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ONTARIO
LIMBING

THE
CANADIAN THRESHERMAN & FARMER
CANADA'S FARM MACHINERY MAGAZINE
WINNIPEG CANADA
AUGUST, 1913.

THE HORSE IS MAN'S BEST FRIEND.
THE TRACTOR WILL STRENGTHEN THIS
FRIENDSHIP BY ASSUMING THE POSITION
OF FARM DRUDGE.

E.H. Heath COMPANY Publishers
"ELEVENTH YEAR"

JOHN DEERE IMPLEMENTS

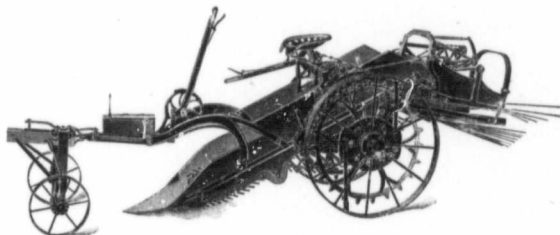
Reduce the Cost of Your Potato Crop



DEERE POTATO DIGGER

For the farmer who raises a small potato crop, this digger is suitable and can be obtained for a small outlay.

It has a flat blade with side wings, which guide the potatoes on to the grate. The grate is hinged at the front and is given an up and down motion by a sprocket wheel at the rear. This action shakes off the dirt and tubers from the potatoes. Being equipped with forecarriage insures steady running.



No. 304 HOOVER DIGGER

Strength and great capacity characterize this machine.

Equipped with a rear agitating rack and vine separator, which have a backward and forward motion, sift all dirt and rid the potatoes of all vines.

Agitating rack and vine turner can be removed and picker attachment used instead.

No. 302 HOOVER WITH PICKING ATTACHMENT

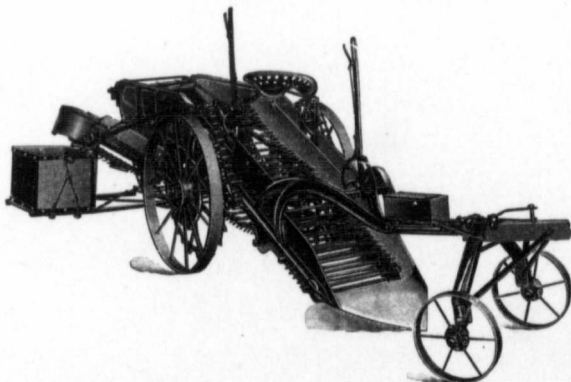
Handling a crop of potatoes by hand is hard slow work. Slow work is always expensive.

Modern machinery has made it possible to cultivate and harvest potatoes quickly and easily, thereby reducing the cost of production.

The less your crop costs the more profit you will realize.

With a Hoover digger the cost of harvesting your crop can be reduced to the minimum.

It is the MOST PROFITABLE digger to use, as it is the MOST ADAPTABLE for this work.



Get our booklet on potato diggers before digging time and find out about the best line of potato diggers on the market

Why buy a second rate machine? The best is the cheapest in the long run

THE BEST CAN ONLY BE GOT THROUGH A JOHN DEERE DEALER

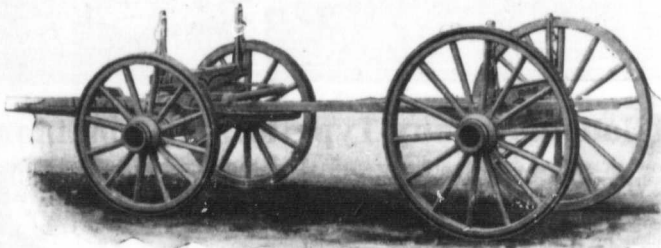
JOHN DEERE PLOW COMPANY, LIMITED

WINNIPEG REGINA SASKATOON CALGARY EDMONTON LETHBRIDGE

JOHN DEERE IMPLEMENTS

Many Purpose Trucks

A low wheel truck is a very convenient article to have around the farm. It is something that can be used for a great many odd jobs, thus saving the regular farm wagon



STANDARD TRUCK

STANDARD WOOD WHEEL TRUCKS

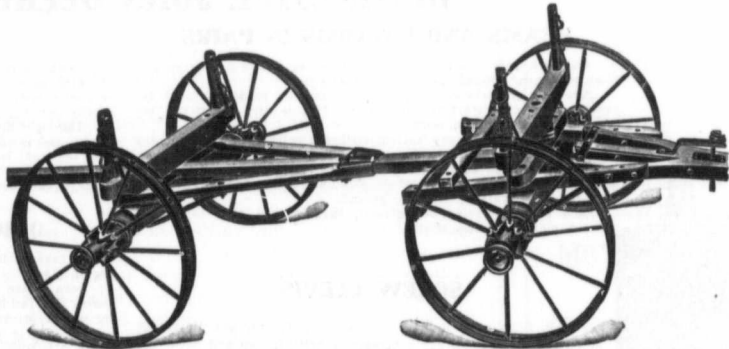
This truck will give the user excellent satisfaction. It is well built, nicely finished and is furnished at a medium price.

No. 27

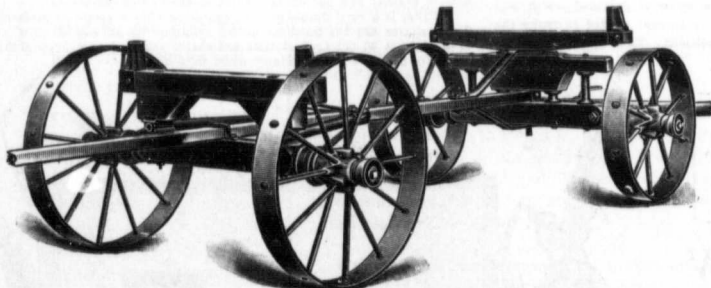
METAL WHEEL FARM TRUCK

We carry a large line of Metal Wheel Trucks, various styles and prices.

The No. 27 is made after the regular farm wagon pattern. Front gear equipped with hounds—mortised bolster stakes ironed and ringed—regular wagon bolster plate—wheels 28 and 34 inches high with staggered spokes.



No. 27



No. 15

No. 15

HARVEST KING

The King of all trucks for harvest work. A great labor saver.

Convenient. Front wheels turn under the rack or bed making it easy to turn short around. Low down and easy to load.

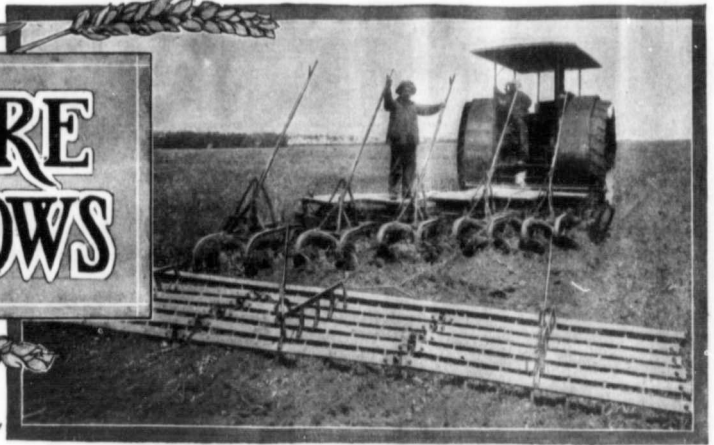
Wheels 28 x 34 inches, with 5 inch tire. Regular 3 1/2 x 10 inch skeins with heavy axles and oak bolsters. Capacity of 4000 lbs.

A post card will bring you complete information regarding our full line of trucks. We have a truck that will fill your requirements. For harvest work and odd jobs around the farm, you will find it useful and convenient. A money saver.

WRITE US FOR PARTICULARS BEFORE YOUR HARVEST WORK BEGINS
GET QUALITY AND SERVICE — JOHN DEERE DEALERS GIVE BOTH

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

JOHN DEERE ENGINE PLOWS



4, 6, 8, 10, 12 and 14 Bottoms of any Type to Suit Conditions

The limit to the number of horses a man can handle on a farm implement was reached twenty-five to forty years ago. A two-bottom gang pulled by four or five horses completely occupies one man's attention and limits the amount of work he can do with that kind of an outfit. The solution to the problem of how to do more plowing per man is found only in the application of mechanical power. That is the reason for the engine plow. The same man who operates a two-bottom gang can handle a John Deere Engine Plow of any size. Another man can handle the engine. In other words, two men with an engine plowing outfit can do much more work than by any other known method, and do it cheaper if conditions are at all favorable.

DISTINCTIVE JOHN DEERE FEATURES

BEAMS AND BOTTOMS IN PAIRS

And each pair is attached to the frame so it has a free up and down movement around the clevis pins as a center.

Any pair of bottoms will go over a hummock or down into a depression without disturbing the others. This is very important, because it insures uniform work.

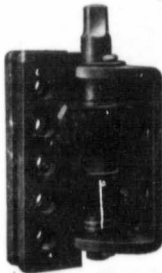
Besides this, when any bottom strikes a solid obstruction, like a big stone, it and the companion plow rises just enough to pass over. Work is resumed automatically when obstruction is passed.

This saves strain on the whole plow, but more especially on the shares when working in stony ground.

Each lever controls two bottoms, enabling one man to handle entire plow regardless of size.

SCREW CLEVIS

Each beam point is fitted with a clevis like the one illustrated herewith. Each clevis has a number of holes for up and down adjustment of corresponding beam point, but a fine adjustment is often necessary. For this purpose a screw is provided which will raise or lower the beam point just the amount needed to make the plow run exactly right to suit conditions. This is an important feature.



HITCH CONTROL

John Deere Engine Plows, except the largest size, which can be operated as a 10, 12 and 14-bottom plow, have both front wheels located outside the frame. This gives a wide wheel base and insures steady running.

The right-hand front wheel is heavy, has V-shaped rim with wide flange, and is staggered to run in corner of the furrow. This means that the front bottom always cuts the same width as the others.

Both front wheels pivot and are controlled by the hitch. The result is the John Deere Engine Plow will turn as short as any engine.

QUICK DETACHABLE SHARES

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 that can be put on or removed in a fraction of the time required for old style shares.

All that is necessary in removing a John Deere Quick Detachable Share is to unscrew nut from eyebolt and give share a kick with foot. To put on one of these shares, slip it into place, passing eyebolt through hole in bracket and put on nut which is easy to get at.

Either is a very simple process, requiring only a very few moments. These shares are the handiest device ever put on an engine plow and save at least 80 per cent of time ordinarily required to change shares. This means a lot, especially when in a hurry.

John Deere Engine Plows have many other features of merit. Write for full information. Ask for package L 51.

JOHN DEERE PLOW COMPANY LIMITED

Winnipeg
Calgary

Regina
Edmonton

Saskatoon
Lethbridge



Just **WHY**



Old Dutch Cleanser

Cleans Your Refrigerator
HYGIENICALLY

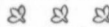
Because this pure, mechanical Cleanser contains no Caustic or Acid to get near the food. It penetrates into every corner and cuts every particle of grease from the shelves and walls. Soap-cleaning cannot do this satisfactorily.

Sprinkle some Cleanser on a wet cloth or brush and go over every part of the refrigerator carefully, after removing and cleaning the shelves. Do this once a week (the ice compartment once in two weeks) and it will always be clean, sweet-smelling and sanitary.

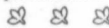
Many Other Uses and Full Directions on Large Sifter-Can, 10c

About Ourselves

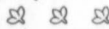
IT has been a pleasure for us to meet and talk with our friends upon the several fair grounds. Some have come in to register kicks and these have not always been registered with a smile, but we have deemed it a favor when they come to us and told us of any dissatisfaction. We want to know it if you are not being treated as you think you ought to be.



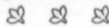
The fairs bring us to a matter that we believe should receive the careful attention of every fair manager in Western Canada, and that is the wholesale soliciting of subscriptions upon the grounds by the various publications.



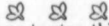
The selling of subscriptions is just as legitimate a business as the selling of any other class of goods when conducted properly, but it can and is being carried on by certain of our agricultural publications in such an unbusiness-like manner that something should be done to put a stop to it.



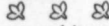
This year scores of men have come from across the line and have been given credentials by several not over scrupulous publications, with the result that from the time the farmer arrives upon the ground he is besought and besieged in a manner that, to say the least, is annoying. These same solicitors parade the grounds handing out cheap fountain pens that were never intended to write and are given out merely as bait.



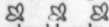
These same solicitors will size up their man and bleed him for anything they think he will stand for. While on the Brandon fair grounds a farmer came into our tent and informed us that he had paid \$8.50 for a life subscription to a farm publication published in the East, and he said he believed he had been stung. We informed him that he certainly had, for the Postal Department does not recognize any such class of subscriptions, and that he had better find the solicitor who sold him the subscription. He did so and being of no small size the unscrupulous individual who worked such a bunco game was glad to give up the money and was also mighty thankful that he did not get a good trouncing for his trouble. Since the first of April last we have had dozens of these same men from across the line in our office whom we have since seen upon the fair grounds, many of them running all sorts of "con." games, and not a few taking subscriptions for other publications.



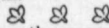
Something should be done to stop this sort of thing and about the only way we see to stop it is to curtail subscription soliciting altogether in so far as fair ground work is concerned. If such a move were to be made by our Western fair managers this magazine will be among the very first to give the movement its most hearty support and co-operation.



Winnipeg tried it this year and it worked well. Let us hope that in 1914 the movement will be general.



Soliciting subscriptions should only be permitted within the tents or booths of the several publications. Something must be done to cut out this wholesale fleecing of the farmers by unscrupulous aliens who work only for a month or two and then flee to a warmer clime to find another army upon whom they can unload more fountain pens.



Under present conditions the magazine that is giving a good premium and selling its wares fair and square is placed at a big disadvantage and its solicitors are forced into the same class in so far as the public is concerned, as the solicitor who tries to sell life subscriptions for \$8.50, or less if necessary.

Rex Motor Spirit

It takes the place of Gasoline.

This Label appears on every Barrel



See that you get the Genuine

REX MOTOR SPIRIT

Read this Carefully

McCreary, Man., July 31, 1913
Canadian Oil Companies, Ltd.
Winnipeg, Man.

Dear Sirs,
Received the two barrels of "Rex Motor Spirit," and the parties are well satisfied.

I can easily handle a carload now, but would like the Agency for McCreary myself.

Yours truly,
F. N. SMITH

For further information and prices address office nearest you.

Canadian Oil Companies Limited

Winnipeg Regina
Calgary Nelson

Makers of the famous

"WHITE ROSE GASOLINE."

Mention this magazine when writing advertisers

The Premier Company

The Premier Goods

WINS GOLD MEDAL



Photograph of Sawyer-Massey 25-45 H.P. Gas Tractor in the actual operation of winning the **GOLD MEDAL** at the 1913 Winnipeg Motor Contest, showing the kind of work necessary to win. This applied not only in plowing but also on the brake tests. This Tractor won the highest number of points of any Internal Combustion Tractor in the Contest.

LEADS THEM ALL

The **SAWYER-MASSEY GAS TRACTOR** was awarded the First Prize and Gold Medal in the Heavy Duty Class at the Winnipeg Motor Contest just closed, at the same time winning the highest number of points of any internal combustion tractor in any class.

THE SAWYER-MASSEY GAS TRACTOR is the acknowledged leader in its class. It combines all the features desirable in a farm power engine: plenty of power, strength without unnecessary weight, accessibility of parts, protection of moving parts, economy of fuel, flexibility and ease of operation. Rated at 25 Tractive Horse Power and 45 Brake Horse Power, it develops over 58 Brake Horse Power in actual test. Full particulars on request.

Write for our Illustrated Catalogue, and copy of the "Sawyer-Massey Chronicle."

SAWYER-MASSEY COMPANY, Limited

Builders of Steam and Gas Traction Engines, Threshers, and Road-making Machinery

Head Offices and Factories ————— HAMILTON, ONTARIO

Branches and Warehouses: Winnipeg, Manitoba; Regina, Saskatchewan

SAWYER-MASSEY

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



Vol. XVIII.

WINNIPEG, CANADA, AUGUST, 1913.

No. 8.

THE 1913 MOTOR CONTEST

By E. W. HAMILTON

THE sixth motor competition. It has now become a matter of record. A record that adds another chapter to tractor history. This is my sixth report of this unique event, and I can assure my readers that it is a bigger task each year to describe this world's tractor trials, and find something new.

Speaking in a general way of the event itself, I cannot describe it better than it has been described by T. W. Ellis in "Power and the Place." As an introduction to my story, I am going to quote:

"Clouds of smoke and hissing steam; a broad prairie stretching for miles without a break, save for the distant mirage; here and there a tiny prairie fire held in leash by bands of blackened earth; dust and heat; throngs of eager spectators; the song of vibrant steel and the cracking roots of age-old sod—imagine all this, add to it the sight of a score of monster engines pulling leviathan plow

and you have a faint picture of the Winnipeg plowing contest. Shining prows of steel,

cleaving the waves of a sea of prairie grass; long furrows lost in a haze; lines of fluttering flags to guide the engineer on a straight course; huge twenty-ton engines mere dots on the landscape, and distance. Refreshment tents, excursion trains, busy autos running errands for the slow-moving tractors, or



Prof. C. F. Chase

in the twilight mild-eyed cattle meandering slowly over the upturned field, wondering, Rip Van Winkle like, at the transformation, and you sense a tragedy, for the pasture of the ox and buffalo from time immemorial is lost for ever to advancing civilization. In the night, when the camps have vanished,

What is this affair? It is an annual contest, a feature of the Canadian Industrial Exhibition, open to the world for either steam or internal combustion tractors of any size or weight. The contest of 1908, first of its kind on the American continent, was received with scepticism, admixed with wonder, but the world-wide interests in the results proved the timeliness of such a demonstration of the utility of mechanical power on the farm. With succeeding competitions this interest has in nowise abated, and the scene about to take place will be the crowning event of them all.

Invitations have been sent to every manufacturer, regulations drawn and published, testing apparatus put in readiness, and all preparations made to determine, from at least one standpoint, the best agricultural motor for Western Canada. For weeks before the trials, engines have been arriving in Winnipeg, and many a neighboring farmer has had a sizable field plowed gratis while these modern farm horses tried out their paces.



The judges in the board room of the Winnipeg Motor Competition, putting the final touches to the Motor Contest figures.

whisking the manufacturer's crew back and forth, and you feel the spirit of a modern festival. Then

one might even fancy Indian spirits floating miserably over the happy hunting ground.

farmer has had a sizable field plowed gratis while these modern farm horses tried out their paces.

For ten long days before the engines appear on the plowing field they have been tested for their stationary power

find the officials, business-like college professors, clad in wide-brimmed hats and overalls. Harassed and buffeted by contending

ened to a razor edge at the factory cut the tough, dry sod as a knife cuts cheese. Two acres of virgin prairie grow dark with every

glassy smoothness and every joint is limber. Next to it is one losing hopelessly through lack of preliminary tuning up. Alongside a steam mogul is a gasoline midget. On the next course is the hope of an inventor who has staked his all on a crude combination of plows, harrows and packers. A fussy little single cylinder engine is coughing "I can't, I can't, I can, I can, I can't, I can't." Yonder can be seen a gas tractor with opposed engine, here a four-cylinder vertical, and over there a two-cylinder horizontal. This one has a hit-and-miss governor, while that one throttles its charge. Here is an owner ready at the last moment to risk the race on some new notion. A new cleat or a new cork insert in the friction clutch fails at the critical time, and a good machine is discredited. The student of design saves here 10,000 miles of travel, and sees construction put to its most strenuous test in yielding data of incomparable value.

Each hour the steamers must take water, but time is too precious to allow a stop. The tank wagon keeps pace alongside, and a horse-crane and steam jet do the rest. Once in two hours the coal supply must be replenished, but the engineer finds sacked fuel and a dozen helping hands to avoid delay. The bare prairie affords no natural watering place. The alkali water from a distant farm well is not only insufficient, but bad for both man and machine. The railway falters in its



The Sawyer-Massey 25-45 Gas Tractor: Gold Medal Winner, Class C, Gasoline Engines; doing one of the finest pieces of plowing in the Contest

on a friction brake, in a hot, unromantic corner of the exhibition grounds. Now they have made their way over ten miles of winding prairie trail to where a section of virgin gumbo soil lies waiting for the breaking plow. Here ensues the real struggle, the climax of a year's effort.

All one day there is the eagerness of preparation. Tents are pitched, fuel and water arranged for, plows assembled and adjusted. On a quarter section set apart the competitors are given a chance to test their plows and power. Courses are marked by flag and stake, and all made ready for the start at daybreak. In the night a steam tractioneer steals away with his engine to caulk a flue. Yonder a dim light shows where a torn gasket is being replaced on a gas tractor, or possibly a sheared stud in a fuel pump is being replaced by a nail from the tool box. In the stillness, the sound of a stealthy file betrays the purpose of a plowman to get an edge on his rival as well as his plow. Camp food, tents, cots, blankets, hasty lunches during the long, busy hours, the lack of opportunity for restful sleep and clean washing, all emphasize the bustle and confusion, and give some hint of the hardships borne without a murmur by the loyal mechanics. Their iron steeds have been put in the final pink of condition. The night before the supreme test the men sleep in their clothes on the field, one eye open for prowlers from rival camps.

Out on the fields at dawn we

ranks, they discharge their duties with all the more zest. Fuel and water are carefully dispensed, and one by one the puffing, purring steamers and the puttering gas

mile of travel, four acres in an hour. Once in a former contest an acre of stubble ground was plowed in eight minutes, a world's record. Tons of coal and car-



The J. I. Case 110 H. P. Steam Tractor: Gold Medal Winner, Class C, Steam Engines; making a record run on the plowing field.

tractors are sent into the fray. Down the field, headed straight for each flag in the line, the steersman strikes his furrow. Circling quickly at the other end, he re-

loads of water are sent into the thin air, and between sunrise of one day and nightfall of the next, three hundred and twenty acres of virgin land are doubled in value



The Avery 20-35 H. P. Gas Tractor: Winner of the Silver Medal, Class B, Gasoline Engines; pulling a five bottom Avery Power Lift Plow, and doing a most excellent piece of work

turns carefully upon the edge of the first. Back and forth the engines puff and groan, while plowshares that have been sharp-

Here is a mammoth steam engine, there a single cylinder. Yonder is an engine which has been used until bearings are worn to a

tas' of bringing water in tank cars from the city, and early in the day six steamers must stop plowing while gas engines on all sides go

pping merrily on. When water comes at last, two versatile gas tractors fall to and assist the weary teams in keeping their steam cousins in motion.

The foremost experts on the continent are in charge of rival plows. Here is a game within a game. Yankee plowmaker against Yankee, and Canadian against both. The craftiest general of them all adjusts his plows to show a sharp furrow handsome on top, regardless of what lies underneath, and so wins popular favor for the engine which tows him. Had the plowmaker not provided these superb instruments, products of the last decade, a contest on such scale would be impossible. The cattle wandering over their former pasture field would still have found rich pickings, and the memory of smooth mile-long furrows would not have lingered with many a farmer to create in his mind the thought of ownership.

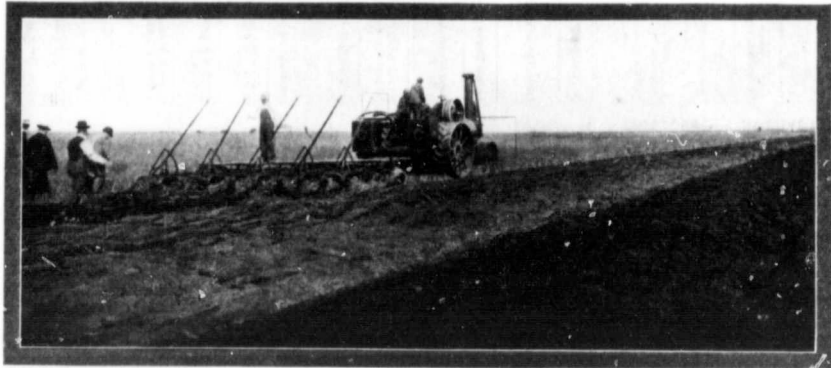
In immediate charge for the competing companies is the tall diplomatic manager of an experimental department trained a salesman; the untechnical publicity man; the mechanical engineer and the chief inspector of one concern; the shop superintendent of another, and the Canadian salesman in another case. An intensely interested gallery follows every move.

The head of a great company meets fifty subordinates on the field. In one short day he progresses from vast ignorance of even the commonest

with a contest that pays him nothing for the expense and worry, yet down in his heart he knows he could not be kept out. A bluff

Astride a water tank, and losing no detail of the proceedings, is the dapper, rosy-faced man, who rules one of the largest thresher com-

dynamometers with the inventor of the ones used in the contest. In a sociable group are government representatives from Russia, Can-

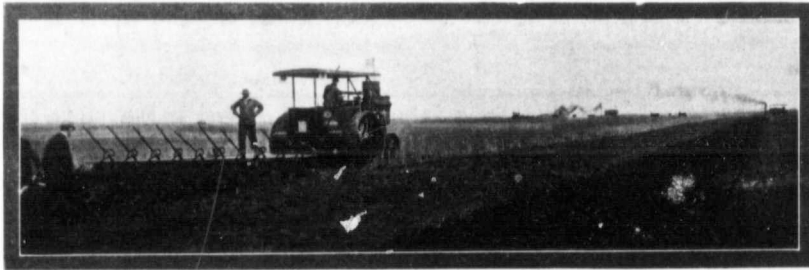


The Sawyer-Massey 27-80 Steam Tractor: Silver Medal Winner, Class A, Steam Engines; winning its 161.05 points in the plowing contest.

man, risen from the rank of salesman to the leadership of an immense concern, is deep in conversation with an eager young officer who has brought an old company

panies with an iron hand. In a buggy that seem strangely out of place follows an elderly, mild-mannered man who has brought his new engine to the motor con-

ada, and the United States, and a half-dozen non-competing manufacturers from the world-at-large. There are scores of men building steam and gas tractors; stationary gas engine builders whose mouths water at the dream of a portable tractor trade; men building plows; and, besetting all these, dozens of inventors who are there to gather ideas and present their claims for the attention of capital.



The J. I. Case 40-80 G. P. Gas Tractor: Silver Medal Winner, Class C, Gasoline Engines; making a mighty straight furrow.

