the soil.

(Richard G. Badger, \$1.50 net.)
Farm Department.

Hand Separator Losses

A great deal of loss in the operation of hand separators might be easily avoided by a little better care of the machine. The great trouble appears to be due to the lack of knowledge that in operating a high speed machine a small error in care means a big loss in efficiency. This fact becomes more significant when the actual loss of butterfat in the skim-milk is determined on a cash basis.

With these facts in mind the Dairy Department of the North Dakota Agricultural College undertook to locate a few of the sources of loss and bring them together in a way to impress them upon the careless or unthinking operator.

The conclusions reached and the figures obtained are the results of a great many tests from a number of the leading makes of hand separators.

Flushing The Bowl.

One of the most common losses in using the separator is due to not flushing the bowl when done separating. The loss is greater with some makes of machines than with others, however, unless a quantity of water or skim-milk is run through after the milk is out considerable butterfat will be lost. The object in doing this is to remove the butterfat that may be lodged on the inside of the bowl and the

WINDSOR DAIRY SALT

"Expect to get the prize for the best butter, this year?"

"Of course I do.

I have the best cows in the country—and here's my Windsor Butter Salt.

You can't beat that combination.

You know, I have won first prize for the best butter ever since I began to use Windsor Butter Salt"

"Hope you win"

"Thank you, so do I"



INTERNATIONAL COLIC REMEDY

SOLD ON A SPOT CASH GUARANTEE

We Refund Your Money If It Ever Fails.



COLIC MAY KILL YOUR HORSE or Cow within one hour unless you have this remedy ready for instant use. Colic kills more horses than all other diseases combined, and when you need a remedy you must have it at once, for if you wait for a veterinary or make a trip to town you may find the animal dead when you return. If International Colic Remedy ever fails we will refund your money. It is the only Colic Remedy ever sold on such a strong guarantee. Put up in a regular drenching bottle.

SAVED HIS FILLY

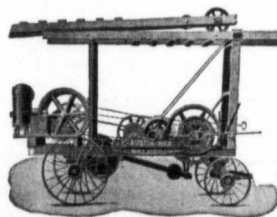
ST. JOVITE, QUE, March 3rd, 1911.

INTERNATIONAL STOCK FOOD CO., Limited.

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PRICE 50c. AND \$1.00 PER BOTTLE. FOR SALE BY DEALERS EVERYWHERE
INTERNATIONAL STOCK FOOD CO., Limited, TORONTO, CAN.

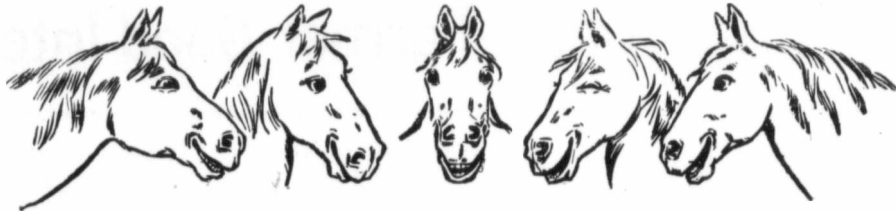
Austin Well Drilling and Prospecting Machinery



Rock Drilling Hydraulic Jetting or Hydraulic Rotary Machines to drill any depth in any formation. Operated by Steam or Gasoline Engines or Horse Power.

WRITE FOR ILLUSTRATED CATALOGUE NO. 15

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Burridge Cooper Co. Ltd., 303 Owena Ave., Winnipeg
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THEY ARE ALL HAPPY

Because Their Owner Used a Kramer Rotary Harrow

A Wet Season

A wet season means that you must get your crop in in a hurry. It is up to you to save all the time possible. By performing two operations at once, as you do with a Kramer Rotary Harrow, you save time, labor and horse flesh. It is a combination **Harrow, Packer and Pulverizer**, and makes an ideal seed bed in one operation. It saves time, it saves the crop. It makes both its owner and his horses happy.

Strongly Endorsed by the United States Department of Agriculture

The Kramer Company
WINNIFEG, MAN. PAXTON, ILL.
MANUFACTURERS

Send To-day for The Kramer Catalog
It tells all about the perfect seedbed

This man uses The Kramer Rotary Harrow Attachment

Save all this slavish work By using a Kramer

THE KRAMER COMPANY
PAXTON, ILL., U.S.A.

A Dry Season

The success of any crop depends far more on the care that is taken of the fall and winter precipitation than on the spring rainfall. You should never take chances on 'summer showers.' Your land always gets a soaking in the Fall and Winter. Mulch the soil when it is plowed and the moisture will remain to do its work. So sayeth the Kramer people and so doeth the **Kramer Rotary Harrow**.

See Our Hercules Model for Summer Fallowing, Back Setting or Stubble Breaking

John Deere Plow Co. Ltd.
Winnipeg, Calgary, Edmonton, Saskatoon, Regina, Lethbridge
SOLE AGENTS FOR CANADA

spouts. The amount of butterfat so lodging will depend upon the construction of the bowl, likewise the temperature of the milk. Often when the milk is below 90 degrees F., or the bowl is somewhat colder than the milk much cream will adhere to these parts and will be lost unless the bowl is flushed with warm water or skim-milk. Often it is a good plan to run a quart of warm water through the machine before starting to separate in order to warm the bowl. Care is necessary not to use scalding hot water for this purpose as it may cause the casein to adhere and clog the machine to the extent of losing considerable butterfat in the skim-milk. In determining the loss from not flushing nor washing the separator, the results were figured upon a basis of 5,000 pounds which is about the annual milk production for an average dairy cow.

The following results were obtained:—

	Bowl Flushed	Bowl Not Flushed
Ave. p. cent. B.F.	.043%	.082%
lost in S.M.	.043%	.082%
Pounds butterfat lost	.73 lbs	1.71 lbs.
Loss for one cow at 25c. p. lb.	.182c.	.43 c.
Value for 10 cows	\$1.82	\$4.30

It may be noted that the skim-milk tested nearly double where the bowl was not flushed and represents a loss of 43c. per cow per cow.

Washing The Bowl.

Another not uncommon practice is that of washing the separator only once a day. When left unwashed from one milking to another much of the slime dries on and adheres to the parts very tightly causing the machine to clog thus decreasing the efficiency as the following figures indicate:

	Bowl Washed	Bowl Not Washed
Per cent butterfat lost in S. M.	.018%	.03%
Pounds of B. F. lost	.46 lbs	1.20 lbs
Loss for one cow at 25 c. lb.	.12 c.	.30 c.
Loss for 10 cows	\$1.20	\$3.00

These results were obtained with new machines and the parts of the bowl being smooth did not collect very much dirt but where the practice of washing the bowl but once a day is continued the parts become rusted and rough so much more material will adhere. While the loss with a new machine is rather small one must consider that the older the machine the greater the loss. It always pays to give any machine the very best of care especially a high speed machine like the hand separator and more especially the bowl which is the very important part.

Better a good thought in the heart of yourself or some one of the farm folks than a thousand dollars in the bank.

Canada Thistles

To kill Canadian thistles take it at its weakest point. This is when it is in blossom. At this time it has drawn heavily on the food stored up in its roots. Mow it and plow at once; then plow often enough so that no thistle is allowed to get up. Keep at this until fall and the thistle will be dead. If this treatment is begun before they are in blossom it will be harder to kill them as they will in that case have more food in the roots to help bridge them over.

Siam's Exports of Birds' Nests.

The nests of a species of birds belonging to the family of swifts, and inhabiting the islands off the coast of Siam, are delicacies which the Chinese consider very fine in the making of soup. The demand for the nests in Hong-kong so exceeds the supply that the prices range from \$15 to \$25 per pound, according to quality, while the average price for the total annual product is about \$7 per pound.

The export of bird's nests from Siam during the last year amounted to 17,781 lb., valued at \$109,848, most of which was used by the Chinese cities. The nests consist almost entirely of the salivary secretion of the birds, whose glands are much more developed than those of the ordinary swifts. The season for the gathering of the nests begins in April and ends in September.

A doctor related the following story: "I had a patient who was very ill and who ought to have gone to a warmer climate, but whose means were insufficient, so I resolved to try what hypnotism would do for him. I had a large sun painted on the ceiling of his room and by suggestion induced him to think it was the sun which would cure him. The ruse succeeded, and he was getting better rapidly when one day on my arrival I found he was dead." "Did it fail, after all, then?" asked the doctor's hearers. "No," replied the doctor; "he died of sunstroke."

If you do nothing more than get one better cow this year than you ever had before, or one acre of better grain, or one really better fruit tree, you have done something worth living for.

You can not be a really good man and scold your horses—the most faithful animals on the farm.

You Can't Cut Out
A BOG SPAVIN, PUFF OR THOROUGHPIN, BUT

ABSORBINE

will clean them off permanently, and you work the horse same time. Does not blister or remove the hair. Will tell you more if you write. \$2.00 per bottle as 4 1/2 oz or 8 oz. BOTTLE FREE.

ABSORBINE, JR., for manking, 2 1/2 oz. bottle. Remedies Varicose Veins, Haemorrhoids, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands. Always pain quickly.

W. F. YONG, P.R.F., 112 Temple St., Springfield, Mass.

LYRAN Ltd., Montreal, Canadian Agents.

Also furnished by Martin Galt & Whome Co., Winnipeg; The National Drug & Chemical Co., Winnipeg and Calgary; and Henderson Bros. Co. Ltd., Vancouver.

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
1911

FARMER GOOD INTENTION

Father:—What a beautiful day and July 1st at that. Everybody goes to town today. I have never seen the crops looking so well at this season of the year in the entire 20 years that I have been in the country. I was over on the north eighty yesterday and I never saw such a beautiful piece of wheat. I can tell you that it pays to cultivate well no matter whether the season is wet or dry. In a wet season good cultivation enables the grain to get a good start ahead of the weeds and in a dry season the grain is given at least an even chance. I am going to take the old team and the mowing machine and begin a general weed slaughter on Monday. There is no time like now to get at this weed business.

Mother:—Those trees we planted this spring are certainly doing fine. We must order another good supply this fall. We will soon have a beautiful grove around the house.

Henry:—Father I want to go to Winnipeg next week and follow the motor competition. The more I read The Canadian Thresherman and Farmer the more I am convinced that it is not necessary to keep such a large number of horses. I see that there is a binder hitch advertised whereby from three to five binders can be pulled behind the engine and if this is so the traction farming problem is practically solved. That hitch idea that we worked out from the Canadian Thresherman and Farmer has certainly proved to be a dandy. We could sell off some of our horses and buy another engine. The engine would cost us nothing to keep during the winter and you and John could handle the winter chores nicely and let me go to college this winter. Another thing, you know how dry it was last fall. If it had not been for our engine we could scarcely have done any fall plowing at all. Now with two engines we can get practically all of our land plowed and then it will be an easy matter to get all our crops in on time no matter how late the season.

Mother:—My experience with chickens during the past two years convinces me that there is a lot of money to be made out of them providing they are properly handled. I was talking to James the butcher when in town Saturday and he wants all of the broilers I can give him for which he will pay a fancy price. He says that the city markets are just clamoring for them and that the supply is nowhere equal to the demand. He said that if I could arrange to give him a hundred or so he would provide me with tags so that I could put on them where they were raised and just when they were killed, my name, etc. I believe that this would enable me to work up quite a trade. What I want for another year is a new poultry house and I am going to make you this proposition. If you will build it just the way I want it I will agree to pay you back in five years without interest. The eggs and poultry used on the table will take care of the interest. Father:—I'll just go you on that proposition. You go ahead and build just what you want and I'll foot the bills and for every dollar that you pay me I'll put another in the bank for you as a savings account. You cannot however touch this account until the poultry house is paid for.

Father:—I want you boys to take the traction plowing outfit this week and summer fallow that hundred acres that we purchased from Good Intention last week. I was over it yesterday and it is a disgrace to any community to have such a weedy patch in it. It is full of about every known noxious weed. I think you had better mow it before it is plowed as a great many of the weeds are too big to be turned under. While you boys are cutting the grain I am going to keep on that piece continuously with disc, cultivator and harrow and unless I am very much mistaken we can make a big change in it. I wonder what kind of a crop Good Intention ever expected to get off from it this year. It is lucky for him that he did not find time to get it plowed. We will sow it to wheat next year and we will keep that wheat separate from ours. We will also sow some tame grass seed on it which will help to keep down the weeds after the grain is harvested. Enough weed seeds would have been raised on that piece this year to have seeded this whole town.

John:—It is a good thing that Henry purchased those binder hitches when at Winnipeg during the fair. We have had so much rain this summer that the ground is very soft and the binders are going to pull exceptionally heavy. If I am not very much mistaken it is going to be very warm and it would have been very hard on the horses. But with the engine the hotter the day the more work we can do and the horses can kick up their heels in the pasture.

Mother:—Our meat barrel is not going down very fast. If you men folks keep on eating vegetables like you are doing this year we need not put over half as much meat another year.

Father:—If you did not know how to get your vegetables on the table in such good shape we perhaps would not eat so many. I believe that they are very much better for us than meat. I know I have never felt as well as I have this summer.

Week
Ending
July 1st

Week
Ending
July 8th

Week
Ending
July 15th

Week
Ending
July 22th

Week
Ending
July 28th

Mother:—This is supposed to be a holiday but there is no use of such things on this farm. It is a case of ride to town in a lumber wagon and in this hot weather it is more than one can stand. Besides I haven't any clothes that are fit to wear. Mrs. Up-to-Date does not seem to work nearly so hard as I do and she seems to have time and clothes to go anywhere. I presume I had better stay at home and fight the hens away from the garden. There is very little left as it is.

Father:—I don't know what is the matter with the grain this year it is so weedy. I do not believe that those last pieces that were sown will ever amount to anything. I suppose I should have cleaned my seed thoroughly. I intended to do it but it got so late before I got at it. Another year I mean to look after it.

George:—Good seed will not amount to much unless the implements are in shape to put it in right. Our drills and discs were all so dull and rusty last spring that they were not in shape to put in any kind of a crop so that it would grow.

Father:—I had intended doing considerable summer-fallowing this summer but the horses are all in such bad shape that I do not believe we can do much. We had to work those two mares with colts so hard that they are all run down and must have some rest before the work on the binder begins. That eighty acres that adjoins the piece I sold Up-to-Date has gotten into such a weedy state that I cannot do anything with it. It could be mowed but it will grow up just as bad within a few weeks and we can't keep a mowing machine on that one piece all summer. This old farm seems to be going entirely to weeds and if it keeps on we won't be able to raise enough to get our seed back.

George:—Last night's big rain certainly played havoc in the horse barn. The rain ran through that old roof like a sieve and when I went out to the barn this morning the horses were standing knee deep in water and muck. We will have to leave them outside for a few days until we can get it drained out.

Mother:—Our cows don't seem to be milking as well this summer as they usually do. We have three more than we had last year and last summer at this time I was making about forty pounds of butter a week. I only had a 30 pound tub last Saturday and it was so soft that I did not get much for it. I want to tell you that if you expect me to make butter you have got to provide a better place to make it in or at least get me a cream separator. This thing of setting milk in cans without a good water supply is not what it is cracked up to be. My back is nearly broken from lifting these heavy cans out of the water and I have no place to keep the cream after it is raised and skimmed off.

Father:—I'll tell you what we'll do. We will get one of those separators that the——mail order house advertise for \$35.00. I believe a separator is a separator no matter what it costs and that one is as good as another.

George:—Father, here is a letter from Charles. It seems he has gotten into trouble and has borrowed some money that he must pay back. He says he must have it by the last of next week. He is likely to be prosecuted. It amounts to over one hundred dollars. He wants me to ask you for it.

Father:—I haven't got any money for any fool boy who does not know when he has got a good home and is not content to stay there. He has gotten into trouble and he can get out of it the best way he knows how. It will teach him a good sound lesson. When I was a boy I had to make my own way and keep out of trouble and I'm not going to let my boys think that their father is a bank upon which they can draw any time they are in trouble.

Mother:—Father, if you had given Charles a chance and not worked him to death on this old farm and given him some little recreation he would never have wanted to leave and would never have gotten into trouble. You had better, in fact you must, go and settle this account and bring him home. I can't have a son of mine go to the penitentiary.

Father:—George, you and the hired man will have to put up the harvest this year. I have closed a contract with a nursery company to handle their stock and I believe I can make more money than I can on this farm. I bought a buggy from Smith for which I gave him my note due Nov. 1st. I know I can make some money out of this for the company's representative told me so and he showed it to me in black and white. I don't believe you had better cut all of the grain this year as some of the patches are so weedy that they will not pay for the twine used to tie them. Pick out the best pieces and the cattle can pick over the weedy patches. I may get home from time to time to see how you are getting along and Cherea will probably be here to give you an occasional lift. Better make the old horses do most of the work on the binder as we may want to sell one or two of those colts this fall.

You Are Never Safe

Family, Home, Barns, Livestock

May be yours today and destroyed tomorrow through the force of lightning. That lightning flash which you admire in the sky contains a force that is irresistible. You can't stop it and were it not for the fact that it can be directed through a system of lightning protection the annual havoc wrought would be enormous. However, there is no danger.

All that is required is a

TOWNSLEY SYSTEM

of lightning arresters. If protected by our system we positively guarantee you against the worst lightning storm on record. The cost is trifling and once installed there is no further maintenance expense for years to come. Write at once for particulars and cost of complete outfit.



M. TOWNSLEY
Pres. M. Townsley & Sons, Minneapolis

Are you protected Against lightning?

The **TOWNSLEY SYSTEM**

COPPER CABLE LIGHTNING ARRESTERS GUARANTEED TO PROTECT HAVE NO OTHER

BEWARE OF IMITATION, OR JUST AS GOOD.

THE CANADIAN LIGHTNING ARRESTER AND ELECTRICAL CO. LIMITED.

WINNIPEG, MANITOBA.

We are loaded with Copper, either Hard Drawn or Soft Drawn, and have set a price that we may merit your trade. We are well stocked with trimmings, bought when the market was low. We ship the same day the order arrives to avoid delays. The season is short and lightning strikes quick.

Don't Miss seeing our most Wonderful Exhibit at the Winnipeg and Brandon Fairs. It is something worth seeing and may be the means of protecting your life and property.

Dealers and Farmers have your mail addressed in our care during Fair Week.

The Canadian Lightning Arrester and Electrical Co. Ltd.

WINNIPEG, CANADA



O. W. TOWNSLEY
Manager The Canadian Lightning Arrester Co.

BEWARE !

of cheap and altogether ineffective systems that are being offered and suggested by so-called "authorities." The old-time "LIGHTNING ROD MAN" was regarded as one of the common fakers of the age, and we have still to fight a great deal of the prejudice he created and the grievance that exists, even in this day of education as to the nature of the electric fluid and what are the proper means to take as a safeguard against its ravages.

OUR SYSTEM CONSISTS OF PURE COPPER CABLE

which (next to silver) is the greatest conductor known to science. You may rod your building with steel for less money but its Conductivity is so far below Copper and its liability to Corrosion so great from the moment it is exposed, no sane man will use it to-day. Copper will not Corrode and we will give 15 cents a pound for your cable at any time from the date of its being put on the building till it is half-a-century old. Steel decays so fast that in 6 years it is absolutely Valueless as a Lightning Conductor, and not worth a cent as old iron.

A Freight of Currency

Continued from page 421

maid" has to go an' come in ballast"

Sam's eyes dilated like the searchlight of a battleship at the daring proposal, and for the moment it staggered him. Windlass continued to talk and to sweep away all sorts of real or imaginary difficulties that might be exercising the brain of the "Mermaid's" skipper, but it looked for a long time as if Sam's jaws were hermetically and finally sealed against every device to open them.

He sat as one in a trance, it was not the habit of Sam Slimber to spend his waking moments in chasing butterflies, and all the while his whole thinking capacity had been seriously engaged in the scheme. At last he woke up. Ejected a quid upon which he had been ruminating, he bit off a fresh piece of Navy Plug, sucked his thumbs into the armbolts of his waistcoat and proceeded.

"Windlass, I allus thought you would come to this, an' I'm beginnin' t' feel real proud o' ye, mate. You've admitted that ye 'aven't done the clean thing by Elsie, but that's all over now-let bygones be bygones, an' I'll do the job for her sake. I 'aven't been in Boston Harbor for well nigh twenty year, but the old ship is as taught as she was the day she first left for the slips, except for a bit of bitto' copper here an' there on her bottom, w'ich we'll see to. When would like me to sail?"

"Soon as ye can Sam; sooner the better, an' I want ye to take Sonny with ye. I'll be a dead man in a day or two an' who's to look arter him when I'm gone? Besides if I were to live twenty year longer, what chance is there for the boy livin' in a hole like this? Elsie is his dead mother's sister, an' she had as much to do with draggin' him up as his mammy had afore she died. I know she's fond o' the lad for she never writes but she axes all about him."

"Ever seen the doctor about ye' self Windlass?"

"No! what's the use o' a doctor to me? It would only be throwin' o' good money after bad an' I'd rather save it for Sonney."

"Well Josh I've known ye all them fifty years now an' I know its no good argifyin' a pint w' you when you have made up your mind. Seems as if nothing but the ghosts o' dead folks or stummick full o' canned lobster larst thing at night will ever shake ye out o' an opinion. An that minds me. D've know its one o'clock t'morrow mornin' an' here we are settin' jawin' as if it were a'ter Sunday mornin' breakfus? Nice state o' things for a man with one foot in the grave an' another holdin' down his title deeds 'n case they get blown away."

"You are right, Sam. Let's sleep over it", and the sick man carefully repacked his treasure chest which the other replaced and interred as he had found it in the coal box.

Windlass, whatever his ailment, slept soundly that night if the act of snoring like a hippopotomous fairly indicated a state of somnolence, but the blessing of sleep did not visit the pillow of Sam Slimber. The job he had undertaken and the hundred and one things rising from it crowded his brain all night long, and it was broad daylight when he finally slumbered.

After breakfast (which the nearly dead man partook of in bed) the skipper took himself off to see how things were going on at the docks. He promised to return to the mid-day meal but arrived unexpectedly while it was still in preparation, bringing with him a stranger whom he introduced as his friend Doc' Macpherson.

The Doc' was a genial sort of red-haired person and took the eyes of the chandler the moment he entered the room with the free and easy manner, somewhat at variance with the usual demeanor of the consulting physician. The Doc' was invited to join in the homely meal or "sassings and mashed" that was the sole article on the menu for that day, and he attacked his portion as if it were the first time he had broken fast since the day before.

"Well Windlass," said Sam, as they sat down to pipe afterwards, "I've been giving the Doc' some of your symptoms an' he wants to have a look at your tongue an' feel your pul-e. Ye don't mind that d'ye?"

"O no, but that won't help 'im. Besides I don't want no advice from anybody. I know as well as we're settin' here, an' I've made up my mind."

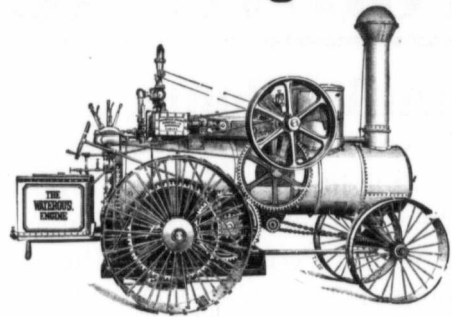
"That's all very well," chipped in the Doc', "but there's no greater fool, my friend, than the man who is his own lawyer, 'cept it is the chap who tries to doctor himself. I haven't come to bleed you either of your money or your gore. Sam, here, is an old friend o' mine, an' I'd do anything for a friend o' Sam's. This is purely a friendly consultation, an' without lookin' at your tongue I can see your case as well as if I had been attendin' ye for six months. Ye've got a touch o' Lapis Lazuli, an' y'll never get well here if ye really want t'shake it off. Sea air an' winkles is the only thing for it if ye can't take a long sea voy—"

"But I'm not—"

"Stuff an' nonsense! Anyhow if the sanitary authorities knew about ye lyin' in this place" (looking around upon the chaos of grease and grime) "they would give you some trouble, I bet you. I'll tell ye what Sam an' me here have been thinkin' of. There's a nice little convalescent hospital down at Deal lookin' square out on to the Downs where ye could get a nice whiff o' the clean salt sea air an' come 'ome well in a week. Lock up yer rubbish, set traps for the mice, an' tell the millman ye won't be round for a fortnight."

Continued Next Month

Rebuilt Threshing Machinery



Special Bargain Prices

Engines and threshers are rebuilt in our own repair shops all worn parts replaced, and all machines thoroughly refitted and put in first class working condition and repaired.

Write for information, or call and examine.

PLAIN STEAM ENGINES

- 2-12 H.P. Waterous Engines with Locomotive Boilers, each..... \$400 00
- 2-14 H.P. Waterous Engines with Locomotive Boilers, each..... 650 00
- 3-17 H.P. Waterous Engines with Locomotive Return Tubular Boilers, each..... 600 00
- 1-18 H.P. Waterous Engine with Locomotive Boiler..... 700 00
- 1-18 H.P. John Abell Engine with Locomotive Boiler..... (650 00)

PLAIN GASOLINE ENGINES

- 1-20 H.P. Waterous Portable Gasoline Engine, (good as new)..... 1200 00

STEAM TRACTION ENGINE

- 1-18 H.P. John Abell Engine with Locomotive Boiler..... 750 00
- 3-18 H.P. Waterous Single Cylinder Locomotive Return Tubular Boilers, each..... 750 00
- 1-22 H.P. Waterous Double Cylinder, Locomotive Boiler..... 1300 00
- 1-30 H.P. Waterous Double Cylinder, Locomotive Boiler, rear mounted, 39" face road wheels, f.o.b. Delisle, Sask..... 2500 00

THRESHERS

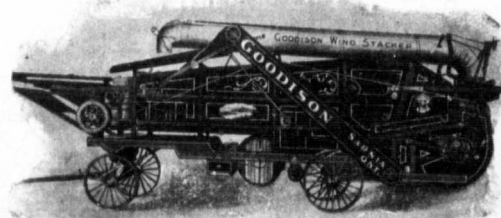
- 1-36 x 66 American Peerless, 18" carriers, self feeder, Perfection Short Weigher..... 450 00
- 1-36 x 60 McCloskey, side fan blower, Rich feeder..... 750 00
- 1-40 x 60 McCloskey, 18" carriers..... 400 00
- 1-40 x 60 McCloskey, side fan blower, Perfection Weigher..... 675 00
- 2-40 x 60 McCloskey, side fan blowers, self feeders, Perfection Weighers, each..... 750 00
- 1-28 x 42 McCloskey, side fan blower, Perfection Wagon Loader..... 650 00
- 1-28 x 42 McCloskey, side fan blower, Short Glendale Weigher..... 650 00

COMPLETE THRESHING OUTFIT

- 1-26 H.P. Waterous Double Cylinder Locomotive Boiler.....
- 1-36 x 60 McCloskey, side fan blower, self feeder, Perfection Weigher, headlight, cable, 8" endless belt, f.o.b. Saskatoon, Sask..... 3000 00

SUNDRIES

- 1-New 36" Rich Self Feeder..... 175 00
- 1-New 32" Rich Self Feeder..... 175 00
- 1-New Short Glendale Weigher..... 20 00
- 1-New Perfection Wagon Loader..... 55 00
- 1-New 7", 4 ply, 150 ft. Gandy Belt..... 50 00
- 1-Set Thresher Trucks, iron wheels, 36" x 6" and 34" x 6"..... 30 00
- 2-Power Jacks, pulley 18 x 6, each..... 5 00
- 10-Band Cutter Knife Sharpeners, 4" Emery wheel, each..... 1 00
- 2-Hamm Headlights, each..... 8 00
- 1-No. 1 Willford three roll chopper..... 250 00
- 1-No. 3 Jardine Blacksmith Hand Drill (nearly new)..... 25 00
- 1-Moore Steam Pump 3 x 2 x 3..... 25 00



Waterous Engine Works Co.

Winnipeg, Man.

(Limited)

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 as a food for the repairing of body tissues, for growth, for the laying on of fat, or for the production of external work is worth almost as much as timothy hay."

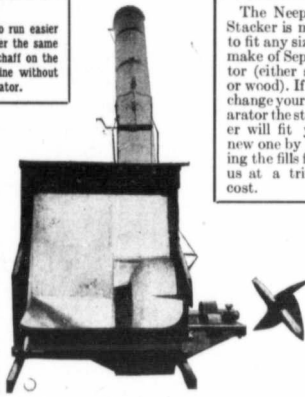


Side View Without Chaff Attachment

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.



Looking into the Stacker Showing Fan

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

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.

A Great Jewelry House.

That the money is in the West and is being freely circulated is evidenced by nothing so much as a brief observation of the number and character of the customers entering a great jewelry store at almost any hour of the day. The daily routine the Winnipeg house of Henry Birks & Sons, Limited, offers an impressive instance of a case in point.

Quite recently this firm had the good fortune to purchase the fine and comparatively modern building erected at the corner of Portage Avenue and Smith Street from the Y.M.C.A., thus securing what is probably the finest site in the city for the purposes of a business of the kind. The ground floor was at once remodelled and equipped to meet the special needs of the jewelers' and silversmiths' trade, and the structural alterations have added remarkably to the imposing character of the building.

The lines of this fine structure have been fully taken advantage of in the general scheme of decoration, which starts out with a solid bronze front — one of the most effective pieces of real art work to be seen among the city's architectural successes. The interior embellishments consist of a particularly fine example of ceiling work in old ivory tint with tasteful relief work in festoons of fruit and flowers.

The fittings and show cases are of solid mahogany and the "Tungsten" system of lighting

has been installed with perfect success in a series of drop chandeliers, each representing a solid bronze group of seven brilliant lights.

The stock of this great concern cannot fairly be described in any space. The watches alone provide an imposing spectacle. These splendid looking and intrinsically valuable timepieces (the movements of which are all registered) are specially made for Henry Birks & Sons by the most skilled experts in Switzerland — the great fatherland of the watch industry.

Henry Birks & Sons, Ltd., own and operate the largest jewelry factory in Canada and one of the largest in the world; and it is a significant fact that the whole of the jewelry on sale at their several stores (with the exception of the Parisian novelties that are made for the season) have been manufactured by themselves in their own factory by the cream of skilled labor.

The same may be said with regard to their silver shops, and the specific novelties in silverware constantly recurring offer a remarkable testimony to Canada's high attainments in this important branch of applied art.

The novelties in leather goods are certainly abreast of anything shown in New York and Paris, alike with regard to style and the extremely fine work and high quality that is in evidence in every detail.

While quality must be the watchword of any institution of

the kind, "Novelty" must be the everlasting slogan, and Henry Birks & Sons have no one ahead of them in this respect. They are exhibiting this year at Western Canada's great Industrial Fair, but the visitor should not fail to make a tour of inspection of the great emporium in Portage Avenue and particularly to see the extraordinary display of diamond jewelry, as for obvious reasons, these goods cannot be adequately represented at the Exhibition.

If one person could understand and speak all the various tongues in the world it is said that he could not reason long, being liable to go mad. It seems strange to think that there could be so many languages in one world and especially one that is growing in intelligence and civilization as rapidly as the earth. But notwithstanding that there is a growing tendency towards the universal language

known as Esperanto, the people of the earth will be very slow to discard their native tongues. More than a million persons are versed in and are using, when it is possible, this comparatively new speech, and it is claimed by some of the most learned men that in a few generations there will be but the one. They say conditions will be such as to almost demand a universal language. Some tell us the very things that created the different tongues will make our speech universal in time to come.

Please Make a Note of This

For the convenience of customers in the tributary territory of Regina, the Maytag Company Limited, Successors to the Parsons - Hawkeye Mfg. Company of Winnipeg, have placed a complete stock of repairs and extras for all their self feeders at Regina with Mr. H. A. Knight to whom orders may be sent.

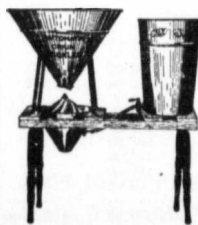
AUTOMATIC GRAIN PICKLER.

This Pickler is a self-operating machine, supplying its own power by the force of the grain as it leaves the hopper falling on the turbine situated in the lower hopper, causing a quick revolution of the turbine.

It is self-operating; Largest capacity; Requires less solution; Lasts longest; Can be adjusted to any capacity up to 125 bushels per hour. Solution can be regulated so as to merely dampen grain or to thoroughly soak it. No complicated machinery to clog or get out of order. Hundreds were sold last spring, and every one is giving perfect satisfaction. If your dealer does not handle it, we will send it to any address in the west, all charges prepaid upon receipt of price—\$17. Money back, and all charges both ways paid, if not perfectly satisfactory.

This machine will be shown at all the principal fairs throughout the western provinces, so be sure you see it.

An illustrated pamphlet which fully explains all about it gladly sent upon request.

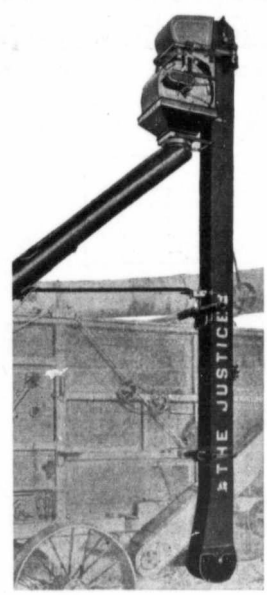


The Dominion Specialty Works, 716 McINTYRE BLOCK, WINNIPEG, MAN. AGENTS WANTED

A Three Years' Program as to the Equipment and Cultivation of a Half Section of Land in Saskatchewan, with 20 Acres Broken

Continued from page 35

INVENTORY		Cr.	Dr.
Date			
1907			
Mar. 31	To 320 acres of land @ \$20.00 per acre.....		\$6400.00
Apr. 1	Cash on hand.....	\$3000.00	
Apr. 1	4 horses @ \$250.00 each.....		1000.00
Apr. 1	1 waggon with box.....		100.00
Apr. 1	2 sets of harness @ \$35.00 per set.....		70.00
Apr. 2	450 bu. of oats for horse feed @ 30c. per bu.....		135.00
Apr. 2	4500 lbs. of bran @ \$22.00 per ton.....		49.50
Apr. 2	5 tons of timothy hay @ \$14 per ton.....		70.00
Apr. 3	Lumber for stable.....		125.00
Apr. 3	Lumber for house.....		225.00
Apr. 3	Furnishings for house and stable.....		50.00
Apr. 18	1 set of soothing harrows.....		25.00
Apr. 18	1 single disc drill (20 disc).....		70.00
Apr. 18	1 sulky plow with stubble and breaking bottoms.....		70.00
Apr. 20	8 bu. of clean wheat for seed @ \$1.00 per bu.....		8.00
Apr. 20	45 bu. of clean oats for seed @ 70c. per bu.....		22.10
Apr. 20	1 lb. of formalin @ 40c.....		.40
May 1	Garden seeds and potatoes.....		2.00
May 5	Barbwire for 2 strands around 20 acres.....		10.00
May 5	Tools—pick, shovels, bar, hammer, etc., etc.....		20.00
May 10	Crib for well.....		2.00
June 30	Shares sharpened for breaking season.....		4.00
July 5	1 mower and rake.....		70.00
July 5	1 hay rack.....		15.00
Aug. 15	50 lbs. of twine @ 10c. per lb.....		5.00
Oct. 20	By 50 days' threshing @ \$4.00 per day.....	200.00	
Oct. 21	To threshing 125 bu. of wheat @ 5c. per bu.....		6.25
Oct. 21	Threshing 750 bu. of wheat @ 4c. per bu.....		30.00
Oct. 31	4500 lbs. of bran @ \$22.00 per ton.....		49.50
Oct. 31	Shares sharpened.....		1.00
Nov. 15	1 set of bob sleighs.....		40.00
1908			
Jan. 2	1 fanning mill.....		40.00
Mar. 31	1 year's general expenses (breakages, provisions, etc.).....		200.00
Apr. 5	2 lbs. of formalin.....		.80
Apr. 30	Garden seeds and 3 bu. of corn.....		5.00
Apr. 30	4500 lbs. of bran @ \$22.00 per ton.....		49.50
June 30	Shares sharpened for breaking.....		4.00
Aug. 5	1 binder.....		190.00
Aug. 6	200 lbs. of twine @ 10c. per lb.....		20.00
Aug. 15	Lumber for one granary.....		60.00
Oct. 15	By work on machine, 25 days @ \$4.00 per day.....	100.00	
Oct. 30	To threshing bill 2250 bu. of wheat @ 5c. per bu.....		112.50
Oct. 30	Threshing bill 750 bu. of wheat @ 4c. per bu.....		30.00
Oct. 30	4500 lbs. of bran @ \$22.00 per ton.....		49.50
Oct. 31	Shares sharpened, while fall plowing.....		1.00
Nov. 31	By 2000 bu. of wheat @ 85c. per bu.....		1700.00
1909			
Mar. 31	To Expenses for the preceding year.....		150.00
Apr. 5	4 lbs. of formalin @ 40c.....		1.60
Apr. 30	60 lbs. of good timothy seed.....		2.00
Apr. 30	Garden seeds.....		2.00
Apr. 30	4500 lbs. of bran @ \$22.00 per ton.....		49.50
June 30	Shares sharpened through breaking season.....		4.00
Aug. 15	By 350 lbs. of twine @ 10c. per lb.....		35.00
Aug. 25	Lumber for one granary.....		60.00
Aug. 25	Furniture for addition to house and barn.....		100.00
Sept. 31	By Team on threshing machine, for 30 days @ \$4.00.....	120.00	
Oct. 1	To 1 gang plow.....		80.00
Oct. 1	1 team of brood mares.....		600.00
Oct. 5	1 dairy cow.....		40.00
Oct. 30	Threshing 3500 bu. of wheat @ 5c.....		175.00
Oct. 30	Threshing 1000 bu. of oats @ 4c.....		40.00
Nov. 1	One man's wages, 2 1/2 mos. @ \$50.00 per mo.....		75.00
Nov. 1	1 dozen fowl @ 50c. each.....		6.00
Nov. 1	4500 lbs. of bran @ \$22.00 per ton.....		49.50
Nov. 2	Shares sharpened during fall plowing.....		3.00
Nov. 30	By 3150 bu. of wheat @ 85c. per bu.....	2677.50	
Dec. 1	To 1 cutter.....		30.00
1910			
Mar. 31	General expenses for foregoing year.....		150.00
Assets			
Mar. 31	320 acres of land worth \$35.00 per acre.....	11200.00	
Mar. 31	6 horses, 4 @ \$250.00 and 2 @ \$300.00 apiece.....	1600.00	
Mar. 31	1 cow.....	40.00	
Mar. 31	12 hens @ 50c.....	6.00	
Mar. 31	1 house and furniture.....	350.00	
Mar. 31	1 barn.....	175.00	
Mar. 31	Machinery.....	665.00	
Mar. 31	2 granaries @ \$60.00.....	120.00	
Mar. 31	Fodder, hay and grain, etc.....	800.00	
Mar. 31	Miscellaneous.....	100.00	
		\$21153.50	\$12565.05
Liabilities			
Mar. 31	Total assets for 3 years.....	\$21153.50	
Mar. 31	Total liabilities for 3 years.....		\$12565.05
	Total Gain		\$8588.45



The Justice Bagger

ALL THAT THE NAME IMPLIES

The ONLY Canadian Bagger on the Canadian Market.

The ONLY Legal Machine for Threshing Purposes in the Dominion.

The ONLY Machine that Pays the Thresherman for every bushel of Grain Threshed.

The ONLY Machine that Pays the Farmer for every bushel of Grain Raised.

BUILT TO GOVERNMENT STANDARD

How soon will you be the ONLY Thresherman without one?

A CARD A CATALOGUE

The Practical Force Feed Oil Pumps

If you are looking for an Oil Pump that's constructed like a dollar watch, DON'T get a Practical. We DON'T consider it practical to construct Oil Pumps that way.

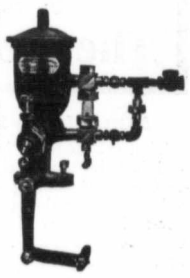
If you are looking for an Oil Pump that is simple in construction—will pump heavy oil as well as light oil, cold oil as well as warm oil, dirty oil as well as clean oil—

GET A "PRACTICAL."

Every pump sold under a positive guarantee.

Absolute satisfaction or money refunded.

A CARD A CATALOGUE

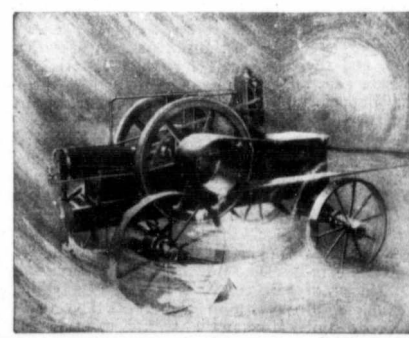


VIRDEN MANUFACTURING CO.

VIRDEN MAN.

RUN THAT GAS ENGINE THIS WINTER

But before you do so it will be necessary to buy a Madison-Kipp Oil Pump



The accompanying illustration shows one of our oil pumps on a gasoline engine running in a snow storm.

You know all about the troubles that you have with your lubrication in winter. You know it is a very difficult proposition to get your oil distributed right and to the proper places on your engine. You have, doubtless, wanted to use your engine during the winter, but were afraid to attempt it on account of lubrication troubles.

Equipped with a Madison-Kipp these troubles cease. We are pioneers in the oil pump business. All our energies are devoted to this particular line of making pumps suitable of meeting all requirements for either steam or gas tractors as well as all styles and sizes of stationary engines.

Our pumps are especially designed and adapted to work in cold weather; in fact they will work in any kind of weather without change or adjustment.

The Madison-Kipp way of engine lubrication is the way that knows no trouble. Get a Madison-Kipp

THE MAYTAG COMPANY, Winnipeg, Canada

Manufactured by The Madison-Kipp Lubricator Company, Madison, Wis.

A Book on Power Plowing

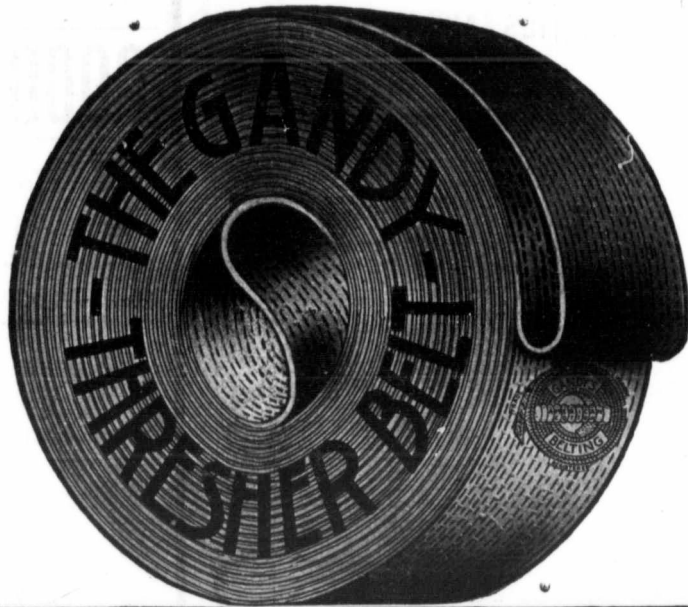
Two years ago during the Winnipeg Motor Competition, the editor of "The Canadian Thresherman & Farmer" suggested to two different men the need for a broad comprehensive book on the use of mechanical power in farming. Strangely enough, both had been impressed with the same idea, and both were formulating plans in that direction. A year ago last March, one of these men left the U. S. Department of Agriculture, where he had spent two and a half years studying traction plowing problems, and joined hands with the other, who is secretary and treasurer of a powerful manufacturing concern. "Power and the Plow," which has just been published by Doubleday, Page & Co., New York, is the combined result of two year's effort on the part of L.W. Ellis and Dr. Edward A. Rumily. and is without question the most exhaustive and up-to-date treatise that has been written on the subject of traction farming. Incidentally it must be said, the book contains a large fund of information for every farmer, whether he uses animal or machine power, but the main purpose is to bring together the facts bearing on the application of the latter to the tillage of the soil.

The book covers a wide range of subjects, each chapter being a treatise, in itself.

It opens with a vivid description of the great Motor Contest, which is stated to have made Winnipeg as notable in the history of power farming, as Chicago in the Romance of the Reaper, or Moline and South Bend in the history of the plow. Following in close order are chapters devoted to the source of power for plowing and its measurements; the generation of power in the horse, the steam engine and the gas engine, the fuels for each, and the various efficiencies by which these motors may be compared; the history, principles, choice and use of plows for both animal and mechanical power; and the draft of plows and other implements.

The remaining chapters bear on the application of mechanical power to the soil. All the widely differing ideas of four general schools of inventors are reviewed, and the direct tractor method is given especial attention in a chapter on traction farming in the corn belt, and the tractor in dry farming and business management in plowing. Food for the thoughtful man is given in the chapters showing the relation of mechanical power to the world's food supply and the future of the traction engine in the industries of mankind.

The book appeals to a broad audience—the farmer, the engineer, manufacturer, salesman, economist and the average reader who is at all interested in the great changes that are taking place in the methods of doing things.



**Stock Sizes
ENDLESS**

**GANDY
THRESHER BELTS**

4-ply from 60 to 160 feet, inclusive at intervals of 10 feet.
5-ply from 120 to 160 feet, inclusive at intervals of 10 feet.
6-ply from 120 to 160 feet, inclusive at intervals of 10 feet.

THE GANDY BELTING COMPANY
733 WEST PRATT STREET
BALTIMORE, MARYLAND
New York Office, 88-90 Roade St.

"Power and the Plow" contains considerably over three hundred pages, with a score of handsome full page half-tone illustrations, the whole being put up in the attractive shape which invariably stamps the work of the Garden City publishers. The Canadian Thresherman & Farmer counts itself especially fortunate in being able to make arrangements whereby it can offer this book to its readers on terms which will be explained more fully in our August issue.

The wings of a bee vibrate as rapidly as four hundred and forty times a second.

To fix up a nice seat under the trees in the front yard, to set out a few choice trees, to make the farm home a bit nicer someway—this will make the home life brighter than many dollars stored away in the bank, nobody knows what for.

**Sell the "Bissell," the
Harrow the Best Farmers want**

Western Farmers realize that cultivation with the right Disk Harrow increases their crops. There is a vast difference in Disk Harrows though, and the best farmers select the "Bissell" as the Harrow that gives the most thorough cultivation, that stays down to its work, and stirs all the ground, that has the greatest capacity, and that does both the most work and the best work. So, when an agency is wanted for a Harrow that will sweep everything before it, the "Bissell" is chosen. "Bissell" Agents make money because farmers want that kind of a Harrow. The "Bissell" is so designed that the hitch is well back, the seat projects over the frame, and the frame is directly over the gangs. This construction removes the weight of the pole, levers, braces and driver from the horses' necks. But write for booklet giving complete description; also ask for prices and local agency for your territory. Address:

T. E. BISSELL CO., Limited.

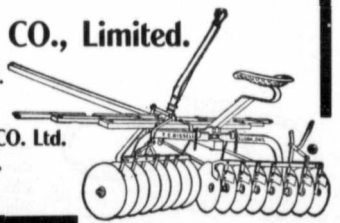
Dept. L., ELORA, Ont.

OR

JOHN DEERE PLOW CO. Ltd.

Winnipeg, Man.

WESTERN AGENTS.



KNOTS, TIES, AND SPLICES

The tying of knots is an operation that we have to perform nearly every day of our lives and is generally looked upon by the average person as something quite beyond their comprehension and save the so called hard knot, the novice is seldom able to tie a knot in a rope or cord that will be safe and at the same time be easily untied after being subjected to a heavy strain.



Fig. 1

The first knot I will refer to is the figure eight or reef knot. Care should be taken to have the ends parallel to the rope as in Fig 1. or it will form the false or granny knot Fig 2. This knot



Fig. 2

should not be used when unting rope of different sizes or it will not hold and the result will be shown in Figure 3.



Fig. 3

What may be called the compound simple knots are known by the name of double, triple, four,

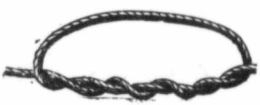


Fig. 4

five, or sixfold knots and are represented by Figures 4 and 5.



Fig. 5

They are useful when it is necessary to shorten a rope, or to increase the size of a holding knot to prevent it passing through an eye or a block. These knots are formed by passing the end of a rope twice or thrice or as many times as necessary through a loop.



Fig. 6

The Tomfool Knot Fig 6, may be used as a handcuff if the wrists are placed within the loops D and C and the latter drawn tight and the loose ends tied firmly round the centre.



Fig. 7

The best knots recommended by the Alpine climbers are Fig 7.



Fig. 8

for joining two ropes and Fig 8 and 9 for loops.



Fig. 9

One of the most useful knots and one not generally known is the Bowline Knot represented by Fig 10. This knot can easily be



Fig. 10

learned from the cut and is well worth the little time it takes. It matters not to what strain it is subjected, it can always be untied.

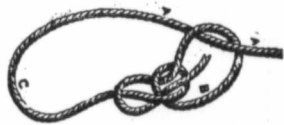


Fig. 11

The running bowline Fig 11 is simply a noose or slip knot made with a bowline.

A Bowline in a "bight" seems a difficult matter but in reality it is not. It is shown in Fig 12 and is easily made.



Fig. 12

When it is required to temporarily shorten a rope the "Sheepshank" or "Dogshank" Fig 14 is useful.

A simple running knot Fig 8 is made in the rope, a bend is pushed through and the running loop which is then drawn taut, the other end of the bend is fastened

GOOD GOODS WIN

The "Good Goods Win" slogan of this Company is not an idle dream but the very soul of a clearly defined and ruggedly rooted business policy



Lion Rubber Endless Thresher Belts

AND



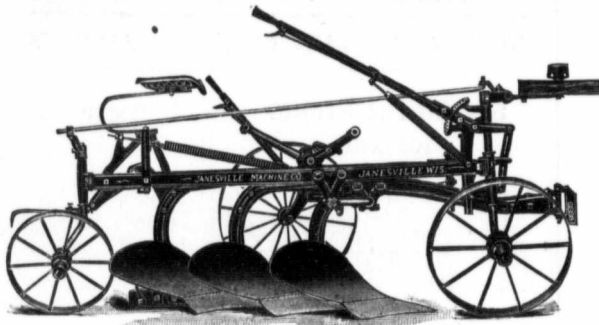
Maple Leaf Endless Thresher Belts

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

The Winnipeg Rubber Company Limited

NOT IN ANY TRUST OR COMBINE
Winnipeg Calgary

The One Great Plow for the Great Northwest



Here's the Plow that Meets Your Needs Best

The Top-Notch of Plow Value

You farmers of the Northwest require a much heavier and a much stronger plow than is regularly used in other territories. You have more work and the work is harder. An ordinary plow won't stand the strain long enough to pay for itself. Besides extra strength, you must have a plow with certain distinct features, which are absolutely essential to the greatest efficiency on your land. We have made a plow just for you—a plow that meets every condition of the Northwest and every requirement of the Northwestern Farmer. It's the

JANESVILLE NORTHWESTERN GANG

In the first place, this Janesville gang is provided with extra heavy beams—both of which extend beyond the frame in front, allowing a very long cross clevis to be attached. This clevis gives you choice of four horse abreast—or four, five or six horse tandem hitch.

The Janesville foot-trip horse-lift is a big feature found on no other plow. Simply trip the "lift" with your foot while riding or throw the land wheel lever while walking, and the horses will pull the plow bottom into the ground at the start and out of the furrow at the end. The point of the plow bottom always goes in and comes out first just like the walking plow, because the movement is just like your arms. In entering the ground the heel of the plow bottom is held up so the point must go down first. In leaving the ground, the heel of the bottom is held down, so the point must come out of the ground first. This Janesville feature eliminates the objections to the foot lift as compared with the hand-lift. Our self-leveling device is unequalled on any other plow made. You have absolute control of the Janesville Plow Bottoms at all points

All levers are spring balanced which makes it possible for even a mere boy to operate them. The bottoms and beams on the Janesville Northwestern Gang Plow are not held rigidly in the frame but are balanced over the single bale which permits adaptability to the unevenness of the surface of the ground, which has a great effect on the draft. The single bale feature also permits raising the Plows and leveling at the same time, which is not possible with a two bale construction.

The connection between the front and rear furrow wheel is automatic in action and in place of forcing the rear furrow wheel around in turning at the corners it simply permits it to follow along behind in the corner of the furrow. All the side and down pressure caused in turning over the soil is carried on the wheels. We use nothing but steel and malleable iron in the construction of the frame. The shares furnished on all Janesville Northwestern gangs are 1-16 inch thicker and made much stronger than the ordinary kind. The front furrow wheel is 24 in. high; the rear 20 in.; the land wheel 30 in.; all with 24 in. tire. There are so many other features and advantages of Janesville Northwestern Gangs that we want you to know them all before you decide on any plow. Let us send you

All Janesville Books Free

We will give you the name of our dealer in your town so you can see the Janesville. We also make the famous Janesville Walking Plows, Riding or Walking Cultivators, Disk Cultivators, Disk Harrows and Janesville Corn Planters. When you write for Janesville Plow Book, say whether you are interested in any of our other implements. We'll gladly send you all the Janesville books free—postage prepaid. Send postal or letter now to

"We expect to exhibit our line of Plows at the leading western provincial fairs, Regina, Saskatoon and Edmonton, and invite you to call and look us over carefully."

King and James Streets
WINNIPEG

American Seeding Machine Co.,

(INCORPORATED)

**CANADIAN
SALES AGENTS:**

Made by THE JANESVILLE MACHINE CO., Janesville, Wis.



Fig. 13

in the same way and forms when completed Fig. 14.

A much more simple Dogshank is shown in Fig. 15 it is easily made but is hardly to be depended

advantage of Fig. 16 lies in the fact that it can be loosened at will by taking out the wood pin.

This I think will give a little practice to anyone interested in



Fig. 14

on unless the rope is kept taut.

Fig. 16 shows a loop shortening which can be only made when one end of the rope is free. The

tying knots and perhaps in another article I may give a few more, also something on splicing rope.



Fig. 15

Crane and Ordway to Handle Gas Engines.

Crane and Ordway Company of St. Paul, who have a large and extensive branch at Winnipeg, have gone into the gas engine business. Their advertisement will be found elsewhere in this issue.

They will place upon the market only high class goods, but at the same time at a very reason-

able price. The engines will range in size from 1½ to 12 horse power and will be com- for every farm purpose. They will be sold through dealers, who will be able to secure engines of the above sizes, at a very short time notice, who will also be in a position to provide any repairs necessary.

The above concern are well known in Western Canada and enjoy a large trade among the

dealers at present in the different lines which they handle. If you are interested in a gas engine don't overlook this,

It is wonderful the difference in rainfall through out the world. In some of the tropics, where the conditions are just right, it rains almost every day. In certain deserts rain is unknown, and in other sections where the country is known as desert land rain comes once in every few years. On the coast of Ireland it rains on an average of two hundred and eight days, and in England it rains about one hundred and fifty days in the year.

Please Make a Note of This.

For the convenience of customers in the tributary territory of Regina, the Maytag Company Limited, Successors to the Parsons - Hawkeyes Mfg. Company of Winnipeg, have placed a complete stock of repairs and extras for all their self feeders at Regina with Mr. H. A. Knight to whom orders may be sent.

Physical culture is taught in every school in Germany, and each school is equipped with a gymnasium, where the pupils are expected to take a certain amount of exercise each day. Certain days are set apart for special instructions.

The 1911 "Everitt" will be ably Demonstrated at the Winnipeg Show.

That the Tudhope Motor Co. of Orillia appreciate the importance of the Winnipeg Motor Show is evidenced by the fact that, in addition to the usual corps of demonstrators, the General Manager of the Company, M. H. R. Tudhope, and the Sales Manager, Mr. L. Logie, will be personally present with headquarters at the "Everitt" booth, during the Show.