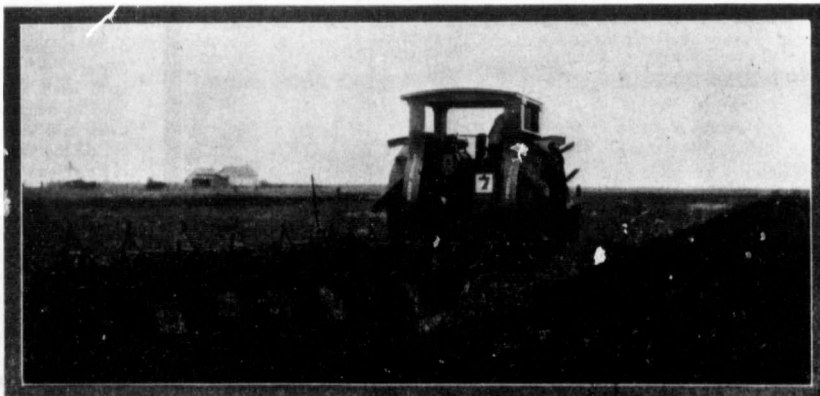
in the States a new lease of life. At some lull an eavesdropper finds them betting a hat on the result of the contest. The next moment they plunge into a discussion

test to give it a try-out such as he is unable to give it at the factory.

The professor of mechanical engineering rubs elbows with pro-

By machine, trap, and excursion train come crowds. Sharply through it all runs the commercial spirit. On every hand is the wily salesman bidding for the favor of a fascinated prospect. Here is the farmer who comes with open mind, and there is the partisan who backs his favorite, win or lose. Yonder is he who comes to scoff and remains to investigate. Well-groomed city men and smartly-dressed women come, in uncomprehending wonderment to join the throng that trudges after these roaring, pulsating heralds of a new order of things on the farm. From far and near the Canadian farmer, and even his neighbor from across the line flock to Winnipeg to see the tractors of the English-speaking world pitted in equal competition. Representatives of the press are everywhere at elbow to note the smallest item of interest. On every side there is the indefatigable photographer, and even the cartoonist, gathering pictures of the engines, the plows and the living actors for the eyes of a waiting world.

What does the public compre-



The Avery 40-80 Gas Tractor negotiating some tough stuff on the plowing field.

terms to a masterly grasp of the stupendous opportunity pictured by this brief contest. A veteran builder proclaims his impatience

of what manufacturers can do to prevent the impending shortage of skilled labor, which must cripple us as a manufacturing nation.

fessors of agricultural engineering. The superintendent of motive power in a great railway system exchanges views on traction

AGRICULTURAL MOTOR COMPETITION—CANADIAN

Table with columns for 1913, Entry No., Maker's Name, and various engine data metrics (No. Cylinders, Piston Displacement, etc.) categorized into Division 1 (Gasoline), Division 2 (Kerosene), and Division 3 (Steam).

* Area of high-pressure piston plus 10% of that area.

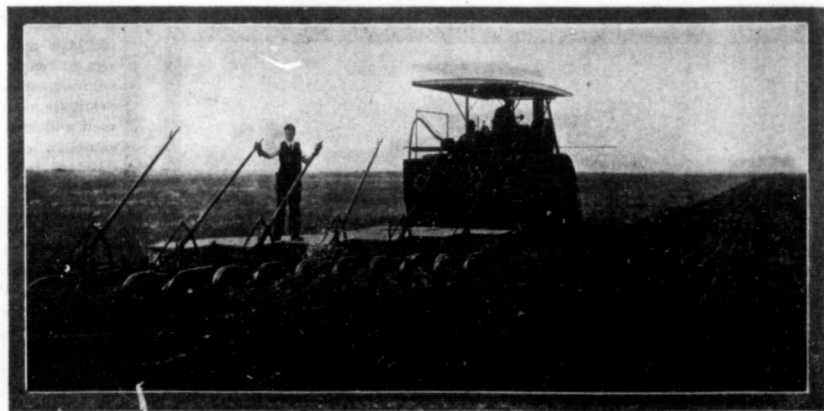
hend of the immense spectacle stalked for its benefit? What does it know of the game, the intense rivalry, the tricks, and the prize that is sought? In the eyes of the farm boy you see only the look of envy cast on the greasy mechanic at the throttle or the steering wheel. You fathom the longing of a weary farmer to own a machine which banishes drudgery. But the participants themselves, intent only on their own and some rival's performance have neither eyes to see nor lips to explain. No actors were ever more careless of their audience, at least until the contest is over, and the advertising managers of the suc-

cessful firms get busy. No other annual exposition held on the American continent brings together such a galaxy of big men

adaptation of mechanical power to plowing. The capital and brains of a continent are concentrated at one point, all intent on the one

chanical power on the farm. Through this one annual event the name of Winnipeg has become so linked with the thought of traction engines and traction plowing, that, when the last great history of mechanical power on the farm shall have been written, the name will stand out on the pages like that of Chicago, in the romance of the reaper and South Bend and Moline in the history of the plow.

What is there behind all this? Are we watching a mere parade of machines, or is it a race, with huge, slow moving iron ercherons in place of thoroughbreds? As ages of racing have put fire and steel into structures of muscle and



The Sawyer-Massey 35-115 H. P. Steam Tractor Silver Medal Winner, Class C, Steam Engines; pulling 12 John Deere 14 inch bottom in the Plowing Contest.

in the farm power industry as the Winnipeg Exhibition with its motor contest. No other one thing has done more to crystallize the thought of the world upon the

problem. Capitalists, engineers, designers, salesmen, journalists, land men, oil men, farmers, and teachers are all on the scene, striving to forecast the future of me-

INDUSTRIAL EXHIBITION, WINNIPEG, JULY, 1913—DATA SHEET

Table with columns for Engine Data and Boiler Data, including metrics like Piston Displacement, Total Piston Area, and various boiler specifications (Diam. Shell, Total Length, etc.).

bone, as auto races have toughened the metal of machines, so does the contest bring out the temper of the contesting motors. It is a race where twenty-ton engines are the entries, where the skill of the designer, the craft of the workman, the cunning of the general on the field, and the coolness, bravery, and resourcefulness of the tractioneer are all pitted against those of rival houses.

Let no one liken the motor contest merely to an old-time Scottish plowing match, where slow, careful work, a steady team, and a skilful hand were the winning factors. The Scotchman aspired to leave behind him smooth furrows, straight as an arrow, with the crest of each standing up sharp and unbroken from one end of the

field to the other. Here at Winnipeg, where all is speed, distance and bustle, we might more easily liken the scene to a hunt. We might call it a sport of kings, where men spend thousands to win a golden bauble. A bauble, did we say? Yes, and no, for the medal carries with it a claim on

to tell just why so few firms entered, and when this same story was finally told it is doubtful as to whether it would then explain the real reasons for so many firms staying out.

When the entry lists were completed it was found that but three firms had decided to take a chance

chine Co., of Racine, Wisconsin. Sawyer and Massey competed with three steam tractors and one gasoline tractor. The Avery Co. entered three gasoline tractors and two kerosene tractors. The J. I. Case Threshing Machine Company were in full force with four gasoline tractors, three kerosene tractors,

and three steam tractors, making nineteen entries in all. (For detailed sizes I would refer you to the detailed data sheet.)

The tests for 1913 were very similar to those of 1911 and 1912, some few changes being made in the score card. The principal change was in the introduction of a system of penalties, which really told the contestants what they should not do rather than what they should do. In detail the rules



The Case 15-25 Gasoline Tractor Gold Medal Winner, Class A, Gasoline Engines; pulling a Case-Sattley five bottom power lift plow.

the lion's share of trade in a new farm empire richer than India. The 1913 contest was particularly noticeable through lack of entries. It would be a long story

on winning the coveted medals, these being these being the Sawyer-Massey Co., of Hamilton, Ontario; the Avery Co., of Peoria, Ill. and the J. I. Case Threshing Ma-

AGRICULTURAL MOTOR COMPETITION, CANADIAN INDUSTRIAL

Table with columns for Class and Division, Entry No., Maker, and various performance metrics under DEDUCTIONS and Economy Brake Test.

* Blew gasket in steam line.

are as follows, and while they have been previously published in this magazine I give them here again in that they throw more or less light upon the detailed sheets:

CLASSIFICATION

The entries shall be classified as follows:

DIVISION 1

Internal Combustion Motors

Class

- (a) Gasoline traction engines having a piston displacement of and less than 300 cubic feet per minute. (b) Gasoline traction engines having a piston displacement over 300 cubic feet per minute and not over 500 cubic feet per minute. (c) Gasoline traction engines having a piston displacement over 500 cubic feet per minute.

DIVISION 2

Internal Combustion Motors

Class

- (a) Kerosene traction engines having a piston displacement of and less than 300 cubic feet per minute. (b) Kerosene traction engines having a piston displacement over 300 cubic feet per minute and not more than 500 cubic feet per minute. (c) Kerosene traction engines having a piston displacement over 500 cubic feet per minute.

DIVISION 3 Steam Traction Engines

- (a) Steam traction engines whose piston area in square feet times 200 x .8 = 60 or less. (b) Steam traction engines whose piston area in square feet times 200 x .8 = from 60 to 100. (c) Steam traction engines whose piston area in square feet times 200 x .8 = over 100.

may be given, upon which will be set forth, together with the number of points scored, that it was the only entry in the class.

ENTRIES

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

confused with any other entry of the same class by the same manufacturer; such entry must be accompanied by an affidavit that the engine was not especially made for the competition, that the manufacturer is willing to accept and fill orders at an early date for duplicates of the engine and that the engine is of the same grade of workmanship and materials as the regular or proposed products of the factory.

4. Each entry shall be allotted an official number, which shall be displayed during the competition. 5. Any firm or individual shall not enter more than one engine in each class but engines of radically different in construction. Such difference being understood to apply to the power equipment and not to piston displacement.

CONDITIONS

- 8. The fuel shall be that furnished by the Exhibition Association at current prices at Winnipeg, at time of contest. 9. Each competitor must have sufficient staff for the care and running of his own entry, and shall have one man to whom the judges may give orders, or with whom the judges may consult. 10. Two men only, except observers, will be allowed on the steam engines during a test; one an engineer and one a fireman. 11. One man only, except observers, will be allowed on internal combustion engines during a test. 12. No other person to be allowed on or close to the engine except the official judges and observers. 13. The names of the operators to be furnished the judges at commencement of test, and the same operators to handle the engines during all tests. 14. One man only, except the official judges and observers, will be allowed on the plows. 15. The plows, belts, chains, water-tanks, sufficient-revolution counters and recording dynamometers for their engines, with sufficient charts and such other things as may be required during the tests, must be supplied by the contestants. Each engine shall be equipped with a standard revolution counter, both for the brake test and plow test. 16. All instruments, including dynamometers, shall be labelled with the name of the owner and deposited with the judges on the arrival of the engines on the Exhibition Grounds, for testing.



The Sawyer-Massey 27-50 Steam Tractor Silver Medal Winner, Class A, Steam Engines doing its work quietly, and in a manner that reflected the utmost credit on its operators.

Note 1—Piston displacement to be area of piston in square feet times 700, which shall be considered the typical speed. Note 2—In compound engines the high pressure shall be used and 10 per cent added. Prizes in each class shall consist of: First PrizeGold Medal Second PrizeSilver Medal Third PrizeBronze Medal In all classes where there is no competition a diploma of award only

Competitors shall state at time of making entry the number of bottoms with width of furrow they purpose using in plowing test, so that ground may be surveyed in ample time. 3. All entries must be accompanied by an affidavit that the information therein is true and that the engine in question is from regular stock, not being built especially for competition. However, should an engine of new type or design be entered it must be sufficiently different in design not to be

EXHIBITION, WINNIPEG, JULY, 1913, SCORE SHEET

Table with columns for Class and Division, Entry No., Maker, and various performance metrics under Economy Brake Test, Plowing Test, and Design and Construction.

* The accuracy of the fuel weight in this test has been questioned and as it has not been checked it cannot be considered reliable until verified.

and shall remain in their possession until all tests are completed.

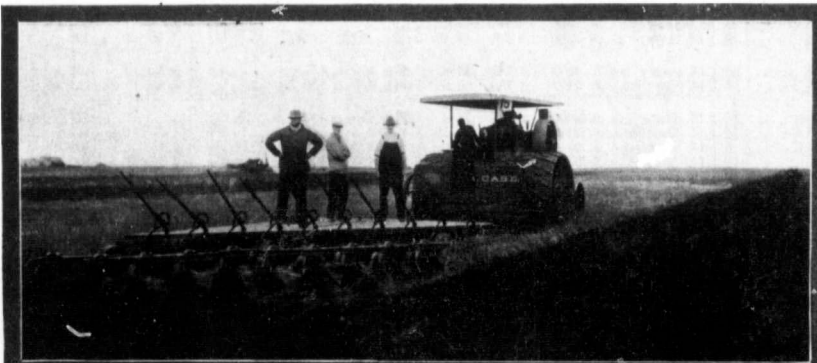
- 17. All engines must be on the grounds not later than 8 a.m., July 1st, 1913. 18. Each engine shall be allotted a certain space on the grounds, where the engines shall be exhibited at all times except when being tested, and will be guarded all the time. 19. One man only, except observers, will be allowed on internal combustion engines during a test. 20. Two men only, except observers, will be allowed on the steam engines during a test; one an engineer and one a fireman. 21. The rules of the Province of Alberta with regard to boilers and engines shall govern the pressures, etc., allowed.

minutes after the previous engine has left the brake to line up to the brake, to try out the engine and to state the amount of load they wish to carry. After the competitor has stated the load he wishes to carry the operator will keep the brake as near that load as possible for two hours, and no change will be made.

- 22. Provision shall be made so that a standard steam gauge can be applied to all boilers during the test. 23. Before commencing the tests, the pop valves and steam gauges shall be inspected by the judges and sealed, and any sediment or foreign matter that may get into these parts after being sealed shall not be taken into consideration. 24. Any engine failing to complete any test shall be disqualified. 25. Contestants shall be prepared to assist the judges and their observers in taking dimensions, removing parts for inspection, and any other work that may be necessary for a complete inspection and test. 26. The brake test shall consist of a two-hour economy test. During this test the engines are to run at their greatest load consistent with economy. 27. Competitors will be allowed 30

Careful measurements of the fuel and water used will be taken and the condition of the engine noted.

- 28. After the two hours' run a test will be made of the maximum horse power the engine will develop for thirty minutes; the competitor stating the maximum load he wishes to carry, and careful measurements again being taken of all fuel and water. 29. Plowing test may extend over a period of five hours or longer, if deemed necessary by the judges, and each engine shall be allotted the same number of rounds. The contestants may use any kind of plow they wish. The depth of plowing to be uniform, and as directed by the judges. A recording dynamometer will be placed between the engine and the plow, which will accurately record the pull. Careful measurements will be taken of the fuel and water used; the acres plowed; the distance travelled without replenishing, and such other data as the judges deem essential. At least one plow chart spread over the time of plowing must be made by each contestant engine.



The J. I. Case 80 H.P. Steam Tractor Gold Medal Winner, Class B, Steam Engines; pulling 10 bottoms in good tough Manitoba gumbo on the Motor Contest field.

AGRICULTURAL MOTOR COMPETITION—CANADIAN INDUSTRIAL

Table with columns for Entry No., Maker's Name, Total Time Running, Time Lost Due to Engine, Average H.P. Developed, R.P.M. Engine Pulley, R.P.M. Engine, Fuel Used (Gasoline, Kerosene, Coal), Piston Displacement, Percentage Fuel Consumption, H.P. Hours per Unit Fuel, Gal. Water Used, Lbs. Water Used, and Average Steam Press.

100 lbs. = unit of coal
1 lb. = unit of gasoline
1 lb. = unit of kerosene
Coal: \$8.00 per ton of 2,000 lbs.
Gasoline: 27 cents per gallon of 7 lbs.
Kerosene: 14 1/2 cents per gallon of 7.9 lbs.
*3 lbs of this was gasoline. Cost average 2 cents per lb.

EXHIBITION, WINNIPEG, JULY, 1913—RESULT OF BRAKE TESTS

Table with columns for Entry No., Gal. Water used per Hour, H.P. Hrs. per 100 gal. water, Lbs. Water Used per 8 Hours, Lbs. Water Used per 100 Gal. burned, Lbs. Water Used per Sq. Ft. Heating Surface, Lbs. Wat. Used per Sq. Ft. Grt. Area, Sq. Ft. Heating Surface per Eon B. H. P., Sq. Ft. Grate Area per Eon B. H. P., Speed to Surface of Engine Pulley, Speed of Surface of Belt, Cost of Fuel per B. H. P. Hr., Per Cent. Slippage, Total Time Running, Time Lost Due to Engine, Average R. H. P. Developed, R. P. M. Pulley-Brake, R. P. M. Engine, Fuel Used in Lbs., H. P. Hrs. per Lb. Fuel, Water Used Gal., H. P. Hrs. per 100 Gal. Water, Average Steam Press., Ratio Piston Displacement to Max. R. H. P., and Entry No.

Coal Analysis: Moisture 0.40, Volatile 35.55, Fixed Carbon 53.88, Sulphur 0.78, Ash 9.39, Heat Units (B.T.U.) 14,470 per lb. Av. dry
Kerosene: Specific Gravity 0.779, Degrees Baume 49.6, Pounds per U.S. gallon 6.49, Pounds per Imperial gallon 7.78, Flash closed Test 102F

AGRICULTURAL MOTOR COMPETITION—CANADIAN INDUSTRIAL

EXHIBITION, WINNIPEG, JULY, 1913—RESULT OF PLOWING TESTS

Table with columns for Entry No., Maker's Name, No. of Bottoms, Width of Plow, Inches, Make of Plow, No. of Times Across Field, Length of Furrow, Feet, Miles Traveled, No. including Turns, Average Width of Plowed Land, Ft., Acres Plowed, Average Depth, Inches, Total Time Required, Minutes, Time Lost Due to Plow, Etc., Min., Time Lost Due to Engine, Etc., Min., Time Required in Turns, Min., Time Lost Due to Dynamometer, Min., Actual Time Plowing, Min., Acres Plowed per Hour, Miles Traveled per Acre Plowed, Average Drawbar Pull, Lbs., Rate of Travel in Ft. per Min., and Average Drawbar Horse Power.

Table with columns for Fuel Used (Gasoline, Kerosene, Coal), Drawbar Horse Power, FUEL USED (Per Acre Plowed, Lbs., Per Mile Traveled, Lbs., Per Working Hour, Lbs.), Lbs. Water Used, WATER USED (Per Acre Plowed, Lbs., Per Mile Traveled, Lbs., Per Hour Run, Lbs.), WITHOUT REPLENISHING FUEL (Possible Miles Plowed, Possible Acres Plowed, Possible Hours Run), WITHOUT REPLENISHING WATER (Possible Miles Traveled, Possible Acres Plowed, Possible Hours Run), Drawbar Horse Power Used, and Cost of Fuel per Acre Plowed, Cents.

† Four for 830 yards. † Six one furrow.

* The accuracy of the fuel weight in this test has been questioned and as it has not been checked it cannot be considered reliable until verified.
† Coal: \$8.00 per ton of 2,000 lbs. Kerosene: \$0.415 per gal. of 7.9 lbs. Gasoline: \$0.27 per gal. of 7.0 lbs.

30. In connection with the plowing test the quality of plowing which is to be judged by prominent agriculturists shall have special reference to: thickness of furrow; finish at the ends and condition of the back furrow, and any

SCORE CARD FOR LARGE FIELD MOTORS			
Brake Test			
	Div. 1 & 2	Div. 3	
Horse power hours per pound of fuel	130	120	

Distance travelled without replenishing fuel	10	
Distance travelled without replenishing water	10	
	200	200

Speed range miles per hour and method of changing..	15	15
	100	100



The Avery 12-25 H. P. Gasoline Tractor, Silver Medal Winner, Class A, Gasoline Engines; pulling an Avery 4 bottom power lift plow. Note the straightness of the furrow ridge, and the beautiful class of work done by this outfit. Do not be misled and think it is a two man outfit. The man sitting on the plow is the observer reading the Dynamometer.

other features which might have to do with the engine. In connection with the evenness of depth of furrow; the exact depth prescribed by the judges must be maintained throughout the test; the number of furrows opened at the commencement of each round shall be carried through to the end.

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

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

33. General—It is to be expressly understood and agreed by the manufacturer that the engines entered in the competition are of the same material and construction as those he is selling in the open market. (See Rule 3.) Only such pressures and speeds will be allowed during the tests as are used under ordinary working conditions. The judges may limit the speed or pressure of any engine when they deem it necessary to a fair test. Contestants must submit their dynamometers, steam gauges, etc., to such tests as the judges deem necessary to assure them of their accuracy.

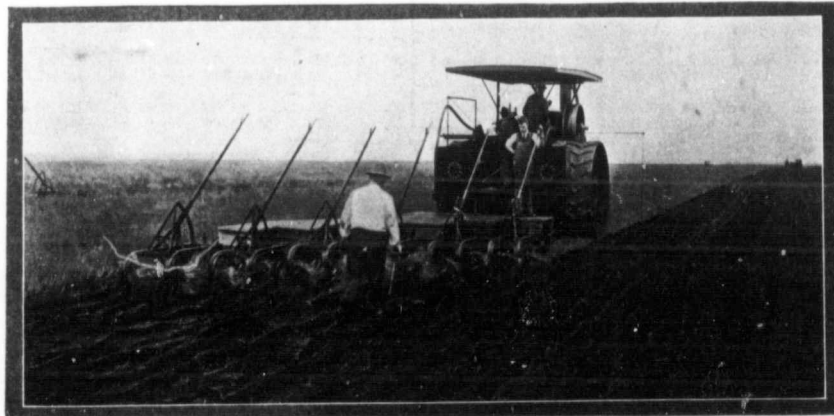
34. The competitors, upon being given notice of the testing of their engines, are to make all arrangements for water, belts, etc., so that as little delay as possible will result.

35. An exhibitor lodging a protest must make it in writing. It must be delivered to the engineer in charge before 10 a.m. the day following the cause of protest, and a receipt must be obtained. A protest must state plainly the cause of complaint or appeal, and must be accompanied by a deposit of \$25, which sum shall be forfeited to the Association if the said protest is not sustained. The engineer in charge will call a meeting of the representatives of all the competitors, which shall sit as a board of arbitration and hear the complaints, and the opinions of the judges. It will require a two-thirds vote of those present to reverse the decision of the judges.

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

Horse power hours per pound of water used....	20	30
	150	150
Maximum Brake Test		
Ratio of piston displac-		

Design and Construction		
	Div. 1 & 2	Div. 3
Diameter or circle required in which to turn in medium soft ground	5	5
Protection of working parts	15	15



The Sawyer-Massey 35-115 H. P. Steam Tractor, making its second round in the plow test.

ment to maximum load..	50	50
Plowing Test		
Draw-bar h.p. per pound of fuel	140	115
Draw-bar h.p. per pound of water	25	30

Accessibility of working parts	15	15
Ease of manipulation.....	10	10
Lubricating oil used in cylinder and crank case per unit of powder de-		

PENALTIES

All Penalties to be Deducted from Final Score

1. For each hour late in entering allotted position on ground.. 2
2. Each minute over five minutes required in getting away from test
3. For each minute over 30 minutes required in getting started.... 1
4. For each stop after start of test for each five minutes of stop after first five minutes
5. For withdrawing after starting and entering again, 15% of total points won. In such case Items 4 and 5 will not count.. 2
6. For reducing permanent load after starting brake test (maximum or economy) for each 5% or fraction thereof of load started with
7. For increasing permanent load after starting brake test (maximum or economy) for each 5% of fraction thereof of load started with
8. For each revolution of engine more than 3 revolutions above or below the average
9. For each temporary changing or reduction or increasing of the load which is so conspicuous, it cannot be covered by No. 9 during a brake test
10. For cleaning, adjusting, or changing igniters
11. For cleaning carburetors ..
12. For adjusting bearings (each bearing ..
13. For adjusting clutches (each adjustment)
14. For changing depth of plows when dynamometer is recording per notch per plow
15. For having a knock in engines. Each place of knock ..
16. For each hot bearing
17. For not having standard equipment on engine during all tests, each feature
18. For each yard over four yards a plow is out of ground
19. For vibration of whole engine frame, amount of penalty to and rattled
20. For vibration and rattling of light parts, including cab.....
21. For a wabbling belt



The J. I. Case 40 H. P. Steam Tractor. Gold Medal Winner, Class A, Steam Engines; negotiating some real tough stuff in the Plowing Test.

Area plowed per hour per economy brake horse-power	25	25
Quality of plowing in so far as engine is responsible..	10	10

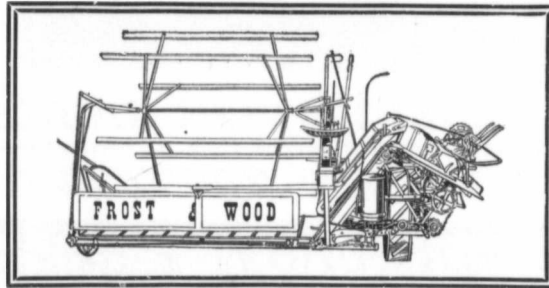
veloped (economy brake) Finish, proportion of working parts and durability of materials	5	5
Accessories	15	15

20. For vibration of whole engine frame, amount of penalty to and rattled
21. For vibration and rattling of light parts, including cab.....
22. For a wabbling belt

Be Ready for the Harvest With a Dependable Binder

You can't afford to run any risk of delay at Harvest time. When the grain is ripe for cutting every minute counts. Let the Harvest find you prepared, now is the time to get ready. Look over your equipment, be prepared to get all the profits possible from your acres. Frost & Wood Binders are saving farmers hundreds of dollars every year, because these implements give the most efficient service. They are the result of over 70 years' study of Harvest field conditions; they combine features that save grain, make the work easier, and enable you to get the work done in less time.

For
Long
or
Short
Grain



For
Heavy
or
Light
Crops

Frost & Wood Binder

Frost & Wood Binders are easy to operate and easy on the horses; fast cutters and grain savers, this advertisement tells the reasons why. Frost & Wood Binders will handle long or short grain, heavy or light crops equally well, making a square butted, well-tied bundle in every case. The secret for light draft for which Frost & Wood Binders are noted is found in the large number and generous size of Roller Bearings used at points where weight and wear come. These machines go on cutting under conditions when other machines have to quit.

The wide range of Reel positions makes it possible to lay all kinds of grain, long, short, or tangled—evenly on the platform so as to make a good square well-tied sheaf. Frost & Wood Binders have a simple but sure knoter that always gives satisfaction; there are no complicated parts about them to cause trouble, every feature is plainly visible so that if accidents happen you can easily rectify the trouble. Frost & Wood Binders require very little attention, keep them well oiled and they will work for you twenty-four hours a day always at the same steady gait.