The "Everitt" makers report a tremendous business in the West and are determined that none of the good points of the "Everitt" shall go unheeded in this important market, hence the presence of Company officials.

Western dealers and "Everitt" friends will be welcomed by Messrs. Tudhope and Logie.

Naturalists, who are studying the habits of many birds, have found that an owl with a nest of young will gather an average of forty mice a day to feed the young birds. This is certainly proof that the owls should be protected against the cruel sportsmen who are ready to shoot down anything that offers a mark.

Notwithstanding the fact that Turks are said to be very cruel people, there is no country in which so much kindness is shown to dumb brutes.

The Individual Threshing Outfit

By W. C. NETTERFIELD.

This is a subject which could be discussed from several different viewpoints, but in taking up this phase of the machine on the farm there are quite a few points of outstanding importance. This may be considered as follows: (1) Is the farmer justified in taking the initial cost of an outfit?; (2) whether it will be a profitable investment, or would it pay to wait for custom threshing?; (3) whether or not this method will be a more satisfactory way of getting the threshing done?

In answer to the first question, the point to consider is the amount of threshing the farmer has of his own and at how much less cost he can do it than by hiring it done.

The second and third questions will take the prominent part in this essay, as they have more to do with the actual importance of having the machine on the farm. It is the importance of this machine while on the farm and not how it is obtained that we are most interested in. It would not be right though to leave the first question out entirely, for to some it might seem the most important. Therefore let us consider for a short time the first question, namely: Is the farmer justified in taking the initial cost? To get at this in a concise manner let us suppose that the farmer who is thinking of purchasing a machine has between five and six thousand bushels of wheat, three thousand of oats and one thousand of barley, besides some grass seed, all of which he wishes to thresh just as soon as they are fit for threshing.

At the present rate of custom threshing this amount of grain would cost him about as follows:

5,500 of wheat at 7c per bus.	\$385.00
3,000 of oats at 5c per bus.	150.00
1,000 of barley at 6c per bus.	60.00
75 of rye and timothy at 20c per bus.	15.00
	\$610.00

This amount, which, by dint of much kicking, he may knock down to the straight \$600 he has to pay out on an average every year to another who is to be expected must have a fair profit for his investment and work. Why would it not pay the farmer to invest this sum which would make a payment on a machine in an outfit and have his threshing done when and how he likes.

The machine if taken care of should last at least from eight to ten years. This may at first appear too long a period for a threshing outfit to last but I in making this statement don't intend that a great amount of outside threshing is to be done. In without the machine would have paid out in the neighborhood of

\$5,000. We cannot turn round and say that if he had had an outfit he would have saved \$3000 clear for there is the expense of running an outfit, also the interest on the money invested, if cash has not been paid.

Machines.

We now come to the second question of whether it will pay to have a machine or wait for custom threshing. How can it pay to let the grain for which the labor of a season has been expended to stand from fifteen to thirty days or even one week? Yes, even one week! Some falls when the weather is unsettled even one week's weathering might mean an actual loss of from \$500 to \$600 or in other words the threshing bill for that year.

This may seem like an exaggeration, but if we consider one instance, I think, that it will be clear to all how such a loss may occur. Supposing the wheat is tainted or rather infested with smut. If it were threshed while dry, grain is not liable to show any indications of being "tagged" as it is called, and the smut balls will be blown out at the same time, so there will be no danger of them breaking and the spores of smut getting on the wheat while being handled. On the other hand, if the same grain had once been wet it is very liable to go "rejected," which means that it must sell for considerably less. The reasons for this lowering of the selling price is that wheat, which is affected by smut, is much more expensive to prepare for milling than the ordinary grain.

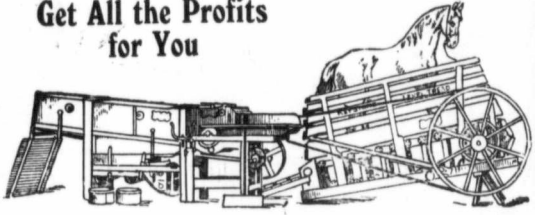
Another point in the answering of this second question is the man who has his land cleared early and gets the fall plowing done is the man who is going to have his land in the best shape for next year's crop.

When giving the figures for the cost of this outfit a traction engine was not meant, but for about \$1000 more a traction can be had that will plow from fifteen to twenty acres per day. With such an outfit the plowing could be done at a time when the greatest good will result, namely, plowing early in the season instead of away late when the ground is hard, either with drought or frost.

Now, we come to the point, which will, I believe, come home to every farmer that has had to depend on custom threshing. Does he get his threshing done when and how he would like it? I am afraid in the majority of cases we would get an answer in the negative. Why? Not because the thresher does not want to please his customers, but because he has to get the job done and keep going to get the

THRESH YOUR GRAINS WITH YOUR OWN HORSES

Get All the Profits for You



You can THRESH:

- No. 1. From 150 to 300 bushels a day, with one One-Horse Power and Thresher and Cleaner.
- From 250 to 500 bushels a day, with one Two-Horse Power and Thresher and Cleaner.
- From 350 to 700 bushels a day, with Thresher and Cleaner for Five-Horse Power Gasoline Engine Capacity.

OUR AMERICAN CHAMPION THRESHING MACHINES ARE FIRST IN THE FIELD, and reputed to be:

- 1. The most durable. The lightest to run. The machine having the largest capacity and requiring the least proportion of power. No dust for the operators. All our horse powers are fitted with a patent regulator controlling the speed of the mill (and avoiding accidents).

BUY DIRECT FROM THE MANUFACTURERS AND SAVE THE MIDDLEMAN'S PROFIT

- No. 2. (Why not take advantage of our Special INTRODUCTORY OFFER? We can save you from \$35.00 to \$50.00 on a Threshing Machine. Satisfaction Guaranteed. Full particulars, prices, etc., gladly furnished.)

WRITE TO-DAY for Our COMPLETE CATALOGUE 32-38 ST VALIER ST } **P.T. LEGARE LIMITED QUEBEC**

Portage Industrial Exhibition

Portage La Prairie, Man., July 10th, 11th, 12th, 1911

INCREASED PRIZE LIST. LONG LIST OF SPECIALS. ENTRIES CLOSE JULY 5th.

All Exhibits on the Grounds not later than 11 a.m., Monday, July 10th. This Exhibition will, this year, ECLIPSE ALL PREVIOUS RECORDS, both as to the number of entries and the quality of stock shown. Grand Stand Attractions positively unexcelled in the Dominion. A Midway of Amusing and Instructive Features, including the A. I. G. Barnes. BIG THREE-RING WILD ANIMAL CIRCUS and Side-Shows. The only real Wild Animal Circus on earth. Watch for the list of Horses entered in the Free-for-all, which promises to be the Pastest Race ever paced in Western Canada. Address: H. G. COLEMAN, Secretary for Prize Lists and all other information.

Two Quality Lines Combined

SPARTA WELL DRILLS AND FAIRBANKS-MORSE ENGINES

You Can MAKE BIG MONEY DRILLING WELLS. No other proposition offers equal returns on a comparatively small investment.

SPARTA WELL DRILLS are strong, durable, simple to operate, and extremely rapid drillers. They have stood every test of service, and their superior qualities are recognized by practical drillers everywhere.

Our new Catalogue "T" is just off the press. Write for a Copy. It's Free.

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WINNIPEG SASKATOON CALGARY

DON'T
Waste Time

DON'T
Lose your temper

DON'T
Work with dull
Plowshares

DON'T
Overload your
engine

DON'T
Kill your horses

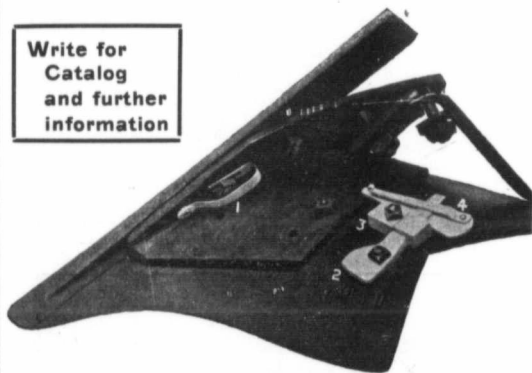
DON'T OVER-LOOK THE **Parks-Coughlin**
Plowshare Fastener

This simple little device will make any plowshare a QUICK DETACHABLE one. It holds like "grim death" and will save its cost in the time saved in one day. So simple that a boy can put it on, and serves the purpose intended to a degree that is perfection itself. You cannot afford to waste your time changing plowshares in the old way. This little device is to the plow what the knotter was to the self binder.



1. Spring Bolt
2. Coupler
3. Lock Box
4. Wedge Key

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The Most Talked of Agricultural Device in Western Canada

EVERY PLOWMAN NEEDS IT!

Because

- It eliminates burr and bolt troubles.
- It eliminates sprung share troubles.
- It works satisfactorily on engine plows as well as others.
- It eliminates the need of night man to change shares on engine gangs.
- It eliminates the need of hammer and punch to force holes in share into line with those in the frog of the plow.

IT HAS STOOD EVERY TEST!

It holds the share on with an iron grip, in spite of gumbo, rocks or stumps, and yet permits it to be removed so easily that your boy can do it.

CHANGE SHARES IN FORTY SECONDS!

Simply lift the plow out of the ground, loosen the wedge key by tapping it at the point with your wrench, remove it, unsnap the spring bolt, and lift the share off. Place the new share into position, insert the wedge key, secure the spring bolt, and drive the wedge key in with your wrench.

IT FITS YOUR PLOW!

The fastener is easily attached and need not be removed until the plow is worn out. The value of time and bolts saved, not to speak of shares and the better grade of work done by changing shares often, will more than pay for a set in a year. One set lasts a lifetime.

IMPLEMENT SPECIALTIES CORPORATION, LTD.

45 MERCHANTS' BANK BUILDING, WINNIPEG

worth out of his machine. For an explanation of this, let us suppose the farmer has some grass seed to thresh. Now, to make a good job of this it must be put through very slowly, which means that all of the crew are liable to be lying idle but one or two besides the man is running the machine. Now, if the farmer has a small machine of his own with, of course, a small crew he can afford to thresh this crop properly, for it is a very profitable one, either from the standpoint of selling it or not having to buy from some seed company.

If a man is running his own outfit, he can supervise and see that a better job is done. This applies particularly in cleaning up around the separator, gathering up stray sheaves and by not allowing that wasteful practice of allowing teams to eat excessively. This last named practice is greatly lessened in the small outfit for if the machine is stopped for some time there are not so many teams drawn up idly, eating out of the load of sheaves in front of them.

The farmer who has such an outfit as we have spoken of can commence to thresh whenever his grain is ready. This is of particular note if much barley is grown, as it should be threshed as soon as it is ready and not have to wait over until after the wheat is threshed. Very little extra help is needed to run such an outfit. Any farmer that is at all

handy about machinery could soon manage it, even though he had had no previous experience with running a threshing machine. As very little extra help is needed, there is of course very little extra preparation in amount of board fro the threshing crew needed; therefore, the women folk, in gratitude for the saving to them, will put the board up in extra quality.

I have put these questions before you, Mr. Reader, and the mission of this brief discussion on them will not be in vain if you are led to consider these few points.

You may ask, are there no points or reasons why a farmer should not buy such an outfit? Perhaps there are, but they are of such unimportance that, I think, you, after due consideration of this topic will conclude with me that the individual threshing outfit is one of the most important of the important machines on the farm.

Two old threshing machine men have left that line of work to form a real estate, loan and fire insurance business which will be known as Voorheis and Lewis. Up to the middle of April, G. B. Voorheis was the advertising manager for the J. I. Case Threshing Machine Company at Racine, Wisconsin, but previous to that time he was Manitoba sales manager for the years 1909 and 1910. This experience gave

him a knowledge of conditions in Manitoba and Winnipeg. In Racine he was in charge of the publicity as well as the advertising.



Mr. G. B. Voorheis

The other member of the firm is Henry F. Lewis, formerly of Chicago and Toronto, who was in the employ of the J. I. Case Threshing Machine Company as a collector in Saskatchewan and a salesman in Manitoba. He is experienced in financial matters pertaining to bonds and investments. The firm will act as financial agents helping investors to invest. The firm has some acreage tracts near Winnipeg and

some good city property, improved and unimproved. They represent monied interest who loan on improved city and farm property. The offices will be 409 to 11 Nanton building, corner of Main and Portage, which is one of the finest and the most central location in the city.

Speak well of the squeaking of the violin when the boys and girls are learning to play. Praise every effort to do a little better.

CORRUGATED IRON

Galvanized, Rust Proof
Made from very finest sheets, absolutely free from defects.

Each sheet is pressed, not rolled, corrugations therefore fit accurately without waste. Any desired size or gauge, straight or curved.

LOW PRICES—PROMPT SHIPMENT

Metallic Roofing Co.,
Manufacturers LIMITED
TORONTO & WINNIPEG (11)

Western Canada Factory:
797, Notre Dame Ave., Winnipeg.

The Story of a Great Home Industry

Imagination offers no such picture to national pride as that in which we trace the steady progress of one who in our own times began his career without a dollar of subsidized aid and is today the president of the largest industrial concern of its kind in the British Empire.

It is a practical illustration of the case of the successful man as put by an eminent Judge (Lord Eldon) when he said: "Some men succeed by great talent, some by high connections, some by miracle, but the majority by commencing without a shilling."

It states the case exactly of Mr. Robert McLaughlin, the founder and still the head of that gigantic organization—the McLaughlin Carriage and Motor Car Company of Oshawa, Canada. While, however, this man's story is a precious and splendid portion of our national life, it is not the purpose of this appreciation to deal with the personal element so much as the cognate life of the institution, and the great chapter of Canada's industrial history with which it is indissolubly bound up.

No one would more ingeniously discourage any fulsome reference to the purely individual phase of the story than Mr. McLaughlin himself, but as his biography forms so great and so worthy a part of the national life, it is due to the people and especially to that steady flow of new blood, which is finding its way into the Dominion to know something of the character of the stuff that is at the foundation of this extraordinary development, and of an individuality that is so thoroughly representative of the original stock that still predominates in this great pulsating life of Canada.

In these days, records are so quickly and so completely superseded, it is never safe to build on data, and it is characteristic of the country that no man who has made good in it is ever found sitting down to any drivelling admiration of past achievement and resting there. It is "onward and upward" all the time and the institution or the man who is not constantly breaking records can scarcely be said to "belong to the state."

Go back as far as one may into the annals of the British Empire, and at no point is there to be found such an example of rapid and unretarded growth as has taken place in the Dominion of Canada during the past decade. The only thing akin to it is to be found in some departments of the great American Republic, but even there, is there anything to outrival a case in which a farmer's son, with a turn for mechanics, buys his first crude set of tools with the proceeds of the sale of a few axe handles (his own handiwork), starts a modest

one-man-workshop, and in little more than a quarter of a century is recognised as the very incarnation of what is probably at the moment of writing the largest factory of any kind in the Dominion.

As a young man on his father's homestead, Robert McLaughlin became intensely interested in the particular properties and resisting qualities of the different types of wood that grew around the homestead, and from these began to experiment and fabricate till in 1869 he moved into the first premises of the McLaughlin Carriage Company, a small, three story building and a blacksmith shop.

The success of the venture was assured from the first, because it started and has continued on the principle that the path of success in business is usually the path of common sense. "One grade only, and that the best" was the standard McLaughlin set on high for himself and all who should ever be associated

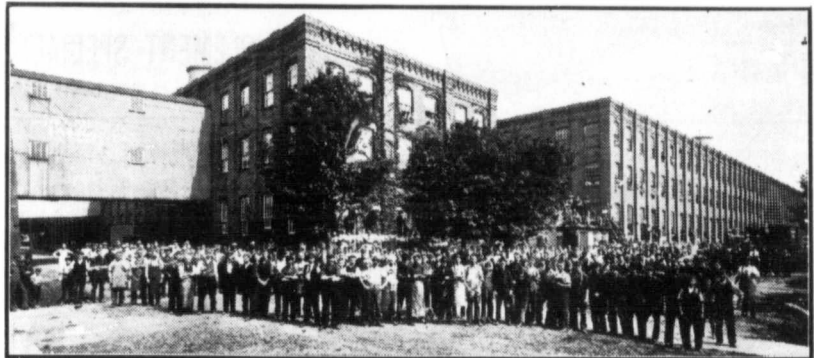
and without fee, subsidy, or gratuitous boosting of any kind to have reached the position they now hold in the industrial world along the steady path of patient well-doing.

The regular process of the carriage building business was greatly accelerated by the inventing and patenting of a new gear which soon became well known to the trade as the McLaughlin gear. In 1897 the factory was enlarged to accommodate the steady employment of from 175 to 200 hands, with an annual output of about a quarter of a million dollars, and years ago when the factory was wiped out by the fire fiend, the works had an annual capacity of 9000 finished vehicles.

The fire occasioned but a brief halt, the company having arranged with the "Thousand Island Carriage Company" for its accommodation pending the completion of the new edifice at Oshawa, which, as we write, represents the stupendous floor

tory of any manufacturing concern on this continent. Addition upon addition has been made to the buildings and plant, and no human eye can see the end of it.

The greatest of all progress is "Westward Ho!" and humanly speaking, will continue to follow the sun within the life-time of the present generation at all events. In keeping with the general trend of things the "McLaughlin-Buick" machines have been called for in the West to an extent that has surpassed even those men who have grown accustomed to the stupendous, and taxed the seemingly unlimited capacity of the works at Oshawa to keep pace with the demand. Quite recently the Western manager, in providing the factory with his estimate for the following months, came under the suspicion of having lost his balance and was asked to reconsider his figures. He did so and sent back a request that they should be increased rather than curtailed, and



A noon day scene at the Factory of the McLaughlin Carriage Co. of Oshawa, Ontario

with him, and the "Quality" lead has never given way to a single conscious deviation.

But something more had to be reckoned with than the mere production of perfectly finished high-quality goods. It was desired to have these made known and marketed to every corner of the civilized world, and here the real genius of the house and its founder seems to have scored its greatest triumph. McLaughlin had demonstrated to his immediate neighbors that he was a skilled mechanic who could not be "bought" by any temptation to veneer or cheapen his products; he was to let all the world know that he was also a business man.

As Burke said in his speech on the India Bill, "I know statesmen who are peddlers and merchants and mechanics who act in the spirit of statesmen." The founder of this institution and his confederates, belonging as they do to the latter class, may claim the distinction of having been the artificers of their own fortunes,

space of fourteen acres.

Figures give no tangible impression of what a thing of the kind means, but if this superficial area could be produced in a one story building of fifty feet wide (twice the width of two "city lots") it would extend to a distance of no less than two and a half miles. With the comparatively recent addition of the automobile industry, the output makes an impressive aggregate. Last year 20,000 carriages and sleighs and 2,500 automobiles were turned out of the workshops, and since the inauguration of the company, the grand total of this one firm's products figures out at some 200,000 vehicles, which, if placed in a solid line, would represent one magnificent pageant of over 1000 miles long.

Before the company commenced the manufacture of high-class automobiles, some four years ago, the record at that time was almost unprecedented, and their development since that date is still without a parallel in the his-

in the end, the actual demand was far ahead of the most sanguine guesswork.

We refrain from figures, because, as has already been said, statistics and prognostications with regard to the automobile industry becoming as they do, so quickly obsolete, these items are robbed for ever of their news value in living literature. Most readers of this appreciation will know that "The twentieth century is Canada's" and that the great harvest fields, till the new century dawns at all events, will be her Western provinces, and particularly the great wheat and stock lands of Manitoba, Saskatchewan and Alberta.

All eyes at Oshawa are centered on this development, and all hands have been tacitly notified of what may be expected of them in filling the mouth of this great market. A regular branch house and wholesale depot has been established at Winnipeg for some time under the conduct of Mr. Richard

THE FACTORY



The McLaughlin-Buick Car

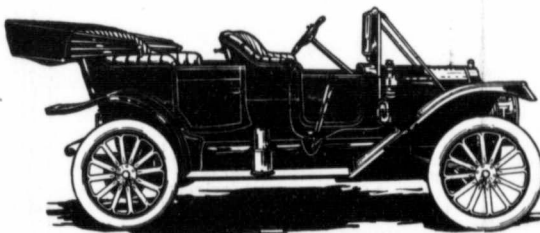
is the choice of the West for these among a hundred other reasons:—

IT IS THE PRODUCT OF CANADIAN MEN who have invested \$2,000,000 in plant, garages, and equipment for the manufacture and distribution of their machines, in which the least pretentious car they make has nothing short of the highest grade material employed in every detail of its construction. Every new car leaving the factory has been designed and built in line with the very latest development in this great industry.

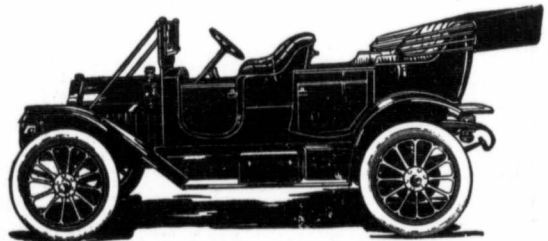
"ONE GRADE ONLY AND THAT THE BEST" is the standard this firm erected when it started and has rigidly lived up to all through its career. Long before the first modern

auto car was made, the name McLAUGHLIN stood in every market for the most perfect conveyance that men and machinery could make. Similarly the BUICK ENGINE is representative of the highest type of power that can be introduced into a vehicle of the kind. The first requisite in a thoroughly efficient automobile is THE POWER. In actual practice it will be found that the machines of the McLAUGHLIN BUICK company develop more power than that called for in their respective ratings. 997 POINTS OUT OF A POSSIBLE 1000 at Winnipeg in Oct., 1910 established the fact that not only do McLAUGHLIN BUICK CARS excel all others in power and speed, but in a gruelling contest where every nut, bolt and connection is examined at the close of the trial by a strictly impartial committee, they are found to stand up better than any other make of car, regardless of price.

AND THE CAR



MODEL 27, FORE DOOR



MODEL 21

OF THE

McLAUGHLIN MOTOR CAR CO., LIMITED, OSHAWA.

Western Branch:
WINNIPEG, MAN.

THE FUNNY WORLD



The matter on this page lays no claim whatever to originality. The one idea is to amuse, to provoke a smile. If it fulfills this mission we shall feel amply repaid for the time and labor expended in its preparation. Have you read or heard something that has made you laugh? Has it chased dull care away for a time? Then pass it along for publication in our Funny World. Such contributions will be greatly appreciated.

Dobbleigh had just come upon Hawkins standing in the middle of the road with his motor car turned completely upside down and surrounded by a crowd of curious urchins.

"Hello, Hawkins!" said he, stopping his own car. "What's the matter. Surely your car hasn't turned turtle?"

"Not at all, Dobbleigh, not at all," replied Hawkins. "These kids here wanted to see how the machinery works, so I hired a derrick and had the car turned upside down just to please the little dears."

A chocolate darkey and his "yaller" girl were walking along together.

"I see skeered mos' to def, Rastus."

"What am yo' skeered ob, woman?"

"I see skeered yo' se gwine to kiss me."

"How kin I kiss yo' when I see got a bucket on ma haid, a wash pot in one han' an' a turkey gobber in de udder?"

"Oh, well, yo' fool, I wuz thinkin' yo' could set de bucket of watah on de groun', put de turkey down an' turn de wash pot ovah him, den set me on de wash pot, frow yo' ahms around me an' des hep yo' 'sf."

A small boy was hoeing corn in a sterile field by the roadside, when a passer-by stopped and said:

"Pears to me your corn is rather small."

"Certainly," said the boy; "it's dwarf corn."

"But it looks yaller."

"Certainly, we planted the yaller kind."

"But it looks as if you wouldn't get more than half a crop."

"Of course not; we planted it on halves."

"My father and I know everything in the world," said a small boy to his companion.

"All right," said the latter. "Where's Asia?"

It was a stiff question, but the little fellow answered coolly, "That is one of the questions my father knows."

The bonny young bride does not meet her husband at the door with a smile. After wondering search of the house he finds her in the kitchen, very stringy of hair and much wearied as to looks.

"Why in the world are you working so hard in this hot kitchen?" he asks.

"I was only trying to cook the rice the way you said you liked it," she answered in a voice that suggested tears.

"Cooking the rice?"

"Yes. You said you liked it cooked so that every grain was separate—and I've spent all day here cooking each grain separately—and there's so many grains—and I just think it's—boo-hoo!"

Old Jim Bidwell, pioneer of California, married a squaw. After forty years the squaw died and Jim went back East, married a school teacher in the home town and brought her back.

The Bidwell's hadn't been home long when the kind and loving ladies of the place called around.

"Of course," they said, with many smirks and side glances—"Of course, Mrs. Bidwell, you understand, or maybe you don't know, that your husband's first wife was an Indian—that he married a squaw."

"Yes," replied the second Mrs. Bidwell, sweetly, "I have been told so, and judging from the white women I have seen here I don't blame him."

And that was about all.

"Pa!" came little Willie's voice from the darkness of the nursery.

Pa gave a bad imitation of a snore. He was tired and did not wish to be disturbed.

"Pa!" came the little voice again.

"What is it, Willie?" asked his father, sleepily.

"Tum in here; I want to ast you sumpin'," said the little voice.

So pa rose up from his down bed and, putting on his bath-robe and slippers, marched into the nursery.

"Well, what is it now?" he asked.

"Say, pa," said little Willie, "if you was to feed the cow on soap, would she give shaving cream?"

In a little country village, says the National Monthly, a crowd of loafers around a store got to talking about echoes, and Jim Sanders said, down where he was born and raised there was an echo, and he used to put it to peculiar use. He said that every night before he went to bed he would put his head out of the window and say:

"Jim Sanders! Seven o'clock; time to get up."

He would start that echo going and next morning at 7 o'clock it would get back and say: "Jim Sanders! Seven o'clock; time to get up."

Deacon Witherspoon said he didn't know much about echoes, but he'd seen it rain about as hard as anybody ever seen it rain. Somebody said:

"Deacon, how hard did you ever see it rain?"

"Well, sir," said the deacon, "once upon a time, when I was at home, we had an old cider barrel lying out in the yard with both ends out and the bung-hole up and would you believe it, it rained so hard into that bung-hole that water couldn't run out of both ends fast enough and it swelled up and busted."

We thought that was pretty good for a deacon.

Reuben Henry said he'd never seen it rain very hard, but he'd seen mighty cold weather. Somebody said: "Rube, how cold did you ever see it get?"

He said: "Well, sir, one time when I was living down in Pickaway county, in hog-killing time we had the kettle of boiling water setting on the stove, and we took it out in the yard and it froze so quick that the ice was hot."

The late Duke of Wellington got a letter once from a lady, saying she was soliciting subscriptions for a certain church, and had taken the liberty to put his name down for two hundred pounds, and hoped he would promptly send her a check for that amount. He forthwith

replied that he would respond to the call; but he, too was interested in a certain church which needed subscriptions, and, counting upon his correspondent's well-known liberality, he had put her down for two hundred pounds. "And so," he concluded, "no money need pass between us."

It was the celebration of Willie's fifth birthday, and he and his little guests sat around the festive table eager to begin the feast, when the host's sister, a comely spinster, marched in bearing aloft a frosted cake, out of which flared five colored candles.

Murmurs of admiration and awe followed from all sides of the table, and as sister placed the cake squarely on the cloth and drew back, Willie turned his blinking eyes from the five candles and said, enthusiastically:

"Sister, if this was your birthday, the whole room'd be ablaze wouldn't it?"

A boy went into a shop to buy a cent's worth of nuts. The man at the counter, a cheery, good-natured soul, said to him:

"You can have them mixed if you like."

"All right," said the boy; "you may put one or two coconuts in, if you please."

A small boy was reciting in the geography class. The teacher was trying to teach him the points of the compass. She explained: "On the right is the east, your left the west, and in front of you is the north. Now what is behind you?"

The boy studied a moment, then, puckered up his face and bawled: "I knew it. I told ma you'd see the patch in my pants."

"Mamma, why don't you want me to play with that Kudger boy?"

"Because, dear, I know the family. He hasn't good blood in him."

"Why, mamma, he's been vaccinated twice and it wouldn't take either time."

One winter evening the newspaper announced "One Thousand Ox Tails for Sale at the Public Market."

Little Mary looked much distressed and sat thinking for several minutes. Pretty soon her face brightened, and she said, "Well, it's nice for the oxen it isn't fly time, anyway."

Uncle Josh: "I'm goin' ter take that ther' thermometer back."

Aunt All: "What are yew a-goin' ter take it back for, Josh?"

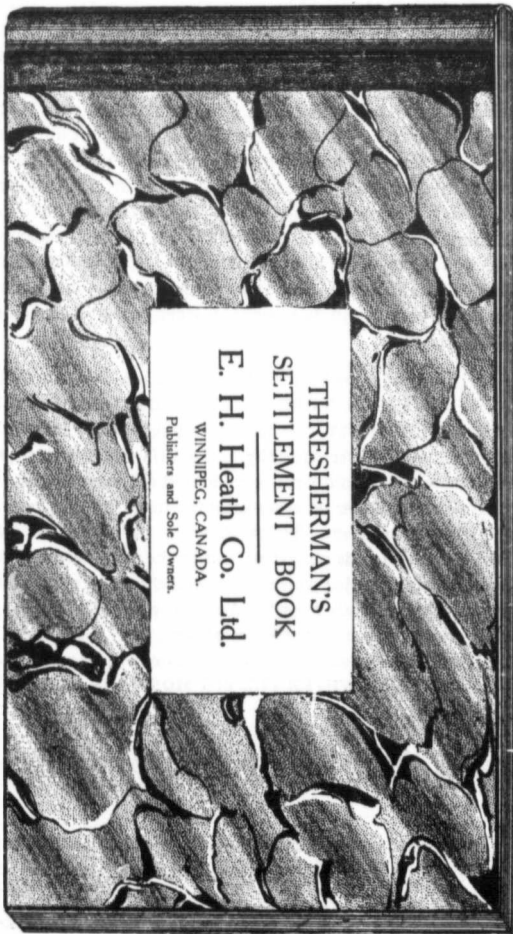
Uncle Josh: "Cause yew can't depend on it. One day it sez one thing, an' the next it sez sumthin' different."

A cornishman visited London and was gazing into a shop window and obstructing the footpath. A cockney stumbled against him, and seeing that he was from the country, said to him, "My man, have seen a wagon load of monkeys pass down the street?"

"No—o," Cousin Jack replied, "faaled out of the wagon ded ye?"

Thresherman's Settlement Book

(REVISED EDITION)



The above illustration shows actual size, the Thresherman's Settlement Book just received from our Printers. This book contains settlement blanks in duplicate, one for the Customer, and one for the Thresherman; and expense blanks for keeping tab on the cost of running your outfit. The book is bound in strong board covers, and plainly printed. A handy size for coat or hip pocket.

OUR OFFER. One Thresherman's Settlement Book, and The Canadian Thresherman and Farmer one year—\$1.00.

Note. This book is not sold without a year's subscription for The Canadian Thresherman and Farmer.

GET YOUR ORDER IN NOW.

Hitches for Traction Engines

So many have asked us for suggestions regarding building a hitch, that last Spring we wrote all the engine owners we could get hold of for a description of the hitch they used. We have selected fifteen of the best of these, have had them drawn to scale, and blueprints made.

YOU CAN MAKE THESE HITCHES for all of them have been made and used by engine owners, and each blueprint bears the name and address of the man who worked it out. These men probably experimented for months before they perfected their hitch. They show you how they hitch discs, drills, drag harrows, or pulverizers, etc., so the pull from the last implement will come on the engine, and not the implement in front, and arranged so as to turn as short as possible. Therefore with **THESE FIFTEEN BEST HITCH** ideas before you, you should be able to build a hitch to exactly suit your particular requirements. These blueprints average about 9 in. x 10 in. in size, and are worked out very carefully. We offer you a set of these blueprints at a cost that barely pays for the making of them.

OUR OFFER—The complete set of fifteen blueprints, and The Canadian Thresherman and Farmer one year—\$2.00.

Note.—These blueprints are not sold without a year's subscription for The Canadian Thresherman and Farmer.

Offer Extraordinary

FOR A LIMITED TIME we offer you one Thresherman's Settlement Book, the complete set of fifteen blueprints of hitches, and The Canadian Thresherman and Farmer, one year, ALL FOR \$2.10.

ORDER EARLY.

E. H. Heath Co. Ltd.

WINNIPEG

CANADA

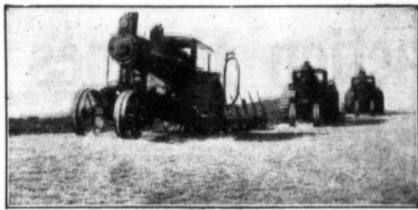
E. H. HEATH CO. Limited,
Winnipeg, Canada.

Please find enclosed \$ for one year's subscription
for The Canadian Thresherman and Farmer and.....
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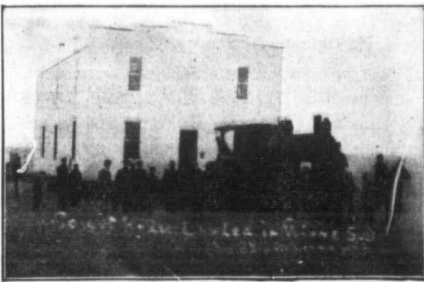
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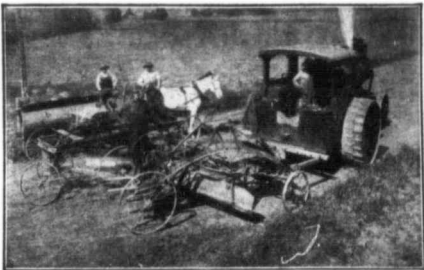
You Can Do More Kinds of Work and Do It better with an Avery Double Cylinder Undermounted Engine than with any Other Engine You Can Buy.



Three Avery Undermounted Plowing Outfits owned by one Land Company. They have since purchased two more Averages. The Avery Undermounted Engine was specially designed for plowing purposes. When you are buying an engine get one that you can do plowing with as well as threshing. It will increase your profits.



The best power for house moving is an Avery Undermounted Engine. It starts easily, pulls steadily and pulls hard. This picture shows where an Avery Engine moved a whole town in South Dakota. This is a good money making business that many Avery owners are doing.



There's no reason for investing in an engine and then allowing it to stand idle except during the threshing season. With an Avery engine you can also do road grading in fine shape and make a nice bunch of money.



And besides plowing, house moving and road grading, here is another kind of work you can do. We build a shovel attachment for the Avery Undermounted Engine as shown here. With it you can dig drainage or irrigation ditches, load gravel, strip coal and do other work. You can get more attachments with an Avery Undermounted Engine for doing more different kinds of work than with any other engine.

An Avery Machine Will Make You Money

AN INEXPERIENCED MAN AS WELL AS AN EXPERIENCED THRESHERMAN CAN RUN AN AVERY MACHINE AND MAKE MONEY. Avery Machines don't have to be followed up by an army of experts to keep them going. A RECORD WAS KEPT BY ONE OF OUR BRANCH HOUSES AND FOR THE PAST TWO YEARS NOT A SINGLE CALL HAS BEEN RECEIVED FOR HELP IN OPERATING AN AVERY SEPARATOR. Every time you have to call for an expert you lose money—you lose time waiting around—lose part or all of your run—and lose the profits you could have made while you were laid up.

THE BIG PROFITS IN THRESHING AND PLOWING ARE IN THE EXTRA NUMBER OF BUSHELS YOU THRESH OR THE EXTRA NUMBER OF ACRES YOU PLOW, ABOVE THE AVERAGE. It takes a certain number of bushels and acres to pay expenses, everything above that is clear profit. Avery Separators have made wonderful records in threshing more bushels per day. And as a sample of the plowing that is being done with Avery Undermounted Engines, one owner writes that he is turning over from 38 to 42 acres per day and doing it easy. In the plowing he was doing it took the first 12 acres to pay expenses—25 acres per day (the average day's plowing) would have given him a good profit—38 TO 42 ACRES PER DAY MAKES HIM BIG MONEY. When you put your money into a machine think about the work it will do more than what it costs and you will be money ahead in the end.

And besides threshing more bushels than most machines—AN AVERY SEPARATOR WILL THRESH MORE KINDS OF GRAIN AND SEEDS, WHICH MEANS MORE PROFIT. Besides threshing wheat, oats, barley, flax and rye, it will hull clover, timothy and alfalfa, thresh rice, peas, kaffir corn, millet, cane, broom corn, etc., and shred corn fodder. No need of buying a special huller or other machine for a few days' work—you can do it all with an Avery "Yellow Fellow." And with an Avery Undermounted Engine there is almost no end to the work you can do—plowing; road grading; hauling grain, coal, gravel, rock, etc.; pulling stumps; house moving and other work. And you can get more special attachments for doing more different kinds of work than with any other engine built—steam shovel, road roller, steam crane, winding drum, and nigger head. AND THAT'S WHERE THE BIG MONEY IS MADE—NOT

IN LETTING YOUR ENGINE STAND IDLE, BUT IN KEEPING IT BUSY YOU CAN USE AN AVERY UNDERMOUNTED ENGINE ALMOST THE WHOLE YEAR AROUND

AND BESIDES DOING BIG DAYS' WORK AVERY ENGINES AND SEPARATORS DO GOOD WORK. For the past two years we have made canvas field tests on Avery Separators so that we could give you positive proof as to what an Avery Machine would do in saving the grain. And the grain saving records they made were wonderful. MORE THAN 99% SAVED WAS THE AVERAGE IN TWENTY-ONE CANVAS TESTS. And as for cleaning the grain, here's what one mill owner recently wrote us:—

"I find that the grain threshed by Hudson Bros.' Avery Machine is the cleanest grain that comes to my mill."

C. W. POINT, Walker, Iowa.

Good work is what you can do when you buy an Avery. The kind of work that gets and holds the good customers and makes them talk like this, which is what one man said to his Thresherman:—

"You did the best job of threshing that I have ever had done for me." AND AVERY MACHINES ARE HONESTLY BUILT. They last a long time. One Avery Thresherman said it this way:—

"I am still running the two full rigs I bought of you in 1895 and '96. They have given the best of satisfaction both to me and to my customers. I thresh in the same locality every year and they run like new and thresh like the devil, and I wouldn't run them a minute if they didn't."

CHAS. H. FERRIER, Dover, Minn.

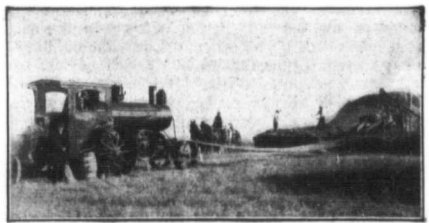
AND YOUR REPAIR BILLS ARE ALMOST NOTHING. A record was kept of the repair bills on Avery Undermounted Engines in one Territory. 66% of the engines had required no repairs whatever. And the total average repair cost per engine per year was only \$1.63. There are many Avery Separators in use that haven't had a cent's worth of repairs for five years.

BIG WORK, GOOD WORK, LONG LIFE AND LIGHT REPAIR BILLS IS WHAT YOU GET WHEN YOU BUY AN AVERY MACHINE. AND WE BACK THIS ALL UP BY GIVING YOU MUCH THE STRONGEST WARRANTIES EVER GIVEN BY ANY MANUFACTURER OF ENGINES AND SEPARATORS.

Field Tests made on Avery "Yellow Fellow" Separators prove that you can save more grain with an Avery Separator than with any other Separator built.



Twenty-one canvas tests made in 1909 and 1910, each test on a different machine, and in five different States, showed an average saving of 99% per cent.—a wonderful record of grain saving. That is one reason why you can get good jobs and long runs with an Avery "Yellow Fellow."



Threshing with an Avery Undermounted Engine and "Yellow Fellow" Separator. Engine gives you steady power and lots of it and Separator does fast work and good cleaning and saving.

Don't Buy Without Fully Investigating the Avery They are Coming to the Front with a Rush

The Avery Company is one of the youngest companies in the business, but already one of the largest—and it's all because of the original and improved features in Avery Machines. It's because Avery Machines are making money for Threshermen.

Use the coupon at the right or write us a letter or a postal. Ask for complete 1911 Avery Thresher Catalog and say what machinery (if any) you are thinking of buying. Address.

AVERY COMPANY, 675 Iowa St. Peoria, Ill., U.S.A.

HAUG BROTHERS & NELLERMoe CO. LTD.

Canadian Jobbers

Winnipeg, Canada

FREE CATALOGUE COUPON

Use this coupon or write us a letter or postal and get a large 72-page complete Avery Catalog. Also say what machinery you are in the market for, if any.

Avery Company, 675 Iowa St., Peoria, Ill.

Gentlemen:—Please mail me free of charge the catalogues checked below:

- Engine, Separator and Plow Catalog.
- Thresher Supply Catalog.

If you are in the market, also check the proper blanks here.

-H. P. Engine Separator
-Gang Engine Plow Water Tank

Remarks:

.....

.....

Name

P. O.

R. F. D. State

The Gasoline Engine on the Farm

Continued from page 29
 recent few years to be an ideal power in the operating of the disc harrows, breeders, binders, cultivators, sub-surface packers rollers and harrows, while the steam engine has been almost discarded on account of its cumbersome weight and expense in operating.

Farmers are just beginning to realize that the gasoline engine is a very important factor in the operating of a small dynamo or generator for the development of light for an almost perfect system for the farmer. And I believe that before many years have passed the greater number of progressive farmers will equip their buildings with this safe lighting system.

In summing up the many points in favor of the internal combustion engine, we can easily see that it is excelled by no other implement as regards usefulness, but the greatest advantage, I believe is that it is always ready for business when you want it. Time, we must remember, is money in this progressive agricultural West, and we must learn to value it and make the very best of every moment in the up-building of this mighty nation. Therefore I say that the gasoline engine may be recognized as one of the farmers' best friends, and may only be surpassed by the domestic, intelligent, reliable, old friend, the horse.

Back to the Horse

Upon another page of this issue will be found the advertising of P. T. Legare Limited of Quebec, Que.

This advertisement will doubtless be new to our readers, although the name Legare is very well known to those who come from the eastern provinces and to such will be like seeing an old friend.

If you are at all interested in this class of machinery, why not take the matter up with this concern. We believe it will pay you. Don't forget, however, to mention this magazine when writing.

This country is one of wonderful wealth, but when it is all counted, it is found that about one fifth of the amount is represented in the New York Stock Exchange

where millions of dollars are changing hands daily, and vast fortunes lost and made in a few hours.

The President of Cuba has appointed a commission to consider plans for the construction of the new \$500,000 presidential mansion to be built from surplus lottery funds.

Another Big Addition to Winnipeg's Implement Buildings

The building is four storeys and basement of the most approved type of mill construction, faced with Twin City buff brick, and cut stone trimmings. Has a frontage on Logan Ave. of 100 ft. x 70 ft. on Arlington. The office and show rooms will be on the second floor. The building has 35,000 ft. of floor space, while the new engine warehouse connecting at the rear with it, 81 x 130 ft. of floor space, making a total of 45,530 ft. in the two buildings.

The building will be equipped with a powerful freight elevator.

This warehouse will be another addition to the handsome implement houses of Winnipeg, and with the large land area secured by the company on this important corner gives them ample room for the extension of their building as trade demands.

The property is served by a spur from the C.P.R. and has loading facilities for half a dozen cars, and one of the best switching arrangements in the city.



New Warehouse of the Ontario Wind Engine & Pump Co. on the corner of Logan Avenue and Arlington Street

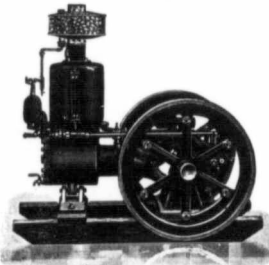
SEE US AT THE BIG FAIRS

TORONTO WINNIPEG CALGARY REGINA SASKATOON EDMONTON

We have **Several New Lines** to exhibit that you have been looking for.

The New 20 H.P. "Flour City" Tractor is just the Engine for the small Farmer—watch its record in the Winnipeg Contest.

We are also showing 30 and 40 H.P. sizes in both the Kerosene and Gasoline Class.



The New 20 H.P. Portable "Stickney" is the "Jumbo" of this famous line, and is a size long called for by our customers. We will also show its new **Baby Brother, the 1 1/2 H.P. "Stickney,"** the most nifty little engine you ever saw—and a full line of sizes between these.

The New Climax Well Drill is without doubt the best yet devised—drills swiftly and silently—Either Rock and Hydraulic process.

The Dempster Mounted Well Auger bores wells 18 to 36 inches in diameter. If interested in well making be sure to look these over.

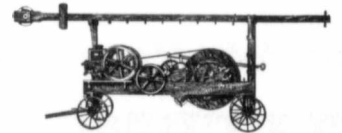
The New Aylmer Pitless Scale is the very latest and best on the market, has no loose weights—combines strength—simplicity—durability—will save its cost every year on the farm. Be sure and see it.



Our other lines are so well known they need no Exhibition.

Canadian Airmotors, Toronto Grain Grinders and Roller Crushers, Steel Saw Frames and Saws, Steel and Wood Tanks, Toronto Wood and Iron Pumps, Aylmer Pumps and Scales, Well Casing, Iron Pipe and Fittings.

Send for our Catalogues. Ask for prices on goods you want to buy.



Ontario Wind Engine and Pump Company, Limited

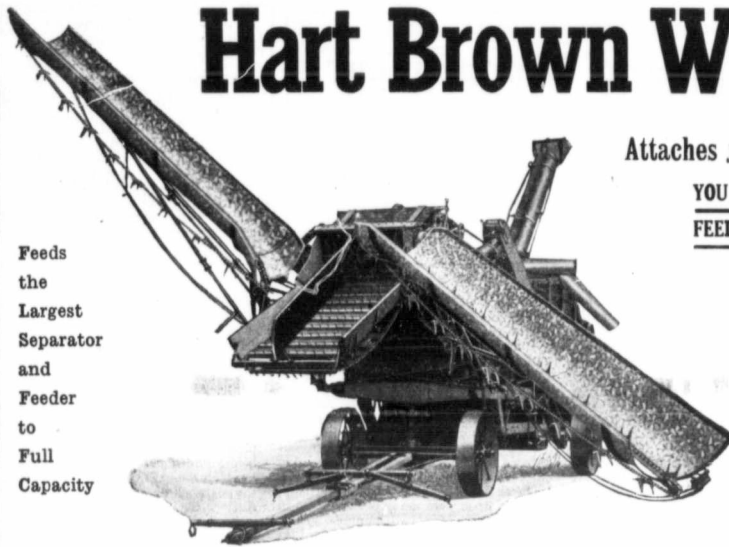
WINNIPEG

TORONTO

CALGARY

Hart Brown Wing Carrier

Feeds
the
Largest
Separator
and
Feeder
to
Full
Capacity



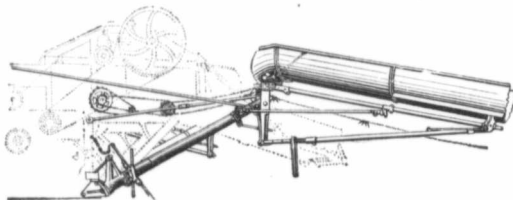
Attaches to any Separator with any Feeder

**YOU DON'T HAVE TO BUY A NEW
FEEDER TO USE THIS CARRIER**

The Hart-Brown has 15-foot troughs (the longest made) that raise and lower and swing about so that they are always within convenient reach of the pither.

Oilless Bearings. All bearings in the Carrier proper are oilless and require no attention during the life of the machine.

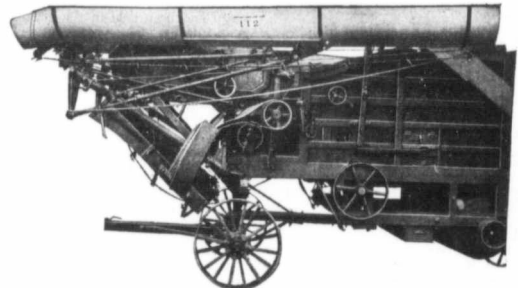
No overhead derrick or support to ground or tongue of separator to catch in trees or wires or interfere in moving, there being no bails over the Carrier, there is nothing to hinder the free movement of the grain.



DOES NOT HANG ON FEEDER

The Carrier puts no strain on feeder but is supported from the main sills and frame of separator, the strongest and most rigid parts of the entire machine.

Notice the delivery end of Carrier. It is so constructed that the bundles go to the band knives straight and evenly. This means no slugging.

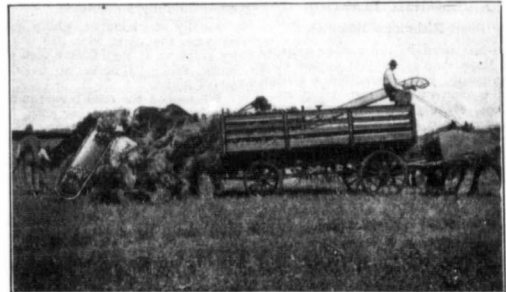
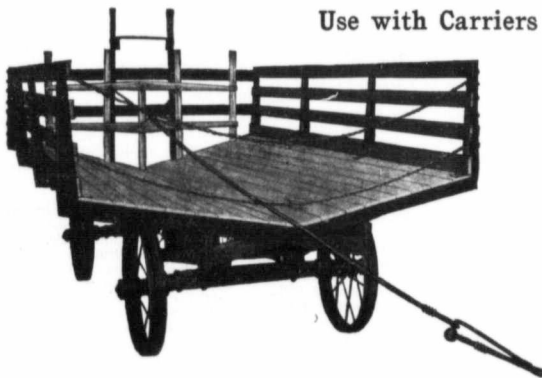


FOLDED FOR MOVING

No parts to detach or throw out of gear. Just swing the Carrier around to side of separator, and you are ready to go. A Belt reel is furnished with every Carrier.

HART UNIVERSAL THRESHER RACK

Use with Carriers and Save \$30.00 to \$50.00 per Day



RACK UNLOADING AT MACHINE

Saves One-Half the Bundle Wagons

Saves all the Field Pitchers

The driver does his own loading and drives to separator where load is taken off instantly by means of a pull off gate. The team does not stop at the machine. This saves time, consequently six Thresher Racks and their drivers will haul as much grain to the machine as twelve ordinary racks, and six field pithers generally do.

Write us, giving us the name of your feeder and separator and we will send you our large illustrated catalogue and tell you just how Wing Carriers can be attached to your separator and give you full particulars about the racks. We will furnish you the hardware and license if you wish to build racks yourself.

HART BROWN Wing Carriers and HART Universal Thresher Racks are sold by the Leading Canadian Thresher Companies

HART GRAIN WEIGHER CO., Peorio, Ill., U.S.A.



Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



THE CROSSING

It seemeth such a little way to me,
Across to that strange country—the
beyond.
And yet not strange, for it has grown to be
The home of those of whom I am so fond.
They make it seem familiar and most dear,
As journeying friends bring distant
countries near.

And so to me there is no sting to death.
And so the grave has lost its victory,
It is but crossing with abated breath
And white, set face, a little strip of sea,
To find the 'loved ones waiting on the
shore,
More beautiful, more precious than
before.

Ella Wheeler Wilcox.

THE SON OF GOD

Out of infinity
Börn from eternity,
Came once a child from the Father above.

Low in the manger he
Lay where great destiny
Named him forever the
Savior of love.

Child of immensity,
Sent to show you and me
How that we too may be
Saviors of men;
Binding the broken heart,
Breaking the bonds apart,
Bidding the downcast start
Upward again.

Deep as infinity,
Broad as eternity,
Great as immensity
Being of Thine!
Thou are the Life, the Way,
Thou are the Truth to-day,
Perfect divine!

A ROMANTIC ELECTION

By Pearl Richmond Hamilton

The last weed in the garden dropped
from Mary Ann's hoe just as the click
of the garden gate announced a visitor.
The woman with the hoe looked up.
"Good evening Mr. Allen," a tingle
of color warmed the wrinkles of her face
as she hung the hoe on the limb of an
apple tree.

"You work too hard out here—pears
to me you need a little help." Mr.
Allen looked down the long clean row
of potatoes as he wiped his face with a
bright blue handkerchief.

"No, I reckon I don't need any help—
I've tended this garden for thirty years
and I'm just as smart as I ever was." A
tint of the chin and a tightening of the
muscles about Mary Ann's mouth con-
vinced Mr. Allen that he had said the
right words at the wrong time.

"Be you through, Miss Mary Ann,
with your work in the garden?"
His voice was meekly subdued and he
waited patiently for the answer.

"Yes I'm through for tonight; I ought
to dig those dandelion roots up but they
will wait till mornin'." By this time
they had reached the front porch and the
man of the other house sat down in the
old wooden rocker and wrinkled his brow
in aching anxiety to say something.

"Well, how air ye goin' to vote—for or
against the new school house?"

"Why for of course, any one with com-
mon sense knows this town needs a new
schoolhouse!"

Mary Ann sat down on the first step
and threw her bonnet toward the door in
excitement. Now the vital theme of the
town for four months had been whether
or no a new school building should be
built.

In Gingerville there were less than
two hundred inhabitants and very few
owned more than five hundred dollars
worth of property. Most of the taxes
for school funds were paid by retired
farmers whose land was inside the town
incorporation. As these owners lived in
another town they could not vote against
the new school building. Therefore most
of the voters were illiterate women, sub-
jects of charity, and town loafers.

A very important meeting of the school
board had been held in the office of the
grain dealer. The president of the
board, a bald-headed manette, climbed
upon the four legged office stool and
called the meeting to order, in a voice
remarkable for its tone of authority.

The worthy president, who was the
barber of the town, was a tiny undeveloped
fellow—he probably had chewed tobacco
too young—anyway something had im-
mediately stopped the growth of a six-
teen-year-old lad. But the young fellow
grew older in years if not in stature and
strength until he was elected to the school
board, and in order that the little fellow
could be seen at the meetings they placed
him on the office stool.

Then the little head, like cabbage in
advance of its season, almost burst by
too rapid growth. Goldsmith's verse
worked over a bit applied to him:

"And still the wonder grew—
How one small head could carry
All he thought he knew."

At any rate Mr. President wisely
opened the meeting and presented before
the board the very important business—
"shall we build a new school house?"

As soon as the last word was said the
four men in front looked as if they had
not heard of the subject before—though
they had been discussing it in the post
office for fully a month.

Finally one member, whose head was
so dense that if an idea had got into it
by accident, it would have died of loneli-
ness, said: "I move we have a new
school house."

Whereupon the man beside him whose
soft felt hat touched his nose, drawled
out in Pennsylvania twang—"Sec—ond
—the—motion!"

Then he leaned back against the wall
as if he had just accomplished a strenuous
task.

Now there was a third member of this
pompos board who felt that he must
say something, so he spat once, twice,
thrice before he hit the right spot of the
coal-hod, this feat accomplished he placed
the following question before the board:
"How shall we go about it?"

"Make the land owners pay for it!"
exclaimed the manette on the stool.

It was a well known fact that the town
could not pay for it. Gingerville was not
a generous town at any rate. Why even
the minister charged two dollars for pre-
senting the diploma to the one and only
graduate at commencement—the presi-
dent of the board having at that particular
time an acute annual attack of "shaky
knees." The secretary, who had been
engaged to every new teacher in town for
the past seven years, took down the
"minutes of the evening," and the session
closed.

The next day the board member with
the dense head peddled a petition about
town.

It was the first time he had been known
to be courteous to women—they were
voters you see.

Immediately the elite of Gingerville
gathered on the street corners and around
the town pump to discuss the great topic
of the hour.

There was Jim Crane whose wife, the
little washerwoman in the hollow, had
kept him in good whittling condition for
fifteen years. This man had worn out
twenty dry goods boxes giving instruction
on the ruling of the nation.