Exclusive Features—Better Service

The eccentric sprocket is an exclusive Frost & Wood feature, the Frost & Wood Binder is known all over Canada as "the Binder with the eccentric sprocket." Fast steady cutting and uniform draft result from the use of this long-spoke, short-stroke sprocket. There is no extra draft thrown on the horses when the bundle is being tied. The long spokes of the sprocket give great leverage and consequently a great gain of power when it is most needed—when the bundle is being tied. The binder always runs smooth and not jerky on the horses.

The Force Feed Elevator is an exclusive Frost & Wood feature, three rollers in the top elevator make the force feed—ask our agent to explain this to you. The Force Feed Elevator handles all quantities and conditions of grain with equal ease. It instantly and automatically adapts itself to any change in the amount of grain to be elevated. It has every advantage of a floating elevator without any of the complications or disadvantages. It has all the simplicity and durability of the rigid elevator, but at the same time it handles light or heavy grain equally well. The Force Feed increases the capacity of the binder by insuring a steady feed of grain to the packers.

Cockshutt Plow Company, Limited

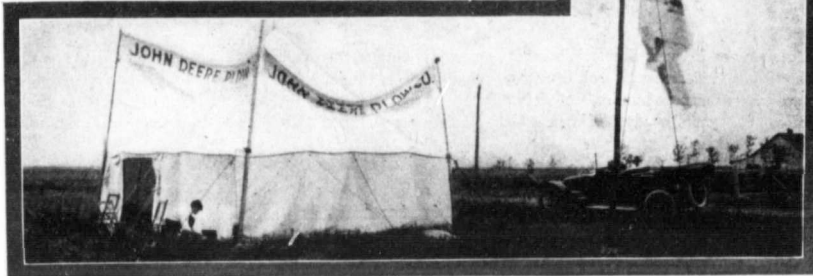
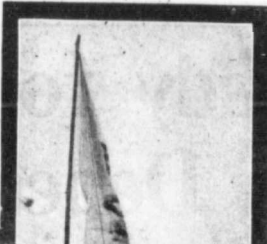
Branches: WINNIPEG, REGINA, CALGARY, SASKATOON

Distributing Points: Red Deer, Lethbridge, Edmonton, Brandon, Portage la Prairie.

- 23. For more than one man starting, each man
- 24. For not having sufficient water for running 8 hours—
- 1st hr. less than 8 hrs. without replenishing
- 2nd hr. less than 8 hrs. without replenishing
- 3rd hr. less than 8 hrs. without replenishing
- 4th hr. less than 8 hrs. without replenishing
- 5th hr. less than 8 hrs. without replenishing

C. H. Shedd, J. Graham, I. C. Dickenson and W. Brooks.

Under the supervision of Prof. Chase the judges and observers worked in a manner that showed organization and careful planning beforehand. So much for the personell of the judges and observers. In addition, each contestant had his full force of engineers, engine-

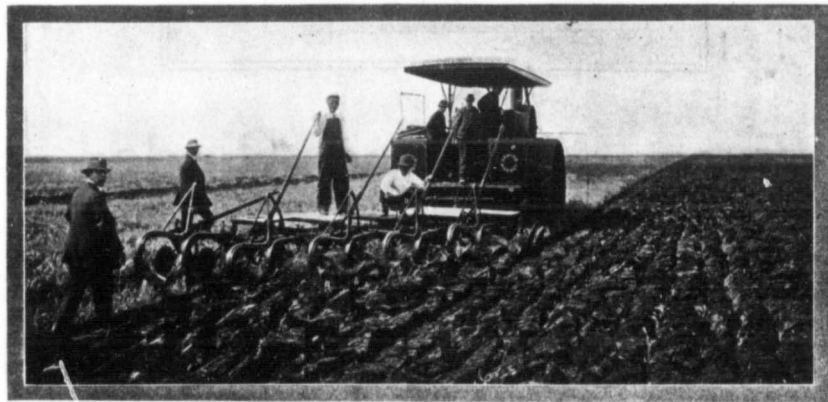


The John Deere headquarters on the Motor Contest Field.

- 6th hr. less than 8 hrs. without replenishing
- 7th hr. less than 8 hrs. without replenishing
- 25. For having the R.P.M. of the engine in the plowing test greater or less than in the economy brake test and
- More than 1 and less than 2 per cent
- More than 2 and less than 3 per cent
- More than 3 and less than 4 per cent
- More than 4 and less than 5 per cent
- More than 5 and less than 6 per cent
- More than 6 and less than 7 per cent

men, plowmen, sales managers, advertising managers, etc., each and every one schooled in the part that he was to play in the con-

tory, and W. White, J. Turnbull, and T. Bell, of the Western sales force, were constantly on hand. The J. I. Case Threshing Machine



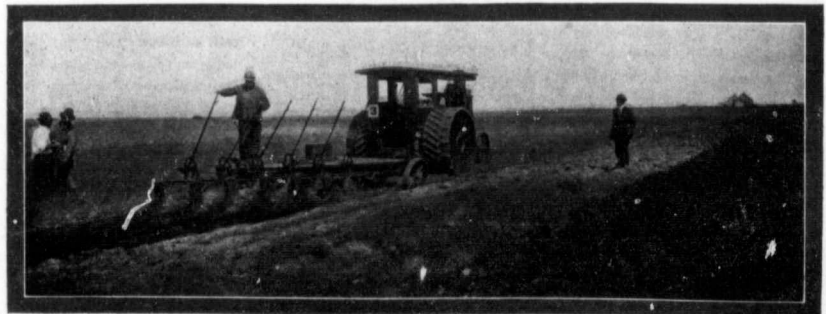
The Sawyer-Massey 25-75 H. P. Steam Tractor: Silver Medal Winner, Class B, Steam Engines; pulling eight John Deere bottoms on the Contest Field.

The 1913 contest was in a great many respects the smoothest running contest that has yet been pulled off. Engineer-in-charge, Prof. L. W. Chase, arrived on the ground a considerable time before the contest opened, and had everything in perfect order when the contestants appeared. The data sheets were all arranged, and charts were prepared, from which the judges were enabled to calculate results more rapidly than ever before. The calculation work was under the direct charge of Prof. H. W. Riley, of Cornell University, who took the figures right hot from the observers, and kept them tabulated up-to-date in so far as possible. The judges were Prof. J. B. Davidson, of Ames, Iowa, Prof. L. J. Smith, of the Manitoba Agricultural College, and Prof. H. W. Riley, of Cornell University. These were assisted by Prof. W. J. Gilmore, of the M.A.C., Prof. H. A. Milne, of the M.A.C., J. Dryden, E. Trott, A. E. Dudley, J. M. Smith,

test. It would be hard to hold a motor contest without J. B. Bartholomew, of the Avery Co., and, of course, J. B. was there, likewise W. J. Brandon, of the

Company, were represented by Messrs. MacGregor, Davies, Pugh and Statz, of the engineering department, Ramsay and Gittins, of the sales department, Meigs and

pull is pressed upon a platform scales. The distance is the circumference of the centre of the rope and the time is the number of revolutions per minute. There-



The J. I. Case 20-40 Gasoline Tractor: Gold Medal Winner, Gasoline Engines; making a merry run for first honors.

same company, who has never missed a single contest since 1909. The Sawyer-Massey Co. was represented by Messrs. Allen, Christie, and Ewing, from the fac-

Pettit, of the advertising department, and F. Lee Norton, of the executive department.

The brake test began July 5th, and passed off with very little to

fore, the load multiplied by the circumference in feet and the number of revolutions per minute and divided by thirty-three



CASE

Still Reigns

SUPREME



WINS NINE GOLD ★ MEDALS

(OUT OF A POSSIBLE TEN)

Wins Grand Sweepstakes Honors

(FOR BOTH TRACTORS AND TRACTOR GANG PLOWS)

Establishes World's Records

AT THE

1913 Winnipeg International Motor Contest

This contest is International, open to the world's manufacturers of farm power machinery, and is held under the supervision of the Canadian Government.

The results of this Contest are of direct value to every farm power user, because they represent the only scientific, unbiased official Tests by which he can make practical comparisons of the various makes and types of tractors and tractor gang plows.

The data of this unprecedented achievement, based on the tests of a board of splendidly competent judges, we give on the following seven pages. These figures will explain to you our record—one which has never been approached by any competitor. A study of these results will give you accurately and impartially a standard by which you can measure the efficiency of all engines and plows.

*The standard set by Case Machinery
is still the standard of the World*

J. I. CASE THRESHING MACHINE CO. (Inc.)

741-791 State Street - Racine, Wis., U. S. A.

Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary



In each class, Gold, Silver and Bronze Medals were awarded—Gold first—Silver second—Bronze third—Case was awarded some three or four Silver Medals but compared with Gold, Silver Medals are relatively unimportant.

CASE 110 H.P. STEAM TRACTOR

Gold Medal Winner 1913 WINNIPEG MOTOR CONTEST

(In It's Class)

This Tractor Has Never Failed, to Win Gold Medal AND Sweepstakes Honors

in Every Winnipeg Contest Entered.



Pulling Fourteen 14-in. Breaker Bottom Plows, Delivering 74 Draw Bar Horse Power Draw Bar Pull Averaged 11,500 Pounds—821 Pounds Per Plow

(Manitoba Free Press, Winnipeg, Can., July 8, 1913)

SPLENDID SUCCESS ASSURED FOR FAIR

Canadian Industrial Exhibition Declared Open by Hon. W. A. Charlot

WORLD'S BRAKE RECORD

Entire Programme Carried Out Despite Strong Wind. Farmers' Day at the Grounds Today.

BREAKS WORLD'S RECORD

In the brake test of the motor contest being held at Winnipeg exhibition grounds a 110-horse power steam traction engine entered by the J. I. Case Company, broke all world's records in its class for low consumption of fuel in respect to the amount of energy developed. For each horse power produced but 2.65 pounds of coal was used. The Case Company holds the present record which was made last year when a total of 3.4 pounds of coal was used for each horse power developed.

It is announced that the plowing tests in connection with the competition will commence tomorrow morning in a field selected about six miles north of Winnipeg. Trains will run every hour to this location, and it is expected that the interest shown will be even greater than last year when large crowds visited the field daily.

4 Times Entered 4 Times GOLD MEDAL Winner 4 Times Awarded SWEEPSTAKES Honors

A Comparison of the Figures in the Table for All Winnipeg Contests Shows Competitor's Best Record:

Fuel per Brake H. P. hour, 20% More Than Case
Fuel per Draw Bar H. P. hour, 23% more than Case
Water per Brake H. P. hour, 5.8% more than Case
Water per Draw Bar H. P. hour, 23.2% more than Case
Coal per acre, 15% more than Case

Average Record of All Competitors

Fuel per Brake H. P. hour, 62% more than Case
Fuel per Draw Bar H. P. hour, 88.5% more than Case
Water per Brake H. P. hour, 22.6% more than Case
Water per Draw Bar H. P. hour, 47.1% more than Case
Coal per acre, 69.5% more than Case

COMPETITOR'S RECORDS	COAL REQUIRED TO DELIVER 10 H. P. FOR 10 HOURS		COAL REQUIRED TO PLOW ONE ACRE
	ENTRIES	At the Fly Wheel		At the Draw-Bar
Entrant 9D.....1909	490 lbs.	.....	135 lbs.
" 14D.....1909	320 "	.....	143 "
" 20D.....1909	555 "	.....	127 "
" B13.....1910	416 "	906 lbs.	147.2 "
" C15.....1910	362 "	832 "	149.6 "
" C17.....1910	407 "	817 "	120.8 "
" F26.....1911	556 "	.....	.....
" F27.....1911	490 "	1593 "	236.1 "
" G28.....1911	399 "	1490 "	189.2 "
" G29.....1911	392 "	1900 "	208.0 "
" G30.....1911	462 "	.....	.....
" G31.....1911	452 "	1365 "	206.6 "
" H29.....1912	423 "	1004 "	155.9 "
" 13A.....1913	343 "	735 "	106.9 "
" 16B.....1913	412 "	852 "	139.7 "
" 18C.....1913	418 "	852 "	123.8 "
Competitor's Average	431.06 lbs.	1122.36 lb.	156.34 lb.
Case 110 H. P.....1909	333 lbs.	.....	123 lbs.
" " "1910	304 "	716 lbs.	99.2 "
" " "1912	301 "	660 "	99.3 "
" " "1913	265 "	596 "	92.6 "

This Tractor Holds Records for

Lowest **COAL** consumption per brake h. p. hour; lowest **WATER** consumption per brake h. p. hour; lowest **COAL** consumption per draw bar h.p. hour; lowest **WATER** consumption per draw bar h. p. hour; greatest draw bar pull delivered; greatest draw bar h.p. delivered; greatest number of acres plowed per hour; lowest fuel cost per acre plowed at present prices; greatest maximum h. p. at normal speed.

A comparison of the figures in the table further shows that Case has **Continued to Improve** and **Lower its Own Records**, while **Our Competitors' records show No Improvement.**



This engine established the new *World's Record* of 2.65 pounds of coal per brake horse-power hour, thereby lowering its own world's record at the brake by 11 per cent. It also lowered its previous record of coal required per draw-bar horse-power hour by 9.7 per cent., proving that *CASE Engines Are Even Better Than Ever*, and substantiating our oft repeated statement that we have continued to improve our steam as well as our internal combustion engines, while other manufacturers have forgotten the development of their steam product in their frantic efforts to get upon the market a gas tractor that would equal Case. Let us send you our Catalog, then do some figuring for yourself.

J. I. CASE THRESHING MACHINE CO. (Inc.)
741-791 State Street - Racine, Wis., U. S. A.

Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary



CASE 80 H.P. Steam Tractor

Gold Medal Winner in 1913 WINNIPEG MOTOR CONTEST

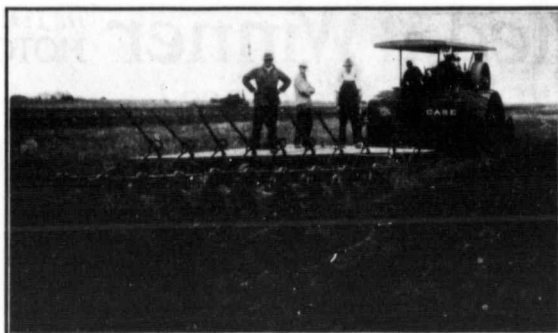
(In Its Class)

This Tractor
Has Never Failed
To Win

Gold Medal

IN

Winnipeg Contest
When In
Competition



Pulling Ten 14-inch Breaker Bottom Plows, Delivering 52 1/4 Average Draw Bar H. P.
Draw Bar Pull Averaged 8,150 Pounds—815 Pounds Per Plow.

CASE
Steam Engines

Never Failed
To Win

Highest Honors
In Any Class

In Any
Winnipeg Contest
Entered

3 Times Entered · 3 Times Winner · NO OTHER ENGINE EVER APPROACHED ITS RECORD EXCEPT CASE 110 H.P.

A Comparison of the Figures For All Winnipeg Contests Shows:

Competitor's Best Yearly Average

Fuel per Brake H. P. Hour, 13.4% More Than Case
Fuel per Draw Bar H. P. Hour, 26.5% More Than Case
Water per Brake H. P. Hour, 12.4% More Than Case
Water per Draw Bar H. P. Hour, 13.2% More Than Case
Coal per Acre, 24.4% More Than Case

Competitor's Total Average

Fuel per Brake H. P. Hour, 19.3% More Than Case
Fuel per Draw Bar H. P. Hour, 43.8% More Than Case
Water per Brake H. P. Hour, 16.0% More Than Case
Water per Draw Bar H. P. Hour, 5.14% More Than Case
Coal per Acre, 38.9% More Than Case

Average of Competitor's Yearly Records	Coal Required to Deliver 10 H. P. for 10 Hours		Coal Required To Plow One Acre
	At the Fly Wheel	At the Draw Bar	
1909	454 lbs.	Not Recorded	135. lbs.
1910	395 lbs.	851.6 lbs.	139.2 lbs.
1911	458 lbs.	1587. lbs.	209.9 lbs.
1912	423 lbs.	1004. lbs.	155.9 lbs.
1913	391 lbs.	813. lbs.	123.4 lbs.
Total Average	424 lbs.	1064. lbs.	152.7 lbs.
75 H. P. Case 1910	359 lbs.	746 lbs.	120.6 lbs.
80 H. P. Case 1912	379 lbs.	644 lbs.	97.5 lbs.
80 H. P. Case 1913	327 lbs.	598 lbs.	93.4 lbs.

Excepting Case 110 H. P. This Tractor Holds Records For:

Lowest Coal Consumption per Draw Bar H. P. Hour.

Lowest Water Consumption per Draw Bar H. P. Hour.

Lowest Water Consumption per Brake H. P. Hour.

IN ITS CLASS

Lowest Fuel Cost per Acre Plowed at present prices.

Greatest Draw Bar Pull Delivered

Greatest Draw Bar H. P. Delivered

Greatest Number of Acres Plowed per hour.

Case 80 H. P. Steam Engine Won Gold Medal in 1913 Winnipeg Contest

The remarkable records of this engine are best told by comparing its performance with that of other entrants in the 1913 and all previous Winnipeg Contests. In fact the records of this engine have never been equalled by any other make regardless of class. The figures in the accompanying table are taken from the official reports. We have repeatedly stated in the past that when Case engines compete it is only against their previous records, as there can be no close competition between Case and other makes. The 1913 results bear eloquent testimony to the truth of this statement.

A study of competitor's records as summarized above since the first Winnipeg Contest indicates that this engine's great performance was not an accident or fluke but the result of steady, consistent development to its present high state of perfection.

We will be pleased to mail you our Catalog—you will find it brimful of things you ought to know. Send us your name and address.

P. S. Take good care of this data—you will need it. When ready to buy an Engine look it over—take your pencil—do your own figuring—you know that figures don't lie—Case.



J. I. CASE THRESHING MACHINE CO., Inc.
741-791 STATE ST. RACINE, WIS., U. S. A.

Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary





CASE

40 H.P. STEAM TRACTOR

Gold Medal Winner *in 1913 WINNIPEG MOTOR CONTEST*
(In Its Class)

Won
Gold Medal
 in Winnipeg Contest
 Competing Against Tractor Weighing 65% More Than Case 40 H.P.



Broke All Records
FOR Efficiency
 IN BOTH Brake and Plowing Tests for Engines in This Class

*Pulling 6-14 in. Breaker Bottom Plows—Delivering 30.76 Draw-Bar Horse Power
 Draw Bar Pull Averaged 4,950 pounds—825 pounds per plow.*

CASE Won Against All Odds

	Coal required to Deliver 10 H. P. for 10 Hours		Coal required to plow 1 acre
	At the Fly Wheel	At the Draw-bar	
Case 36 1910	395 lbs.	927 lbs.	158.1 lbs.
Case 40 1912	417 "	945 "	149.12 "
Case 40 1913	342 "	699 "	109.1 "

In winning the Gold Medal in the 1913 Winnipeg Contest, the nearest competitor of this engine weighed 65 per cent. or over 6¼ tons more, and costing \$1,040 more than this tractor. It not only outclassed a larger engine, but lowered its own previous record on coal consumed per brake horse power by 13 1-2 per cent, and on draw bar horse power by 24.5 per cent. and on pounds of coal used per acre, by 26.8 per cent. In 1910 and 1911 this engine received a Diploma of Award because no other manufacturer dared pit his engine against the CASE "40". In fact, there has never been an engine entered against this CASE "40" which properly belonged in its class—which is a class intended to include only engines under 60 brake horse power. In view of this, the only true comparison that can be made is a comparison against its own record.

To the careful investor there is no information more important than that given in the table of figures of this engine. Our catalog, which describes in detail the construction of this tractor, will be gladly sent to you upon your request.

J. I. CASE THRESHING MACHINE CO., Inc.
 741-791 STATE ST. RACINE, WIS., U. S. A.

Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary

CASE 60 H.P. Oil Tractor

Gold Medal Winner IN 1913 WINNIPEG CONTEST

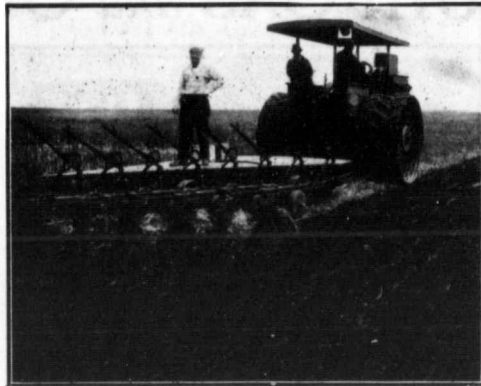
(In Its Class)

**CASE
WINS**

Gold Medal

IN

**Large
Kerosene
Class**



**Excellence of Design
and Construction**

**Economy of
Operation**

**Characterizes
Case Machinery**

**The
World Over**

Pulling Eight 14-inch Breaker Bottom Plows—Average Draw Bar Pull, 5,950 pounds Average Draw Bar Pull 744 pounds per Plow; Draw Bar H. P. 31.23

This Tractor has always won a higher Score on Accessibility, Protection of Working Parts, Ease of Manipulation than any other make, in any Internal Combustion Class, entered at Winnipeg.

Durability, Simplicity and Reliability typify CASE Construction in every detail. In this year's Winnipeg Contest this 60 H. P. Oil Tractor beat its own record made in 1912 Contest by 10% in Draw Bar H. P. hour per pound of fuel; 39% in Brake H. P. hour per pound of fuel; 8½% lower fuel cost per Acre Plowed.



You who buy tractors—are interested not only in fuel economy, but also in general design and construction. A Tractor showing only a low fuel consumption but lacking proper constructive details will prove an expensive investment—Simplicity, Accessibility and Rigidity, combined with Economy, go to make the Perfect Tractor, one that will earn dollars for its owner. The Case 60 Oil Tractor combines all these vital qualities to a marked degree. This is shown by one feature of its Gold Medal Winning Score—79.15 points on Design and Construction, out of a possible 100 points.



The winning of this GOLD MEDAL is a just recognition of those features which have always characterized Case Machinery the world over—DESIGN and CONSTRUCTION.

J. I. CASE THRESHING MACHINE CO., Inc.
741-791 STATE ST. RACINE, WIS., U. S. A.
Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary

CASE 40 H.P. GAS & OIL TRACTOR

Gold Medal Winner in 1913 WINNIPEG MOTOR CONTEST

In Its Classes In

BOTH GAS and OIL

Gasoline

This TRACTOR again proved its conspicuous SUPERIORITY by winning GOLD MEDAL in gasoline class. IT HAS WON every GOLD MEDAL for which it has ever competed.

Total Points Won by CASE . 352.00
Total Points Won by Compete'. 316.75

Difference 35.25

Case won by 11% more points than competitor



Pulling 6-14 in. Brake Bottom Plow—Average Draw-bar H. P. Gasoline 18.53
Average Draw-bar H. P. Kerosene 19.48

Kerosene

The performance of this TRACTOR Burning KEROSENE was the SENSATION of the Winnipeg Contest. Proving that it is in a CLASS by ITSELF in both the Gasoline and Kerosene Classes.

Total Points Won by CASE . 338.10
Total Points Won by Compet. 238.25

Difference 99.85

Case won by 42% more points than competitor

Gasoline Record

	Number of Plows	Average Draw Bar Pull (pounds)	Average Draw Bar H. P.	Draw Bar horse-power hour per pound of fuel	Economy Brake horse-power	Cost of fuel per draw bar horse-power hours (calculated) gasoline figured at 20c per gallon	Total Points
CASE	6	3540	18.53	.736	35.7	4.53 cents	352.00
Entry No. 2	5	2940	17.37	.521	29.4	6.40 cents	316.75

Case Average Draw Bar Pull was 20% MORE than COMPETITOR. Case produced 41% MORE Draw Bar Horse-power for the same amount of fuel than its competitor.

FUEL COST OUR COMPETITOR 42% MORE TO PLOW AN ACRE THAN CASE

Kerosene Record

	Number of Plows	Average Draw Bar Pull (pounds)	Average Draw Bar H. P.	Draw Bar horse-power hour per pound of fuel	Economy Brake horse-power	Cost of fuel per draw bar horse-power hours (calculated) figuring cost of kerosene at 8c per gallon	Total Points
CASE	5	3920	19.48	.591	34.5	2.08 cents	338.10
Entry No. 9	4	2635	15.66	.358	27.9	3.44 cents	238.25

Case Average Draw Bar Pull was 49% MORE than COMPETITOR. Case produced 65% MORE Draw Bar Horse-power for the same amount of fuel than its competitor.

FUEL COST OUR COMPETITOR 32% MORE TO PLOW AN ACRE THAN CASE

Figuring in dollars and cents, the final standard of efficiency of any tractor, it cost our nearest competitor 42 per cent more for fuel to plow an acre using gasoline, and 32 per cent using kerosene, than it did CASE. The lower your operating cost, the higher your profits. Our catalog describes in detail the construction of these tractors. This information will be of distinct value to you who would make the wisest investment. May we send you this catalog?

J. I. CASE THRESHING MACHINE CO., Inc.
741-791 STATE ST. RACINE, WIS., U. S. A.

Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary



CASE 25 H.P. GAS TRACTOR

GOLD MEDAL WINNER

IN 1913 WINNIPEG MOTOR CONTEST
(In Its Class)

CASE Won
GOLD MEDAL
By
36%
More Points
Than Its Competitor



Pulling 4-14 in. breaker bottom plow average draw-bar pull 2360 pounds

Total Points
Won by CASE
325.60
Won by Competitor
238.95
Difference
86.65 points

Most Compact, Most Simple, Most Efficient, Most Reliable

The figures in the table below are taken from the official report of the contest.



	Number of plows	Average Draw Bar Pull (pounds)	Average Draw Bar H. P.	Draw Bar horse-power hour per pound of fuel	Economy Brake horse-power	Cost of fuel per draw bar horse-power hours (calculated) gasoline figured at 20c per gallon	Total Points
CASE	4	2360	10.28	.603	20.8	5.55 cents	325.60
Entry No. 19	4	1770	8.52	.568	18.8	5.9 cents	238.95



Case Average Draw Bar Pull **33% more** than competitor. Case produced **6½% more draw-bar horse-power** for the same amount of **fuel** than its competitor.