On the next reserved seat Bill Blank,
whose clothes were never changed, sat in
greasy silence for two minutes. Bill's
clothes were in good condition to ward off
all odors of his loud profession—that of
skinning skunks.

Bill said: "Let's have a new school
house. This town's been dead for ten
years. It's time we waked up."

Now just at this point John White, who
lived next door to Bill, exclaimed in quick
excitement:

"I think the town had better get rid of
its filth first."

But the remark was lost. It's meaning
could never penetrate Bill's oily "pate."
John White was the "blow" of the
town—he had spent his whole life time
"blowing" and raising roses. But John
White had good sense in some things,
especially in affairs concerning his son-
in-law. For some reason this same son-
in-law wanted the school house and this
angered John White.

"What do you want to vote more taxes
for—you can't pay your taxes now with-
out my help?" Then the son-in-law beat
the air in his wrath and the father-in-law
walked off.

While all of this "electioneering" was
going on, the constable with his star
walked up and down the street in case his
services might be needed. This star was
worn much like a medal—on rare occasions;
for instance, when the Gingerville
officials all lined up against the black-
smith shop for the picture-post-card man
to start them on the road to fame, the star
outshone them all.

No one was ever known to run away
from that star except the constable him-
self. One time when he was called to
arrest a drunken man who carried a
weapon, Jeremiah Jenkins hearing a
commotion in a pile of tin cans between
two buildings, ran to see whose cat was
in the mix-up and reached there just in
time to see this same constable stumble
over the last can in his effort to crawl out
of sight.

The evening before election a careful
canvas revealed the fact that the votes
would be exactly even. Every available
voter in town had been attacked. The
problem was too deep to be solved, so that
night weary heads wondered what the
outcome would be.

All the next day women voters were
led to the polls like convicted criminals to
the gallows, and the three wise men at
the booth very solemnly placed the ballots
in their proper and improper places—the
three wise men of Gingerville.

All day long the lame, the distressed,
the saint and the sinner filed into the
polls like mourners at a funeral. Even
the town gossip, a woman of two hundred
and five pounds, hobbled in on the arm
of the butcher—he had a monopoly on
beef.

It was just an hour before closing time
when all the votes were in except those
of Mary Ann and Mr. Allen. Everyone
knew Mary Ann would vote for the school
house and Mr. Allen against it; and every
one knew that Mr. Allen had for a year
passed Mary Ann's house on his way

down town—which was very much out of
his way.

He had dropped down from the clouds
one night and landed in Gingerville. At
least it appeared so to the people. It
came about in this way:

Mr. Allen's nagging wife had laid her
tongue to rest and he determined to leave
all familiar surroundings for new lands.

Consequently he hunted up a map and
picked out a town he had never heard of
before and bought a ticket for that place
—which was Gingerville. He arrived in
the night and sat on the platform of the
station waiting for the inhabitants to
wake up. When they finally did, they
rubbed their eyes to see the strange object
on the platform, and they looked curiously
at him and he looked patronizingly at
them. Then he stretched his stiffened
body and limped toward the painted sign
spelled "Restaurant." For two weeks
Gingerville was busy discussing the
stranger. Who was he? What was he?
Why was he?

Meanwhile the stranger deposited three
thousand dollars in the bank and began
to look for a location to build and he built
the most up-to-date house in Gingerville.
About a year after his house was built
he had to submit to a serious operation
and it was whispered about that he had
willed his worldly goods to Mary Ann.
The operation made him a well man and
he returned to Gingerville.

Now if this same Mr. Allen had died
Gingerville would have had a new school-
house.

But he did not.
Moreover on this election afternoon
Mr. Allen determined to do some election-
eering and in the meantime settle a
personal affair so he wended his way to-
ward the home of Mary Ann where he
found her in the garden and this is why
the discussion of the school house took
place on her front porch.

"Now why, may I ask Miss Mary Ann,
does this town need a new school house?"

Mr. Allen cleared his throat while each
thumb ran around the other, racing for
all they were worth.

Mary Ann did not appear to hear the
question.

Mr. Allen took advantage of the silence
and moved his rocker nearer the front
step.

The little maiden lady blushed a bit
and he plainly understood that the ques-
tion of the new school house was not
uppermost in her mind.

"Seems a pity, Mary—Mary Ann that
one of our houses can't—be rented." Mr.
Allen's face turned pale.

"Have you had it up for rent?" Mary

Ann reached for her bonnet to fan herself.
Just then the man of the other house
caught her hand and looking earnestly
into her eyes he asked: "Whose house
shall we rent—yours or mine?"

"Mine," came the answer and there
was a brief silence when each read the
expression of the soul in the other's eyes.
Ah—sweet are the songs without words.

Then arm in arm the man of the house
and Mary Ann walked down to the polls
—two hearts that beat as one—two
minds that thought as one—but two
votes that counted as two for the new
school-house.

MOTHER'S CORNER

Kind Words Can Never Die
Kind words can never die,
Cherished and blest;
God knows how deep they lie,
Stored in the breast.

Like childhood's simple rhymes,
Said o'er a thousand times,
Ay, in all years and chimes,
Distant and near,
Kind words can never die,
Never die, never die,
Kind words can never die,
No, never die.

Sweet thoughts can never die,
Tho' like the flowers,
Their brightest hues may fly
In wintry hours;
But when the gentle dew
Gives them their charms anew,
With many an added hue
They bloom again.
Sweet thoughts can never die,
Never die, never die,
Sweet thoughts can never die,
No, never die.

Our souls can never die,
Tho' in the tomb
We may all have to lie
Wrapped in its gloom.
What tho' the flesh decay,
Souls pass in peace away,
Live thro' eternal day
With Christ above.

Our souls can never die,
Never die, never die,
Our souls can never die,
No, never die.
(From an old hymn-book.)

The following hints are taken from
The Mother's Magazine:

For Bowel Disturbances

Malted milk makes a good substitute for the regular milk diet which has to be stopped where diarrhoea begins. Barley water can be profitably used with the malted milk. The baby should wear its band a full year. If the abdomen is kept at a comfortably warm temperature and the legs and feet are protected from chills, with reasonable attention to the diet, there is very little danger of bowel troubles. The skin must be kept perfectly clean, with the pores active. The child, sick or well, should have from two to six or eight hours in the open air every day, and plenty of pure, cool water between feedings.

The Child One Year Old

When solid foods are added to the baby's diet many mothers give several new foods at one time. This is all wrong. One food at a time should be the addition to the diet. After this sufficient time should be given to adjust the system to the change; three or four days is not too much time. The new food, which might profitably be broth of chicken, beef or mutton, must be given at regular feedings, as is the milk. When the system is adjusted to the change, a well-cooked cereal might be added. Another interval elapses for the stomach to become accustomed to the digesting of this new food. In the same manner are given codded egg, fruit juices, zwieback, graham wafers without sugar, etc.

A very small quantity is given at first, and this is as important as the regular feeding and the time, after the additional foods.

The combinations must be made one at a time, with little given, as has been suggested, gradually working up to the full required amounts.

The foundations for stomach troubles, biliousness and constipation are laid when solid foods are added to the lists of the foods for babies.

The changes can be made with no intestinal disturbances, and it is of vital importance to the mother and the child that she exercise vigilant care and the best judgment when making changes in foods.

The Tonsils

If a child has repeated attacks of swollen tonsils, and putrid sore throat, it is evidence that the impurities of the body are not eliminated by natural processes. The bowels, kidneys and skin are not sufficiently active. The circulation of the blood is sluggish. The inflamed, swollen tonsils are the danger signal to the intelligent person by means of which the condition described can be recognized. If the cause is removed by intelligent methods or applications, the tonsils will cease to swell, and an operation will not be necessary.

The circulation of the entire body should be stimulated. The activity of the bowels can be increased by a laxative, massage treatment, hot applications over the bowels. Drinking plenty of water will increase the activity of the kidneys.

A hot bath opens all the pores and draws the blood to the surface. A cold compress on the throat scatters the congested blood, and the general disturbances are righted in a short time.

The child with sore throat is better off in bed than out. It gets a rest and the temperature of the body is regular. Sore throat is sometimes the result of wet or cold feet. The feet must be kept warm and dry.

One Mother's Remedies

A formula that has been handed down several generations from an old physician is the one this mother has made her infallible remedy for bruises, sprains, shooting pains in joints and sore muscles.

She combines the necessary ingredients herself, buying them separately, as they cost less than they would if the combination were complete.

The list consists of a small cake of gum camphor, a fourth of a pint of sweet oil, ten drops of tincture of capsicum, one fourth ounce of laudanum and one half pint of kerosene.

The kerosene and the camphor are first combined. This is permitted to stand until the kerosene will take no more camphor. The oil is then added, to give it body and to make the application less irritating to the surface, then the tincture of capsicum becomes a part of the compound, and last of all the laudanum. This remedy is applied over sore or inflamed surfaces, is well rubbed in, and is well shaken before used.

It will in a short time relieve pain from inflammation and congested blood, and the application gives permanent relief by throwing the impure blood into the system and supplying the inflamed tissues with a new supply of healthy blood.

What Women are Doing

Every young woman in the home economics department of the University of Missouri who takes a course in testing fabrics must roll up her sleeves and work over a wash tub. Each student will have a locker in the laboratory, which will contain a tub, wash board, soap, bluing and chemicals. It is the aim of the university to teach the effect the starch, bluing and other chemicals have on clothing.

An American woman in one of the April magazines who has been investigating

high prices and their cause and finding herself in a perfect maze after searching for reasons and cures for these prices says "I myself was in England all summer, and I must say it was a relief to be in a land where nobody was ashamed to economize."

Mrs. Laura Hawkins Frazier, childhood sweetheart of Mark Twain, stated that Twain told her when she visited him at his home near Redding, Conn., in 1908, that she was "Becky Thatcher" and that "Tom Sawyer" was a composite of himself, Colonel John L. Robards and John K. Garth, deceased. No one was more sorely grieved by the death of Mark Twain than Mrs. Frazier.

Women vote in Laibach, the diet of the Austrian crown domain of Krain, of which Laibach is the capital, having granted the privilege. They have certain hours of the day when they vote, must keep away from the polls at the time, which solves a difficulty that has been suggested by the anti-suffragists in this country.

Queen Maud of Norway is a devoted admirer of Dickens, and especially of the "Christmas Carol." For many years she used to send parcels of presents to various homes for invalid and crippled children in and near London, and every present bore a tiny card inscribed "With Tiny Tim's Love."

Miss Pankhurst gives American men a dig by saying that they have the reputation of having placed women on a pedestal while at the same time girls and women are the sweat shop workers of the country. Ex-Queen Sophia of Naples is one of the few women who have borne arms for their country. In 1860, when the combined armies of Victor Emanuel and Garibaldi attacked Gaeta, King Francis II was so unmoved that he failed the army utterly, but Queen Sophia conducted the defense, remaining on the ramparts during the fiercest of the fight.

Queen Wilhelmina of Holland, is part owner of 14,000 acres of land in Alabama, and it is her plan to raise cattle, pigs and chickens on the farm. She will not, herself, play at being a milkmaid or a shepherdess, but will leave the raising of her heifers to her agents, while she devotes herself to governing "brave little Holland" and caring for the little Princess Juliana.

Curious customs still prevail with regard to marriage. In some parts of Uganda the custom is to offer six needles and a pack of India rubber for a wife.

Some of the Kafirs sacrifice oxen. The Tartars of Turkestan give the weight of the prospective wife in butter. In Kamchatka the price varies from one to ten reindeer; some savages require a certain amount of labor. Among the aborigines it is said the current rate for a wife is a box of matches.

The citizens of Galveston, Texas, are raising money by subscription to erect a monument to the Southern Negro mammy.

Queen Olga of Greece has the distinction of being the only woman admired in the world. She was Grand Duchess Olga Constantimora of Russia when she married Prince William of Denmark, who afterward was elected king of the Hellenes and assumed the title of George I.

In Milwaukee there is a woman who has had so much to do with the city's affairs, with the appearance of its streets and show places and with the upkeep of the largest philanthropic institutions that she may be called the municipal patroness. She is Miss Elizabeth Plankinton, daughter of the late John Plankinton.

Prior to the Boxer uprising in 1900, the Anti-Footbinding Society had made great progress throughout China. Medical missionaries had succeeded in convincing high officials the injury done future generations by the cruel crippling of women's feet. The leader in the movement was an English lady, Mrs. Archibald Little, whose husband was for forty years a tea planter. She has written many delightful books on China. Mrs. Little was the only woman to whom the late Li Hung Chang gave a private audience. He was in sympathy with the movement and contributed liberally to aid it.

Kept Apart

"If women would only be bolder,"
Declared the suffragette,
"And just stand shoulder to shoulder,
We'd win the ballot yet."

But one woman candidly told her
When she at last had hushed;
"We can't stand shoulder to shoulder—
We'd get our hats all crushed."
Louisville Courier-Journal.

The Indian.

That the Indian marries more often for love than the white man; that the only difference between a so-called civilized man and the so-called uncivilized is a difference in their explanations; that Indian women as a whole are better treated than the white women, and that the wife of a college professor has a harder time than an Indian squaw; that no woman reaches the pinnacle of her art until she has married and borne a child; that to be an Indian maid is infinitely better than to be a wage slave in the inferno of commercialism—these and other things are the ideas of Mrs. Henry Hunter Austin.

For fifteen years Mrs. Austin lived amongst the Indians of Southern California—the most primitive folks on this continent—and by her stories won the title of "The Novelist of the Southwest." For the past three years she has wandered over the world, spending most of her time in the gayest of European cities. She has had a chance to meet and study all sorts and conditions of men. And, to her way of thinking, the Indian rates as high as the ledger of life and the balance struck.

"A man is a man," she says, "whether he is red or white, and he has the same primal instincts. He wants a wife, he wants a home, he wants children. His world is the human world; and the only difference is in the explanation he gives of it. But romance has less chance for life in our frantic civilization, where we chase after social position and wealth, than it has among the elemental folks."

Mrs. Austin is the author of a play in which all the characters are Indians, "The Arrow Maker." She is also a worker for woman suffrage and for the economic freedom of women.

RECIPES

Mother's Coffee Cake

One cup of molasses, one-half cup sugar, one cup coffee, one teaspoon baking soda,

half cup of raisins, three-fourth cup lard, a pinch of salt, two teaspoons of cinnamon and flour enough to make stiff.

Stewed Celery

Only the tender, inner stalks of celery should be eaten raw. The hard outside stalks make a delicious and wholesome dish when properly cooked.

To blanch celery in cooking, remove all the leaves from the stalks. Scrape off all rusted or dark spots, cut into pieces about three inches long, and put in cold water. Have a stew pan of boiling water on the fire, wash and drain the celery and put in the boiling water. Add one teaspoonful of salt for every two quarts of water. Boil rapidly for fifteen minutes, having the cover partially off the stew pan. Pour off the water and rinse in cold water, then drain. The celery is now ready to finish in the following manner: Put the celery in the stew pan with one tablespoonful of butter, and one teaspoonful of salt for each quart of celery. Cover and cook slowly for fifteen minutes. Shake the pan frequently while the celery is cooking. Serve hot. I sometimes make a cream sauce to serve with it.

Boiled Onions in White Sauce

Peel the onions and cut off the roots, dropping into cold water as fast as they are peeled. Drain from the cold water and put in a stew pan with boiling water to cover generously. Add a teaspoonful of salt for each quart of water. Boil rapidly for ten minutes, with the cover partially off the sauce pan. Drain off the water and cover the onion with hot sweet milk (a quart of onions will require a pint of milk). Simmer for half an hour. Beat together one tablespoonful of butter and one level tablespoonful of flour. Add one teaspoonful of salt and one-fourth of a teaspoonful of pepper. Gradually beat in half a cupful of milk. When smooth stir the mixture into the onions and milk. Let the dish cook till it is thickened, then serve.

Cucumbers may be cut in slices lengthwise and dipped in flour and fried in butter.

Stewed Cucumbers

Stew pared cucumbers, cut in quarters or in thick slices, for fifteen minutes in a sauce pan with a little water and a small minced onion.

Pour off the water, stir in a little flour, butter and salt, heat for two or three minutes, and then serve.

The following recipe for a cake made from yeast is excellent. One cup of yeast (just before it is ready to mix into a hard loaf), one and one-half cup of light brown sugar, one-half cup milk, two eggs well beaten, one level teaspoon baking soda, one-half cup butter, spices to taste (cinnamon and nutmeg) raisins. Put in flour but do not make it too stiff. Let rise three-quarters of an hour.

Green Pepper Mangoes

(This recipe is one my sister has used with excellent success.) Cut tops off of large green peppers, take out inside of peppers, and soak pepper shells over night. Chop up cabbage, sprinkle salt over it till it draws water, squeeze this out, then mix mustard seed with the cabbage. Stuff the peppers with this mixture and tie the covers on. Have ready hot weak vinegar on stove.

Put in each one separate till it is scalded. Pack in jar, make regular sweet pickle vinegar and pour over them.

Every morning drain this vinegar off, scald and skim and pour back over peppers. Do this for nine mornings. Then put away for winter use.

Maple Custard

Beat the yolks of three eggs and add one-fourth teaspoonful of salt, two cupfuls milk and one cupful of heavy maple syrup. Add the beaten whites and bake in custard cups, or in a baking dish.

Escalloped Meat

Remove the fat and skin from cold meat, and cut in thin small slices, or chop fine. Season with salt and pepper. Butter a shallow dish, put in a layer of meat on bottom of dish, cover with cooked rice, then tomato sauce, letting it run through and around the mixture.

Cover with buttered crumbs and bake brown.

MAGIC

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Patronize This Magazine**

Codfish Balls

To one large cupful of shredded fish allow six medium sized boiled potatoes, cut in thin slices, whip in yolks of two eggs, one teaspoonful of melted butter, pepper and salt, coat with flakes rolled fine, fry until brown in any hot fat.

Noodles for Soup: Rub into two eggs well beaten, as much sifted flour as they will absorb, then roll out as thin as a wafer. Let dry for one hour. Dust over with flour, then roll over and over into a roll. Cut off thin slices from the edge of the roll and shake into long strips. Put them into the soup lightly and boil for ten minutes. Salt should be added while mixing.

Strawberry Preserves.

Wash, hull, and thoroughly drain berries. Measure the fruit and put into a smooth, graniteware kettle; then sprinkle with three-fourths its measure of granulated sugar. Heat to the boiling point and let boil until juice jellies when cooled, which may be determined by testing a spoonful on a plate. Fill preserve jars and keep in a cool, dark, dry place. This makes a delicious sauce to serve during the winter months with vanilla ice cream, cottage pudding, Irish moss blanc-mange, moulded snow, etc.

Baked Parsnips.

Scrape or peel the parsnips, and divide into two or four, and lay them flat on a baking dish. Dredge all with flour, and season with pepper and salt. Pour a little water into the dish, and cook in a good steady oven till soft; put a few bits of butter over just before serving.

Fresh Strawberry Salad.

Cut large strawberries in halves lengthwise, sprinkle with powdered sugar and Kirsch and let stand until thoroughly chilled. Serve in nests of white lettuce leaves with whipped cream flavored with mayonnaise dressing well seasoned with salt and paprika. Garnish with halves of strawberries, and if at hand, chopped pistachio nuts.

Golden Pudding.

Put into a stewpan half a pint of milk, 2 ounces of bread crumbs grated, two ounces of butter, two ounces of castor sugar. When the bread crumbs are of the consistency of cream pour into a basin, add two tablespoonfuls of orange marmalade and two eggs well beaten, mix well, and pour into a buttered-dish and bake in a moderate oven half an hour; turn out and serve with lamfino. This is nice not or cold.

Asparagus Omelet.

Cut into half-inch lengths the soft portions of thirty heads of cleaned asparagus; then cook till tender. When done, drain them on a sieve; then toss them around in one tablespoonful of melted butter, add two tablespoonfuls of stock or white sauce, season with pepper and keep hot. Beat up six eggs, add two tablespoonfuls of cream, salt and pepper to taste, and pour into an omelet pan containing one tablespoonful of melted butter. Stir over the fire till the eggs begin to set. Place the prepared asparagus in the center, shape to an oval cushion, let it take color in the oven and turn carefully on to a hot dish.

Meat Timbales.

Several eggs are usually used for these dainties, but the recipe given here will be found delicious. Fat enough cooked meat through a meat-chopper; then press the pulp through a coarse sieve. Mix with this one-fourth cupful of stale bread-crumbs, salt and pepper to suit, and the stiffly-beaten white of one egg, carefully folding it in instead of stirring or beating. One-fourth teaspoonful of sweet marjoram or summer savory, or a teaspoonful of finely-minced parsley or celery, will be an excellent addition if at hand. Fill small buttered fancy cups or patty pans two-thirds full, and set in a pan of warm water and bake about fifteen minutes in a moderate oven. Turn carefully out on a hot dish and surround with either tomato, horseradish, cucumber or plain brown sauce. Or the sauce may be omitted and buttered peas served.

Buttermilk Bread.

Sift one pound of flour into a basin; add one teaspoonful of sugar, half a teaspoonful of salt, one teaspoonful of baking-soda, and one tea-spoonful of cream of tartar. Mix and make into a soft dough with buttermilk. Knead lightly on a floured baking board, place on a buttered baking tin and bake in a moderate oven for thirty-five minutes.

Beauregard Eggs.

Five hard cooked eggs, two table-spoonfuls of butter, two table-spoonfuls of flour, one cupful of milk, five slices of toast, seasoning of salt and pepper. Remove the shells from the eggs, separate the whites from the yolks; chop the whites very fine, and then put the yolks through a sieve. Blend butter and flour together in a saucepan over the fire, add the milk and stir until boiling. Add the whites of the eggs and season nicely with salt and pepper. Arrange the toast on a hot platter, pour over the sauce, sprinkle the top with the yolks, reheat and serve hot.

EXPERIENCE EXTRACTS

Remedy for Whooping Cough.

When my little girl had whooping cough, I rubbed Roche's Embrocation on her chest for fifteen minutes for fourteen nights. In most cases it cures the child in that time. If it does not cure it the case is not so severe as it would otherwise be. A mother told me this week that the following remedy is good for whooping cough: 2 parts olive oil to 1 part oil of amber and 1 part oil of cloves. Rub on chest and soles of feet and knees.

To Brighten Faded Frocks.

Some one may have a pink cotton or linen dress in good condition, but badly faded. If so put a piece of turkey-red cheese-cloth in water, and boil till the color is right. It will dry a bit lighter than when wet and will leave an even color all over. One-eighth of a yard of cheese-cloth is more than enough for a dress. Navy blue cheese-cloth may be used in the same manner to freshen the color of a light blue dress. It is best to try a sample of material in the dye to get the right shade, before putting in the whole dress.

To Distribute Fruit in Cake.

It is often disappointing when cutting a fruit cake to find that most of the fruit has settled to the bottom. To remedy this, put half of the batter in the pan before the fruit is added; then put the fruit into the remainder of the batter in the bowl. Stir well and add to that in the pan. The fruit is thus evenly distributed.

For the Woman Gardener.

Those who find it difficult to work in the garden with gloved hands should rub the finger nails over a piece of soap before commencing work. The soap under the nails will keep out the dirt and will readily come away when the hands are washed.

To Polish Cut Glass.

To polish cut glass, looking glass, etc., make a paste of alcohol and whiting. After washing the glass, apply the paste with a soft woolen cloth and rub briskly. This will give the glass a very high polish.

Moths Never Trouble Me.

Saturate pieces of paper or cloth with turpentine and put into the boxes or other places where furs or woollens are placed for the summer. I have kept my American mink furs in perfect shape in this way for years. I also use it in closets and around the edges of carpets, and never have anything destroyed.

Preparing Garments for Storage.

The average housewife thinks only of removing all flying moths from the furs and then of sealing or encasing the furs so that no flying moths can enter the receptacle. This is a wise

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precaution — as far as it goes. The main thought, however, should be to see that no eggs have been deposited and are still reposing deep down in the furs. Beating, shaking, brushing combing, preferably in the sunshine and air, are the usual remedies to which the housewife can resort. The brushing is particularly necessary in removing the tiny unseen eggs. This agitation is practically sure to be effective if done, not once or twice, but each day for at least a week. The next step should be to completely wrap each garment in newspaper — flying moths having an aversion to printer's ink — then place away in a box or other receptacle. One can readily see the wisdom of wrapping each article separately,—if by any unfortunate chance an egg should remain, harm could come to but one garment. At the end of a week or ten days, open the package, and look for possible hatched eggs. If a stray egg has been inadvertently left in the fur, it will have hatched or developed at the end of ten days, be in plain evidence and easily removed. In such case, brush well in the open air and immediately wrap again in fresh newspaper, for another ten days, and a second search, before finally depositing in trunk or case. If, however, no eggs, worms or moths are found on opening after the first wrapping, the second wrapping can be done at once and permanently finished with the sealing or pasting together of the ends of the newspaper wrappings.

Liniment (for man and beast.) The following recipe was given me by a farmer who has used it for years and who says it can not be beaten.

One-half pint of cider vinegar, one-half pint turpentine, two eggs well beaten.

Stir together and bottle. It will last for months and is splendid for sprains and swelling.

The same man gave me the following recipe for scratches.

One ounce of verdigrise (powder) and two ounces of vasaline or lard.

For sore feet or tired feet let them soak for a while at night in a mixture of arnica and hot water.

If the bottom of the foot is hard and calloused put a cloth over it on which is spread mutton tallow. Then put the stocking over it to hold it in place. Sleep in it for two or three nights. You will be surprised with the results.

A layer of charcoal in the bottom of a window box or a flower pot is very beneficial to plants in keeping the soil fresh.

Set citron in the oven before slicing, until heated through, and it will not gum on the knife, but can be sliced with ease.

For a change, substitute citron in any recipe calling for raisins.

When making baking powder biscuits try letting them rise from fifteen to twenty minutes before baking, and notice the difference in size, lightness and taste.

Soiled and limp straw hats in white and cream color can be nicely cleaned and stiffened by washing in a weak solution of oxalic acid. Remove all trimming. Dissolve one and one-half tablespoonsfuls of the crystals in a bowl of warm water and wash hat thoroughly using a nail brush. Rinse well in two clear waters and dry in sun and air. Men's hats are particularly easy to clean.

After using stove polish, wash hands in coffee and it will remove black like magic.

Grease spots may be easily removed from the most delicate fabrics by placing the spots between blotting paper and pressing with a hot iron. The paper absorbs the grease and will make the goods look fresh and new.

When turkeys are first hatched fresh lard should be rubbed on their heads to prevent lice. They should be fed on curd of milk till they are a month or two old.

PA MARRIES AGAIN

By Mary E. Brush.

THE PROBLEM OF THE SECOND WIFE.

Mrs. Silas P. Hooper was dishing up the supper with unusual energy. She stacked the steaming ears of sweet corn log-cabin fashion on the big, blue platter; gave vindictive stabs with a fork into the potatoes, as she took them, one by one, from the kettle; she placed the fat, brown-glazed teapot with noisy clatter on the square, pink tile, where it confronted a solemn row of waiting cups and saucers. Then, after allowing her sharp, black eyes to give one roving glance over the white expanse of the table to see if anything were lacking, she went to the open back door and called out in shrill imperious tones, "Come, pa; it's ready!"

Her father-in-law, sitting astride the chopping-block out in the rear yard, started nervously at the sudden summons.

"I swanny!" he muttered. "Mandy's voice always makes me think of a bull kit o' carpenter's tools—file, saw, plane an' bit—everything that cuts, rasps an' digs into things! An' jest now, she's specially mad, I s'ppose; but I've got to face th' music."

He swung one lean leg over to its mate on the other side of the log and closed his jack-knife with a snap; he had been aimlessly whittling for the past quarter of an hour.

It was not the habit of the elder Mr. Hooper to waste much time in this frivolous amusement. Usually at this hour he was driving the cows into the barn-yard, feeding the hens or doing odd jobs about the premises. Generally, too, he had on his working-clothes; but on this particular evening, having done the chores in haste, he had donned his Sunday-go-meeting garments, a well-worn broad-cloth suit



... sitting astride the chopping-block"

made after a fashion of twenty years previous; his shirt-front was as stiff and well glazed as a china saucer; his collar came up in sharp points under his tuft of scraggly, gray chin-whiskers, while his neck was swathed in an antique, black satin stock. In short, he looked very festive, this quiet, gentle, old man, with his

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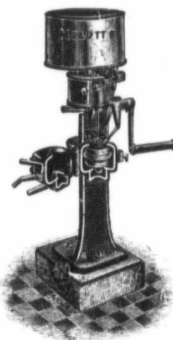
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small, delicate face and eyes, blue and kindly, that had in them something of the pathetic look of a lonely child.

"Shouldn't wonder if we'd have a frost soon's new moon comes; it's gittin' real chilly now when th' sun goes down," he volunteered in a conciliatory tone as he sank clumsily into his chair at the table. Young Mrs. Hooper gave a sniff.

"Chilly! Most folks would be chilly settin' out like a bump on a log this time o' day," she remarked frigidly as she tucked a bib under the baby's chin.

Mr. Hooper, senior, feeling that the clouds of war were gathering on the near horizon, meekly subsided, and began with

fingers that trembled a little, to peel and mash his potato. His son, Silas P., sat opposite—a swarthy, dark-eyed man with a sullen face and taciturn manner.

The meal progressed in gloomy silence, the baby being the only talkative member of the family and emphasizing his unintelligible monologue by sundry thumps with his spoon.

Meanwhile, the elder Mr. Hooper ate as though he were performing a solemn and somewhat painful duty; he was timid and ill at ease, and once, when he accidentally dropped a bit of apple-sauce on the table-cloth, he shot an alarmed glance at his daughter-in-law; then, as though in a great hurry to be through with a bad business, he poured his hot tea into his saucer, drink-it in hasty gulps, and when the last drop was down, he glanced at the clock, at the door, at his son and the latter's wife, and then he rose awkwardly from his chair.

"I—I—s'pose, Silas—that is, I must—I might as well be a-goin'," he began nervously. "The—the ceremony was to be at eight o'clock, an' it'll take me a good twenty minutes to walk over to 'Mis'—ah—Mis' Wiggins'."

"Well, if you're possessed to go, there ain't no occasion to walk; you might hitch up old Jerry," snapped out his son.

The bent figure straightened itself with sudden dignity.

"After the things you and Mandy hev said, I ain't a-goin' to



His hair and beard were neatly trimmed.

take none of your horses or bug-gies," he said chokingly.

"Humph! I s'pose, though," Mrs. Hooper broke in with her aggrieved voice, "I s'pose it won't be long before you an' that woman—that Mis' Wiggins'll be wantin' to take some o' Silas's ma's things. If you be, I'd like to know first when you're comin'. That woman needn't think she can go traipsin' through my house any time she wants to—so there!"

Her father-in-law moved uneasily toward the door, reaching out for its knob in no uncertain way.

"You needn't git stirred up fur nothin', Mandy. I don't know's I'll take away any of Silas's ma's things; the furniture an' every-thing was bought with money I

earned, of course, but land! I don't begreedy any of 'em to you an' Silas and—and—th' little feller here"—and as the gnarled hand left the door-knob and rested in a benedictory way upon the curly head of the occupant of the high chair, who looked up with a smile and a gracious something which sounded like, "G'andad! Nice g'andad!"

He went out, closing the door gently.

His son sat silently in the chair, his eyes stern and his arms



His mother's old doctor-book was brought from the attic.

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folded across his stalwart breast.

Mrs. Hooper, oblivious to the baby's evident consternation at her unusual conduct, flung her apron over her head and began to sob half-hysterically.

"There he goes, the old fool!" she gasped. "I don't want to call your father names, Silas, but to think what he's going to do—marry at his age! After we've been so kind to him, an' me a-mendin' his clothes an' fixin' boneset tea for him when he wa'n't feelin' well. That Mis' Wiggins is nothin' but a schemer, she is, an' I'll bet a ten-penny nail that she'll put him up to gittin' some o' your mother's things. No doubt that Mis' Wiggins'll lay her hands on whatever she can git, and what'd your mother—"

"Hush, Mandy," was the not unkind command.

The stern look had returned to Silas's face; he was staring fixedly at a picture on the wall—a cheap, ordinary crayon portrait of a middle-aged woman, thin and worn, with a somewhat peevish expression about the small, pursed-up lips.

"I have been told that pa knew Mis' Wiggins some years 'fore he married ma," he said musingly, an' that he paid her considerable attention; indeed, he kinder hinted as much t'other day."

Mrs. Hooper gave her head a little toss.

"So he did to me, an' he was real kittenish an' silly about it when he told me." Well, there's no fool like an old fool, they say.

But I do think that a man o' his years ought to more sensible. One spell I did git to hopin' that he'd given up the notion of marryin', but when I seen him harrin' over the fence this mornin' talkin' to Dominie Ely, an' when he hurried around all day like a pea on a hot skillet, doin' up the chores, blackin' his boots an' brushin' that antediluvian coat o' his, says I to myself, 'I'll bet that in less than twenty-four hours there won't be any Mis' Wiggin, but there'll be another Mis' Hooper!' So I wa'n't a bit surprised when Sally Hilts—she's sister to Alviry Lane

like to have us come. Of course, he would, jest to make folks think that we countenanced his folly. But, no sir—ee! I tell you what, Mandy"—here the big fist came down upon the table with a thud that jarred all the dishes—"I tell you what, pa and his bride'll git a cold welcome if they come to see us."

"I hope you'll stick to that resolution, Silas," in purring approval. "I am sure about myself, but I ain't so sure about you; Mis' Wiggins is one o' them smilin', buxom widows who knows jest how to bewitch a man, and, my land! I don't know why it is but 'most everybody that's said anything about her to me praised her up sky-high."

"Pshaw!" was the only rejoinder to this, and then Mr. Hooper, junior, lifted up the baby, whose head had been nodding like a clover-tuft in the wind, and sat down to rock him to sleep, singing in a deep, mellow voice a lullaby of long ago—the same that the original of the crayon portrait used to sing to him, the baby's father.

Meanwhile, far down the road in the little, white cottage just on the outskirts of Highbury's Corners old Dominie Ely, with hands uplifted reverently over bowed heads as gray as his own, was saying in quavering tones, "I now pronounce you husband and wife—and may the Lord add his blessing. Amen!"

Mrs. Silas Hooper, senior, was round and rosy, with merry, blue eyes and with hair that lay in

soft, white waves and puffs on each side of her apple-red cheeks; she wore gowns of black or gray or warm brown, always with spotless, white handkerchief folded Quaker-fashion across her ample bosom. Her step was sprightly in spite of her generous proportions; her voice had a cheery ring in it; her laugh alone was enough to drive away a "fit of the blues." Her neatness, serene temper, alert glance and deft manner of doing things made one think of an ideal nurse.

Indeed, since the death of Mr. Wiggins, some twelve years previous, nursing had been her profession. She dearly loved the work so repugnant to some; her heart was as generous as her figure, and it was always filled with love and pity for the sick, the sad and the lonely. So it was not surprising that she felt a deep interest in Silas Hooper, senior. Moreover, as has been hinted, years and years ago, there had been a certain little romance remembered faintly by only the oldest inhabitants. And now old Silas was alone—merely tolerated in the home of his son—and so tender-hearted Mrs. Wiggins sought to make him happy.

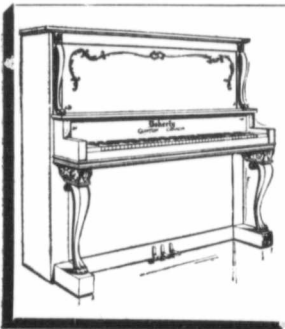
"He's as forlorn as a wet hen, and forlorn," was her pitying, though unpoetical smile. "Young Silas an' his wifedon't think of anybody but themselves an' that nice little baby o' theirs. Course, I can't blame 'em I s'pose, but, my land! old folks need coddlin' as well as babies."



"Silas Hooper, are you crazy? Do you know what you've done?"

—run over and hinted that pa was to be married this evenin' an' wanted to know if you an' me wa'n't goin' to th' weddin'."

"Weddin'? Not much!" growled her husband. "Pa edged around and suggested that he'd



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Certainly to the aged bride-groom the 'coddling was most gratifying. "Mandy would never remember that I can't eat toast unless it's softened in hot milk; she said she despised bean-soup, an' I've always thought it was fit for a king. An' then"—here Mr. Hooper waxed emphatic—"an' then, Great Scott! I must say there's nothin' like stretchin' one's legs under one's own table! 'Sides now if I want to pour my tea into my saucer or eat with my knife, like I learned to when I was little, there's nobody to find fault. Mis' Wig—my wife, I mean — she only chuckles an' says, 'Suit yourself, my dear.' An' I tell you I be suited! I ain't been so happy sence I went fishin' sixty years ago an' ketchin' my first string o' suckers.

Everybody said Mr. Hooper looked ten years younger since his marriage; the ragged ends of his hair and beard were neatly trimmed—his wife did that, with a towel tied around his neck; she persuaded him to give his ancient broadcloth suit to a needy trap and to buy one of fashionable make and material. Moreover, one of the results of her good cooking was to make his exceedingly lean figure gradually round out into firm and portly curves.

But for one thing old Mr. Hooper's cup of joy would have been full. That one thing was the estrangement from his son's family. Ever since the night of the wedding the younger Silas had treated his father with but

scant courtesy. And when the two Mrs. Hoopers met at church or on the street, frost was in the air—that is as far as the younger woman was concerned. For, as she stoutly maintained, "I shall always believe that that fat, old red-cheeked nurse inveigled pa into marrying her; a regular bewitchment it was. I've been expectin' she'd send for some o' Silas's mother's things, but she



'Good-evenin', Silas... I thought I'd come, too, an' -- an' --

ain't done it yet. Folks, say she's got property of her own a thousand dollars, life-insurance from Wiggins an' a house 'n lot of her own she rents, over in Winchester, for two hundred dollars a year, besides money in the bank she's saved by nursin'. But I don't believe it. I sha'n't have anything to do with her; and no more will Silas."

Now it wasn't twenty-four hours after this speech that the

maker thereof came to grief by means of a broken step in the outside cellar-way.

"I must say that if pa had been here, them steps would have been mended long ago," was young Mrs. Hooper's tearful outburst when her remorseful husband, assisted by a kind neighbor, carried her into the house.

Since his departure, however, she had been brought to a realization of his usefulness in small matters. Silas, junior, absorbed in the raising of fine stock and big crops had no time to spend over knobless doors and cracked window-panes. Such minor matters he had left to the attention of his father.

A bruised shoulder an' a sprained ankle proved to be the result of her unlucky tumble, and for several days she was forced to lie on the couch in the sitting-room, hourly consumed by contempt, pity and indignation as she watched her husband's attempts at housework.

"Silas Hooper! are you crazy?" she exclaimed tartly on the second morning. "Do you know what you've done, man alive? You've gon an' stirred up the pancake-batter with plaster of Paris instead of buckwheat flour."

"Great guns, Handy! Don't scold any more! I've lost ten pounds of solid flesh these last two days. 'Taint my sphere, this doin' housework! Of all the puddin', fussy, do-it-over-an'-over-again occupations, it's the very worst! But I suppose I was

sort of absent-minded this mornin', because of little Si."

"The baby—hurt?" and in her agitation, Mrs. Hooper strove to rise to a sitting posture.

"There! there! don't spring up like that. Little Si is in the crib there all right; only he seems to have a cold or something."

Mandy's face was pale and anxious as, in compliance with her request, the baby was placed in her arms.

"He looked real sick, I think! Breathes queer, don't you notice it? Sort o' choked up an'"

Continued to page 89

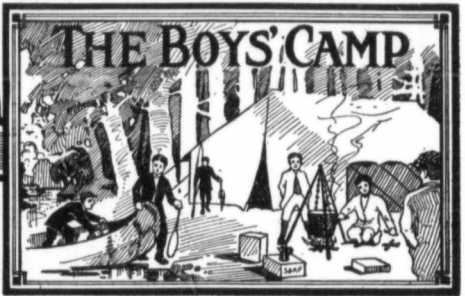
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THE Girls' Cozy Corner

THE ROAD TO GRUMBLETOWN
By Ellen Manly
'Tis quite a straight and easy road
That leads to Grumbletown,
And those who wish can always find
A chance to journey down.
'Tis customary for the trip
To choose a rainy day—
When weather's fine one's not so apt
To care to go that way.

Just keep down Fretful Lane until
You come to Sulky Stile,
Where travelers often like to rest
In silence for awhile.

And then cross over Pouting Bridge,
Where Don't Care Brook flows down,
And just a little way beyond
You come to Grumbletown.

From what I learn, this Grumbletown
Is not a pleasant place;
One never hears a cheerful word,
Or sees a smiling face;

The children there are badly spoiled
And sure to fret and tease,
And all the grown-up people, too,
Seem cross and hard to please.

The weather rarely is just right
In this peculiar spot;
'Tis either raining all the time,
Or else too cold or hot.

The books are stupid as can be;
The games are dull and old;
There's nothing new and nothing nice
In Grumbletown, I'm told.

And so I've taken pains, my dears,
The easiest road to show,
That you may all be very sure
You never, never go! St. Nicholas.

A' HUMAN QUEEN
When a girl, Wilhelmina, of Holland,
possessed a family of dolls, of whom she
remained particularly fond, long after her

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skirts had been let down. She was a
motherly little person, and could not bear
to put away her pets.
One was the Queen of Doll-land, and
was dressed in miniature robes of royalty.
It had also a tiny throne, and other dolls
appointed as attendants.
One day, after coming home very tired
from the celebration of her own birthday,
Wilhelmina got out her queen doll, and
made her bow and bend till her veil and
crown were terribly awry.
"Now," said the little girl pettishly,
"how do you like being a queen? Doesn't
your back ache, and don't you feel hor-
rid?"—Selected.

THE Canadian Boy's Camp

WHY JOHNNY FAILED
Johnny had a little mind
It was his very own,
And nothing could be put in it
Except by him alone.
It wasn't very big, its true,
But there was room inside
For lots of fine things, chosen out
As Johnny should decide.

Mother and father gave to him
All sorts of good advice,
But Johnny never put it in
Or thought about it twice.
But all the ugly things the boys
Upon the corners said,
Why, Johnny picked them up at once
And put them in his head.

At school the teacher tried her best
To give him facts and rules
Of every useful sort—but, no!
For Johnny hated schools.
He picked up brag, and vulgar slang,
Dime novels, too, ten deep,
And filled his mind till it was like
A tainted rubbish heap.

So when the day of manhood came,
When Johnny searched his mind
For skill and power, it played him false,
And nothing could he find
But worthless trash and ugly thoughts,
And so he failed, alas!
Is any other boy who reads
Coming to Johnny's pass?
—Priscilla Leonard, in the Morning Star

IN FATHER'S PLACE

(By Pearl Richmond Hamilton)
"I don't see why father can't let me go
riding to-night!"
Bessie peevishly threw her hat on the
nearest chair and sat down to have a good
old fashioned pout.
"He's forgotten about when he was a
young man. I guess and he doesn't care
anything about whether we have a good
time or not. It's just work, work, work
all of the time without any let up."
The corners of her mouth curled downward
in expressive despair.
Lettie, the elder sister, moved about
the room half inclined to agree with Bessie,
but her better judgment pictured things
in a different light.
"You see, Bessie, this young man is a
stranger here, and father is cautious—he
has your best interests at heart."
The girl did not speak sincerely because
she really wanted to go herself. At the
same time she had a tender spot in her
heart for her father.

"Father is so unreasonable though. He
comes in and sits down to read or eat
without noticing us—he never speaks
only when he wants to deny us something
we really want. Fathers don't care—
they are heartless."

Bessie kicked up the corner of the rug
as she walked rudely over to the window.
"It's a beautiful moonlight evening and
the ride would be just grand."

The young girl twisted her braid of hair
unconsciously, as she pitied her own
condition. "Bess, I believe we do not
understand father. His life is full of hardships.
He works from five in the morning till
seven at night—his life is a long story of
drudgery and it really is for us but we do
not appreciate it. Father never has a
holiday—and the machine men bother the
life out of him for money. The poor man
sees nothing but bills and bank duns, and
really Bessie, how much do we do to
make it pleasant for father? We help
mother, we sympathize with her and talk
to her right in father's presence. But we
never talk confidingly to father. Now
let us sit right down this evening and plan
to make father happy just one day."

Bessie did not just exactly like this idea.
She still fostered the picture of the moon-
light ride with the attractive young man
from the city.

But Lettie's influence triumphed and in
a short time the two girls sat in front
of the window planning Father's Day.

"It is just this way, Bessie," said Lettie,
"first we must make father feel that we
appreciate him, then we want to do all
we can to lighten his burden. Now let
us begin by giving him a holiday. First
I am sure mother will let us have some
eggs to buy him a little present. Then
we can give this to him at breakfast and
for one day we can do his work in the field
and let him and mother go away for a
holiday."

When the girls went to bed that night
they had their plans all made and were
happy, indeed.

The next morning they let their mother
into the little secret and she readily en-
tered into their scheme.

About ten o'clock they were off to town
with the eggs neatly packed in a box in
the bottom of the buggy.

They returned with a new book for
father, a pretty tie and a pair of easy
slippers.

All that afternoon they prepared for
Father's Day. Bessie baked a cake and
Lettie made some of his favorite dishes
and that night two happy girls full of glad
hopes for the morrow, set the alarm clock
for 4.30.

But they needed no alarm clock for they
could hardly wait for morning to come.
As the father sat down to breakfast that
morning, he was surprised to find three
packages at his plate.
But when Bessie clapped her hands and
told him he must open them, his face
shone with a strange new expression of
delight.

When the gifts lay open before him he
was really embarrassed but the two girls
stepped up behind and threw their arms
around his neck and kissed him.

This was almost too much for him.
Then Lettie explained that he was to have
this for his very own day, that they could
handle the work in the field that day and
he and mother were to take a holiday.

About this time father had hard work
to keep the tears back.

"Why what have I done to deserve
this?"
Father's voice trembled a bit in the
new experience.

"It is just this way, father," explained
Bessie, "We have never half appreciated
what you do for us. We have acted just
as if you were made to slave and worry
for us. Now we are going to help you
and love you and make you happy from
now on. We are only sorry that we have
begun so late. So I declare the fifteenth
day of July to be set aside in this house-
hold as Father's Day."

In a very short time the girls in the
field saw father and mother, dressed in
their Sunday best, drive in the direction
of town.

"I think mother will get some good out
of this day too!"

Bessie's face was bright with the spirit
of filial love—as she stepped down from
her seat to pick up the line she had
dropped in her excitement.

That night father, for the first time in
years, sat with a girl on each knee, and
patting them affectionately, he tried to
tell them what the day had meant to him
and how much happier his life would be
because of their thoughtfulness.

"By the way, dear," he said to Bessie,
"did you hear about the tragedy that oc-
curred over at Brown's the other evening?
The young man from the city who wanted
to take you out riding that night, took
Mary instead, and she never came back."

Bessie reached over and kissed her
father on the fore-head, saying: "I'm
thankful we planned Father's Day."

THE MYSTERY OF THE GARDEN

(By Pearl Richmond Hamilton)
Away off on the prairie, twenty-five
miles from town, there lived a family of
three boys with their mother. Now these
boys did not like to work in the garden
and yet this garden was very necessary
because each of these same boys possessed
a mammoth cave in the center that fre-
quently needed to be filled up with vege-
tables.

It was a task to persuade the boys to
hoe and dig out the weeds and often the
little mother would prefer bending her
own tired back in the work than to ask a
boy laden with excuses. Now everyone
of the three boys wanted a gun worse than
anything else in the world but there was
no money for such luxuries so they con-
soled themselves by looking at attractive
pictures of guns with their glowing de-
scription in the big catalogue that was
sent every year to the little shanty on
the prairie.

The gun page of the catalogue was
worn out every year before the new one
came, but still the prairie chicken whirled
from the path unmolested and the gopher
sat on his hind legs in teasing defiance.
"Oh, if I only had a gun!" exclaimed
Jack, "I'd shoot them."
"Bet you're liken!" shouted Tom, "we'd
have roast chicken twice in a while 'if
moitw moitw buy us a gun!"

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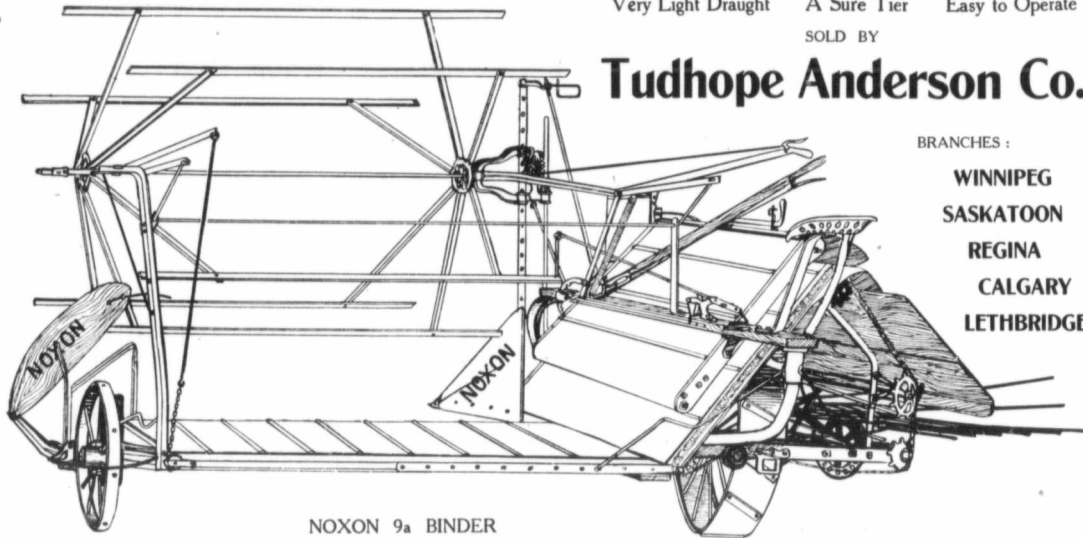
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NOXON 9a BINDER

Tom kicked a clod of dirt to help express his decided opinion on the subject. Harry, however, said nothing. He never did in the presence of his boastful brothers.

But Harry thought of the impossibility of his poor little mother sparing the money for a gun.

In spite of the mother's request for her two big boys to hoe the garden that day, Jack and Tom, with fishing rods over their shoulders started off for the river.

But Harry, with the hoe over his shoulders, headed for the garden, while the boys yelled ugly taunts of "Coward!" "Coward!"

Harry's little back bent over the rows of potatoes, onions, cabbage, and turnips all afternoon till he had conquered nearly every weed.

His mother had given him instructions from the kitchen door telling him to begin with the potatoes and work till he finished the turnips.

Several times Harry felt too tired to finish the work but he would not give up.

There were four plants left and he started to put the hoe up but he determined to go at it again with new energy. Down the hoe went again into the fresh dirt till it struck something unusually hard.

Harry started. It seemed like a box. He reached down to look more carefully—yes, it really was a box.

He lifted the corner up and pulled at it till out of the ground came a long box.

Meanwhile his mother stood in the doorway watching proceedings, with a happy smile on her face.

Harry did not know whether to open it or not but when she called to him to lift up the lid he obeyed and there—wonder of wonders! There was a fine new gun bright and shining and just the kind to satisfy the longings of any natural boy.

So Harry with the gun over his shoulder walked toward the house just as the other two fellows with gasping breath came up the path with two little fish.

BOYS' LETTERS

They betook
themselves to the
utetude of a

Dear Cousin Doris:—I am very much interested in engines and can hardly wait for the time to come. I will close now as my letter is getting long enough. I remain your cousin, H. L. Wismer.

Write and tell us about your work during the threshing season.—C. D.

New Dayton, Alta.

Dear Cousin Doris:—This is my first letter to the Boys' Camp. My brother takes the Canadian Thresherman and Farmer. I go four miles to school. I am in the third class. I have four cats and one dog. One of the cats named Tom is a great cat. He goes out on the prairie and hunts gophers and brings them in to the other three. We have two little calves now. We also have three pigs. I am trying to catch some foxes this winter. I have caught two foxes now. I have killed 135 gophers this last year, 1910. I will close for this time. I would like to get a book. Your cousin, Edwin Duell.

You are a good hunter, Edwin. Will you write and tell us how you catch the fox and gopher?—C. D.

Vista, Man.

Dear Cousin Doris:—This is my first letter to the Boys' Camp. My father takes the Canadian Thresherman and Farmer. I go two miles and a half to school. I am in the fourth reader. Our nearest station is Vista. It is four and a half miles from here. This winter is a very bad one this year. I have not been to school for a month; the roads are too bad to go. We have thirteen horse's, two cows, seven calves, ten sheep and ten pigs. This winter there are lots of ermine; I caught five. If the boys were camping this winter they would have to keep on lots of fire or they would freeze. I guess I am taking too much room for the other campers. I wish the campers good success for this month. I would like to win a book. Howard Ferguson.

Hayfield Stat., Man.

Dear Cousin Doris:—This is my first letter to the Boys' Camp. I live one half a mile from McKelvie Siding, on the G.N.R. I am twelve years old. I go to school, and I am in grade seven senior. Last year we did not have very good crops but hope to have better this year. We had a lot of snow around here. At day we built a snow house and got a tin and put fire in it. The teacher liked us because we were covered with snow and smelled of smoke. I like reading very much. The best books I have read are "Frankie" and "With Robin Hood in Sherwood Forest." I have gone skating once this year and think it fine fun. We came out from England four years ago. We came over on the S.S. Dominion. Last Christmas we gave the teacher a present. It consisted of a writing set, a box of envelopes and paper, and some sealing wax.

We had a spelling match at school, and a girl and I came out even. The prize was a book; it was called "The Three Musketeers." I hope to see this letter in print. Wishing the Camp and members a happy year, your friend, George Pitt.

JUST FOR BOYS.

The Cost of Navies.

The British naval estimates for this year are exceedingly large. It is the intention to appropriate \$75,000,000 for new construction. This sum of money will provide five dreadnoughts, three protective cruisers, and a number of torpedo boat destroyers and submarines. News also comes which says Austria-Hungary is to spend within the next few years \$75,000,000 in naval construction; and this is regarded as peculiarly significant inasmuch as Austria-Hungary is Germany's ally. At the present time British tonnage is 436,000 tons; that of Germany is 297,000 tons; next comes France with 173,900 tons; and the United States is in the next position with 130,000 tons.

Catching Monkeys.

In the Philippine Islands, the natives catch monkeys in a curious way. The monkeys are fond of the meat of coconuts, which grow as plentifully there as apples do in our country. They are lazy, though, about gnawing through the outer bark, and will only do so when exceedingly hungry. The natives take advantage of their greed and indolence by cutting a small opening through the shell, just large enough for Mr. Monkey's long, thin hand to penetrate. When he once gets inside, he gets his hands full of delicious, dainty meat, and his hand is naturally wider in this act than when it entered. Finding his hand will not come out, the monkey chatters and scolds, plainly showing his indignation at the way he has been trapped, but never thinks of loosening his hold on the coconut and withdrawing his hand as easily as he puts it in. There he stands, an angry monkey, until the man who set the coconut trap comes and takes him captive.

Tommy de Peyster — "My brother made ugly faces at you yesterday and you didn't darst to fight. You pretended you didn't notice 'em."

Eddie Tuffnut—"I didn't either. I thought they was natural."

Little Freddie had just made his first acquaintance with animal crackers. After eating quite an assortment of them Freddie became very thoughtful.

"What makes you so pensive, dear?" asked his mother.

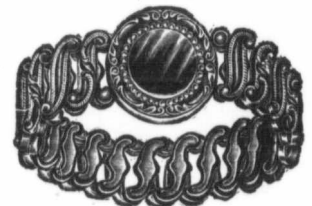
"Oh, I was just thinking what a circus was going on inside of me."

Mother—"Now, I want you to keep as far away as possible from that Jones boy. He's the worst one in your school."