Case plowed **deeper** than its competitor as shown by **Draw Bar Pull**, hence, figuring a corresponding depth and plow draft the figures **show** that fuel **cost our competitor 6½% more to plow an acre than Case.**

This 25 H. P. Gas Tractor startled Winnipeg not only on its performance in winning a Gold Medal but because of its design, construction, accessibility and protection of working parts, compact, thorough, and simple in construction. This small Tractor, was the envy of all other manufacturers. We have often stated that Case does no experimenting at the expense of customers. This is again proved by the notable fact that this Tractor was the very first of the type publicly to be exhibited. The fact that it won the Gold Medal surprised no one who is familiar with Case design and construction. **This is just the Tractor** for you, whose acreage is not extensive. You can keep it busy at all times and do all kinds of work. Your power is always available. This "little 25" **fills your long felt want for a dependable small sized Tractor**

You who farm with horses, can not afford to postpone investigating this Tractor. We will gladly send detailed information if you will send us your name.

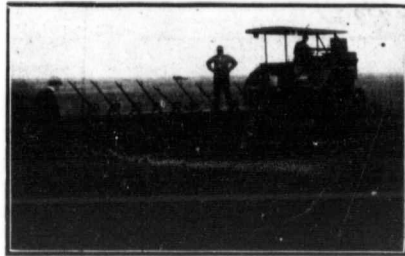
J. I. CASE THRESHING MACHINE CO., Inc.
741-791 STATE ST. RACINE, WIS. U. S. A.
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CASE Wins All Gold Medals

and Sweepstakes Honors

Awarded To **PLOWS** IN 1913

WINNIPEG CONTEST



Case-Sattely 10 bottoms—14 In. Tractor Gang Plow—Gold Medal Winner in large plow class



Case-Sattely 6 bottom 14 In. Automatic Lift Tractor Gang Plow—Gold Medal Winner in small plow class



Score Sheet on Plows

Entrant's Name	No. of Bottoms	Draft	Evenness of Draft	Lay of Furrow Slice	Ease of Adjustment & Manipulation	In and Out at Ends	Stops	Straightness of Furrow	Even Cut	Total Score
Case	6	30.25	7	5	8	3	5	4.5	7	69.75
—	6	26.9	10	7	9	3.5	5	2	7	70.4
Case	10	34.5	6	4	8	2	5	2	4	65.5
—	10	34.9	12	8	5	4	5	4	8	80.9

Note in the table above the **Substantial Margins** by which our **Gold Medal** winner led its closest competitor in all the essentials of good plowing. These are the **qualities** which a practical plowman **demand**s of a plow. What **further testimony** to the direct, **every-day, practical, superiority** of our **Tractor Gang Plow** can you ask?

With our **New Automatic Lift Tractor Gang Plows—Case—outclassed** its nearest competitor, a much heralded **—lift—** plow, winner of last years Gold Medal, when Case did not compete. 1913 was the first contest in which this type of plow competed. It **proved** its **superiority** over other makes of power lift plows in **ease of adjustment, manipulation** and all other essentials.

The Wonderful Performance of Our Tractor Gang Plows in this Contest Demonstrates Again that Case Leads the World in the Production of Farm Power Machinery.

Case-Sattely Plows have many exclusive features—send for descriptive literature.

All the figures in this advertisement are taken from the official records of the judges and can be easily verified by applying to the directors of the Canadian Industrial Exhibition, Winnipeg, Canada.

Every farm power user and everyone considering the purchase of a Tractor, either steam, gas or oil, or Tractor Gang Plow, is vitally interested in the results of the Winnipeg Contest. It certainly would be unwise to buy in the face of such overwhelming evidence of Case superiority without first investigating the reasons why Case, competing in a contest open to the world's manufacturers, won nine out of a possible ten gold medals, as well as Grand Sweepstake honors in both Tractor and Tractor Gang Plow classes. Every Case machine entered at Winnipeg is an exact duplicate of our regular product which can be seen at any of our branch houses. Send us your name and we shall be pleased to give you further reasons why you should purchase Case farm power machinery.

Please send me literature on machinery checked below
 Steam, Gas or Oil Tractors, Tractor Gang Plows, Steel Threshing Machines, Road Building Machinery, Corn Husker Shredders, Automobiles.

J.I. CASE THRESHING MACHINE CO., Inc.
 741-791 STATE ST. RACINE, WIS., U. S. A.
 Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary.

Fill In This Coupon and Mail It To
J.I. CASE THRESHING MACHINE CO., Racine, Wis.
 Name.....
 Town.....
 State..... R. F. L.

The 1913 Plowing Contest

Continued from page 18

thousand gives the horse power.

It would be possible to apply a similar apparatus to the cylinder pulley of a separator and measure at all times just the horse power that is required to drive the machine.

If any readers will but refer to the table headed result of brake tests, I will attempt to explain the headings, so that the results may be more intelligible. Beginning at the left, and taking them in order, as follows:

(1) **Piston displacement in cubic feet per minute.** — This means the area of the engine piston multiplied by the length of the stroke lines the average number

of revolutions the engine makes per minute. For example let us take a two-cylinder opposed engine, with cylinders $6\frac{1}{2} \times 7$. Square the $6\frac{1}{2}$, and multiply this by .7854, which gives the area of the piston. Multiply this by 7, and this by 2 for the two cylinders. Multiply this by the number of revolutions per minute, and you have the piston displacement.

(2) **Percentage of fuel capacity used per hour.**—This means that if the capacity of the engine fuel tank was 40 gallons and it used five gallons in one hour the percentage would be $\frac{1}{8}$ or 12½ per cent.

(3) **H. P. hours per unit of fuel.** A unit of fuel is 100 pounds of coal, 1 lb. of gasoline or 1 lb. of kerosene.

Horse power hours means the number of horse power developed in an hour. Horse power hours per unit of full means the number of horse power developed in an hour on 100 lbs. of coal, 1 lb. of gasoline or 1 lb. of kerosene depending upon whether the tractor use coal, gasoline, or kerosene for fuel.

(4) **Gallons of water used** means the total number of gallons used in a two hour run.

(5) **Pounds of water used** is obtained simply by dividing the figures in (4) in each case by 10.

(6) **The average steam pressure** is the average of the gauge

readings taken at five minute intervals during the entire test.

(7) **Gallons of water used per hour** is obtained by dividing the total amount used in the two hour run by 2.

(8) **Gallons water used in 8 hours** is obtained simply by multiplying the amount used in one

hour by 8. This was done to show the approximate amount of water the engine would use in an 8 hour run on the belt as in threshing.

(9) **H. P. hours per 100 gallons of water** shows the number of horse per hours that can be obtained before 100 gallons of water are used up.

(10) **Pounds of water used per lb. of coal burned.** In the case of steam engines the economical evaporation of water is of prime necessity. Consequently the tractor that can convert the most water into steam with the least coal is of considerable advantage to the purchaser.

(11) **Pounds of water used per square foot of heating surface.**

The total heating surface of the boiler is taken in this case and the amount of water used per square foot is taken.

(12) **Pounds of water used per square foot of grate area.** This applies to the grate surface in the fire box in the case of steam tractors. And thus I might go on but I believe my readers can digest the remainder of the tables.

As a matter of fact I would seriously advise your doing so as the entire contest is contained in these tables in just as detailed form as it is possible to have it. Such a mass of figures may prove more or less mystifying but if you will hunt up your 1912 August issue of this magazine and

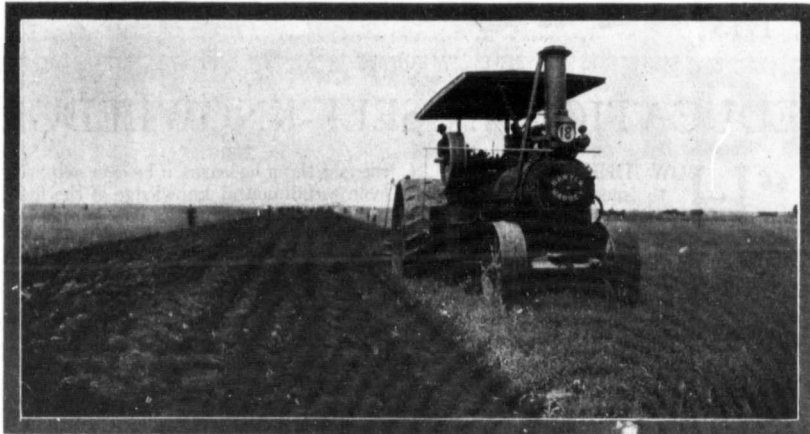
time no less than six tractors were wending their way across the field cross-plowing the 1910 test field. It was a beautiful day and it is safe to say that no busier plow field was ever witnessed than that of 1913. Judges were everywhere at once, starting tractors just as fast as the contestants could arrange for engineers, plowmen and that all important accessory, a dynamometer.

One noticeable thing in the 1913 tests as compared with those of 1912 is the fact that in practically every gasoline and kerosene class the full cast per acre was higher in 1913 than in 1912 while in the steam classes the reverse is true. Allowance must however be

made for the fact that in 1912 prices were: coal 8.50 per ton, gasoline 19½ cents per gallon and kerosene 14½ cents per gallon, while in 1913 coal was \$8.00 per ton, gasoline 27 cents per gallon and kerosene 14½ cents per gallon.

This dynamometer is an arrangement that is placed between each engine and plow for one or more rounds which traces on a specially ruled paper all irregularities of the draft. This chest is afterwards scaled to give the average drawbar pull. Just as in the brake test the speed is maintained against resistance of the plows which is measured in foot pounds which in turn is converted into horse power.

From a recent spectacular standpoint the plow test is of course the most interesting, but I do not want my readers to get away from the fact that the brake test is just as important. When you buy a tractor today you buy it for threshing purposes just as much as for plowing and it is belt power that counts in turning a cylinder pulley. I would advise my readers to compare the economy brake horse power with the draw bar horse power of the various engines for unless a tractor is balanced in this respect something is wrong. In the case of gas tractors the theoretical



Front view of Sawyer-Massey 35-115 H. P. Steam Tractor negotiating as straight a furrow as was ever seen on the plowing field



The J. I. Case headquarters on the Motor Contest Field. The Sawyer Massey headquarters can be seen in the distance.



"Everything Begins and Ends with the Soil"

The CANADIAN THRESHERMAN & FARMER CANADA'S LEADING AGRICULTURAL MAGAZINE

PUBLISHED MONTHLY BY

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SUBSCRIPTION RATES

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Advertising copy in order to secure good position should be in our hands not later than the 15th of the month preceding date of issue.

Advertising rates furnished on application

EDUCATION IN SELF-KNOWLEDGE

"HOW DELIGHTFUL IT IS to meet a well-informed person!" The expression is a common one; sometimes it is inspired by some "highly educated" person happening along who not only is primed to the bursting point with his special line of information, but what seems to be still more effective, has the special gift of being able to blow off his boiler-full of knowledge. Whether he succeeds as well in imparting it to his audience is quite a different thing, and then there is always the possibility that this wonderful escape of erudition is of little greater value for storage against future employment than the exhaust vapor from the now obsolete "Puffing Billy."

SPECIALIZED KNOWLEDGE in these days has been commercialized to a fine point, to so fine a point indeed that a man or woman is of little account on the market to-day who has not

complete mastery of some special line in producing, whether it is the product of brain or brawn. The applicant who says he can tackle anything from making a batter pudding to building a sky-scraper is very properly believed to be the man who can do neither and who can do nothing well. A really good cobbler, if he is an impossibility in any other line, is of much greater value than he who takes a flutter at everything but cannot be said to have the whiphand of any one thing.

"BE MASTER OF AT LEAST ONE JOB and let other things take their chance" is considered good advice. And so it is if it isn't overdone, but there's the possibility of overdoing it, and then we find the half-educated man, not the "well-informed" person who needs no passport to any Society he cares to enter. The man who can talk intelligently only on certain rare forms of bacteria and has nothing to say on the common things of life is a bore, and whatever good to Society there may be in his bacteria bee is practically abortive because no one listens to him except to "get done with it" as soon as his wind gives out.

THE UP-TO-DATE EDUCATIONAL COURSE, we believe, is in many cases too one-sided, exclusive. Because of the drain it makes on the time and brain tissues of the pupil who is kept grinding along one channel, he has neither the desire nor the energy left to make himself acquainted with things that are considered commonplace but still are of vital import to a healthy existence. Even at this advanced stage of civilization, how little, for example, does the average educated person know about his or her physical constitution—of what it really is that makes him at times "fit as a fiddle" for any amount of labor and at other times as rotten and limp as a decayed banana?

THE VERY FIRST THING a man should know in every possible detail is himself; yet it is, roughly speaking,

the last thing he learns, if he ever acquires even a rudimental knowledge of the first principles of physiology. This knowledge for some remarkable reason has been enshrouded in a great black envelope of mystery and handed over to "the medical profession," and the medical profession are still very far from agreeing on points which, one is entitled to believe, ought to be thoroughly explored certainties in their own field of research.

DR. FRANK CRANE SAYS: "The whole theory upon which the medical profession now is and heretofore has been organized is irrational. The theory is that a doctor is one whose business it is to cure a man when he is ill. The physician is simply to wait around. Would it not be better for him to devote his energies to enabling humanity to avoid breakdown? An ounce of prevention is better than a pound of cure is it not? And is it not cheaper to spend money to obviate wrecks on a railway than to spend money in clearing away the wreckage?"

AS THE RACE MULTIPLIES, disease—preventable disease—does not seem to decrease proportionately with the assumed increasing intelligence of the race. Not the schools only but "highly educated" men and women, leaders of every school, seem by tacit prescription to neglect that part of the education of the young which ought in all seriousness to be inculcated as soon as ever a child's intelligence has advanced far enough to comprehend the meaning of that which is being imparted in the nature of self-knowledge.

IT IS A PLEASANT FEATURE of the curriculum of some of our Agricultural Colleges when we find so much time being given up to the teaching of those departments of domestic science every girl ought to know before she is out of her teens. She ought to master these as thoroughly as she knows the simple rudiments of cause and effect in anything her understanding can take in, and we most earnestly offer the suggestion that in every seminary, in the home circle—anywhere where there are young minds to be informed and trained, it would "pay" in the noblest sense of the word to cut out a lot of the classical dry-as-dust and useless trimmings, that form so great a part of the "training" schemes of today and substitute a thorough course in Self Knowledge.

PHYSICAL EXERCISE and the part it plays in making and maintaining a strong physique are not to be curtailed, but a lot of the perfectly harmless milk and water details that figure so largely in examination papers could well be dispensed with, positively must be got rid of if they are to stand in the way of Self Knowledge. "Where ignorance is bliss 'tis folly to be wise" is the aphorism of a fool. Will anyone who will read these random observations have the temerity to say that it is better for a child that it should remain in ignorance of the nature and necessities of the temple of its own Soul?

OUR GUARANTEE

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

COURSE IN GAS ENGINEERING

By PROFESSOR GILMORE

The Four Cycle Stationary Engine

THERE are four headings under which the troubles of a four cycle stationary gasoline engine may be classified, viz.,

- Mixture,
- Compression,
- Ignition and
- Valve action.

If there is a proper mixture of air and fuel taken into the cylinder, compressed, ignited, and the valves are acting to exhaust the gases and admit a new charge at the proper time, the engine should run properly. It is the aim of this article to take up a few of the common troubles under the above headings, and while doing so explain in a practical way the theory of such accessories as the spark coil, induction coil, and methods of mixing the air and fuel. Stationary engines differ in construction, and for that reason the subject must be taken up in a general way.

Mixture

A right proportion of fuel and air must be admitted to the cylinder on the suction stroke, if the engine is to run at its best. A rich mixture will not ignite, nor will a mixture containing too little fuel. A rich mixture may be the result of the needle valve turned open too much, or the air throttled, causing extra suction on the fuel. Lack of suction, or the fuel valve not open sufficiently, causes too little fuel being admitted to the cylinder. The fuel and cylinder being cold often causes flooding of the cylinder, as the fuel does not evaporate readily. A lack of a spark is a cause of the same thing, as the fuel is admitted, and if not ignited collects in the cylinder. A few unignited charges at the time of starting causes a surplus of fuel in the cylinder, giving too rich a mixture to ignite.

A weak mixture, or a lean mixture, causes difficult starting or lack of power if the engine is running. A rich mixture can generally be determined by a weak explosion and black smoke at the exhaust. Black smoke must not be mistaken for blue smoke, as the latter is often the result of too much cylinder oil.

A lean mixture is the cause of explosions in the muffler. The mixture is too weak to ignite, and the fuel collects in the muffler. When a combustible mixture is

formed there ignition occurs, causing the loud report in the muffler. A lean mixture often causes firing back through the carburetor, as a lean mixture is slow burning, and combustion occurs at the instant a new charge is coming in and fires in the mixing chamber. This is known as back-fire, and is generally eliminated by opening the needle valve a little.

sharp suction. The opening at the needle valve is a little above the supply, so that there is no fuel passing into the air passage, only that lifted by suction. The needle valve not properly seating, or the openings clogged are the cause of trouble. For this reason the fuel should always be strained, and a chamois skin is good, as it not only takes out dirt, but also the water.

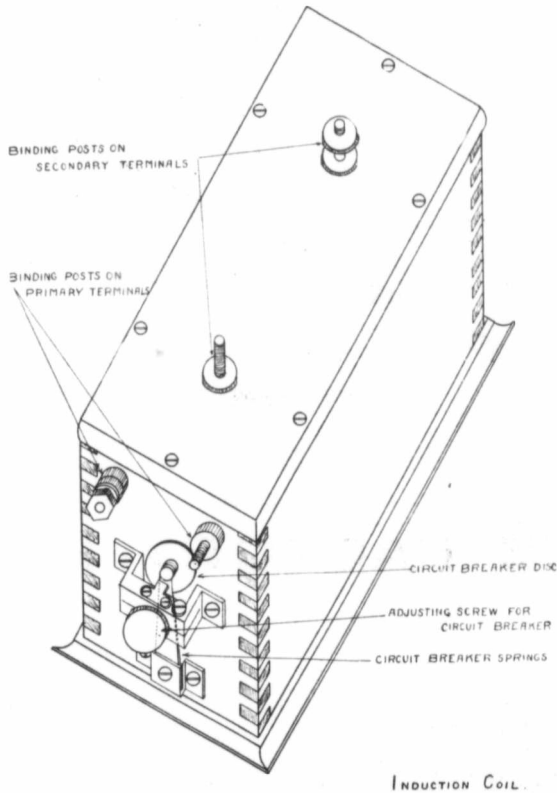
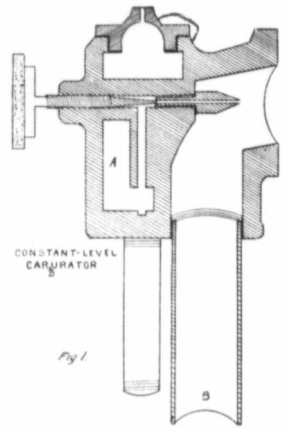


Fig. 1 shows a simple device for mixing the air and fuel. Other mixing devices differ but little from this. The fuel is pumped by a mechanically operated pump to a cup (A), and the overflow passes back to the tank below. From this cup the fuel passes through the opening at the seat of the needle valve to the air passage. The air coming in at (B) passes the needle valve and draws in a small amount of fuel, evaporates it and the mixture passes to the cylinder through the intake valve. At the air inlet there is a valve which may be closed to cause extra suction, as on turning the engine over on starting there is not

Water in gasoline is not so easily detected, and the purchaser should have a hydrometer to determine the specific gravity of fuels. He should also use other methods to detect the presence of water. Water in gasoline is a source of trouble in starting, and it is well to keep in mind that from thirty to forty cents a gallon, for a liquid containing no heat units, is robbery. Gasoline is lighter than water, and this fact is the basis for detection, as well as high fuel consumption and endless trouble. For those purchasing liquid fuels it is well to spend a dollar for a hydrometer, and take it along at the time of pur-



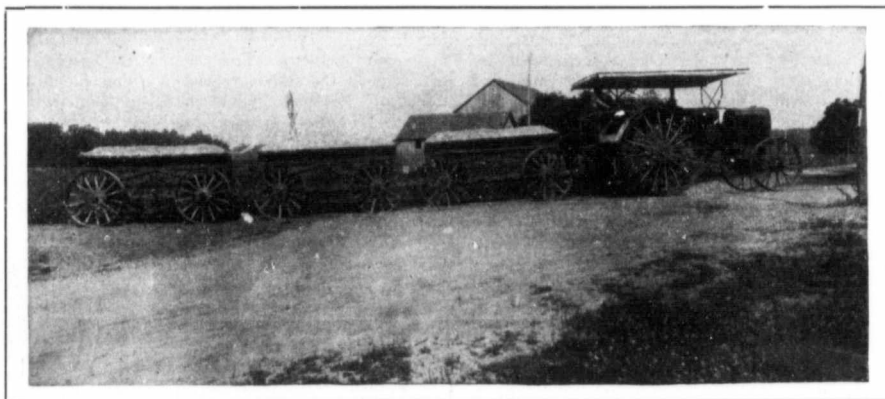
chasing, and make sure that the article you get is the article you pay for.

Fig. 2 shows an elevation of the Rumely Oil Pull carburetor in section. It is seen that the upper chamber is divided into three compartments. The smallest is the gasoline chamber, into which a small amount of gasoline is pumped by a hand pump. This is used in starting. The other two compartments are used for the kerosene and water, and the amount of each for the charge is regulated by the needle valves above. Below the three chambers is the mixing chamber.

Fig. 3 is a plan of the lower part of the carburetor. A valve which is attached to the governor works here, regulating the amount of charge taken into the cylinder. The air passes in at the right, and mixes with the fuel and water, the amounts being regulated by the needle valves, and then passes into the cylinder through the slide to the left. The mixer used on the stationary Rumely Kerosene engine differs slightly from the above. There are only two compartments, and the gasoline and kerosene both pass into the same compartment.

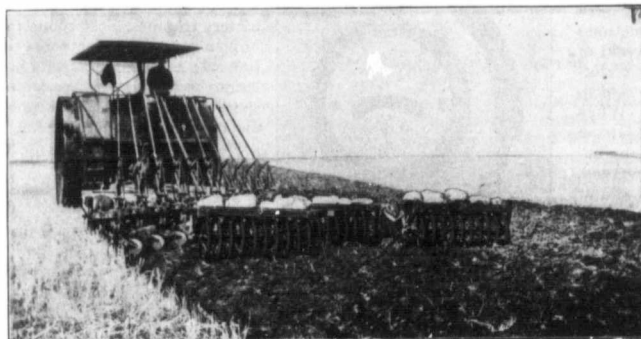
Compression

On the second stroke of the four cycle engine the mixture should be compressed sufficiently to give the maximum expansion of the gases. Compression is often lost by an escape of gas between the piston and cylinder. The piston rings to assist in holding compression often become mineral oil should be used in the worn, or gummed, and do not serve the intended purpose. Only mineral oil should be used in the



Use a Huber Gas Tractor for Road or Field Work

For whatever purpose you need traction power, get it in the Huber Thirty-Sixty four-cylinder gasoline or kerosene tractor. The cylinders are of large dimensions and generate an enormous amount of power. This power, when transmitted to the mammoth drive wheels, gives you a pulling force equal to any emergency that may arise in your work; and a force always under easy and instant control. Whether farming, or threshing, or road building, get all the pleasure you can out of your work. You will for the first time realize what pleasure in work is when you let a Huber Tractor do it for you. We say this because we know what the experience of others has been, and yours will be similar. While this is a high class traction engine, it is perfectly adapted to stationary work, such as threshing. A large belt pulley provides for connection with any machine you wish to operate with the motor. When contemplating the purchase of an engine, you shouldn't fail to carefully investigate the Huber.



One of Geo. E. Duis' Plowing Outfits

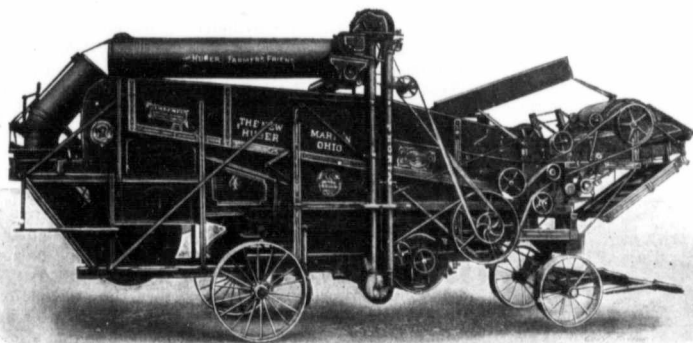
For the threshermen, we are prepared to furnish threshers of all sizes suited to the work of the Canadian West; and with all the attachments to make a modern outfit to handle the big work.

Huber Threshers have a most excellent reputation for cleaning and saving the grain. By preventing waste of grain, it makes money for both the thresherman and farmer. Your money spent for a Huber Threshing Outfit will be a profitable investment for you. We shall be pleased to have your request for further information if you wish it, or to confer with you in regard to the purchase of one of these outfits.

THE HUBER MFG. CO.

Canadian Office:
WINNIPEG, MANITOBA
Corner Logan and Arlington.

Home Office and Factory:
Marion, Ohio, U.S.A.



The Huber Mfg. Co.,
Marion, Ohio.

Grand Forks, N. D.,
May 9, 1913.

Gentlemen: Marion, Ohio.

The writer has just returned from the farm where I have been assisting in operating the two 30-60 Huber Tractors for the past three days. I have been with these tractors since we started plowing, six days.

We are now handling ten P. & O. 14 in. bottoms attached to the engine gang, also a 36 wheel Campbell sub-surface packer loaded with about one thousand pounds of rock. We are averaging about fifty acres per day with the two tractors. Four men are doing this work, two men to handle the tractors and two men on the plows. The ground has been pretty wet and there are a number of pot-holes. We are plowing from 4 1/2 to 5 inches deep, and are using about two gallons of fuel per acre.

We are using one-half kerosene and one-half gasoline, which we are mixing in the large tank. We have filled the small tank with gasoline, which we use in starting and occasionally when a stop is necessary. It is not practical to start the tractor on the half and half mixture. If we were not pulling the packer, which is a tremendous load, I think we could do our plowing on very nearly one and one-half gallons per acre; but the packer being strung out behind the engine gang makes it a long distance from the draw bar, and consequently takes considerable additional power. However, I am doing the best plowing I have ever done on my farm.

I must say that the Huber Tractor is one of the finest machines that I have ever seen in the field. It is practical, economical, and is doing business all the time. I have handled a great many tractors of different makes during the last two or three years, and have never seen a tractor perform equal to the Huber. The large amount of work that I had to do on my farm almost discouraged me until I got these tractors. I can now get my work done as fast and better than it can be done with horses.

With the kind of tractors that you are building, you should have a very large amount of business in the northwest. Thanking you for furnishing me such excellent machines, I am,

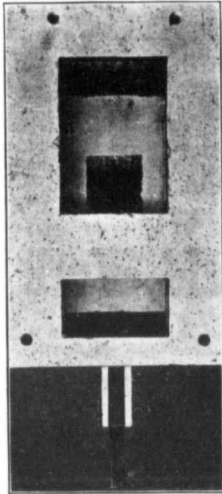
Yours respectfully,
GEO. E. DUIS.