Bob—"I always do. He's at the head of the class all the time."

Native: Yes, sir, property round here has went up a lot in the last few years. Afere I was born my father bought land here for ten dollars an acre that ye could n't touch now for less'n twelve-fifty.

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WINNIPEG, CANADA

LANDMARKS

IN THE LIFE OF

JOHNNIE LUNDIE

HEROES OF THE SHAFT ALLEY.

By JAMIE SOUTAR

Stories in the making of a great manhood from a poor start; told in the "Brandon Local," and elsewhere

"Can you imagine that boy spending the best of his days with a crowd of swearing fellows in a smoky evil-smelling blacksmith's shop?"

"Not by any stretch of the imagination Norah, lass; and, do you know, the identical thought was running in my mind at the moment you spoke."

The question was put by Norah Hallglen to her father and answered by him as the pair watched the performance of Johnnie Lundie in a game of tennis with the Hallglen boys and the game-keeper's son. It was the eve of Johnnie's departure from Lossiebank to resume the serious work of his life. He had made a fast recovery and barring one or two scars that he would carry to the end of his days there was nothing left suggestive of the rough usage he had so lately been subjected to.

Lossiebank was a fine pile of modern buildings facing a magnificent park country, practically surrounded by woodland that solidified into a dense forest of spruce and pine as it reached and covered the foothills of the Grampians. It was a perfect mid-summer's eve and Norah and her father were seated on the balcony formed by the stately porch built out for some distance in front of the main entrance. The boys were reaching the end of the "set" in a keenly contested game in which the adroitness of their young guest in handling his racquet had been more than once the subject of their admiring comment.

"There's no indignity attached to the poorest job in a 'Smiddy.' It is the man that dignifies or degrades the work and there are a few score of our leaders to-day in every department of public life who would never have reached the point they have arrived at if they hadn't started heating rivets, as Johnnie did. I often wish I had put in twelve months in the same way."

"Yes, but you know what I mean, father. He's not going to stick at that business of grease and soot, nor even at a foreman's place of the biggest workshop in any of your building yards. There's a something about him different from any other man I have ever met. He's not boorishly bashful, nor is he foolishly assertive or forward and upon my word he acquires himself in the drawing-room as creditably as any man who comes to the place."

"I quite agree with you, Norah. I've watched him closely and he grows on me, does that lad. Some

would think it strange that one who made the small beginning he did should apparently without tuition of any sort steadily develop into an educated gentleman. But when you know the company his mind has kept all those years, the fact you state is no longer a surprising one. The character of his reading, and from what I have picked out of him, the enormous mass of material he has been able to get through in his spare time could scarcely have had any other effect. While he has read he has been thinking and appropriating. Some one has said that 'Our destiny changes with our thought; we shall become what we wish to become; do what we wish to do, when our habitual thought corresponds with our desire.' The longer I live I become the more certain that the 'divinity that shapes our end' is in ourselves; it is our very self—"

"Have you any views with regard to him, father?"

"Yes, you will remember he had been promised a third engineer's place on one of the Calcutta boats. That is still open to him, but I have the impression that he would get a better opportunity on one of the New York fleet, or, perhaps, on the new Canadian liner we are starting early next month."

"O, father, that would be splendid!" and Norah's face was radiant with satisfaction, as she thought of the maiden trip of the splendid new "Royal Adelaide" that was timed to start on that-day-three-weeks. In company with her friend who had been with her on the 'Dunstaffrage,' she was for the first time to take a trip to the shores of the new world. Berths had been reserved for them in the new and splendidly-appointed liner, which it was hoped and believed was to break all records for comfort and speed between the Clyde and Montreal, and she mentally promised herself that she would do all that a woman might reasonably attempt in arranging that Johnnie Lundie should be placed on the books of the "Royal Adelaide."

"Of course, our young friend has something to say about it. He may have some totally different plan from anything we may have thought of, and you may depend on it, it will be no quixotic venture. I'll sound him to-night, as I intend going into the city tomorrow afternoon, and on to Glasgow next morning. I fancy, however, that there are no appointments so definitely fixed, yet that would preclude him from



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It is made with a two piece body with the parts connected by a Union Nut.

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The piping and valves can be arranged to suit your needs and your convenience; not to fit the Injector.

All the tubes screw into the body and cannot fall out, be lost or damaged when the cap is removed. Neither can they get out of alignment.

We rigidly test every Injector, and guarantee it fully to work under all conditions.

Now is the time to get busy. Give our new Desmond Model "U" a trial. If your dealer cannot supply you, write us direct.

Remember there is no trouble to attach a Model "U", it attaches itself.

Any Model "U" Fits Any Old Connection.
One Injector That Fits all Conditions.

Desmond-Stephan Manufacturing Co.

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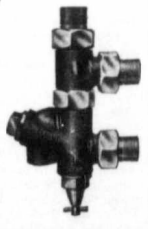
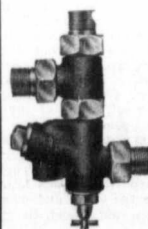
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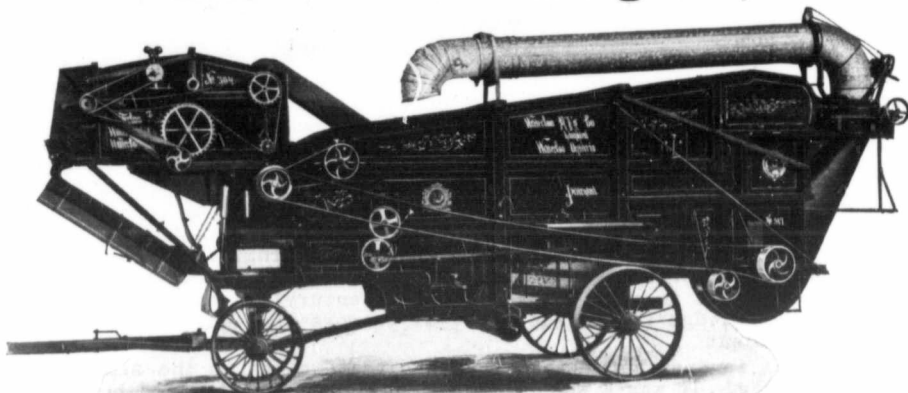
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a third's place on one of the trans-atlantics."

As Sir Thomas spoke, the lads finished their game and he immediately summoned them to the balcony, and, without parley, put his proposal to Johnnie. The boy's eyes spoke for him on the instant, and he had little need to add to what his face unmistakably said in response to the great idea, and his companions showed their gratification in a manner peculiar to boys. Yes, his preference was for the transatlantic service, but he would be proud to take a position in any other Sir Thomas might obtain for him.

Next day, which was a Saturday, Johnnie stepped off the train at Gawrieburn and was met by the undemonstrative, but none the less heart stirring welcome, of a bevy of friends, which included Uncle Bob and almost every member of the family. A quiet Sunday was spent, chiefly in the company of his mother, to whom he clung with an affection that never waned but became intensified as the years rolled on.

In the afternoon they betook themselves to the quietude of a little green spot well up the face of the hill that overlooked the little community of Scottish hearts that enshrined thoughts that were unspeakable and memories that were immortal to them and to others who were now scattered everywhere on the face of the globe.

On the Monday morning Johnnie presented himself, all

smiles at the offices of the company in whose service he had been employed, and was welcomed in an ovation that beggared descriptive pen of the best man who ever attempted to get it on paper. Work that day, it may at once be confessed, proceeded by fits and starts, but when it really got under weigh, it went with a vim that had never been known in that historic hive of industry.

Before the end of the week Johnnie received the official confirmation of his appointment to the position of third engineer of the S. S. "Royal Adelaide" which would sail from Clydebank on Thursday, the 10th of July, and by the following mail he had a letter from Sir Thomas Hallgren asking him to meet him at the Palace Hotel on the evening of the date on which he would receive that letter.

Johnnie was punctual to the appointment, rigged out in his Sunday best, and to his surprise was ushered into the presence not only of Sir Thomas but Miss Norah and her friend who was to trip. Following the usual greetings, Sir Thomas took Johnnie aside and inquired as to his outfit for the new position. The lad did not depreciate in the great man's esteem as he told him frankly the state of his affairs. His little bank account was no disgrace to him, nor did it cast any reflections upon his standard of living, having regard to what

Continued on page 85

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Construction

The "Taggart" Portable Grain Elevator is built any height, standard 18 ft. leg.

Grain is elevated by cups and conveyor by worm screw.

Mounted on skids, but can be operated on a wagon or truck.

Hopper swings back out of the way for wagon.

Leg swings down when moving and rests on frame.

Spout can be swung in any direction, or up and down.

Will save its cost in one Season

It is a back saver, time saver, money saver. It will save three men's time and two teams at least.

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For loading cars and filling granaries—it can be operated by horse power or gasoline engine.



This cut shows Elevator mounted on truck, with leg up and hopper ready to receive grain. Write for prices and terms. Agents wanted. Our 1911 Model has improved skids, delivery spout, force fed connection, etc., and is in fact as near perfection as we can make it—write for descriptive circular.

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THE 'LAST WORD' ON GETTING ALL THE GRAIN AND THE JOBS

Mr. Thresherman:

How much would you pay yourself to run your engine or your thresher if you didn't know anything about threshing? Not very much, we are sure. Experience is worth something in your business, and it's worth a whole lot in ours. Three quarter-century's accumulative manufacturing knowledge is considerable--it is more than any other factory on the continent.

It is just about that long ago that we put up the first chaff piler thresher. It was a wonder in its day, but now it would be only an obsolete curiosity. But we were progressive then, just as we are now, and it was not many years until we had a thresher that put the grain in the sack and the straw in the stack. Maybe there was some grain in the stack, too, for perfection in mechanical threshing was still some way off.

When the wind stacker came along, we were the first to try it out and we remember well (and you do, too, if you were in the business at that time), how this now indispensable attachment at first got in bad with the threshermen and farmers because they said it sucked grain over. But did it? It was there in the stack all right--sometimes more, sometimes less. It was up to the manufacturer to stop this waste and for a long time the blower got the blame.

We made all manner of tests with and without the blower. We examined our riddles. There was no waste there, no grain going out in the chaff and short straws, and we pronounced our combined end-shake chaffer and side-shake shoe without a doubt the cleanest cleaning mill ever put into a thresher.

We examined the straw racks. They were working to perfection, as only our three-way-crank separating mechanism can.

Then we got closer to the beginning of the threshing operation and made a discovery. We learned that the kind of threshing that gets all the grain begins and almost ends right at the cylinder. We got busy with this business end of the machine. We perfected a cylinder correct in every proportion and detail, so that we got weight with its advantageous momentum and strong positive force, without increased friction and driving power.

We designed a tooth absolutely faultless in shape, size, setting and wearing qualities, provided just the right concaves admitting of the necessary changes in adjustment to get all the grain from the heads of real hard-to-thresh wheat like the Turkey-red variety and from that down to the real easy kinds. Long and short straw grain, damp and tough, dry and brittle, headed or bound--all looked alike to the hungry threshing Tigers.

We took every advantage of the splendid separating surface that our open grated concaves and long reach of grates provided. For here, you will please bear in mind, the straw is carried through in a very thin layer and the grain very easily separated as compared with the thick layer of straw on the racks, because with our big cylinder the straw is moving at a speed of over 6,000 feet a minute.

When our improvements were all made the Tiger's steel jaws were the real thing in mechanical threshing--different from these parts in ordinary-built threshers, and, up to the present, as much better as they are different.

Then the wind stacker got a rest from abuse. It didn't blow

out any more grain, because there were no unthreshed heads or grain left in the heads to be knocked out by the blower fan.

Simple enough, isn't it? But it took a long while to get next to the trouble. Some threshing machine manufacturers haven't even yet. Others have, but are still a long way from get-all-the-grain perfection. It is the KNOW-HOW they are lacking and there is where our long and successful experience comes in. That is the reason, too, that we are backing them all off the board out in the Turkey wheat and other regions that grow grain that is no snap for the thresher. That is the reason that with three and one-half and four rows of concave teeth we get all the grain while other threshers with twice as many continue their extravagant waste.

We have proved this to thousands of threshermen every season and we will prove it to thousands more this season. We can prove it to you, and if we could show you the difference between the construction of one of the ordinary-built threshers and the machine that's Tigerbilt from teeth to tail, and could give the farmers on your run the slightest idea of the difference between the inexcusable waste of other threshers and the stingy saving of the Gaar-Scott, we know we wouldn't have to waste a minute more in argument, but just point to the dotted lines at the bottom of a Gaar-Scott order blank.

There is no time to lose--harvest is at hand. Are you ready? Sit right down and write us, any of our branches at the head of this letter or a nearby Gaar-Scott agency. Remember, you don't get a cent for threshing the wheat in the stack.

Yours for 'getting all the grain,'

GAAR, SCOTT & CO.

By *Wm. H. Campbell*

Vice-Pres't and Sup't Separator Department.



Continued from page 83

Sir Thomas ascertained from a private source he had regularly remitted to his mother since he became a wage-earner.

In the end, under the most auspicious circumstances, the "Royal Adelaide" sailed from the Firth of Clyde with her passenger accommodation filled to the last berth (for it was the height of the great trek to Canada which had begun some years before) and Johnnie Lundie was on the effective list as third officer in charge of her splendidly-equipped engine room.

Miss Norah Hallgren and her friend were under the care of Norah's aunt — a sister of her father's whose home was in Toronto. She had completed an extended holiday to her native heath and was now returning to the land of her adoption with the pleasant prospect of seeing the young ladies taking in all the novelty they anticipated in a Canadian fall and winter.

For the first two days all went well. The weather was perfect and on two occasions Johnnie had been the guest of the ladies in the saloon while an impromptu concert was being given by members of the ship's company. On the last two occasions and just as the crowd separated for the night, there was a hurried closing of cabin port-holes and brightening up generally of all moveables on deck. The wind had freshened from an altogether unexpected quarter and already spiteful little teeth began to appear on the crest of the waves

that had scarcely been observable before the concert began.

Johnnie's next spell on duty began at mid-night. Even now he was hurriedly getting into working togs, and on the advice of his senior, was preparing for a stiff night. The barometer had dropped to an alarming point, but there was no apprehension on the part of those men who faced every situation as it came with the business-like calm that takes it as an imperative part and condition of their life. He had not been an hour on duty when the ship ran right into the vortex of a hurricane that evidently had been gathering momentum for a long time from some point in the far north-west. It was necessary to alter the ship's course so as to put her head on to the terrific seas that came away and which, striking the vessel obliquely, would probably have done considerable damage.

The engines raced at frequent intervals as the twin propellers rose again and again out of the water, but all hands in the engine room and stoke hole stood by or toiled away as if they were making a river trip. Johnnie got his first baptism of strenuous service and nerve-shattering experience that night, but he caught the spirit of the seasoned veterans around him and their blunt appreciation of anything he did at their bidding to test his metal was ample reward for whatever he endured in nervous tension while the ordeal lasted.

At four in the morning when he retired to his berth, nothing could exceed the awe-inspiring state of things as they appeared everywhere around the great ship. She was like a toy boat upon the crest, and anon in the trough of those mighty Atlantic billows, but her conduct was splendid at every fresh contest with the warring elements.

Not in the memory of the oldest sailor on board had he faced such a tempest at that time of the year, and the unexpected severity of the case as it showed no signs of abating on the second day of its continuance began to give rise to some foreboding on the part of more than one experienced salt.

It was about two hours after sunset on the fourth day of the gale or the sixth day out from the Clyde when the lookout reported what he believed to be rockets away on the port bow. The wind had gone down considerably but there was little evidence of the heavy sea coming down to its normal temper. The "Royal Adelaide" had gone considerably out of her course in steering continuously to the north-west, and sooner or later it would be necessary to head south. Here was a command to do so in the fact of that vessel calling for assistance away to the south-west.

Without a moment's hesitation after he had satisfied himself that the look-out had reported correctly, Captain Barclay put the course to S.W. and went

right ahead for the distress signals, although it meant that his ship was at times almost broad-side on to the weather, involving risks that no ship's officer would take, except in response to those humane instincts that are in the blood of every British sailor.

After nearly four hours' careful navigation, the "Royal Adelaide" came within speaking distance of the other, which proved to be the "Pavonia" from Liverpool for St. John's, N.B., eight days out and now drifting helplessly owing to a fracture in her shaft.

In the darkness it was agreed that nothing could be attempted, but Captain Barclay agreed to stand by until day-break and to render whatever assistance he could. When the light came, it could be seen that the "Pavonia" was a vessel of scarcely less proportions than the "Royal Adelaide," but with a full cargo, she lay deeper in the water and would be a tough job to handle if it came to towing.

That was exactly what was proposed to Captain Barclay. One vessel bound for Halifax had towed for some eight hours when the steel hawser broke and she declined to make a second attempt. Another had come alongside on the previous night and promised to stand by till daylight, but on second thoughts had steamed away in the night.

At 6 a.m. volunteers were called for to man a boat and take a line aboard the "Pavonia." Twice the required number of

gallant fellows eagerly responded, among them Johnnie Lundie. Johnnie was told by his chief that he couldn't be spared from the engine room, especially under the circumstances, but he pleaded so earnestly, urging the possibility of his helping to get the "Pavonia" again under her own steam, that he was ultimately allowed to go on the "forlorn hope."

The business of getting the boat into the water was a dangerous proceeding but not more so than that of negotiating the brief space that lay between the two vessels. But it was bravely and even accomplished under the directions of the second officer. Johnnie was hauled on board the crippled liner and with him the line that would ultimately enable them to make fast a new steel two-rope belonging to the "Royal Adelaide" which looked to the average mortal eye as if it would stand any strain that might be put upon it.

Johnnie was no superfluous addition to the "Pavonia's" ships company, for it transpired that in an accident following the breaking of her shaft, in making a brave attempt to get near to the fracture, the second and fourth engineer had been seriously injured and were at that moment in their berths under the doctor's care. The chief gladly welcomed the new man and set him to work immediately. Things had looked extremely awkward at first, but by incessant labor and dogged perseverance under the most exasperating conditions they were beginning to give promise that it would not be long until it might be possible to start the engines on an easy trial. What with drilling and splicing and fitting on a strange, unwieldy-looking "collar," those indomitable fellows who seemed to be able to tackle and overcome the apparently impossible in a ship's engine room at last had the machinery in such order that with average care they might safely be tried again at half-speed ahead.

Meanwhile, all had gone well on the deck of both vessels. The hawser had been safely made fast and gradually the "Pavonia" fell into line astern of the "Royal Adelaide." The weather was gradually moderating overhead, but it was judged that it still blew great gusts at no great distance, for the sea-way was nearly as bad as it had been at the worst. Toward nightfall, after making splendid headway with the twelve hours towing that had been then accomplished, there were ominous looking signs to windward betokening a fresh outburst, and by ten o'clock it came away as if there was the intelligence of ten thousand furies in the blast, impelled by one common hellish impulse to compass the destruction of these two gallant ships.

But there were men of iron standing behind everything



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mutable on both vessels. They were British ships, manned to the last scullion by British sailors who knew what annihilation meant but had blotted the word "defeat" from their vocabulary. The passengers who had the good fortune at odd times (for they were mostly confined to quarters while these proceedings were going on) to witness the performances of the lads on deck, never saw anything nor had they read of anything to compare with the stolid, unconquerable front these men put on against the most awful looking odds.

Grimly they went ahead—very slowly, and at times it seemed as if they were barely holding their own in the teeth of that pandemonium of wind and water. At midnight, by the use of the megaphone and terrific effort of lung, the officers of both vessels got within hail. Captain Barclay declared that if things didn't improve before long, his duty to his owners and the crew and passengers under his care would compel him to concentrate upon the safety of his own vessel.

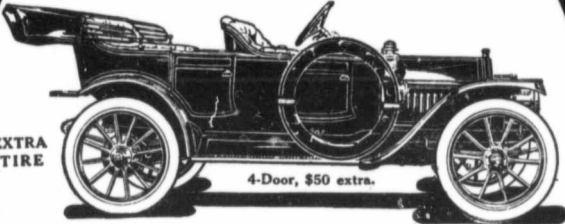
The reply came that if he could hold out a little longer, things in engine room had proceeded so well since they had had the assistance of the young engineer from the "Royal Adelaide" the "Pavonia's" captain hoped to start her engines with power sufficient at least to keep her head on to the weather.

This welcome bit of information had the effect of stiffening the spine of Captain Barclay and it rapidly found its way to all hands with the same satisfaction. Everyone felt as if he were hanging on by a slender thread to the greatest achievement or the greatest failure of his life. It could only be one or the other and every man went to his work afresh with the feeling that it was to a case of death or victory.

Laboring fearfully, the two great vessels toiled through that terrible night and the scene in the "Pavonia's" engine room was one fit for the immortal canvas of the greatest master who has ever engaged himself on the humanities. Black as demons, with the sweat oozing through the grime and pouring down their cheeks in murky rivulets, the "Pavonia's" chief and Johnnie Lundie were wrestling with fate—sometimes wooing her, it seemed, by a sort of kindly caress, at other times getting at her throat, as it were, clutching with the death grip of despair the forces that threatened to prove their own undoing. Without a wink of sleep or cessation of hostilities, except so much as two minutes to drink a cup of hot coffee, these two heroes had been at it together for sixteen mortal hours. And they looked now for all the world as if they had only begun to find real enjoyment in their task, for the gleam of victory was in their eyes and their thoughts were anywhere or everywhere but on their physical needs.

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Ask about the famous "Tudhope Service" that protects you after you buy.

Just as the last bolt went home that seemed to guarantee success the Captain sent down the cheering news that the weather was clearing, and when the complement to this was telegraphed on deck that the engines could be started now at any moment, there was a great shout of triumph that carried from the bridge to stem and stern and the boys on the "Royal Adelaide" could see that something of stirring importance had happened on board their consort.

As the breakfast bell sounded, the news came over the waters that in half an hour's time the "Pavonia" would try her luck once more under the care of her engineers. The attempt was made, very gingerly at first, but gathering confidence with the

gradual abatement of the storm and the splendid behaviour of the fine piece of surgery that had been performed in the shaft alley, by noon the "Pavonia's" captain announced that he could go full speed.

The most sanguine hopes of all concerned were fully realised. The steel towing hawser had been slipped and was now stowed away on board the "Royal Adelaide," and for a time the two vessels kept together. At last, as it seemed that all danger of a "relapse" had been passed, both engines slowed down to enable the young "third" of the "Royal Adelaide" to find his way back to his own vessel. The send-off from the one and the reception accorded him by the other ship's company as he ap-

peared on deck was something the heart of which cannot be laid bare by any process of language or descriptive art.

The crew and passengers of the Pavonia loaded him with their admiration and gratitude made a "collection" that had more of the real spirit of giving in it than ever entered into church door offertory and the end was not yet in so far as tangible recognition of the lad's services were concerned.

There was absolutely no gallery play in it all. There never is when a sailor man does a job for a mate. The worst disgrace that can attach itself to a man before the mast or to the reputation of one of those Scotch engineers that swarm in every navy is to be found bearing the

consciousness that he has done anything, even if he has actually meant the salvation of a whole ship's company of two thousand souls.

After the usual courtesies and dipping of colors, each vessel struck out on her own track and in due course arrived safely at their own ports of destination.

A Unique Tillage Machine

Continued from page 27

time being for a growing crop of flax. But suppose the land has not been thoroughly well rolled after breaking, to press the furrow slices home, which is usually the case, and many sods lay strewn about loosely on the surface; many seeds will fall in unfavorable places, where it is more than likely that little, if any, of their roots reach very solid, moist earth below.

Now it is well-known that flax does not thrive in a loose-textured soil. The seed-bed should be decidedly compact, except a slight blanket on the surface to act as mulch to prevent baking and loss of moisture in times of drouth. Let us suppose the breaking has been done with engine gang plows, and fairly deep, but not so deep but that the back-setting may be readily accomplished a couple of inches deeper. Then if this motor tilling machine be used to prepare the seed-bed, the conditions and results that may be expected to be brought about are as follows: The furrow slices of the breaking plows will be rolled out as flat as a board walk, — a work which no kind of roller drawn by horses can accomplish. No cavities of any considerable size can now exist beneath the furrow slices, which are so firmly pressed to the solid subsoil as to establish capillarity therewith at once.

The cutting spiral should be set to work about an inch deep. This will effectually loosen enough dirt from the grass roots to fill the spaces between the furrow slices and furnish cover for the seed. The seeder being attached to the draw-bar of the machine, the work is accomplished in a single operation, the seed being placed in a moist, firm, deep seed-bed. The conditions are now ideal for uniform covering and quick and even germination of the seed, making the most of the available moisture in the soil, and the even maturity of the crop before early frost.

One of the admirable features of this machine is the great uniformity of results under all conditions. The cutting spiral cannot turn up great chunks of sod, for the weight resting on the shoes immediately preceding is about 250 pounds per lineal foot, and effectually holds them down while the cutting is taking place. When harvest time comes, the ground is exceedingly smooth to cut over; and the next plowing or backsetting of new land is not nearly such a task as it usually is, because the land has been

thoroughly subdued and is quite like that which has been under cultivation for some years.

The average cost to the farmer in the northwest to produce a crop of wheat is \$7.50 per acre, and the average yield the past ten years has been less than fourteen bushels per acre. At the average price which has prevailed, it has required about nine bushels per acre to meet the cost of production, leaving less than five bushels as a margin of profit. The average number of bushels of wheat per acre produced in various countries during the past ten years is as follows: Great Britain, 32.2, Germany 28, France 19.8, United States 13.8. The soil of Great Britain has been tilled for a thousand years, and up until a hundred years ago had a record of producing no more than ours does at the present time. But a Royal Commission was appointed and a campaign for better methods begun, with the result that to-day, in spite of having a soil inferior to ours and an excessively humid climate which is unfavorable to the wheat grower, the production per acre is higher than that of any other country.

During the past quarter of a century, the home demand for wheat has increased nearly twice as fast as the supply, with the result that, unless better tillage methods soon come into vogue, the supply will not be equal to the demand, and we shall have to import many millions of bushels annually. However, the comparatively recent introduction and success of traction plowing is rapidly bringing under cultivation vast areas of virgin prairie lands that have formerly been open ranges for stock, or have produced nothing whatsoever. This will have the effect of augmenting the supply for some time but the time will soon come when the demand will exceed the supply and we must of necessity apply better tillage methods.

With our bounteous sunshine and new, rich soil, if proper tillage methods, having due regard for the conserving of moisture, be put into practice, the north-western farmer ought to be ashamed of himself not to raise twenty bushels of wheat per acre. This traction tillage machine is designed to give such results. A large acreage can be thoroughly cultivated at less cost per acre than heretofore. An increase in yield from fourteen bushels per acre, the average the past ten years, to twenty bushels at \$1 per bushel means an increased profit of at least \$6 per acre. One crop of twenty bushels per acre is worth considerably more than two of fourteen bushels per acre, when the cost of production is taken into account. As is often the case, the farmer will get only nine or ten bushels per acre, by the ordinary methods employed, which means that he has lived, but his year's toil goes for naught. If a machine costing approximately \$2000 will enable the farmer to conduct operations

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both "extensively" and "intensively," increasing the yield of a crop of wheat, say six bushels per acre, it is easy to decide on the advantage of using such machinery. It must be remembered also that the tractor will do any work on the farm that any other tractor will do, such as plowing, threshing, shelling, etc., and that the expenditure is not solely for a seeding machine.

The Story of a Great Home Industry.

Continued from page 64

McKenzie, who was actually in at the birth of the West in Canada's developemnt, and has lived and taken his own part in every movement of its growth.

Mr. McKenzie is a well-known much respected personality throughout the West, as the name of the great house he represents has been at least a quarter of a century a household word in every outwork of progress from Atlantic to Pacific.