From a later letter:—

We plowed and packed over 60 acres last Friday. Plowed 1,000 acres and packed it to date, 23 days, including all delays.

cylinder, as other oils decompose with the high temperature, causing the cylinder to heat and the rings to stick in their grooves.

A flooded cylinder causes loss of compression by washing away the film of oil which aids in holding compression. The cylinder often becomes scored from the lack of oil or the wrist pin work-

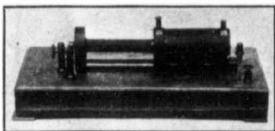


ing loose, and attention must be given to the quantity and quality of oil used, and the adjustment of the wrist pin. It is well to examine the piston rings each season and replace them as they become worn.

Ignition

Ignition causes a large per cent of the troubles of a gasoline engine yet, with a comparatively clear understanding, very little trouble will be experienced. The principal systems in use are the "Make and Break" and "Jump Spark" systems, both depending on an electric spark to ignite the charge in the cylinder.

The "Make and Break" system consists of the necessary current from the battery, a spark coil to intensify the spark, and the igniter block, made up of the insulated electrode and movable electrode. From four to six dry cells are generally used and connected in series. Dry cells differ in size, and are given numbers as, number six, seven, and eight. A number six cell means that the cell is six inches in length, and a



number eight cell is eight inches long. The number six will cost less, but not last as long as a number eight.

A spark coil consists of soft iron, around which the current from

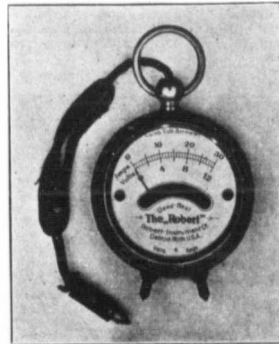
the battery passes through insulated wire. From the spark coil it passes to the stationary electrode of the engine. This stationary electrode is surrounded by mica washers, or other means of insulation, to prevent the current passing out, other than across the points in the cylinder. The current flows across the points in the cylinder when the contact is made and when the igniter rod causes the trip, the spring separates the points in the cylinder. A break in the electric circuit causes a spark which ignites the charge. The points inside the cylinder may become rusty or dirty, and no spark will be formed. In this case it will be necessary to remove the igniter block and clean the points by means of emery cloth, or a blade of a pocket knife. The mica insulation around the stationary electrode may become broken or rusty, and cause a short circuit. The current in this case does not flow to the points in the cylinder, and no spark is the result when contact is made and broken. The spring from which causes the points in the cylinder to separate must be strong, to cause the break to be made quickly. Sometimes this spring becomes too weak, or a lack of oil on the movable electrode causes sufficient friction to make it work sluggishly. When the igniter trip rod works from the two to one gear, and the engine is hit and miss governed, it is necessary to put on a circuit breaker, so a spark is not formed when the engine is above normal. The circuit breaker is not used where the igniter trip works on the exhaust valve rod, as the igniter trip does not work when the engine is above normal. Often the circuit breaker points become dirty, or not making proper contact no spark is formed. Briefly then, the troubles with the "Make and Break" system of ignition are—weak battery, or one cell of the battery weak; loose connection; broken wire; open switch; insulation broken on the stationary electrode; points inside the cylinder dirty, or a weak spring on the movable electrode.

Testing Make and Break Spark

To test the spark of a make and break system of ignition unfasten the wire from the stationary electrode post, close the switch and brush the wire against some metal part of the engine. A good spark should be the result. By a good spark is meant one which is bluish in color, and sootless; not a spark which flies into a thousand parts and is reddish in color. If there is a spark you know that the connections are tight, and that there will be a spark formed in the cylinder, if conditions are right at the points, and the insulation good about the stationary electrode. By brush-

ing the wire on the stationary electrode you should not get a spark until the points are brought together in the cylinder. Bring the points together and brush the wire against the stationary electrode and a spark should be formed. In this manner the spark can be tested without taking out the igniter block.

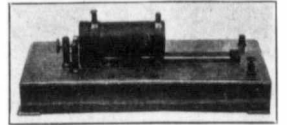
The "Jump Spark" system of ignition consists of the necessary current from the battery, an induction coil to transform the low voltage current to high voltage current; the timer, or means of regulating the time of sparks, and the spark plug. The current from the battery passes through the primary winding of the induction coil, and passes through the insulated wire, and around a bundle of soft wire, and to the timer on the engine, then through the engine to the battery. When ignition is to occur the timer closes the circuit, and the current free from the battery passes around



the soft bundle of iron and makes a magnet of it. The vibrator is drawn over which breaks the flow of the current, and the core is no longer a magnet, and the vibrator is released. The magnetizing and demagnetizing of the core causes a high voltage current to be set up in the secondary winding of the coil. The primary winding consists of two laps of wire around the bundle of soft wire. The secondary winding consists of a large number of laps of a very fine wire, insulated and on a spool, which surrounds the primary winding. One terminal passes to the spark plug and the other is attached to the primary circuit. Thus three wires are used to carry the two currents, the high and low voltage. High voltage, or current of sufficient strength to jump the gap across the spark plug points is necessary in the jump spark system. Briefly then the principle of the "Jump Spark" system of ignition is explained, so that a few of the common troubles may be better understood.

Where dry cells are used for ignition purposes, they often cause trouble by being weak, or one cell of the battery may cause

trouble. A loose connection, or broken wire, or defective coil will also cause trouble. The vibrator screw not properly adjusted, that is the current of the battery not strong enough to magnetize the core sufficiently to attach the vibrator, will hinder the current in the secondary. The points of the spark plug too far apart, or too close together, the porcelain insulation broken, hindering the

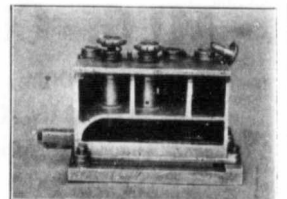


current passing to the points, or dirty points, are a cause of trouble. The points should be about a distance equal to the thickness of a postcard apart. It is necessary quite often to take the plug apart and clean it of the soot which collects on it. Soot often causes a short circuit, and a weak, or no spark, is found to pass across the spark plug points. Briefly, then, the troubles of the jump spark system of ignition may be summed up as follows: battery troubles, loose connection, broken wire, vibrator screw not properly adjusted, porcelain insulation broken in the spark plug, spark plug points not the proper distance apart, defective coil, or something the matter with the timer.

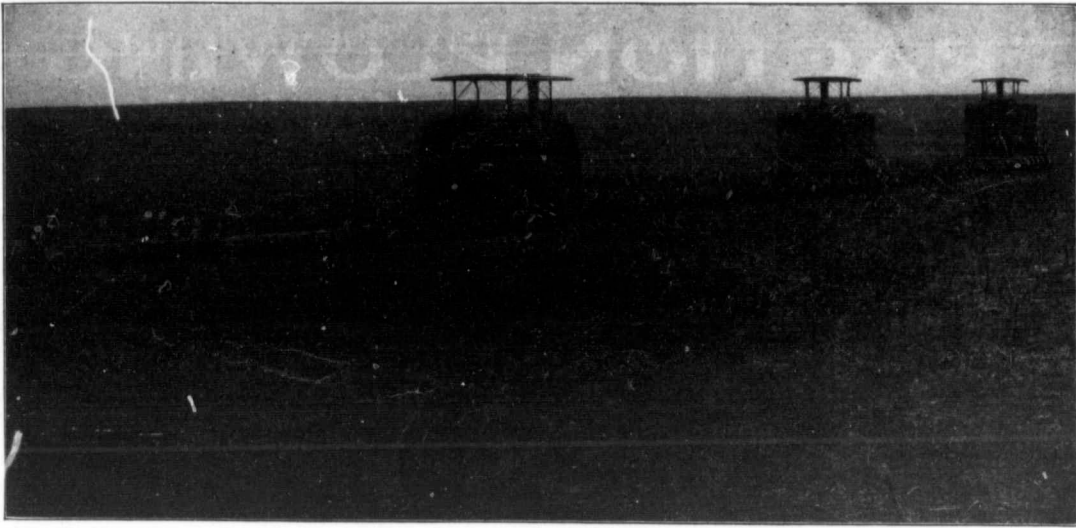
Testing Spark of Jump Spark System

First—To test the spark of the jump spark system of ignition, take out the spark plug and place it on metal of the engine, making sure that the point is not acting as an insulating material. Close the switch and turn the engine over till electrical contact is made, and examine the spark. The conditions for a spark at this time differ but slightly from the conditions when the plug is in the cylinder.

Second—By taking off the wire to the spark plug, and holding it a short distance from the engine, an idea of the strength of the current is gained, and if the spark plug is all right this is sufficient test of the spark.



If the vibrator is acting when the circuit of the primary is made and no spark passes, the spark plug gaps. Very likely the plug is defective, and may be short circuited. If the vibrator does not



A Group of Aultman-Taylor Gas Tractors in Kansas.

They Make Good Everywhere

THERE'S A REASON! The **AULTMAN-TAYLOR 30-60 GAS TRACTOR** is strictly an **AULTMAN-TAYLOR** product. It's not a conglomeration of parts purchased here and there and assembled into a so-called farm tractor. Every part of the **AULTMAN-TAYLOR 30-60** is built with care and skill right here in our factory at **MANSFIELD, OHIO**, under our own supervision. Every **AULTMAN-TAYLOR 30-60** is built out of the highest grade material, built by men who have a thorough understanding of the requirements of a first-class farm tractor, carefully and capably inspected in all processes of manufacture and finally tested out under the most severe and rigid tests before it is offered to the customer. **THAT'S THE REASON WE STAND BACK OF EVERY AULTMAN-TAYLOR GAS TRACTOR. THAT'S THE REASON THEY MAKE GOOD EVERYWHERE.**

Aultman-Taylor Gas Tractors

There's a whole lot of difference between the **AULTMAN-TAYLOR 30-60 GAS TRACTOR** and the cheaper and inferior tractors offered you by other concerns. You can't afford to buy one of these so-called farm tractors. You want efficiency. You get it in full measure in the **AULTMAN-TAYLOR 30-60**. The **AULTMAN-TAYLOR GAS TRACTOR** is not a manufacturing proposition built to fit a certain price. We build the best with price as a second consideration. We could build a cheaper tractor. We could cheapen up on the little things that you do not see **but the very things that stand for service, and still have a tractor as good, if not better than the majority of the tractors offered you today; but our policy and aim is, and always has been, to give the customer the best that experience, honest workmanship and first-class material can produce.**

If you are in need of an engine for plowing, discing, seeding, harvesting, threshing, etc., we invite you to investigate the Aultman-Taylor 30-60. The deeper you go in this investigation the more you will be convinced that it's the best tractor built for all around farm power work. Its long stroke four-cylinder motor develops more power per unit of fuel than one and two-cylinder types of engines. Its straight spur gear drive with Saxon cushion gear absorbs all sudden jars and eliminates all gear trouble. Remember the Aultman-Taylor 30-60 has no bevel gears to be a source of annoyance and costly breakdowns. Its single lever control is unequalled for convenience. Its locomotive truss frame is far superior to channel iron or I-beam construction. The Aultman-Taylor 30-60 burns either gasoline, kerosene or distillate with remarkable economy. Let us tell you about the many important features of this famous engine. Write for CATALOG today.

WRITE FOR CATALOG OF:—Aultman-Taylor Gas Tractors; Steam Traction and Portable Engines; New Century Separators; Matchless Clover and Alfalfa Hullers; Bean Threshers and Saw Mills.

The Aultman & Taylor Machinery Co.

Lock Box No. 64. MANSFIELD, OHIO

BRANCHES: Minneapolis, Minn., U.S.A.; Calgary, Alta.; Regina, Sask., Canada

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

TRACTION PLOWING

AS TOLD BY THE MEN WHO DO IT

Prefers it to the Steamer

Gentlemen:

You ask us for our experience in traction farming, and in reply would say that we owned a steam tractor of Waterloo make, 18 h.p., but we never used it for anything except threshing. We used it for three seasons, then sold it, and bought a 20-40 Hart-Parr gas tractor. Our experience with it is very limited, as we only purchased it in time for threshing, and by the time we were through with the threshing it had frozen too hard to plow.

We like our engine better than the steam, as it does not take so much water, and water here is very hard to get, especially water suitable for a steam engine. We put our engine on the same engine as we had our steam engine on, and found that it had more power on the separator than the steam. We had an engineer who had never run a gasoline engine before, and he had no difficulty with it except a couple of very cold mornings he had some difficulty in getting it started.

We used our engine about 22 days, and run from eleven to eleven and a half hours per day. We used about 32 gallons of kerosene per day, which cost us 19 1/2c. per gallon wholesale, cash price. Along with the kerosene we used about forty gallons of water per day. For starting our engine we used on an average of three gallons of gasoline per day, costing us about 29 1/2c. per gallon. This amount is larger than it should be, owing to the fact that the engine was not properly adjusted for kerosene when we took it out, and we used a great deal of gasoline the first two days. We used about 1 1/4 gallons of engine oil per day.

This is all the use we have put the engine to except crushing, we use it on a 12in. crusher and crush about 100 bus. per hour, of some grains. Am sorry I cannot give you my opinion on traction cultivation, but maybe this time next year we will be able to do so.

Yours truly,
Lindsay Bros. & Tiffin,
Per Jas. Lindsay, Saskatoon,
Sask.

P.S.—My brother takes the Thresherman, but if you think this report is worth a subscription you may send it to me. Hope you can read this, as it is written

left handed, my right having gone as a part of my experience in 1911 threshing.



Ideal for Fall Plowing

Dear Sirs:

I purchased a Hart-Parr Gas Tractor 30-60 and a 32 by 52 River Special separator about the last of November, 1911, and owing to the facts that I had had no experience, the lateness of the season and the cold and rough weather, we got along extremely well. In the spring of 1912 we did a little plowing, using a light furrow, 14in. Cockshutt gang, and broke 185 acres for ourselves at the cost of about \$1.60 per acre, and summer-fallowed 100 acres in about 4 1/2 days, using the harrows behind at the cost of about 75c. per acre. We use on an average of 60 gallons of gasoline and kerosene per day, and about 35 gallons of water. We have not used it for any seeding operations so far, and do not think it would be a profitable speculation to equip ourselves with the necessary machinery, as some years we would be unable to make use of it on account of wet seasons, for instance, 1912. I do not consider it would be detrimental to land that might be in a condition to use an engine on.

In conclusion I might just say that I consider the gas tractor an ideal outfit for fall plowing, summer fallowing and threshing, in consideration of the fact that we do not have to employ so many men.

Yours truly,
W. H. Stewart,
Miniota, Man.



Had Very Good Success

Dear Sirs:

In regard to your letter asking for our experience with a gasoline engine, I might say that our engine is a Hart-Parr 22-45, with which we have had very good success. We bought our engine in the fall of 1910, and as we had had no former experience with gasoline engines, we only did our own and one other job of threshing. In the spring of 1911, we bought a 14 furrow Emerson disc plow, and plowed about 100 acres, which we seeded to barley. We plowed 450 acres of summer fallow, and this being an early fall we did not get any of our fall plowing done. In

the spring of 1912 we plowed 95 acres, and that summer we summer fallowed 150 acres. After threshing this fall we plowed 260 acres.

We use about 45 gallons of kerosene, three gallons of gasoline, one and a half gallons of cylinder oil and one half gallon of gearing oil per day; we also use about 10 gallons of water. We generally have two men with the outfit, but sometimes we only have one. The average cost for fuel and one man to run the outfit is \$18.00 per day, without counting wear and tear of the engine.

I would not advise any one to buy an engine unless he has land enough on which to keep it working all the time, and has learned to operate an engine before buying one, and when he does buy to get a good set of tools, magnets and extension. Our repair bill has been between \$60 and \$65.00. Hoping this letter will be of benefit to someone, I am,

Yours truly,
Israel Blakely,
Sintaluta, Sask.



Absolute Faith in the Tractor

Dear Sirs:

In reply to your request as to the success of the past season's operations by the use of the traction power which I have used, I am pleased to state that in spite of the very unfavorable season which we experienced in the Red River Valley that my opinion has not been altered as to the feasibility and advisability of the use of traction power on a farm where the acreage consists of a section or more.

Owing to the lateness of the season and the previous fall's unfavorable conditions we found that we required to do a large amount of spring plowing, and without the traction power we would have been unable to do it. Our engine is a Hart-Parr 30-60, and we estimate that the amount of fuel oil used will be about three gallons per acre. The oil laid down at the station costs us about 15c. per gallon, and the oil has to be drawn a distance of from one to four miles, according to the place where the engine is working. I estimate the cost of plowing to be from 55 to 60c. per acre, including fuel oil and lubricating oil. We do not perform

any seeding or discing with our engine, as, owing to the heaviness of the soil, in my opinion it is not conducive on the best conditions to run heavy engines over plowed ground for seeding purposes unless the ground is much drier than we usually find it at seeding time.

I have found the Traction Power very satisfactory for plowing and threshing purposes. This is the only power work I have performed.

Yours truly,
H. E. Robinson,
Carmen, Man.



Another Success

Dear Sirs:

Yours at hand with regard to traction farming. I have a Hart-Parr Engine 22-60 h.p., and I think they are an ideal machine to farm with. If you wish to disc, harrow, float and seed all at the same time you are able to do so, and the land does not get a chance to dry out before the seed is sown. I do not think an engine is detrimental to plowed land. I have noticed that there is always a better stand of grain in the wheel tracks.

I use about 30 gallons of water per day, and 45 gallons of fuel oil when breaking sod. I employ one man to run the engine, and have my own team to draw fuel and water to the engine. In the fall I disc, harrow and float in one operation, and use about one gallon of fuel per acre, and haul six discs, drags and floats. In seeding I use about 3/4 of a gallon of fuel per acre. In my estimation I think an engine is far ahead of horses. I have had my engine for two years, and have broken 2,300 acres and threshed two falls. The engine has paid for itself over again.

My experience with traction farming is far ahead of what it was with horses. With an engine you can work the land good, and get the seed in before the moisture escapes.

Yours truly,
Geo. Dusbabek,
Fiske, Sask.



Gives the Horses Their Place

Dear Sirs:

In reply to yours, I will try, as far as my experience goes, to satisfy your request. I have a 22-45 Hart-Parr engine, and for plowing I use about 40 gallons of kerosene and two gallons of gasoline,

The "Marshall" British "Colonial" Tractors

For PLOWING, THRESHING AND HAULING, ROAD GRADING, Etc.

BUILT LIKE A BATTLESHIP. :: RUNS LIKE A WATCH

The "MARSHALL" Engineering Specialities are known in every corner of the earth and known to be good, sound, and above all, Reliable.

What Our Customers Say:

Marshall, Sons & Co., (Canada) Ltd., Saskatoon.

Sedley, Sask., July 14, 1913.

Gentlemen:

Replying to your enquiry of June 18th re "Marshall" class "D" 32 H.P. Oil Tractor, purchased from you in 1909, delivery of which was made in April, 1910, would say: I have used this engine continuously on my two sections at Sedley for plowing, disking and threshing, besides threshing considerable for the neighbors, and have always found it satisfactory with the exception of during the time you had the first water pump on the engine. Since getting the new style of pump, viz.: the centrifugal type, we have had no bother and the repair list has been very small. With the exception of having to renew the final drive pinions I cannot see where the engine is much worn and should last indefinitely with proper care. Having seen so many of the cheaper engines ready for the scrap pile should say that anyone desiring a heavy duty engine ought to purchase your engine in preference to all others that I have seen as I think yours is the most economical in the long run. Yours sincerely
Alfred Tenneson.

Marshall, Sons & Co., (Canada) Ltd., Saskatoon.

Saskatoon, Sask., July 11, 1913.

Gentlemen:

I have much pleasure in stating that the two cylinder oil tractor class "C" which I bought from your Canadian agents in 1911 has given every satisfaction. I have done considerable plowing with it and a great deal of threshing. During the fall and winter of 1911 I ran it continuously from October until the end of March, and it was the only engine in this district that ran throughout the cold weather, and not only ran the separator but pulled it through 12 inches to 24 inches of snow. I consider that for power and steadiness of running it is way ahead of steam. I cannot speak too highly of the material and workmanship of the engine, repairs for the first year only amounted to \$2, and to date only \$10, and this all due to carelessness of operator and not to faulty material. I consider the engine now, after nearly three years wear, to be practically as good as the day I got it. Yours truly,
L. J. Rowley Noyes.

Marshall, Sons & Co., (Canada) Ltd., Saskatoon.

Dysart, Sask., June 28, 1913.

Gentlemen:

It is with great pleasure that I see you are establishing yourselves at Saskatoon, and will hereafter sell your tractors direct. I myself, own a 32 Draw Bar H.P. "Marshall" and have had it in operation for two years and have never regretted my choice of a tractor, for the longer I have her the more I am pleased with her. These tractors are in a class by themselves, far above all others for design, workmanship, efficiency and simplicity, they are absolutely reliable, the power is always there and is governed by a slight touch, and in my opinion they are the best tractor on the market for threshing and plowing, and are well named the "DREADNOUGHT." My repair bill is practically nil, my first year's account was \$1.50 for a new spark plug, in fact the longer we have them the better they work. Wishing you every success in Saskatoon, I am, yours faithfully,
R. H. Morton.

Marshall, Sons & Co., (Canada) Ltd., Saskatoon.

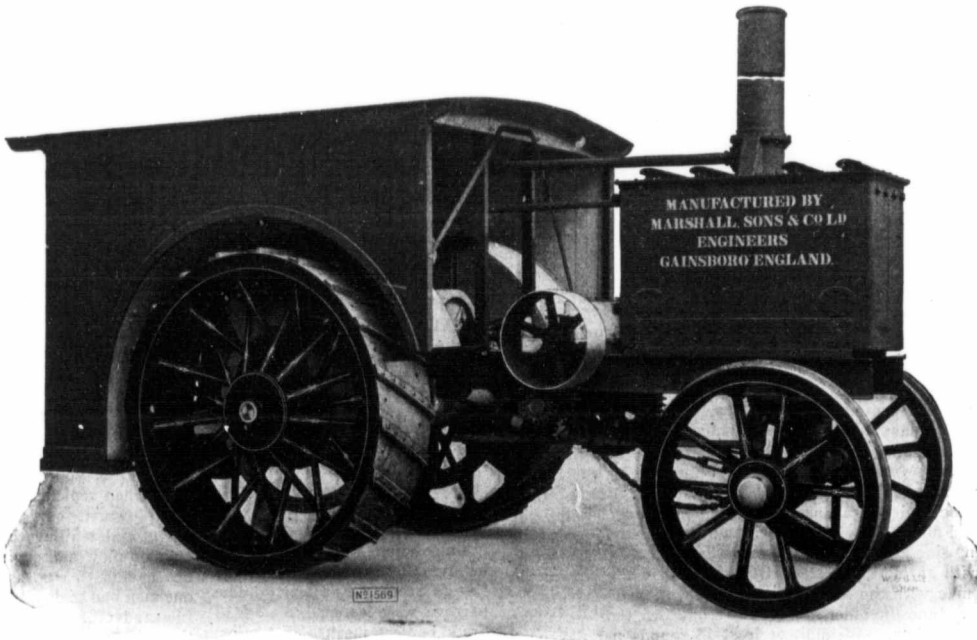
Kelfield, Sask., July 11, 1913.

Gentlemen:

We have much pleasure in forwarding you a testimonial re the "Marshall" 4 cylinder engine that we purchased in the spring of 1912. We plowed in 1912, 1,400 acres, we also double-disked, drag-harrowed and scrubbed 700 acres, and threshed 85,000 bushels of grain. We started out and broke virgin prairie to the amount of 300 acres in eight and a half days, the first day was so wet that we only broke 12 acres and the rest of the work was all done in daylight. All we can say is, that the "Marshall" engine is everything claimed by them in their catalogue and it stands up to its work and is built by engineers, everything we can say is in its favor, it is the Daddy of all gasoline engines in western Canada. Yours faithfully,
Geo. Weese & Son.

MADE IN 2 SIZES—16 H.P. Draw Bar 30-35 Brake H.P. and 32 H.P. Draw Bar and 60-70 Brake H.P.

The "MARSHALL" Works at Gainsborough were established in 1848, and now employ over 5000 men. Works cover 40 acres, and they have produced about 152,000 Engines, Boilers, Threshing Machines, etc.



The above shows a 32 H.P. Draw Bar and 60-70 Brake H.P. Tractor. One Speed.

Send for Illustrated Catalog with full description--and--DO IT NOW

MARSHALL, SONS & CO. (Canada) Ltd.

ENGINEERS

SASKATOON :: CANADA

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

HERROLINE

The Gasoline
and
Oil Improver

Triple Tread Manufacturing Co.
Office Factory—City Limits, St. James

Phone Sher.
4323

We have **Demonstrated** and proved to the public that 2 ozs. of **HERROLINE** added to 5 gals. Gasoline will give you **30 and 40% more mileage, and Increase of Power and a Cleaner Engine.** We refund your Money if it is not as we represent it.

Any Garage or Gasoline Dealer can sell you **HERROLINE**; if not, phone or write and we will deliver it to you.

also 20 gallons of water. We have no horses in connection with it, except to draw an occasional barrel of water and a tank of oil from town, which is only about once a week. We do our work alone, and I figure it costs us for fuel and oil 50c. per acre. I have not done any seeding or discing yet, as I have so many horses, but I do not consider an engine detrimental to plowed land, that is if we know enough to keep off when the land is wet; otherwise I look at it as being a great benefit.

I am preparing a hitch, so that if there is any rush this season I can do my seeding with the engine, and then if the weeds get ahead of me with horses at summer fallowing I can quickly destroy them with the engine. I would not consider it wise to feed my horses, and then do all the work with the engine. I do not use my horses to plow with, as I consider the engine much better, as it can plow 8 or 9 inches deep.

Yours truly,

Neil Matheson,
Caron, Sask.



Engine Has Come to Stay

Dear Sirs:

Last spring we purchased a Hart-Parr 30-60 gas engine, and a six furrow Cockshutt engine gang, and had very good success. For an average day's work of 20 acres we would use about 60 gallons of kerosene and 45 gallons of gasoline, and about 40 gallons of water when using kerosene and a little less with gasoline.

I had two men with the outfit, one man to steer and the other to run the outfit and plow. We did not have any horses with the outfit, as I just had to draw one tank of oil per week, and took out a barrel of water each day. I would estimate the cost of plowing to be about \$2.00 per acre, which includes oil, running expenses, and deterioration in value of the engine for plowing. I did not do any seeding, or discing with my engine, as I think it can be done to better advantage with horses.