The great law of heredity has decreed that the supremely able sons of the founder of this mighty industry should come under the mantle of their father's genius. Mr. R. S. McLaughlin is president of the McLaughlinther, Mr. George W. McLaugh-Motor Car Company and his bro-lin is vice-president of the McLaughlin Carriage Company Limited of which his father is the time-honored president. The public life of these men has long since demonstrated the fact that "The worth of a state in the long run" (as John Stuart Mill said) "is the worth of the individuals composing it." They have inaugurated a business which, in all its ramifications is but the reflex of the men who have made it. Whether as it affects the humblest farm buggy or the costly and luxuriantly equipped touring car, the outstanding feature of any "McLaughlin-Buick" production is the way in which their sense of beautification comes out in the artistic lines that are given to the commonest detail of the carriage or car under tribute.

In their own department of Arts and Crafts, they have proved themselves faithful disciples of the grand old masters, and of John Ruskin, than whom no living man has done so much to immortalize in that portion of their creed which holds that the most common-place of God's utilities was entitled to its own share of that beautification which is in evidence in every creature and thing that God has created.

The McLaughlins have made everything they have made with the consciousness that it is just as easy to make a good thing look beautiful as it is to give it a commonplace appearance; and, with the test of over forty years as to the high character and lasting qualities of their products, it is this linking of the beautiful to the strictly utilitarian that has sent and will continue to send their

wares to every centre and outpost of civilisation.

They have a strong claim on the West from the fact that besides having captured the highest awards in more than one international contest and the first place in the most important speed endurance trials, their cars are a home product and the incident of any mishap has none of the heart-breaking experiences in prospect such as so often dogs the car that is shipped through an agency from a foreign source. Duplicate parts and repairs are available without loss of time. The makers and their reputation are always with us, and men who have spent over forty years in building and maintaining the

character this house enjoys are not likely to expose it to any

risk that human skill and painstaking effort can safeguard.

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Pa Marries Again

Continued from page 79

swallars as though it was hard work. Oh"—her eyes widening with sudden horror as a thought came like the thrust of a knife—"oh, do you s'pose it's—it's

diphtheria? They say it's down at 'The Corners,' the Rogers family has it."

Before night came it really seemed as though the dread scourge had made its way up from 'The Corners' to the pleasant farm-house, and the hearts of



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the young parents grew heavy with fear.

It was impossible to get a doctor. One was ill with pneumonia and the other doctor was out of town. Silas was unable to obtain any help and he returned home in low spirits.

"We got to depend on our own resources for a few hours, Mandy," he said. "You tell me what you think I ought to do for the baby, and I'll do my best."

"But diphtheria, Silas! I don't know what to do for that," Mrs. Hooper sobbed.

"S'pose I burn some sulphur. I remember hearing Jim Johnson, the blacksmith say that was good."

This Mr. Hooper did, nearly asphyxiating his family.

The hapless couple tried to read up on the terrible disease. His mother's old doctor-book was brought from the attic. No diphtheria was in it.

Meanwhile the night settled down—a dreary, drizzling, autumnal night with a wind that shrieked and moaned.

And little Si grew worse. His fever ran high, his breathing was distressful to hear.

Mrs. Hooper lay, white-faced, with wide eyes staring helplessly as her husband walked the floor, carrying the moaning child in his arms.

Suddenly his wife, in spite of her lamed shoulder, sat upright and pushed back her streaming hair.

"Silas! I heard a noise out in the kitchen. Let me hold the baby while you go and shut—" She paused abruptly, for just then the door leading from the kitchen was opened gently and in came a fat, little old woman with apple-red cheeks and shining eyes.

Without a word she took off her gray bonnet and big shawl. Then she turned to young Mr. Hooper, and, holding out her arms, said briskly, "Let me take that little feller, and do you go out into the other room an' get the basket your pa's brought; it's got goose-ile, cotton battin', ipecac an' some lobelia in it. Humph!"—placing her rosy cheek down close to the baby's chest—"it's jest as I thought. Croop—but it ain't so bad. I've tackled worse cases an' come out ahead." Before the half-dazed young man could obey her commands, Mr. Hooper, the elder, entered the room, the basket in his hands and suppressed excitement in his manner.

"Geed-evenin', Silas—good-evenin', Mandy," he said timidly. "We heard the little feller was sick, an' Mis' Wig—my wife—she was possessed to come right over an' help ye. I thought I'd come, too, an'—an'—"

"We're glad you both came," the younger Hoopers exclaimed in joyful unison, while Mandy added with a sigh of relief, "I declare! I believe that child looks better since—since ma's come!"

"Sure!" said the elder Mrs. Hooper composedly. "And now fur the goose-ile, Silas, an' them other things."



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The Men Who Make No. 1 Hard

Continued from page 44

er, and Case wind tacker, ten years old. This separator is of the small cylinder type. I believe that the large cylinder is an improvement over the small one.

This outfit has made a good combination and has run very satisfactorily from the start. We have had troubles as all threshermen have, but I have yet to see the machine which is absolutely perfect, i. e. which will give its operator no trouble during its life. Our engine has worked well. It has not leaked a drop of water from the flues yet. We use all the water from our well at home, as it seems to agree with the engine. Our water supply system consists of a 50 barrel tank in the loft of the barn. The tank is kept full from an inexhaustible well by a windmill. The wagon tank, which has a capacity of 8 barrels is backed up to the two inch hose from the large tank in the barn and filled in about five minutes, making the task of the tankman quite easy. The engine uses about four or four and a half tanks of water per day.

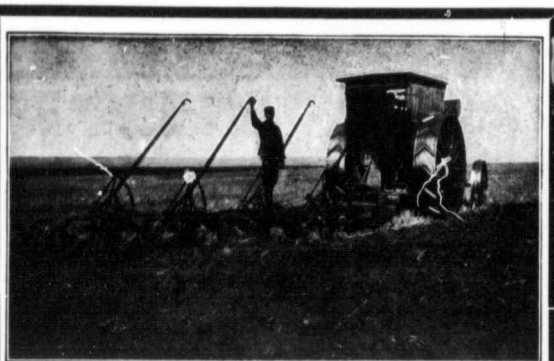
To me has fallen the position of engineer, after some three seasons of firing. There are three brothers of us at home now, the eldest of which runs the separator and I, the youngest, act as engineer. The other brother draws water.

The weather was fairly good for threshing, after the rain ceased. We had threshed about one-half day when it rained, and after about three days we started again only to be stopped for a period of twelve days. The next time, however, we ran without any serious stops, and things went pretty smoothly.

We do not pretend to do very great work, nor break any records, but try to keep running smoothly, and steadily. Our aim is to get through in plenty of time to get a good supply of fall plowing done. The season then is consequently short; last fall being exceedingly so, as the crops were very poor. The season lasted only six days, while the year before we went over practically the same ground in 17-1/2 days. The number of bushels was also small, about 5,000 of wheat, 500 of oats and 400 of barley, a total of 5,900 bushels; not very much for a season's run.

A year ago last fall we had considerable trouble with the straw rack of separator. Last summer we put in a new one and overhauled both ends, so that they were in pretty good shape. This is a point that too many people overlook and when they are ready to thresh, the machine is not ready; consequently much time is lost, which means money out of the thresher's pocket. A man is certainly well paid for the time, money and labor that he puts on his machine by way of preparing it for the season's run.

All the crops being poor, the feed was scarce, and in consequence of this we decided to burn wood, of which we had a



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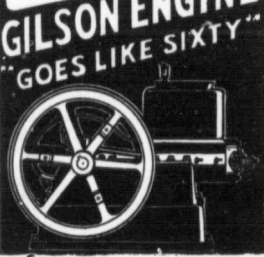
Ontario Wind Engine & Pump Co., Wpg., Man. Gentlemen,—I beg to advise that I have plowed twenty acres per day of ten hours in breaking with 14 inch bottom plows, and plowed from 4 to 5 inches deep. The engine can pull from six to eight bottoms according to the depth we plow and the conditions of the soil. We have plowed 800 acres this season and I have made a net profit over and above all expenses of \$800.00, which is practically 20% of my investment. I would have been able to have done considerably better had the ground not frozen up so early this fall as I had a lot of contract work still on hand to be done when the freeze up came.

Regarding comparisons between cost of repairs and operations of my "Flour City" Gas Tractor compared with my Steam Tractor, I find that it is only about one-third the cost of operating a steam engine.—Yours truly Sgd., J. J. GRANT.

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quantity drawn during the winter. The engine burned about 1-3/4 cords of dry poplar wood per day. A load of above amount was brought out every morning, which lasted all day. We threshed the grain directly into bins; thus we did not have to move more than once or twice a day and there was practically no trouble in hauling the wood around. Whenever we did move the wood was tied behind the separator, as an armful or two on the platform of the engine together with fire-box well filled, would run us about half a mile. One man did both firing and the running of the engine.

The advantages of wood are many. First, you do not need a fireman; second, you do not need a straw man and team, as any of the teams can take the load out in the morning; third, there is less danger of fire, as there is no straw around the engine and we always run with the hood down; fourth, you save the expense of using flame sheets, which often burn out and cause great delays; fifth, it is better for the boiler and flues than straw. Taking the above into consideration, and if wood can be gotten reasonably, and hauled to the farmyard during the winter, it would certainly pay to use it. Getting at the dollars and cents one can save about as follows:—

Fireman's wages and board	\$3.50
Straw man, team and board	5.50
Flame sheets, per day (estimates)50
Total	\$9.50
1-3/4 cords of wood at \$3.00 per cord	\$5.25

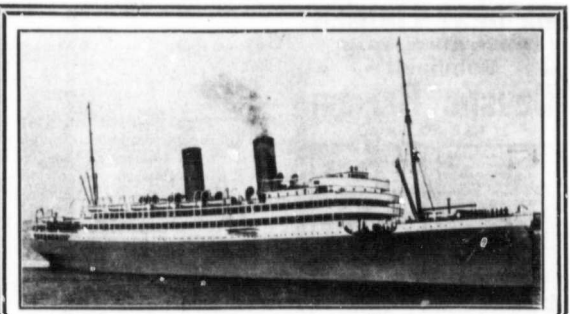
This shows that the expenses could be cut down \$4.25 per day. Of course the different prices of wood, and different circumstances would alter some cases.

As before stated, we threshed directly into bins in the field. This does away with a lot of men and teams. The gang is consequently small, consisting of four men to haul sheaves, one separator man, one man to run and fire engine, one man to haul water, making a total of eight men. The tankman hauls in the wood at settings, and as he is not always busy, he draws sheaves during spare time.

The prices we charge are, wheat 7 cents, oats and barley 5 cents. The neighbors for whom we thresh draw sheaves for which we allow them \$4.00 per day for one man and team. In following this system we can make it pay very well.

I think this is a fairly full account and will close wishing the Canadian Thresherman every success.

Yours truly,
H. B. GORREL,
Pilot Mound, Man.



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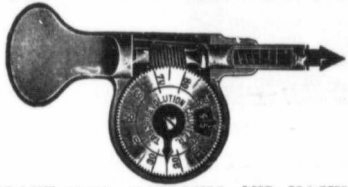
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Thinks a Cleaner Necessary.

I think the help problem is a serious problem with large outfit. Every thresher knows what it means to be short handed. I think if we could get the railroads to assist us in some way in equaling the men up at every point and not letting them go to the large centers, it would be a good plan. Until these large outfits are run with a full crew they will not pay the first big price and the after-due big interest. I think it a splendid idea for from three to five farmers to own their own small outfit. They can then manage at long themselves and not depend on outside help. Another thing that I would like to see threshers take up, is a cleaner on their machines. The screenings can be fed and the weeds burnt, the thresher charging the same for it as if it were good grain.

Our season was pretty fair here. We did not have much straw. I threshed 38,500 bushels in 21 days and was not full handed at that. I have a Sawyer-Massey 26 hp. Compound Engine and a 36 x 60 Great West Separator with a Ruth feeder, which makes a good outfit and runs fine, stopping for nothing.

I keep the separator in a shed when not in use, and put everything in good shape before starting out. In the three years I have run it, it has only cost me \$3.00 for repairs, which was on the feeder caused by a fork going through it. I think a shed is worth \$500.00 a year to the life of a separator.

My crew consisted of between six and eight stook teams, one pitcher in the field and one at the machine. This was all the help I could get when I should have had three more pitchers.

We charge 6 and 8 cents here and the farmers board the crew. This is for stook threshing as there is very little stacking done here. It would probably be better if some did, and all would then not want to be threshed at the same time.

I ran my own engine, which means considerable if there is no time lost in moving and setting. I find it pays to move the outfit to the stooks rather than have the teams haul long distances.

I keep a large canvas under the feeder, so as it does not take long to clean up and get away. I have threshed nine seasons in this country and the only successes I have seen, is where the owner works mighty hard, loses lots of sleep and gets very little thanks.

Yours truly,
 J. R. HANNAFORD,
 Fairlight, Sask.

Enjoys This Magazine.

I started on a horse power threshing outfit thirty years ago. It was built in Flora, Ont., and cost \$320.00. At that time we ran it at about \$6.00 a day, threshing about 500 bushels. I experienced a little of the hard-

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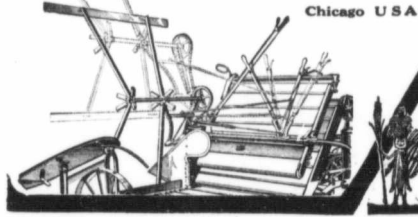
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ships of a thresher's life in the next six years, when, at the end of that time it was laid aside, for the first portable engine outfit came in. The only experience, however, that I had with this was to start it and stop it once.

In the fall of 1902 the first up-to-date outfit came in a Port Huron 20 H.P. Compound engine and a 33-54 separator of the same make with feeder and windstacker and the way that outfit threshed astonished the people. I fired it some odd days for three seasons.

Three years ago I bought a Leader 18-20 engine that had been used for two months, paying \$400 for same. Machines being scarce in this part, I hired a Waterloo separator and a man, and we did our own and a few neighbors' threshing, getting along fine, which encouraged me to buy a separator of my own; a J. I. Case 28-46 with windstacker and feeder. Then I started in earnest on my own hook. The expert came along for a day and a half, getting things in good shape for the season's work.

I hired a man who had run a portable outfit for twenty-five years to look after the separator, but after looking it over he decided to run the engine, as he knew nothing about the separator.

So we started out, but before very long, we had the feeder sluggish and the feeder belt burnt. Luckily it started to rain and we got the belt mended up, but I tell you, I did not think much of the job, being a greenhorn. However, we got started up again and had very little trouble, threshing about 2,000 bushels a day of oats. We have scarcely any wheat grown in this section, and all threshed in the barn. With just the two of us with the outfit I charged \$1.60 an hour, running about ten hours a day for 24 days. Then we steamed home just as the snow and bad weather came.

We cleared \$12.00 a day and if one had a very expensive outfit, it would take a long time to pay for it. Still, there is great deal more pleasure working with the up-to-date outfit of to-day than the one of thirty years ago.

I have read and enjoyed "The Canadian Thresherman" for a year now and wish it every success for the years to come.

Yours truly,
G. H. McPherson,
Grand Valley, Ont.

Iron Ore Resources of the World

The report of the International Geological Congress on iron ore gives the total amount of the actual known reserve of the world as 22,408,600,000 tons, of which 12,032,000,000 is in Europe, 9,855,000,000 in America, 260,000,000 in Asia, 136,000,000 in Australia, and 125,000,000 in Africa. Of the 22,408,000,000 tons of iron ore, the proportion of iron is 10,192,000,000 tons, of which 5,154,000,000, or more than half, is available from the 9,855,000,000 tons of iron ore in America.

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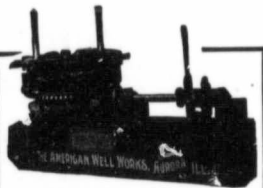
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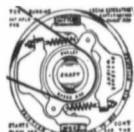
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Oiled Paper Umbrellas of the Japanese.

The umbrellas used by the Japanese are similar in all respects to the paper parasols that are common in this country, except that the Japanese treat their material with a vegetable oil which renders it impervious to moisture. The oil is obtained from the seeds of a plant (Perilla ocimoides) cultivated in some parts of Japan. A bushel of the seed produces about a gallon of oil, and the crop amounts to 350,000 bu. annually. The oil is boiled and, when cool, is applied to the paper umbrellas with a piece of cloth or waste. The umbrellas are then exposed to the sun for five hours.

The oil-paper is also used in making lanterns and for window panes. The paper lantern is in common use in Japan for lights on rickshaws and wagons, and as a hand lantern like the tin lanterns here. Oiled paper is used instead of window glass in practically all of the native houses throughout the empire.

Canadians Invade New Zealand

Advices from the Tudhope Motor Co. state that Messrs Easson Limited of Wellington, New Zealand, have successfully tendered for the agency for the Canadian-made "Everitt" as built by the Tudhope Motor Co. Limited of Orillia. Mr. Percy G. Easson has been touring Canada in the interests of his firm and in an interview stated that the development of his country is proceeding at as great a rate as that of Canada, although it is not so well advertised. New Zealanders especially welcome trade with Canada and Canadian manufacturers who will take the trouble to investigate will find big market possibilities in New Zealand.

Mr. Easson, after a careful review of the motor car situation in Canada and the United States, focussed his attention on the "Everitt" and successfully tendered for the New Zealand agency. He predicts heavy sales, as the "Everitt" combines the qualities of staunch, up-to-date construction at a moderate price.

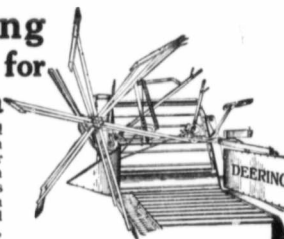
The Uses of old Rope.

Old rope, like old tin cans and other things generally considered as waste, has its special market and uses, and in every seaport the collecting and classifying of old rope is an important business. Rope covered with heavy applications of tar or graphite is even more valuable to-day for making oakum than lightly tarred material, while hemp rope with the original heavy coating of tar worn off by weathering is often used for bag paper. A small percentage of untarred hemp rope, used in its prime for hoisting and other such purposes, is being converted into cigarette paper in Europe. Scraps and waste from old tarred rope, and also old oakum removed from the seams of ships, are now used for making boards.

THE Deering Binder is made for Western Canada

The Deering Binder is designed especially for Western Canadian farmers. The Deering cutter bar allows the short grain to pass from the knife to the platform canvas without accumulating between them. The wide range of reel adjustment—high, low, forward, or backward—insures your getting all the grain, whether it is short, tall, standing, down, or tangled. Another Deering feature is the third packer. It reaches up close to the elevator and pulls down the grain to the other two packers. It prevents grain clogging the top of the elevator.

And here are a few other Deering advantages that will interest you. The Deering breastplate is shaped to prevent the needle from pulling straws on to the bill hook and choking at this point. The binder shifter lever is directly in front of the driver and convenient to operate. The third discharge arm is very effective in throwing out the bound sheaves and in assisting in separating the tangled grain



of the bound sheaves from the unbound grain on the binder decks. Deering binders are exceedingly light draft, because they are equipped with ball and roller bearings.

These and many other features of Deering Binders will be explained to you by the Deering agent. He will also be glad to tell you about Deering Haying Machines and Tools. See the Deering agent at once, or, if you prefer, write direct to the nearest branch house for catalogues.

Deering agents also handle I H C Gasoline Engines, Cream Harvesters, Manure Spreaders, Gasoline Tractors, Tillage Implements, Wagons, and Binder Twine.

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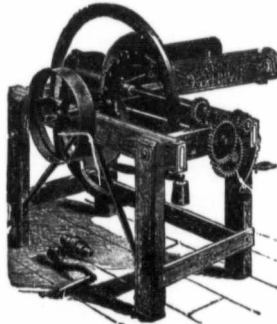
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John Watson Mfg. Co.
LIMITED

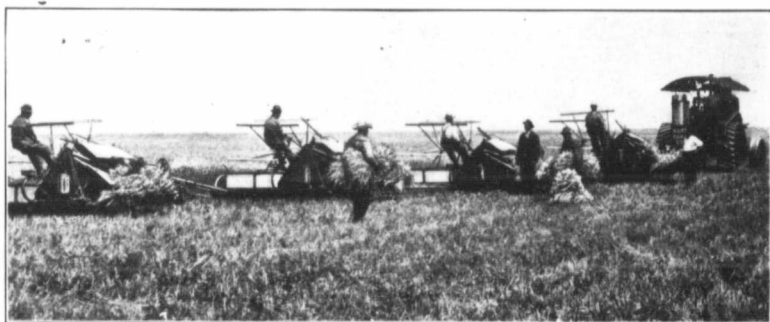
WINNIPEG Transfer Agents-- CAN.

Regina: McCusker, Imp. Co. Saskatoon: D. E. Stewart. Brandon: John Ingles & Co.

DEPENDABLE FARM POWER

Harvesting and Threshing

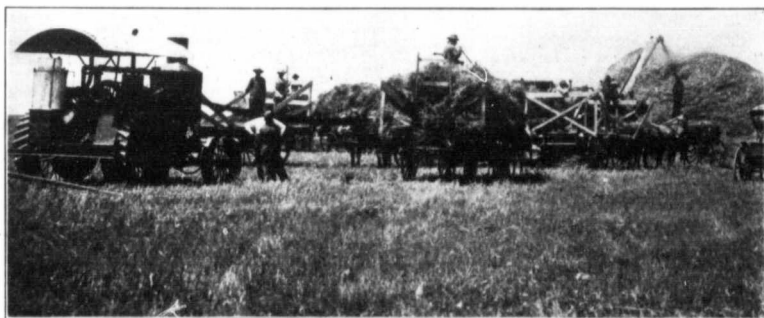
RUSH WORK this: harvesting before the dry, hot days come. Don't let dollars rattle from grain-heads when a **Modern Farm Horse** will work without rest night and day on the cheapest kind of kerosene-feed. A 45 h.p. will pull five big binders, and with its steady, all-day stride will make



Here a 45 H.P. is doing the work of 25 Horses and Cutting 90 to 100 acres a day. This binder hitch can be used with any make or size of binder.

acre after acre disappear like snow before a summer sun. It astonishes men who drive horses to see with what little fuss or trouble—how quickly, how quietly every species of farm machinery can be handled with a **Modern Farm Horse**.

SAFE AND QUICK.—No danger with a Hart-Parr.



Threshermen like a Modern Farm Horse because it delivers such steady power to separators. No danger from fire—no coal—no water.

No fire anywhere to start standing grain. No firemen. No excessive heat as with a steam outfit. With a 45 h.p. tractor 100 acres a day can easily be cut. What a profit-

The Modern Farm Horse

(HART PARR GAS TRACTOR).

able and humane contrast to the old method? Urging, whipping, shouting at a struggling mass of straining horses—flies, heat, dust—some animal, at his limit under a blazing sun—goes down. The months profit with him.

Thousands of farmers have figured it all out in actual practice on their soil, and found that a **Modern Farm Horse** is the cheapest to handle, to feed, to groom. It's a worry-preventer. Always on the job. Ready at a drop of the hat! Eats nothing when resting and takes up little room.

THRESHING.—Steady power delivery is a feature of the **Modern Farm Horse**. A separator must vibrate regularly in order to deliver a certain number of bushels of clean grain per hour. No man can be certain of making a profit if he has a jerky irresponsible engine to tease and fret him. Hundreds of Canadian Threshermen are mighty glad they invested in Hart-Parrs.

Summer Fallow

Great success follows summer fallow in Western Canada. It clears out weeds, gives land a needed rest, allows accumulation of humus, pulverizes soil, facilitates drainage, prevents evaporation and prepares seed-bed of high fertility for next season. Plow deep with a **Modern Farm Horse**. Then cultivate with the apparatus shown on opposite page at a shallow depth of two inches, about four times during the summer. For this work our 30 h.p. tractor is the ideal power.

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The 30 H.P. Modern Farm Horse

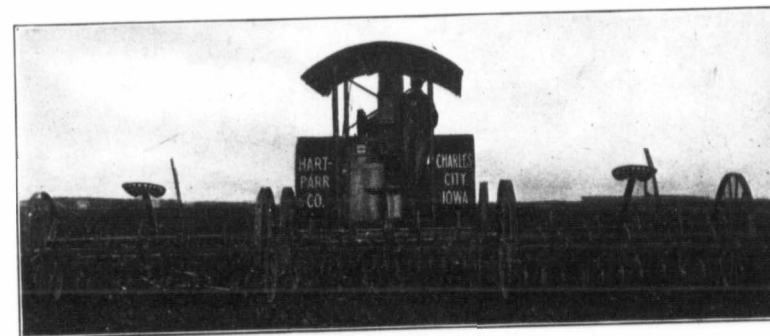
The 30 H.P. Modern Farm Horse

Is adaptable for every sort of farm traction. Summer Fallow, Harvesting, Threshing, Discing, Seeding, Hauling, Roadgrading, Feed Grinding, etc. The "30" is constructed almost entirely of steel—with all steel gears. The high-speed gears and rides easily—no matter what the road. Anyone who farms 320 acres can profitably purchase a "30".

It has two speeds—one for plowing—one for hauling, and road work. It is spring mounted and rides easily—no matter what the road. Anyone who farms 320 acres can profitably purchase a "30".

Fall Plowing

Autumn Plowing puts your land in ideal shape for the action of frost and sun. It assists the development of plant food. Kills whole tribes of destructive worms and grubs. In the Fall you can plow deeply with either a 45 or a 30. See what this man did last year.



30 H.P. pulling Three Shallow Cultivators—Summer Fallowing.

Mr. F. C. Woods, Manager of the John C. Burchard Co., Stephen, Minn., wrote in Nov. 1910:

STEAM PLOW MAN QUITS BEATEN.

"We broke 540 acres of very tough raw prairie in fine shape that a steam plowman had given up at \$3.00 per acre, because he could not make expenses.

"Through the summer and fall we plowed about 2,000 acres of this

heavy clay soil deeper and better than it had ever been plowed before; and believe that the additional crop next year, on account of the better, deeper, plowing will pay for the engine.

"We consider that this, and other Hart-Parr engines in the community, have raised the value of lands here at least \$5.00 to \$10.00 per acre."

What higher praise could we want when a man "on the ground" testifies that a **Modern Farm Horse** because of its superior ability for eating up farm work, raises the price of land so noticeably.

Be Sure to see Our Tractors at the WINNIPEG and REGINA FAIRS

Our Tractors will not be entered in the Winnipeg Motor Competition for two reasons:

1st.—Such contests cannot bring out questions of durability and reliability, and these are of first importance in selecting a tractor.

2nd.—The rules are so constructed that the results mean nothing to farmers. Four different companies will win Gold Medals for Gas Tractors—so what are they worth? You don't have to read the results of the Motor Contest to learn what a **Modern Farm Horse** can do. In nearly every locality in Western Canada one or more Hart - Parr tractors have been at work for one to three years. ASK YOUR NEIGHBORS WHAT THEY HAVE DONE.

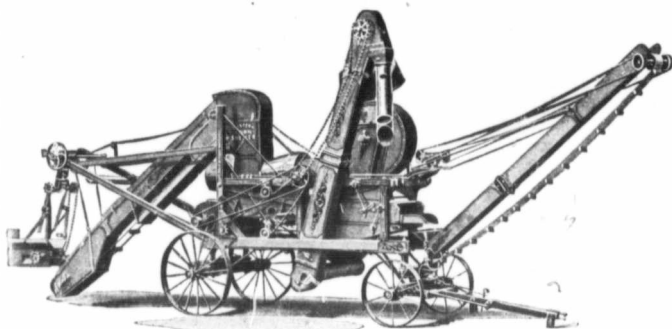


Hart-Parr Co.
Saskatoon, Sask.

HART-PARR COMPANY
30 Main Street, Portage La Prairie, Manitoba

The Chapin Co.
Agents for Alberta. Calgary.

AFTER THE SHREDDER THE SHELLER



When you have had corn husked and the ears have become dry, it must be shelled to enable you to feed it, grind it, sow it, and use it in any other way you see fit. The Western Corn Sheller has two reputations to maintain, its own and the CASE. This is the Sheller the CASE Company puts on the market. It is strong, durable, and with capacity. If you need one write for our catalog covering the CASE Husker Shredder and the Western Corn Sheller. It will be sent free.

J.I. CASE THRESHING MACHINE COMPANY
INCORPORATED
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ENG. 10