I do not think an engine would do very much harm when running over plowed land where the land is dry enough.

My opinion is that the engine has come to stay; as for plowing you can get it done in the right season, which means so much here when the seasons are so short and wages so high.

Stewart Bros.,
Milden, Sask.



Extension Rims in Worst Cases Will Solve the Problem

Dear Sirs:

I have yours of recent date asking for my experience in operating a traction engine.

(1) Our engine is a Hart-Parr 30-60.

(2) We use between 40 and 50 gallons of kerosene per day of 10 to 11 hours, when pulling the following loads: braking, six furrows in real heavy land and eight furrows in lighter land, twelve furrow disc plow in heavy land, a 36-56 Red River separator.

(3) Twenty-two disc drills and harrows to cover.

(4) When burning kerosene we use about the same quantity of water as we do fuel, per day.

(5) We use two men on the outfit all the time, and an extra man bringing the fuel from town in a tank, and leaving it in the field near work. The water we usually bring out by the barrel-full. Therefore, the use of a man and team for hauling the fuel and water would only be about a day and a half per week.

(6) Our cost while plowing in the above-mentioned ways, is as follows: figuring that we make at least 18 rounds per day on a half-mile strip, and use at the most 45 gallons of kerosene, Kerosene, 45 gallons, at 20c. \$9.00
Cylinder oil and grease .. 2.00
Engineer and plowman, \$5 and \$2 7.00
Interest and depreciation 2.00

Total \$20.00

Therefore, figuring at the above rate,

Braking in heavy land costs \$1.55 per acre
Braking in light land costs 1.20 per acre
Summer fallowing in heavy land .. .95 per acre
Seeding and harrowing in one operation30 per acre

(7) We have never used an engine for the purpose of discing. Our method of sowing and harrowing was as follows: a piece of 3in. x 12in. bolted solid to the draw bar of engine, and long enough that the tongues of the outside drills rested on it was used as a drawbar, the ends of this 3 x 12 were supported by furrow wheel and axle of an ordinary sulky plow. The outside drills were pulled well ahead and chained to the 3 x 12 drawbar, and the centre drill was left back from the engine the full length of the tongues. This method did away with the cutting off or putting on of new tongues, and so left them that they could be used with horses at any time, if necessary. A 2 x 4 spiked to the tongue of one of the outside drills to which a marker was fastened was used as a guide after we had once made the first round. Our plan was to start in the centre of the field, and work around and outward. Thus, after one or two rounds it was not necessary to lift out the drills until the piece was finished. The corners we usually sowed with horses. By having a team on the grain wagon, and keeping it handy, there was but little time lost in seeding this way. The harrows were fastened to a 3 x 12 draw bar by means of chains, which passed up between the discs of the drills.

(8) Now in connection with a tractor being detrimental to plowed land, I cannot say that I have ever found it so. Of course we never used our engine on plowed land, except to sow and harrow. The grain in this case came up all right, ripened a little earlier, was stiffer in the straw, and did not go down so easily with the

wind and rain. My opinion is that if extension rims were used in working down, seeding and discing plowed land that the damage, if there is any, would certainly be nothing to write home about.

Wishing your paper every success, I am,

Yours truly,

A. E. Powell,
Caron, Sask.



Land Packing no Detriment

Dear Sirs:

I am going to give you my experience with my tractor, as requested by you in your letter, but I do not think it will be of much use to you, as I have had very little experience with a tractor, except for threshing purposes.

I own a 15-30 Rumley, and I was able to haul six furrow plow in summer fallow this last season, plowing about 6 inches deep, which was load enough for the engine, as our land is very heavy clay soil, and it is difficult to get plows to clean in summer fallow that has been disced twice to start weed growing before plowing. I just plowed 100 acres in seven days, and used about 40 gallons of kerosene, with about 25 to 35 gallons of water, varying according to the heat of the day, as on a hot day we would use more water. Two of us did the plowing, as I did not have any steering device, and I think you can gain some time when replenishing fuel oil. The plowman can be screwing down, and refilling the hard oil cups on plow and engine, thereby not having to stop as long as if one man had to do all the filling of fuel and oil. And then when there is water to be gotten, one man can go along with the tractor and the other go and get the water and fuel. I figure that it costs about \$1.25 per acre to plow summer fallow, and I have had no experience in cultivation or seeding with tractors as yet. I drive a 28 x 42 Waterloo separator, using six bundle teams, each man loading and unloading his own load, which I find works better than four teams, and pitched in field as

See This Exhibit of Tractors

At the Fairs this Fall

Where they will be running every day.

In the meantime, write the Company for information about these machines and the location of those now in operation near your home.



The most remarkable exhibit of Oil Tractors ever shown the Public. There is a size for every farmer in the Northwest.

Twin City Tractors

Twin City "60"

Cylinders 7½ in. x 9 in.
The most powerful Tractor in the World.

Twin City "40"

Four Cylinders, 7½ in. by 9 in.
The Original Twin City Tractor. The machine that has carried the Name of Twin City Tractors all over this Country, South America and Europe.

Twin City "25"

Four Cylinders, 6 in. x 8 in.
A remarkably powerful machine that equals many of the so-called thirties in draw bar pull.

Twin City "15"

Four Cylinders, 4½ in. x 7 in.
The last word in small tractor design.

All Twin City Tractors use Kerosene, Gasoline or Distillate.

Write for Catalogs.

MINNEAPOLIS STEEL & MACHINERY CO. OF CANADA, Ltd.

REGINA - SASK.

FIRST ANNUAL GRAIN CLEANER COMPETITION—DATA SHEET

Canadian Industrial Exhibition, Winnipeg, July, 1913

Test No.	Entry No.	Class	Division	Grain	Fanning Mill	Time of Test (Hrs.)	Time Lost by Operator (mins.)	CAPACITY AND POWER										Cleaning and Grading			
								Uncleaned Grain Used (Lbs.)	Cleaned Grain (Lbs.)	Capacity Cleaned Grain—Lbs. per Hr.	Capacity Cleaned Grain For Perfect Score—Lbs. per Hr.	Capacity Uncleaned Grain—Lbs. per Hr.	Capacity Uncleaned Grain For Perfect Score—Lbs. per Hr.	Horse Power	Capacity Cleaned Grain—Lbs. per H.P. Hr.	Capacity Cleaned Grain For Perfect Score—Lbs. per H.P. Hr.	Capacity Uncleaned Grain—Lbs. per H.P. Hr.	Capacity Uncleaned Grain For Perfect Score—Lbs. per H.P. Hr.	Percent. by Wt. in Original Grain	Percent. by Wt. in Cleaned Grain	Percent. by Wt. of Waste Grain
1	1	A	1	Wheat	Wonder	1	1	700	962	562	1000	700	1200	6.111	5063	6000	6306	7500	1	0.15	19.7
2	7	E	2	Wheat	Chatham No. 2	1		1238	939	939	1800	1238	2100	0.172	5460	6000	7198	7500	1	0.05	24
3	8	A	2	Wheat	G. Spent	1		1694.5	1613	1613	1800	1694.5	2100	0.717	2250	6000	2383	7500	1	0.18	5
4	3	A	1	Wheat	Chatham No. 1	1		931.5	843.5	843.5	1000	931.5	1200	0.142	5940	6000	6560	7500	1	0.21	9.5
5	4	B	1	Oats	Chatham No. 1	1		1164	835.5	835.5	1067	1164	1280	0.161	5189	6000	7230	7500	11	14	28
6	2	E	1	Oats	Wonder	1		414.5	294	588	1067	829	1280	0.142	4141	6000	5838	7500	11	13	29
7	7	E	2	Oats	Chatham No. 2	1		1667.5	1434	2868	3000	3335	3600	0.193	14860	16000	17280	20000	11	13	14
8	5	C	1	Barley	Chatham No. 1	1		591	461	461	1250	591	1500	0.146	3158	7200	4048	9000	8	2.5	16.5
9	2	E	1	Barley	Wonder	1		632	397.5	795	1250	1264	1500	0.148	5372	7200	8540	9000	8	1.7	30.8
10	7	E	2	Barley	Chatham No. 2	1		1481	722	1444	2500	2962	3000	0.200	7220	14400	14810	18000	8	1.0	44.2
11	6	D	1	Flax	Chatham No. 1	1		370	277	277	467	370	560	0.149	1859	4000	2483	5000	1.94	0.67	23.9
12	2	E	1	Flax	Wonder	1	1	255.5	191.5	383	467	511	560	0.112	3420	4000	4562	5000	1.94	0.23	23.2
13	7	E	2	Flax	Chatham No. 2	1	11	452.5	324	648	800	905	1000	0.127	5102	6000	7120	7500	1.94	0.39	26.8
14	7	E	2	Timothy	Chatham No. 2	1	3	402	380.5	761	600	804	720	0.091	8363	7200	8335	9000			
15	2	E	1	Timothy	Wonder	1		301.5	153.5	415	600	603	720	0.073	5685	7200	8260	9000			31.1

Test No.	Entry No.	Class	Division	Grain	Fanning Mill	Price Delivered Winnipeg	Weights Equipped (Lbs.)	R.P.M. Drive Pulley	Volume Hopper (Cu. in.)	Length Feed Opening (In.)	Fan				Order Top to Bottom	Sieves (Sv. and Screens (Sv.))				Vibrations						
											Size	Wings		Direction of Travel		Surface (Sq. In.)	Material	Angle Degrees	Size of Mesh (In.)	No. Mesh per Sq. In.	Gauge of Metal (In.)	Length (In.)	No. per Min.	End or Side Shake		
1	1	A	1	Wheat	Wonder	\$ 43	216	115	2426	30	17 1/2	29	4	Wood	6	29	316	Under Shot	1 Sv. 270 Zinc	8 1/2	13-64	14	.016	3-8	316	End
2	7	E	2	Wheat	Chatham No. 2	\$ 45	284	357	3200	29.5	18	33	4	Wood	5	33	358	Under Shot	2 Sv. 300 Zinc	8 1/2	13-64	14	.016	3-8	316	End
3	8	A	2	Wheat	Spent	\$200	346	642	1200	19.25	20	22 1/2	4	Wood	6	22 1/2	551	Under Shot	1 Sv. 330 Zinc	9	9-32	8.1	.016	1-2	362	Side
4	3	A	1	Wheat	Chatham No. 1	\$ 30	239	357	2384	21.25	17 1/2	25	4	Wood	5	25	357	Under Shot	2 Sv. 367 Zinc	9	1-4	10	.016	1-2	362	Side
5	4	B	1	Oats	Chatham No. 1		239	352	2384	21.25	17 1/2	25	4	Wood	5	25	352	Under Shot	3-4 Sv. 446 Zinc	9	7-32	12.0	.016	1-2	362	Side
6	2	E	1	Oats	Wonder		216	109	2426	30	17 1/2	29	4	Wood	6	29	335	Under Shot	5 Sv. 1050 Zinc	11 1/2	11-128x3-4	6.9	.016	1-2	316	End
7	7	E	2	Oats	Chatham No. 2		284	358	3200	29.5	18	33	4	Wood	5	33	358	Under Shot	1 Sv. 288 Zinc	10	7-128	72	.016	7-16	278	Side
8	5	C	1	Barley	Chatham No. 1		239	356	2384	21.25	17 1/2	25	4	Wood	5	25	356	Under Shot	2 Sv. 349 Zinc	8	7-32	11.2	.016	7-16	278	Side
9	2	E	1	Barley	Wonder		216	120	2426	30	17 1/2	29	4	Wood	6	29	330	Under Shot	9 Sv. 727 Wire	12	29-64x9-128	21	.016	11-16	278	End
10	7	E	2	Barley	Chatham No. 2		284	352	3200	29.5	18	33	4	Wood	5	33	352	Under Shot	1 Sv. 215 Zinc	9	9-64	24	.016	7-16	276	Side
11	6	D	1	Flax	Chatham No. 1		239	353	2384	21.25	17 1/2	25	4	Wood	5	25	352	Under Shot	2 Sv. 256 Zinc	9	5-16	6.8	.016	7-16	276	Side
12	2	E	1	Flax	Wonder		216	121	2426	30	17 1/2	29	4	Wood	6	29	335	Under Shot	3-4 Sv. 398 Zinc	7	29-64x1-16	14	.016	3-4	278	Side
13	7	E	2	Flax	Chatham No. 2		284	353	3200	29.5	17 1/2	33	4	Wood	5	33	353	Under Shot	5 Sv. 727 Wire	12	29-64x7-64	16	.016	3-4	278	End
14	7	E	2	Timothy	Chatham No. 2		284	355	2384	21.25	17 1/2	25	4	Wood	5	25	356	Under Shot	1 Sv. 216 Zinc	6	5-64	72	.016	1	274	Side
15	2	E	1	Timothy	Wonder		216	121	2426	30	17 1/2	29	4	Wood	6	29	333	Under Shot	2 Sv. 345 Zinc	9	5-16	6.8	.016	1	274	Side

USE
WHITE ROSE
GASOLINE
 More Power Less Carbon

Both Ways
 Gibbs: Personal appearance is a helpful factor in business success.
 Dibbs: "Yes, and business success is a helpful factor in personal appearance."

Air Was at Fault
 "So your airship was wrecked in the blizzard. I thought you considered it perfect?"
 "The ship was perfect," replied the inventor, stiffly. "The air was at fault."

USE
WHITE ROSE
GASOLINE
 More Power Less Carbon

The Chatham Mill Won Everything At The Canadian Industrial Exhibition

This is an exact reproduction of the mill that won in all classes of the Grain Cleaning Competition and proved our statement that it will do first class work in all kinds of grain.

You want your grain perfectly cleaned.

You want the best mill that can be bought.

Buy a Chatham and there will be no guesswork.

The best Implement agents at all points handle our lines, but if there is no one near enough to you write us direct for prices and terms.



GRAY-CAMPBELL LIMITED
Moose Jaw, Sask. Winnipeg, Man.

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

It was one of the happiest ideas on the part of the directorate of the Canadian Industrial Exhibition to put on a grain cleaning contest at Winnipeg this year. From the nature and importance of the thing, it was to be expected that quite a large number of contestants would enter the field but the response was, to say the least, very disappointing, only 3 types of machines taking part.

Second in importance to nothing else in agriculture is the matter of clean seed. More than half the troubles of the grain growing industry in the past has been due to sowing weed seeds with the grain, and anything that will effectually separate the noxious germs from the seed grain will always have a first place in the appreciation of the farming community.

It will never, perhaps, be possible to give the death blow to the noxious weed pest. These little usurpers of our fields seem to have been given a life lease that has never come the way of a single plant we have set ourselves to cultivate and their tenacity is without parallel. If their seeds get buried to a certain depth, they will not germinate in the regular course, yet they do not perish. They are simply hibernating, as it

Grain Cleaning Contest

At the Canadian Industrial Exhibition, Winnipeg, 1913



Some of the Judges and assistants in grain clearing Contest, Prof. Chase in the Centre.

were; taking a long sleep without losing one spark of their vitality. The farmer has summer fallowed and used his cultivator or weed killer day after day until he thinks

he has dug up or destroyed the last weed in the field. He has taken infinite pains to see that his seed grain is absolutely free from weed seed but, alas! when the

crop begins to grow there is still an amazing accompaniment of the old enemy.

The fact is that at the last plowing he has gone down to some of those hibernating fellows and turned them up to their favorite germinating depth, and there were no doubt quite a few mustard stink weed and other pestiferous individuals that he had not noticed in the bulk of his seed.

There is only one course open to him and it is to clean and still clean, until the last intruder is not apparently but is actually turned out. This with persistent use of the cultivator is all a man or a machine can do, but the solution of all that is necessary for all practical purposes lies in the cleaning equipment.

We have many grain separators, all of them presenting more or less remarkable claims to the credulity of the farmer as grain cleaners. Some of them are known to have performed wonderful feats in rescuing valuable wheat, barley and oat seeds from a mass of all sorts of seeds and also to have picked out many diminutive germs from the parent stock which had never been discovered by the human eye.

It is impossible to overestimate the value, (a value that

Grading
Percent. by Wt. of Waste Grain
10.71
24
5
9.5
28
29
14
16.5
30.8
44.2
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23.2
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FIRST ANNUAL GRAIN CLEANER COMPETITION—Final Score
Canadian Industrial Exhibition, Winnipeg, July, 1913.

Division and Class	Entry No.	Manufacturer	Fanning Mill	Tent No.	Time of Test	Time Lost by Operator	Design and Construction.																Capacity—Power				Efficiency												
							Price—15	Weight—10	Floor Space—15	Clearing—5	Quality—10	Methods of Attaching—5	Quality—10	Methods of Attaching—5	Frame—15	Fan—10	Materials of Construction—10	Logic and Feed Regulation—10	Vibration—15	General Convenience—15	Penalty	Total—150	Capacity Uncleaned Grain per Hr.—25	Capacity Cleaned Grain per Hr.—75	Capacity H. P.—25	Capacity Uncleaned Grain—25	Capacity H. P.—50	Capacity Cleaned Grain—50	Total—175	Impurities—75	Percent. Waste Grain—50	Grading—50	Total—175	Grand Total—5.0					
DIVISION 1 (Hand)																																							
Class A (Wheat)	1	Haug Bros. & Torrance	Wonder	1	1h	1m	7	7	9	3	8	3	8	4	4	6	8	11	7	10	13	14	106	15	42	21	42	120	30	30	22	82	308						
	3	Gray, Campbell Ltd.	Chatham No. 1				8	7	10	3												121	23	69	24	43	149	50	30	22	88	363							
Class B (Oats)	4	Gray, Campbell Ltd.	Chatham No. 1		5	1								9																									
Class C (Barley)	5	Gray, Campbell Ltd.	Chatham No. 1		8	1								9									121	10	28	11	22	71	25	40	30	95	287						
Class D (Flax)	6	Gray, Campbell Ltd.	Chatham No. 1		11	1								9									121	16	44	12	23	95	45	38	40	123	339						
Class E (General Purpose)	2	Haug Bros. & Torrance	Wonder (Wheat) (Oats) (Barley) (Flax) (Timothy) Averaged Total	1	Same as Class A		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	106	16	41	20	35	112	45	33	30	106	326							
				9			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	106	23	61	23	43	130	55	25	30	110	346							
				12			2	7	7	9	3	8	3	8	4	6	8	11	6	10	13	104	21	52	23	39	135	25	25	25	75	314							
				15			2	7	7	9	3	8	3	8	4	6	8	11	6	10	13	104	19	49	21	39	128	43	31	28	102	351							
DIVISION 2 (Power)																																							
Class A (Wheat)	8	G. Spent		3	1		4	8	9	5	9	4	9	4	9	4	9	4	9	4	9	9	8	14	5	15	9	25	89	20	67	8	19	114	20	45	23	88	291
Class B (Oats)																																							
Class C (Barley)																																							
Class D (Flax)																																							
Class E (General Purpose)	7	Gray, Campbell Ltd.	Chatham No. 2 (Wheat) (Oats) (Barley) (Flax) (Timothy) Averaged Total	12	1																	128	15	39	24	45	123	65	25	28	118	389							
				9																		128	23	71	22	47	163	5	45	27	77	368							
				10																		128	25	43	21	37	114	65	18	40	123	365							
				13																		128	23	61	24	43	151	57	35	40	132	411							
				14																		128	22	55	25	42	144	5	30	10	45	317							
				4			0	9	14	3	9	4	9	4	8	1	12	9	13	14		128	22	54	23	40	139	39	31	29	99	366							

* For Timothy.

increases with every season) of the fanning mill to the farmer. Big men and small men are calling everywhere for a machine that will really clean perfectly

would be unfair to suggest that they are weak in the sporting instinct, it is to be hoped that there will be a far stronger representation next year.

some men who do not "draw in their horns." Come what will, The Petrie Manufacturing Company, the Canadian makers of the well known "Magnet" cream separator, never tell us that there is "nothing doing" whether it is the production or advertising of their speciality.

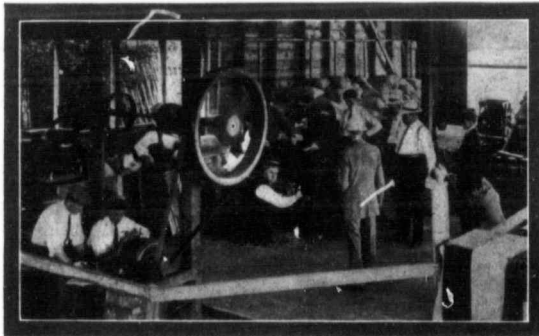
While other folks have the feeling that in a period of depression and money scarcity it is "useless to advertise," the Petrie company evidently believe with ourselves that it is most of all needful to advertise and otherwise to become aggressively busy when the market or the livers of the people who make the market have taken on a sluggish mood.

Since we last had the pleasure

in order to provide for the constantly increasing output of their dairy machinery, but also to handle the very bright and cleverly designed gasoline engine they recently placed on the market. This engine is entirely their own idea and their own handiwork, and already has given the most emphatic proof of the fact that in its own sphere it has secured and will maintain as firm a hold on popular favor as has their celebrated "Magnet."

Besides the above expansion, they have recently enlarged their premises at St. John, Montreal, Quebec and Edmonton, and the end of contemplated improvements is not yet in sight.

Contrary to the alleged general



In the heat of the Grain Cleaning Fray.

and clean to time. Apparently a machine that has reached this state of perfection has not yet been found and that all one can do is to take advantage of the nearest approach to the ideal which human genius has yet designed.

The average machine in careful hands will certainly do wonderful things and free the seed grain of the great bulk of its impurities, but the goal will not be reached until there isn't even one per cent of screenings left with the grain and the job done at a satisfactory speed.

There are no doubt reasons other than any fear of results as to the performances of their respective machines which kept a number of well-known fanning mill manufacturers from taking part in this contest. But while it

Apart from the details furnished by the score cards published herewith, there is little to be said. The contest was certainly one which was characterized by absolute fairness on the part of the men who were entrusted with the conduct of it. Professor C. F. Chase was the engineer in charge; the judges were, J. W. Dickerson, John Bracken and F. H. Need, and with their assistants they went into the last bit of drudgery the duty imposed upon them with the most painstaking, conscientious care.

About the Men who Make the "Magnet" Cream Separator.

In a weak, wobbling day of pessimism, it is refreshing to find



"Whole men to one thing at a time"—in the Grain Cleaning Contest.

of commenting on their progress, they have added to their fine plant at Hamilton, buildings and equipment to the tune of some \$50,000.

This was absolutely necessary

experience, they are enjoying a steady increase in sales in their different lines in every province of the Dominion where they are represented. This, they affirm,



MAYTAG



COMPANY, LIMITED

WINNIPEG, MANITOBA

THERE IS NOTHING TOO GOOD FOR A THRESHERMAN

That is why we have stayed awake nights in order that we can provide you with the very best in your line

INVESTIGATE OUR LATEST COMBINATION:

THE MAYTAG AUTOMATIC DUMP RACK
THE MAYTAG 14-FOOT EXTENSION CARRIER



THE MAYTAG IMPROVED AUTOMATIC DUMP RACK

Is, in our opinion, the greatest labor-saving and money-making piece of machinery for sale today. It is easy to load, easier to unload and any boy that is old enough to drive a team can handle it. Can be used on any make of standard wagon gear, with either low or high wheels. Misunderstandings should always be avoided when possible, so we ask that you read carefully the following: We furnish the bolts, pulleys, wire cable, and all other hardware required, and all of the lumber except about 130 feet of plain boards which are used for the bottom, front end and sides of the rack. Ship-lap, dressed on one side, should be used for the bottom. We will furnish this lumber when specially ordered, but there is no use in your paying freight from Winnipeg when they can be bought at your home town at practically the same price we would have to pay. The illustrations show the rack on a wagon gear. We do not furnish these. Use the ones you have.

IF YOU OWN A STOOK LOADER

You will see in a minute the advantage of having a set of the racks shown with the automatic end gate, over the old-fashioned hay rack that has been used heretofore. A rack with no end gates requires a man to load the bundles to keep them from falling out behind when rolled in with the stook loader. This end gate works automatically. When the load dumps it opens itself and when the rack goes back in place, closes itself. These racks are well and strongly built, nothing but the best material being used, and with proper care should last for years. A set of these racks (4 or 5) will keep any separator going. How many teams and men did you need last year? When men and teams are scarce and wages high, does it mean anything to be able to cut the number in half? It reduces the number of men so that a full crew is possible. A set of racks and an extension carrier is a money-making combination that is hard to beat.



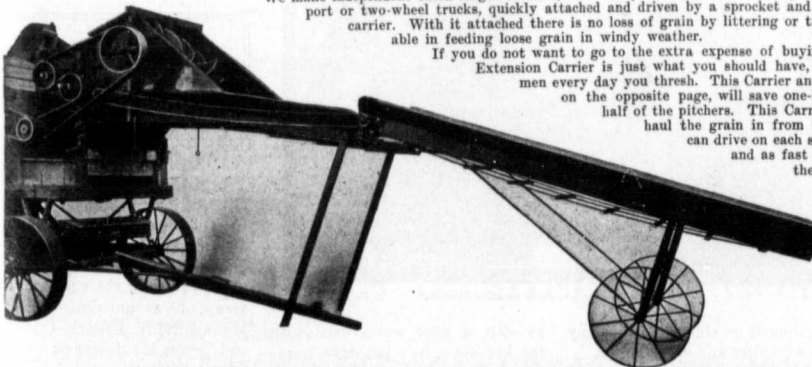
NOTE A FEW OF ITS ADVANTAGES

No empty machine while bundle teams are driving to or from the Feeder. The load can be dumped in fifteen seconds and driver does not have to get off the wagon. The end dump is the correct principle. Load slides off and is deposited on ground just as it was loaded on the wagon. No mixing of bundles or dragging part of load. No scattering of foul seeds or wasting of grain as with old style rack, everything is brought to the separator, as the bottom is tight. Very handy for hauling straw from separator to engine—just back under wind stacker, get a load in a few minutes and dump it just where you want it in a few seconds. Just the thing for a farmer to haul hay, straw or fodder.

THE RUTH FEEDER WITH A FOURTEEN FOOT EXTENSION CARRIER ATTACHED

We make independent extra length carriers, which may be attached to the regular carrier, fourteen feet long, with leg support or two-wheel trucks, quickly attached and driven by a sprocket and chain from the upper shaft of the regular carrier. With it attached there is no loss of grain by littering or trampling under foot. It is especially desirable in feeding loose grain in windy weather.

If you do not want to go to the extra expense of buying a White Wings Attachment, the above Extension Carrier is just what you should have, if you wish to save the wages of several men every day you thresh. This Carrier and a set of our Dump Racks, which are shown on the opposite page, will save one-half of the teams in the field and also one-half of the pitchers. This Carrier is FOURTEEN FEET LONG, so if you haul the grain in from the field in the old-fashioned way, a team can drive on each side and pitch the bundles on in any old way and as fast as a man can work, and the RUTH will do the balance. If used in connection with the DUMP RACKS, which is much the better way, the load can be dumped on the ground on both sides and as the Carrier is much lower than the regular Feed Carrier, the bundles can be pitched on easier and quicker, which saves time, and time is money as you all know. Those who have our White Wings Attachments think they are the only thing and those who have been using the Extension Carriers say the same thing, so there you are. As the Extensions cost less than half as much as the White Wings, and fill the bill in stook threshing, we believe they are a proposition that it will pay any man who owns a RUTH FEEDER to look into. Let us hear from you NOW.



less than half as much as the White Wings, and fill the bill in stook threshing, we believe they are a proposition that it will pay any man who owns a RUTH FEEDER to look into. Let us hear from you NOW.

THE MAYTAG COMPANY, LIMITED, Winnipeg, Manitoba

22	82	308
30	88	363
33	113	383
30	95	287
40	123	330
30	108	326
30	110	346
35	135	391
25	73	314
28	102	335
23	88	291
8	118	369
7	77	368
0	123	365
0	132	411
0	45	317
9	99	366

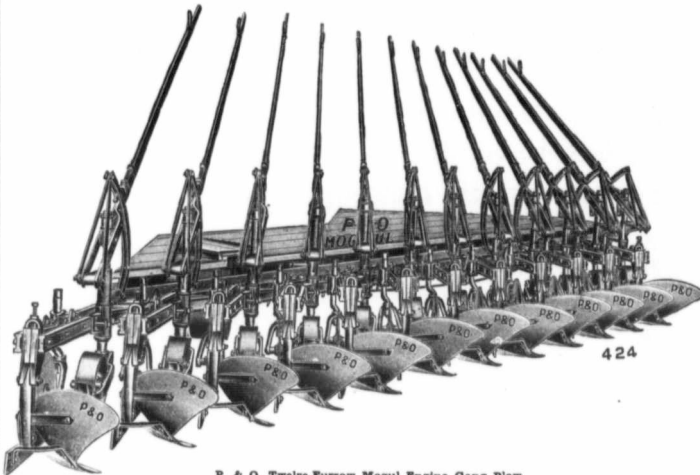
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MOGUL ENGINE PLOWS



P. & O. Twelve-Furrow Mogul Engine Gang Plow.

International Harvester Co. of Canada, Ltd. Sales Agents for Canada

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

Notice how the levers converge toward a common point. By this feature you may know a Mogul as far as you can see it. The advantage is that it facilitates the operation of the plow, and shortens the path of the operator.

The pin-break feature is a great insurance against loss of time when the soil abounds in roots or stones, as it prevents breakage of the bottoms, and but little time is required to replace a broken pin.

Bear in mind that our various styles of bottoms are interchangeable on these plows, so that you can secure the exact type required by the condition of your soil.

Another point deserving your attention. Every adjustment is provided for quickly and accurately regulating the bottoms. When a plowman goes into the field with a Mogul plow and a good engine he can do so with the assurance that for every hour he is there he will have done an hour's work. Nothing provokes him so much as delay, and we have guarded against that by building a plow in which every part is in harmony with every other part, in strength and the performance of its work. We are so sure of the Mogul that we back it by our UNQUALIFIED GUARANTEE.

and from what we have heard and seen, is entirely due to the quality and efficiency of their goods and to their business-like persistence in keeping them steadily before the eyes of the public.

"Quality and service" is their slogan, because they know that the wisely discriminating among the general public think of quality, efficiency and durability first and then they find no difficulty when it comes to the matter of price.

The Petrie Manufacturing Company owns all the property it occupies at the various points where they are making or distributing their goods. They have so covered the country that they are entitled to say that no matter where a prospective patron may be located, the Petrie people are always within easy reach.



Course in Gas Engineering.

Continued from page 22

buzz, look for a loose connection, a weak battery, or the vibrator not properly adjusted.

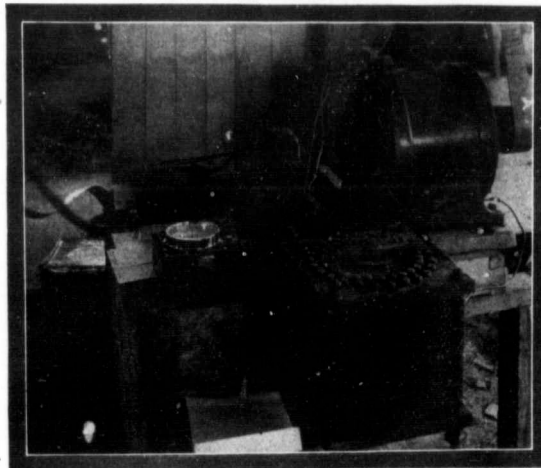
Proper Valve Action

The exhaust valve of four cycle engines are all opened by mechanical means, and the intake valve of small stationary engines is usually opened by suction. In some cases they are opened me-

chanically. A cam or cams on the two to one gear causes them to open at the right time in the cycle. The exhaust valve rod, the end of which works against the two to one gear cam, may be

on the suction stroke, or no mixture would enter through the intake valve. These valve stems should be kept oiled, so that they will both work freely. Poor lubricating oil used in the cylinder,

warped and, as a result, do not seat properly. In such cases they must be ground to give a proper seat. The fuel regulating valve also becomes worn, and admits too much fuel. Often the engine will draw in a few charges of fuel after the needle valve is turned down, thus if the needle valve is closed, and the switch not opened the engine will continue running for some time. The needle valve may be ground also, but care must be taken not to admit any emery into the cylinder.



The Power Supply for Grain Clearing Contest.

lengthened or shortened in many cases to alter the valve action.

If the intake valve is operated by suction it is important that the spring be of proper tension to permit its opening on the suction stroke. It is also important that the exhaust valve remain closed

as well as poor water used with the kerosene, in a kerosene burning engine, will leave deposits on the exhaust valve stem, and cause it to work hard. Valves also become rough and do not seat properly, and compression is lost. They also become

Rumely Changes

**New Sales Manager for Rumely
J. M. Robinson of the International Chosen**

J. M. Robinson, who has been District Sales Manager for the International Harvester Company of America at its General Offices in Chicago practically since the organization of the Company, has accepted a position as Sales Manager of M. Rumely Company, and begins his duties on or about September 1st.

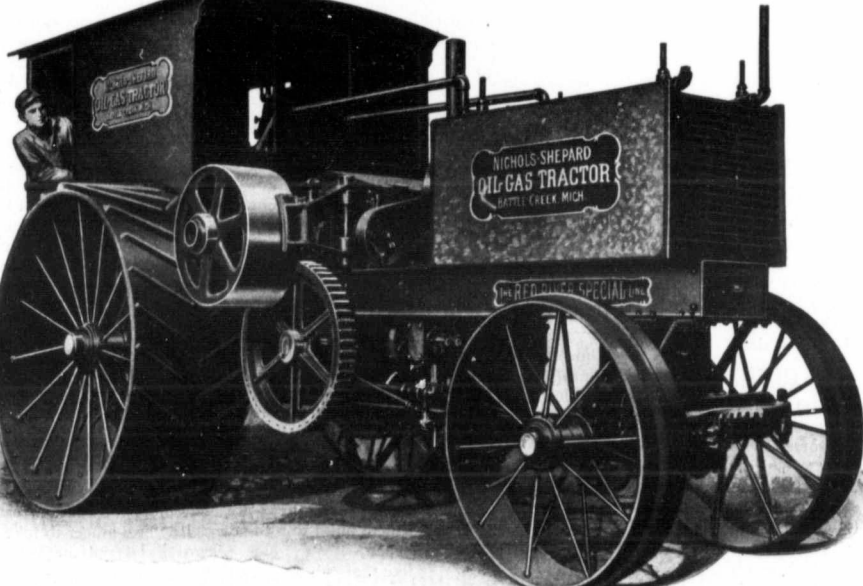
Mr. Robinson has had an exceptionally wide and successful experience in the implement business, beginning with a two years'

Continued on page 76

NICHOLS-SHEPARD OIL-GAS TRACTOR

Burns Kerosene, Gasoline and Distillate.
Strong and Rigid in every Feature.
Ample Power for Plowing, Hauling and Grading.
Strong and Steady in the Belt.

The best Gas Engine for Threshing.
Starts easily, and is serviceable in cold weather.
All working parts in the open and readily accessible.
Get one of these Tractors in time for your Fall plowing.



Nichols-Shepard Oil-Gas Tractor (Right Side). Built in 23 and 36 Horse sizes.

This Tractor is a power plant—not a plaything. It Plows. It Threshes. It Pulls. It Works.

Read what users say about it:

John Segerberg of Rolla, North Dakota:
"In the season of 1912, I bought one of your 25 Horse Oil-Gas Tractors with 36 x 56 Separator, wind stacker, self-feeder, and weigher. I cannot boast of any big day's threshing for the reason that we had a lot of poor grain to thresh, and when we would have a fair job we were short of help."
"But your machine was the talk of the country for good work in cleaning and saving the grain. Men who would visit me would say: 'You certainly have a good outfit; there is no equal in the country'. At one time on such an occasion they got up to see if they could not choke the tractor by piling in all the grain they could. I could not tell any difference in the motion and by giving the separator a little more wind she handled it with ease. Men living 15 miles from me would come up when I was in town, shake hands with me, and say: 'They tell me your rig is a dandy; I wish you would come and thresh for us.'"
"Now here is my opinion of your tractor. It is the only one for long service. Everything is just as strong and simple as a steam engine. It is not complicated or built like some of the higher speed engines which have no chance of standing their dreadful speed. Some of such engines are sold cheap, but they are high priced even then as compared with your Oil-Gas Tractor."
"One good feature in your tractor is in being able to start it in cold weather. I live in the extreme North, near the Canadian boundary, and we threshed late in the season last fall. We started the tractor just as easily on the coldest mornings as we did any other morning."
"I would advise anyone to buy your outfit, and they will find that my judgment of it is right."

John A. Steff of Hingham, Montana:
"The 22 Horse Power Oil-Gas Tractor purchased from you is doing good work pulling five 14-inch plows and disc in sod. We have run about three days and three-quarters, and plowed forty-five acres."

N. A. Bush of Mitchell, South Dakota:
"I am taking the time to write you concerning the 22 Horse Power Oil-Gas Tractor which I recently bought from you, and beg to say that I am well pleased with the machine. I have used this tractor under the most trying conditions, and it has always done the work."
"The first piece of ground we plowed was very hilly and full of tough sod, owing to a bad job of breaking the year before. We plowed up all the hills with six 14-inch stubble plows and never lightened a plow."
"For simplicity, accessibility, and ease of operation, I think you are ahead of most, if not all, of your competitors that I have seen, and that includes nearly all of them."
"I wish you all kinds of success with your tractor and assure you that I will be glad to help you in any way possible."

O. C. Boegs of Joplin, Montana:
"The 22 Horse Power Oil-Gas Tractor purchased from you is certainly the best one in the country and all you claim for it. We are pulling six 14-inch Engine Gang Plows in sod. Our average work is 15 acres per day of ten hours; our fuel consumption a little less than 34 gallons per acre. The tractor pulls strong and maintains a speed of two miles per hour under heavy load. The tractor runs at an even speed under heavy load or light load, as the throttling governor controls it perfectly. The gearing and shifting are strong and we are certain it will out-last any other make of tractor. With best wishes for your success," etc.

Harvey Hubbard of New Carlisle, Indiana:
"In reply to yours of the 19th instant inquiring as to my experience with the 22 Horse Power Oil-Gas Tractor, beg to advise that my tractor has worked entirely satisfactorily. We have done all of our spring plowing in good season. We did not have enough horses with which to do this work but found the tractor to be as dependable, and accomplish its work with a much less initial expenditure of money as the number of horses it would have required. I appreciate the fact that the expense stops when the tractor has finished plowing, while horses soon eat up their cost in feed."
"It has always shown sufficient power to pull the five gang plows in heavy black Indiana soil, and has given us good service in every respect."
"My engineer had had no previous experience with this type of machine but was able to master the tractor in every respect in a very short time. The tractor handles very easily and does its work with very little effort."
"After investigating a great number of other makes I decided to buy your tractor because I believed it to be the simplest, most substantial, and well built tractor on the market, and from my experience with it I have no doubt but that my decision was correct."

Engberg Brothers of Lothair, Montana:
"The 22 Horse Power Oil-Gas Tractor purchased from you this spring is running fine and doing excellent work. We have plowed up to date about 100 acres of tough Montana sod with frequent patches of hard pan. We pulled five 14-inch Oliver Engine Gang Plows with a disc behind, all of the time, except about 30 acres, when we pulled six 14-inch plows and the disc."
"This is as heavy a load as any of the gas engines are pulling, though many of them are rated at greater power than our little engine. In fact, several of our neighbors who own gas tractors which are rated 30 and 35 Horse Power, draw-bar power, do not pull any more plows than we do; and we plow just as deep or deeper than they do."
"Our tractor pulls strong, at this load and maintains a speed of two miles per hour. The throttling governor governs perfectly. Our engine starts easily and we are frank to say that for all purposes the Nichols & Shepard Oil-Gas Tractor has no equal."
"We cheerfully recommend it and will gladly answer any inquiries which your customers may send to us."

Send for Special Catalog No. 3

NICHOLS & SHEPARD COMPANY

BATTLE CREEK :: MICHIGAN

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

Regina, Saskatchewan. Winnipeg, Manitoba.

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

An IMPRACTICAL Talk to Threshermen

AUG. 15, 19.—Rained again today. 'Pears like it's goin' to rain for ever. Went down to the shed and looked at my rig, but didn't do anything. The old injun looked me in the eye kinder natural like. It made me feel good.

Aug. 16.—Sun shone today. Looks as if we soon might fire up and git to work.

Aug. 17.—Had a big stroke of luck. Sam Piper, him that lives over by Wilson's Corner, had a sorrel horse that he was kinder skeered of, but as he was out of Sam's old roan mare he was slow to part with him, and held him at a big price. I tried to trade Sam out of him several times last winter, but we never could make a deal. I knew, however, that I would git that beast, and sure enuf my chance came today. Sam and his wife Marie started for town this morning behind the sorrel, who was feeling in the best of spirits. Sam lowed, he wasn't afraid of him any more, and that he wouldn't take \$170.00 for him. Everything went well until he was passin' the widder McCullough's house, when her spotted dog made a dash for the road. The sorrel see him, and at once there was trouble. He lit out, and at the same time Marie jumped out, leaving Sam, the sorrel, two crates of eggs, and a dozen glass jars full of preserves to fight the battle. It is queer how long some horses' hind legs can grow at times. That sorrel's must have been made of rubber. He kicked the "trimmies" off from the buggy, and then proceeded to mix eggs, and preserves and Sam all up together, and he succeeded pretty well. Well, to make a long story short, when Sam came by here looking for his property after I had caught the sorrel, he looked like the remnant of a picnic that had been in a wreck. He was well greased and well colored with berry juice, and if Sam had been a swearin' man the roadside would probably have been filled with music, but as he is deacin in the church he simply said, "Jim have you seen that sorrel critter of mine anywhere about here." I told him I had, but asked him what the trouble was. He said there wasn't any trouble, but Marie was waiting fer him back on the road a piece, and that if I would give him my grey mare and lend him my buggy for a day or two he guessed that I could keep the sorrel. I told him all right,

fixed him up, and I reckon that the widder's spotted dog has made me a clean \$100.

Aug. 18 (Sunday).—Hitched up the sorrel today, and he's a daisy, a regular ripdinger. He can knock the spots "offen" that old grey mare, so far that she isn't able to hold a candle to him. I reckon that he can almost pull a tank of water alone.

Aug. 19.—Rained agin today, Couldn't take the sorrel out for a drive. Started to overhaul my engine, and I find her in pretty bad shape. The time that governor belt broke down at Smither's last fall played hob with her. It shook the stay bolts so loose that she leaks steam like a sieve.

Aug. 20.—Did some more work on my engine. Bill Williams came over this afternoon, and he was tellin' me about that new rig that his brother Joe bought last week. He says it's a hummer. Joe saw it advertised in the Canadian Thresherman, and he wrote a letter to the company. They sent a man right out, and the deal was closed in a jiffy.

Aug. 21.—Sunshine again today. I hitched up the sorrel, and drove over to Joe Williams' today. He's a hard cuss on the bit, but you'll have to tie your hat on when you ride after him. Haven't seen the deacon but once since I traded, and that was when he brought the buggy back. Joe's new rig is certainly a daisy. It's one of them blow stacker, self-feeder outfits, and the engine would do your heart good just for a look. It has a cab on it like a regular locomotive, and Joe says she's warranted to outpull anything in the neighborhood. I'll bet the sorrel could give her a whirl.

Aug. 22.—Worked some more on my engine today, but it seems to be pretty well shot to pieces. Discovered a crack between two of the flues, and she's got about an inch of scale on her insides. Rained this afternoon, so I spent the time looking over the Canadian Thresherman. I believe that if I can get Mandy worked round all right I'll buy a new rig. I can't let Joe Williams with that new steamboat whistle of hisn' toot me off from the prairie. Last night the sorrel kicked the end out of the barn. He's a winner.

Aug. 23.—Rained all day. Sun

set clear. Believe we will have some fine weather now.

Aug. 24.—Mandy and I drove over to Wilson's Corner today behind the sorrel, and Mandy says that if I don't get shet of that brute that she will git a divorce right off. The way that horse acted was something terrible. This was one of his off-days. I bot Mandy a new dress today, and she declared I was gittin' extravagant, but she looked tickled. I'm gitting her in good humor for that new outfit. I'll be blowed if I know which one I want. That rig of Joe's is a daisy, but I dont' want him saying that I couldn't pick for myself, and had to buy the same thing he did.

Aug. 25 (Sunday).—Went to church this morning, and I noticed that the deacon cast a rather sorrowful look towards that sorrel when I drove up. This afternoon John Hendricks came over, and we talked rigs. He says that he would buy a return flue boiler, for they are the only thing; but I don't know. I don't believe I want one. Darn it I like that cab on Joe's new engine, but I don't want to git the same as he has.

Aug. 26.—Pulled my engine and separator out of the shed today. I didn't think it looked so tough. I thought last fall that it was one of the best engines in this part of the country, but since I saw that new outfit of Joe's I am kind of ashamed of it. I believe I'll drive over to Mayberry tomorrow, and see what the agent there has to offer. Mandy needn't know, and anyhow she won't ride after that sorrel. He's a very devil. Believes in lots of fresh air. Nothing left of the barn but the roof and the corner posts.

Aug. 28.—Been gone from home two days. Mandy fairly raised the roof when I got home today, but when a feller starts out to buy a new threshing rig he has a bigger job on his hands than what he counted upon.

Aug. 29.—The agent came over this afternoon to talk business with me, so he said. Those people are hustlers. I notice that they are big advertisers in The Canadian Thresherman and Farmer. He was certainly a long-winded cuss. There wasn't a point about his machine from A to Izzard that he did not explain. The more I look at my

old rig the more it looks like 30 cents. Guess I'll turn it over to the scrap heap. Crop prospects are too good to fool away time with an old rattletrap.

Aug. 30.—Two more machine agents called today. I certainly stirred something up that day I went to Mayberry. It's queer how many friends you have when you want to buy something.

Sept. 1.—Bo't my new rig today. It's a ———. Don't know whether I made a mistake or not. I feel kind of sorry for my old outfit, but like everything else that is old it has had its day. However, I got a good price for it. Sold it to three farmers over at Mayberry, who are going to do their own threshing. Fired up my rig this afternoon, and if Joe Williams can beat me tottin', he's a dandy. My new steamboat whistle will scare the cattle out of the pastures. I reckon my crew, won't sleep much after I once get fired up. My engine is certainly a daisy. Makes you feel like a regular locomotive engineer to take hold of her throttle and the separator with self-feeder, blow-stacker and high bagger is a regular rootin', tootin' hunderinger. Somehow or another the sorrel isn't as nice as he used to be since I got this new rig. He was quite lame today with that spavin.

Sept. 2.—This buyin' new rigs makes a fellow late in getting started, unless he is on his job. Joe Williams has been out nearly a week, and here I haven't started yet. Next time I buy a new rig I'll get it the winter before, although I don't expect to get another for several years. Mandy is pleased with my new outfit; in fact she calls it our outfit. Nothing like having your wife on your side if you want peace in the family. Forgot to mention that I bo't a grey horse yesterday, to go with the sorrel on the tank wagon. Paid Jim Fields a round \$125.00 for him, but he's a good one. Didn't go to church today, but tomorrow I'm going to threshing. Everything points to a good fall's run. Weather seems settled, and with a new rig I'll just make the prairie ring.

The Dear Girl: "He had the impudence to ask me for a kiss!" Her Dear Friend: "The ideal! What cheek!" The Dear Girl (blushing): "He wasn't particular which."



Try pulling this Thresher Belt Apart

It is the thorough construction---the absolute union of duck and friction---that is the user's assurance against separation in service.

In Goodyear Thresher Belting the fabric is protected from the effects of the weather by a rubber covering. The seam is perfectly sealed by a high grade of pure rubber. Water cannot penetrate to the duck and cause rot and mildew.

The tenacious grip of Goodyear Rubber Belting is a continuous power saver to the Thresherman -- "slip" is impossible.

Enormous strength is built into this Belting. Successive layers of specially selected hard staple cotton fibre -- (each layer permeated with rubber--or "friction") are hydraulically compressed into an impenetrable and inseparable mass.

Every Goodyear Belt is "cured" whilst machine-stretched to the safety limit. There is, therefore, no "stretch" in actual working--consequently no slackening of the Belt or time lost to readjust. The splicing is carefully made and will last the life of the Belt.

A Goodyear Thresher Belt retains its pliability in all weathers--it will neither harden with heat nor stiffen with cold.



Thresher Belts

For Thresher service with its exposure--its long drives--and strenuous conditions generally, Goodyear Thresher Belts give entire satisfaction to practical men.

107

When ordering a Thresher insist on Goodyear Belt

Our Free Book on the choosing of a Belt would interest you. A card to our nearest Branch will bring one.

The Goodyear Tire & Rubber Co. of Canada, Limited

Head Office : TORONTO

Branches:

Factory : Bowmanville, Ont.

Victoria, B.C., Vancouver, B.C., Calgary, Alta., Regina, Sask.,
Winnipeg, Man., London, Ont., Hamilton, Ont., Montreal, Que., St. John, N.B.

The
**Thresherman's Question
 Drawer**
 ANSWERS TO CORRESPONDENTS

Q. T.B. 1. My side valves blow. I have been advised not to grind them with grit, but to scrape them. I wish to know how to scrape them, and what kind of a tool to use.

2. Does a twenty or a twelve bar cylinder give the best satisfaction, and which has the lighter draft?

3. I have a separator that I have run two seasons. The first season I saved all the grain, but the second season more or less of it blew over. The grain did not go out in the chaff over the conveyor extension. How can I overcome this trouble?

4. When a man sets up a pony saw mill and the saw runs well and the second man comes to saw under the same condition, why is it that the second man has to redress the saw before he can make good lumber?

A. 1. Fitting a slide valve is a machinist's job. After both the valve and its seat are planed as smooth as possible they are both scraped. The scraper is made of a thin piece of tool steel, about 3-32 of an inch thick, 5-8 of an inch wide, and 10 inches long. The ends are ground square across and then tempered very hard. In scraping the valve a perfectly true surface plate is used. A thin coating of red marking is first rubbed on the plate, the valve is laid face down on the plate and moved around gently. The high parts on the valve will be marked. These marked places should then be scraped off with the scraper, and the operation repeated until the valve touches the plate all over. Then, by using the valve as a surface plate, the valve seat may be marked and scraped.

In your case, if the valve set is true it might be used as a surface plate and the valve fitted as just explained. If both the valve and the seat are in bad shape better get a machinist.

2. Both kinds of cylinder are widely used, but it appears that the large cylinder is gaining ground. Being large it acts somewhat like a balance wheel. When once up to speed it takes a good deal of force to reduce the speed. It also takes a correspondingly long time to bring it up to speed again when it slows down. In general, it seems to make the separator run with a steadier, more uniform speed than

the small cylinder. The power necessary to run the machine will be the same whether a large or a small cylinder is used.

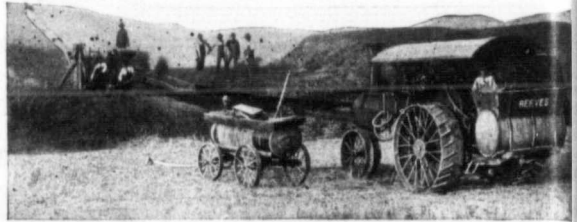
3. Try raising the sieves at the rear end one notch and directing the blast at a steeper angle upon the sieves. This will lift the chaff without blowing the grain out into the straw.

4. No two men work the same or have the same touch. If the second man could learn to drive the carriage at the same rate toward the saw he would not need to redress it, but not being able to he must put the saw in the proper trim for the conditions he imposes upon it. Then again, there are some men who always change everything from the way the other man had things, just as soon as they come upon the job just to show how much they know and what a fool the other fellow was.

Q. P.G. 1 operate a 1½ horse-power gasoline engine and feed mill. The engine runs at 400 revolutions per minute; it is equipped with a six inch pulley and the grinder with a five inch pulley. How fast does the grinder run? How much faster would it run if I put a nine inch drive pulley on the engine? Is there any rule for determining the speed per inch of the pulley? Does the size of the pulley affect the power of the engine? The feed mill has four inch burrs, and I have used a nine inch pulley on the engine, and it does the work easily. Would the engine run the mill with six inch burrs at the same speed? Do you think it would be any advantage to put a three inch pulley on the mill? Which belt would you recommend, rubber or leather? Does the length of the belt make any difference about holding the motion?

A. If the engine runs at 400 revolutions, and is belted from a six inch pulley to a five inch pulley on the grinder, the grinder pulley should run 480 revolutions per minute.

This you obtain by forming a fraction with the diameter of the engine pulley for the numerator and the diameter of the driven pulley for the denominator. Multiply this fraction by the revolutions of the engine, and the result will be the revolutions of the



**Save Expensive Shut-Downs
 ---Use a GANDY Belt**

Use a belt that you can absolutely depend on in all kinds of weather. Shut-downs, especially in the busy season, mean dollars and cents. There is one belt that you are safe in buying. It is the

GANDY Thresher Belt

Twenty thousand (20,000) American threshermen use and endorse the GANDY Thresher Belt. Their endorsement should mean something to you. The GANDY is the Pioneer Stitched Cotton Duck Belt—much cheaper and more durable than rubber belting. For your safety we have adopted three identifying marks:

- First—The green edge.
- Second—The Gandy trade-mark.
- Third—The Brand "The Gandy Thresher Belt."



Accept no substitute. Big stocks—prompt shipment.

Write today for samples and booklet

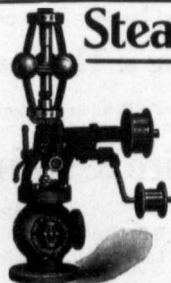
The Gandy Belting Co.

733 W. PRATT STREET,
 BALTIMORE, MD.

New York Office—88-90 READE STREET

Sawyer-Massey Co.

**NOT
 IN A COMBINE!**



Steam or Gas Tractors

Equipped with



give greatest efficiency

FITTED TO EVERY BUILD OF ENGINE

Patent Ball Ranger Speed Changer Supplied on all Genuine Pickering Governors. Will increase speed 50% or more.

The Pickering Governor Co.

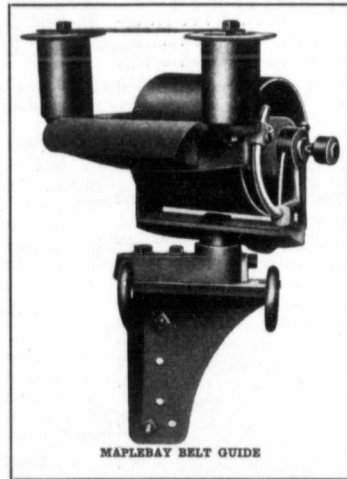
PORTLAND

CONN., U.S.A.





SASKA THRESHER TANK



MAPLEBAY BELT GUIDE

Built for WESTERN CANADA Threshermen
In a WESTERN CANADA Factory
By men who know WESTERN CANADA
Requirements

For Prices Delivered in WESTERN CANADA ANYWHERE
WRITE
SASKA MANUFACTURING COMPANY LTD.
Saskatoon, Saskatchewan
OR
Any Implement Dealer in WESTERN CANADA

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

driven pulley. If you use a nine inch pulley on the engine the grinder should run at 720 revolutions per minute. The size of the pulley on the engine does not affect the power of the engine. We doubt if you would have power enough to run a 6 inch mill. If you do try to do so it would be an advantage to use a three inch pulley on the mill, thus running the burrs at a high rate of speed and feeding slowly.

A leather belt is stronger and will last longer than rubber. Rubber, on the other hand, is a little less liable to slip. Of the two, the writer prefers a leather belt.

If you have four or five feet between the engine and grinder, it is sufficient to keep up the motion, and any greater length of belt would be merely added expense without obtaining any benefit.



Q. N.S. 1. Should an engine with a Woolf reverse have more lead when running ahead than when running reversed? If not, how can it be made even?

2. Should the link reverse valve have the same lead running over as under?

3. If water were low in engine would it be dangerous to admit more water? If so, why?

4. What is the auxiliary valve

and its use in a compound?

5. How far should the safety plug extend through boiler plate, and why should it extend at all?

6. Should one end of engine be set lower than the other when running? If so, which end?

A. An engine with a Woolf reverse is not supposed to have any more lead running in one direction than in the other. If the valve on your engine does so, you can make the correction by lengthening or shortening the valve stem, as the case demands.

2. The lead of the link reverse is the same whether the engine is running forward or backward with the reverse lever in the same notch from centre when running in either direction. By pulling the lever further down, the lead, of course, will be changed, but it should be the same for the corresponding notch on either side of the quadrant.

3. Under certain conditions it might be dangerous to admit more water to a boiler. This would be the case where the crown sheet was bare and had become red hot. The admission of more water at that time might generate steam very rapidly, and there is a possibility that the crown sheet would crack, although in our estimation this is a remote possibility. There is not as much danger in admitting

cold water to a boiler as many people seem to think. The cold water is admitted below the water level, and does not come directly in contact with the hot sheets. When it raises the level on the hot sheets, the water in contact with them is also very hot, and the change in temperature is not so great. However, we do not recommend turning cold water into a hot, dry boiler. The discreet thing to do is to deaden the fire or ashes, and let the boiler cool off.

4. The auxiliary valve of a compound engine is a valve which will admit live steam

directly from the boiler into each cylinder, thus making a double or duplex simple engine instead of a compound. The power of the engine is thus greatly augmented, but it requires a great deal more steam, and is to be used only in emergencies.

5. The safety plug should extend through the crown sheet of the boiler at least one-sixteenth of an inch. If it does not come at least flush with the surface, mud and scale will be deposited upon the opening in the top, and even though the soft metal runs out the scale will prevent the

This Hook

of Malleable Iron is in the inside of every "Barth" Jack. Just a simple one piece casting that acts as a reverse when lowering the load. We could have constructed the "Barth" Jack so that it would have taken three or four pieces to accomplish the reverse. But you see one piece is far more simple and not so liable to get out of order. This is only one of the reasons why there are more "Barth" Jacks in daily use by Farmers and Threshermen than of all other makes combined. Ask your Thresher Supply House for the "Barth" Jack and write us for catalogue.

Barth Manufacturing Co.,
170 L Street
Milwaukee, Wis.

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

water from coming through, and thus the plug is worthless.

6. An engine should be set approximately level while running. There is no particular advantage in placing one end higher than the other.



Q. E.L.R. Of what is steam cylinder oil composed?

2. How high fire test oil is best for a steam engine?

3. Is there any way for an ordinary person to determine the fire test of oil?

4. Can an eccentric be so set as to change the lead? For instance, if a valve has one thirty-second of an inch lead can it be given one-sixteenth of an inch by moving the eccentric?

5. I have seen engines in which the valve overlaps the steam port about a fourth of an inch when the crank is on dead center. What is the maker's motive in this?

A. 1. Steam engine cylinder oil when of good grade contains about ninety-five per cent. pure mineral oil and the other five per cent. some sort of animal oil, usually tallow oil.

2. Steam engine cylinder oil should have a flash test of about 280 to 300 degrees.

3. The flash test of oil can be determined by placing a small quantity of oil in an iron dish, and heating it over another dish containing sand. Keep a thermometer in the oil, and occasionally pass a lighted match over the top. When the vapor takes fire, read the thermometer, and it will give you the flash test.

4. Any simple engine whose valve is operated directly from an eccentric, or any link reverse engine may have the lead of the valve changed by moving the eccentric. Engines fitted with the Woolf valve, or any of the other radial reverse gears, can not be so changed.

5. Some valves are set with a very little lead, some with no lead at all, and some with negative lead; that is, the valve overlaps the port. The method of setting the valve depends upon a design of the engine. As a rule, however, valves are set with a small amount of lead. There are some valves of the double ported type in which the lead is not visible. Perhaps one of these is what you refer to.



Q. K.R.K. The flues in our engine leaked some last fall near the close of the season. Is there any danger that they will close up with rust during the winter? This engine has been used only one season in both plowing and threshing. Would it be best to give it a cold water test before taking it out in the spring? Would you advise using the roller

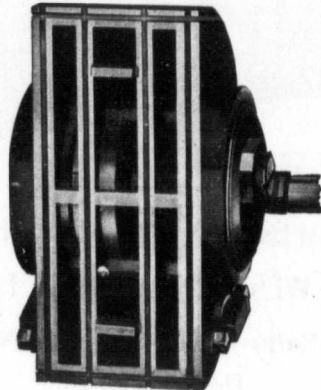
expander and beading tool or the beading tool alone? Can the leaks be repaired while the water is left in the boiler in case the cold water pressure is applied, so the pressure can be tried again without having to refill the boiler? I carry a steam pressure of 175 pounds; would 265 pounds of cold water pressure be too much? The engine is equipped with a 3/4 inch Penberthy Injector, which does not furnish quite enough water. Would it increase the discharge if I put on a 1 inch suction hose in place of a 3/4 hose that came with the out-

A. If you draw the water out of the boiler, and wash it thoroughly, you will not have any trouble with the flues rusting during the winter time. Before starting out to plow in the spring you ought to find out which flues are leaking, and expand them and bead them thoroughly. If the job is done in a workmanlike manner they will not give you any trouble for a considerable time, although in such heavy work as plowing, and especially if alkali water is used, there is sure to be more or less trouble with the flues. This cannot be overcome by any means we have discovered; the only thing you can do is to repair them at frequent intervals. For old flues we prefer to use the roller expander. You can repair the flues while the boiler is under a few pounds water pressure, but in our opinion the work can be done just as effectively when the boiler is empty. If you have had any experience in expanding flues you will be able to tell by the feeling when they are expanded enough. Expanding too much, of course, will distort the flue sheet, and will cause trouble with adjacent flues, even though they were formally perfectly tight. If you wish to test the boiler with cold water to determine if it is not leaking it will be all right to run the pressure up to 260 pounds; however, we think such a test is unnecessary with a boiler only one year old if it has been given reasonable care. It would probably increase the discharge of the injector to increase the size of the suction hose, but we doubt if the difference would amount to a great deal. What you really need is a little larger injector.



Q. B.G.E. I would like to ask a few questions in regard to the Montana State boiler inspection laws. If a man purchases a new engine, and the inspector should happen to burst it during the first inspection, would the state have to replace the engine with a new one or not? I should also like to know if a thresherman uses all precautions in cross-

YOU INTEND TO! DO IT NOW



and you will not be sorry. It's time to place your order for a

Baker Valve

DON'T DELAY. They increase power of Engine from 20% to 30%. Save fuel, oil and water. No more wear on valve gearing and eccentric, and can reverse engine under full head of steam with perfect ease. Will also relieve you of trouble with engine priming. We will prove it.

Will be on Exhibit at all Fairs.

Agents Wanted.

BAKER VALVE COMPANY

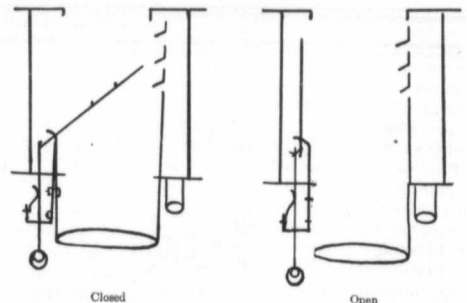
100 James Street

Winnipeg, Man.

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

Mr. Thresher! You Need This Adjustable SPARK TRAP

It is the cheapest insurance you can buy. It is adjustable, self-cleaning and gives a feeling of safety. No thresher can afford to be without one.

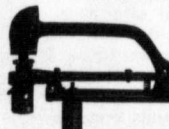


Ninety-nine per cent. of fires around threshing machines are caused by sparks, yet every Engineer knows that he can't steam his engine with the smoke-box full of ashes. Yet that is the result when you use the device now sold to stop sparks. This device will stop and get rid of practically every dangerous spark from any steam engine that exhausts through the smoke stack with any kind of fuel, under ordinary conditions, without impairing in any way the draught or steaming qualities of the engine. Why pay a big insurance policy when for \$12.00 you can buy something that will last the life of your engine and make you good and safe from fire. Fill in the coupon below and order now:

C. W. WILLEY, Box 2, Birnie, P. O., Man.
 Enclosed find the sum of \$12.00 for which ship me by express one of your adjustable Spark Arresters.
 The diameter of the top of my smoke stack is inches.
 My express office is (what R.R.)
 My P. O. is
 My name is

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

YOU WILL NEED A MORRIS IMPROVED BEADING TOOL



this season and we advise you to place your order NOW. You will wish a hundred times that you had one in your tool box when you get into the field and flues begin leaking. Any man can use one without injuring flues. We fully guarantee them. On exhibit at all Fairs.

AGENTS WANTED

Sold in Canada by the
BAKER VALVE CO., 100 James St., Winnipeg, Man.

Dear Sir:—
 The beading tool I purchased from you has given me entire satisfaction. I used it in refacing my engine, I consider that by using your Improved Beader on this job only, that I saved three times its purchase price. Every man that owns a boiler should own a Morris Improved Beading Tool. I would not part with it for \$100 if I could not get another.

Chatsworth, Ill., March 24, 1913.
 Yours truly,
 CHAS. H. SCHROEN.

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

The Fate of the THRESHING Hangs by the Belt

Get the very best that natural products and human skill can make. The best is far cheaper than the next best or the lowest priced belt you can buy. You have got THE BEST and are assured against breakages and slipping if you get either a



LION BRAND

Rubber Belt

or a



MAPLE LEAF

Endless Thresher Belt

Any Thresher Company can supply you with our belts. In fact the majority use them exclusively. Don't accept a substitute, you will regret it just when you most need belt service. If you have any difficulty in getting our goods, write direct to the

GUTTA PERCHA AND RUBBER LIMITED

WINNIPEG Not in any Trust or Combine. CALGARY

ing a bridge, and it gives way, resulting in injury or death to some person, could the county be held responsible providing the bridge had been guaranteed to hold a load exceeding that which passed over it?

A. In our opinion the state would not be liable for damage to the boiler. The inspector is supposed to be a competent person, who will not run the pressure up beyond what a new boiler should stand with safety. If the boiler fails during the test, it is merely evident that it is unsafe, and should not be used. If the accident occurred while the inspector is performing his official duties the state cannot be held responsible. However, if you purchased a new boiler from any tractor company guaranteed to carry a certain pressure, and it fails during the time of the first test, and you can show that the boiler was not damaged materially between the time the boiler was taken out and the time of the test, you have good cause for action against the manufacturer, and should be able to win your case. You will be backed up by the verdict of the boiler inspector in any action at law that you may take. The question of liability is, of course, one for the courts to decide, but in our opinion your case would be a good one.

We understand there is no bridge law in Montana making the state liable for damages. If the county authorities had published a statement, or posted a notice to the effect that the bridge is safe for a given load, and it fails under that load, you would have excellent cause for action against the county, and doubtless would be awarded damages by the court. This case also is a matter for the courts to decide, since there are no statute laws covering any such contingency.

Football and Footlights

Little Munster-on-the-Mun is famous for its football, and has actually had its senior club engaged in a Cup-tie.

The other day a great der-ama came to the town, and was billed for the only home of Art, the town hall. "He Stole His Father's Name" was its title.

Up went the curtain on the first act, and the great detective appeared upon the stage. He fell across a clue, but staggered manfully to his feet.

"Ha, ha!" cried he. "Foul play! There has been foul, foul play! What shall be done?"

The tenseness was electric; the silence horrible. Then a voice from the gallery piped in:

"Give 'em a free kick, guv'nor!"

Madison Kipp Oil Pumps will swell your Bank Deposits

WHY?

Because they will cut your oil bills in two, and will properly lubricate your engine at all times doing away with hot boxes, burned out journals and dry and squeaky cylinders, which are very costly to the man with an engine in the field.

See that your engine is equipped with a Madison Kipp Oil Pump before starting out on this season's threshing and you will return a happier and a richer man. Get our Catalog.



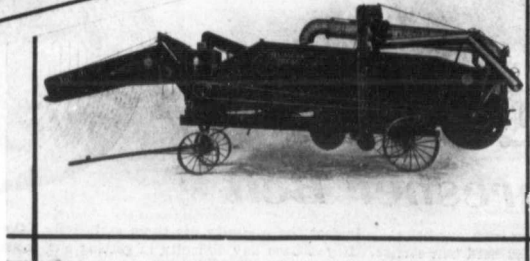
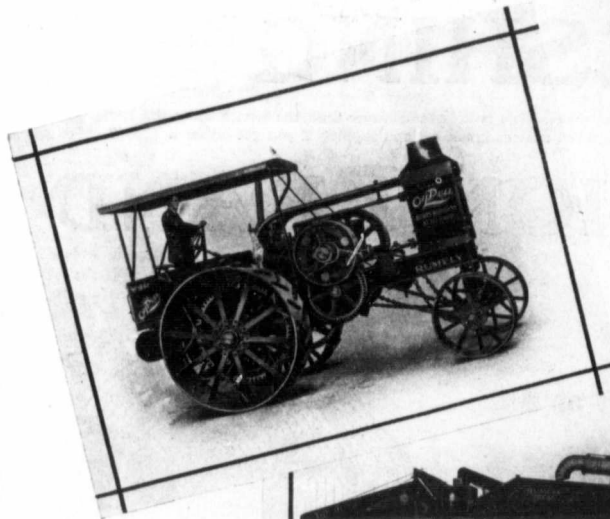
Madison Kipp Lubricator Co.

MADISON, WIS.

Canadian Agent: **THE MAYTAG CO., Winnipeg, Man.**

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Experiences of Others Are of Value to You



Rumely OilPull and Ideal Grain Separator

The surest proofs of what machine will do for you are the records of what it has done for others.

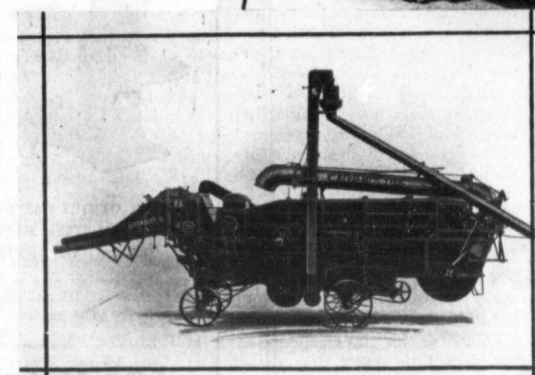
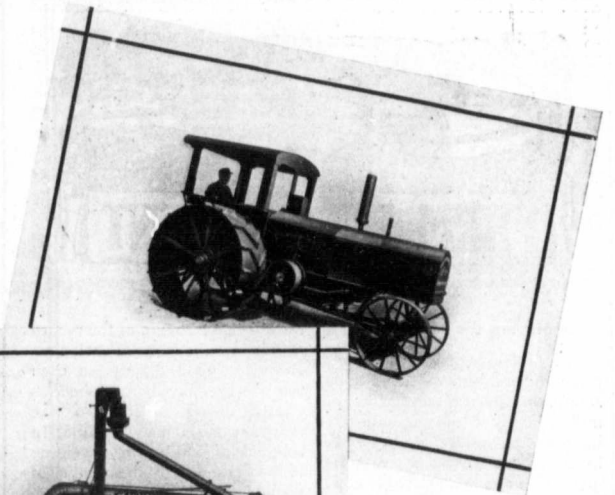
All over Canada there are satisfied Rumely customers whose unsolicited words of praise are one of the best advertisements for Rumely power-farming machinery. Read what a couple of owners say.

Cupar, Sask., April 1, 1913.
Rumely Products Co., Regina Branch, Sask.

Gentlemen: I bought an OilPull "P" (15-30) Sept. 1st, 1912, and a 30 x 48 Separator at the same time. I ran them 28 days and threshed 35,000 bushels and did not lose one hour on account of any trouble with the engine or separator and I would recommend them as a good, useful and economical outfit.

The separator did the cleanest work I ever had done in this country.

Wishing you every success, I am,
Yours very truly,
J. O. Bailey.



Advance Grain Separator and GasPull Tractor

Pilot Mound, Man., Jan. 18, 1913.
Rumely Products Co., Inc., Winnipeg, Man.

Gentlemen: I desire to say that the GasPull Tractor and the 30-48 Advance Separator outfit which I bought of you last summer is giving me the very best satisfaction, and in spite of the extremely unfavorable weather we had all through harvest and threshing season we were able to thresh something over 77,000 bushels, which is considerably more than was done by many of the larger outfits.

I wish to recommend the GasPull Tractor very highly to anyone figuring on buying a farm tractor.

Yours very truly,
S. M. Aikens.

Thresh with Oil

Your purchase of a Rumely OilPull is a real investment—one that will bring you big returns. Just figure it out for yourself—the horses and men an OilPull will replace, the saving of getting your work done in quick time, the economy of "feeding" cheap oil instead of oats—and of feeding only while actual work is being done—not the year around. Then too, your OilPull can never get sick and die, like horses.

There are other reasons besides its economy to make the OilPull worthy of your consideration—its strength, durability, adaptability to all sorts of work and its ease of operation.

For threshing, the OilPull and a Rumely Ideal Separator make a profit-winning outfit, the OilPull furnishing ample power—instantly varying to meet changes in the load.

Rumely Ideal Separators are built to save money for the thresherman. They are built to do big work quickly, without delays for repairs or adjustments, getting every kernel of grain and cleaning thoroughly.

It is not too late yet to get your outfit and enjoy your share of this year's threshing profits. But don't delay—write to the nearest branch or the La Porte office today.

A Handy, Speedy Outfit

Over thirty seasons in the threshing field have established the reputation of Advance Separators. Points that threshermen and farmers appreciate are the big capacity, fast threshing and get-all-the-grain qualities.

Here are some reasons why Advance Separators possess these qualities—large, broadfaced teeth, a heavy and perfectly balanced cylinder, immense grate surface and forks to keep the grates clean from straw, shakers that are practically sure to get the small part of the grain that gets past the grates, and a frame that keeps all parts in perfect alignment and withstands travel over rough roads.

The GasPull tractor, of 15 tractive and 30 brake horsepower, is an ideal power-plant for threshing. Its two opposed cylinders produce a steadiness of motion that helps to make a smooth-running outfit. An independent clutch makes it possible to stop threshing without throwing off the belt or stopping the engine.

But there are plenty of other jobs for the GasPull besides threshing. Its light weight, power and general all-around usefulness adapt it for plowing, harrowing, seeding, harvesting, hauling a train of wagons to market and returning on high speed.

Interesting booklets have been prepared, telling about Advance Separators and GasPull Tractors. They can be had for the asking—write today.

Another Contest Over and the OilPull is still Supreme

In this year's Winnipeg Motor Contest, the record for the lowest fuel consumption in the kerosene class was .769 pounds of fuel per brake horsepower hour. The OilPull record in last year's contest was .705—and it still holds good.

RUMELY PRODUCTS CO., INC.

Power-Farming Machinery

La Porte



Indiana

Rumely Engine Gang Plows

built in sizes of 5, 6, 8 and 10' bottoms, are built for breaking the toughest sort of ground—then we know they'll be plenty strong enough for all other plowing jobs. Easily raised levers, easy leveling—easily adjustable for wear—and beams that can be kept always in perfect alignment, are only a few of the features. We have issued a booklet describing them in detail—send for it today

We maintain Branches in the following Canadian Cities:—

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BRANDON, Man.
WINNIPEG, Man.
CALGARY, Alta.
EDMONTON, Alta.
VANCOUVER, B.C.



Improving the Dairy Herd

The first evidence of a cow's profit under improved conditions should be an increased flow of milk. We can not permanently improve the quality of her milk by feeds, but we can increase its quantity if she is a profitable cow. Therefore, these cows which fail to respond to better care and feeding are either robber cows or beef cows, and should not be kept for dairy purposes.

Some cows will likely show a greater increase in milk flow than others. It is here that many farmers have made the mistake of keeping the heavy milker, and selling the other without testing the quality of the milk of either. For example, a cow giving four gallons daily of five per cent. milk produces in seven days about 13 pounds of butter, while another cow giving six gallons daily of three per cent. milk produces in seven days about 11½ pounds of butter. Therefore, it is evident that we must know both the quantity and the quality of a cow's milk before we can judge her intelligently. This is easily determined by the use of the Babcock test.

How then shall the farmer with a few cows determine accurately which individual is best? Shall he strain equal quantities of milk in glasses of equal size, and judge by the thickness of cream which cow's milk is richest in butter fat? Or ancestors did, and many farmers still use the same method, which is better than no test at all. Or shall he test the cow by keeping her cream separate for seven days, and churning it into butter. This would be a better test, in fact a perfect test, if the farmer's method of separating the cream and churning the butter were perfect. In actual practice, the exact production of a cow is seldom found by this method, though it is fairly reliable when care is taken in separating and churning the cream. It is some trouble to do this, and trouble is a thing most farmers avoid—preferring to travel in a rut than to take chances on a shorter path outside.

To farmers who have no Babcock tester we propose the following method: Get a record sheet and a pair of spring scales. At

the left hand margin of the record sheet write the name of each cow. Keep the scales handy, so each cow's milk may be weighed as soon as drawn. Set down the weights after each cow's name. In thirty days, add up these weights to ascertain exactly the number of pounds given in that time by each cow. Send a sample of each cow's milk to the nearest creamery and have it accurately tested. With the pounds of milk given, and the butter fat test you can easily determine what each cow has produced during the month.

Of course, this takes some time, but very little when your scale and record sheet are convenient, and it is the sure way of knowing what each cow is worth to you. Besides you need not make the test oftener than two or three times a year when the same cows are kept. It is well to test on dry feed in winter, and also when on good pasture in June. The record sheet is of value at all times in determining which cows hold out best and produce most during the entire year. If any farmer who has never made such a test will try this method for one month, we can say from experience his eyes will be opened before the thirty days are over.

The advantages of the hand separator are acknowledged now by most farmers, but due to a false economy some are still following primitive methods. The chief advantages of a centrifugal separator is that we obtain more butter fat from the same milk. This saving will no doubt pay for the machine with even four cows. It also makes cleaner cream and better butter, and dealers are now discriminating in favor of "separator butter." Another great advantage is the warm skimmed milk for feeding purposes. For hogs and chickens it is an excellent and cheap protein feed, and for raising better calves, the foundation of our future dairies, it is indispensable.

To all farmers who will make the "thirty day test" as described previously, it will be easy while pencil and scales are handy to ascertain very nearly the amount of feed consumed by each cow and its market value. Perhaps we will also have our eyes opened on

IN THESE DAYS OF UNIVERSAL COMPLAINT ABOUT MONEY SHORTAGE AND TRADE STAGNATION, THERE HAS BEEN NO SHRINKAGE OR DEPRESSION FELT IN THE SALES DEPARTMENT OF THE

"MAGNET"

Cream Separator



We have exhibited at every great Fair held up to date of this publication. Our experience in every instance has been most gratifying. We have made Sales simply on the recommendation of those who have used "THE MAGNET" and have had the most flattering and quite gratuitous expressions from scores of patrons who attribute the greater part of their success in dairy-farming to the "MAGNET'S" splendid work.

HUMAN GENIUS HAS NOT YET DISCOVERED A MORE CERTAIN AND EXHAUSTIVE METHOD OF TAKING THE LAST PARTICLE OF BUTTER FAT FROM THE MILK.

Our Slogan is "TO SATISFY"—and we will do it at all costs. We will prove every point we claim for the superiority of the "Magnet" on your farm—at our expense

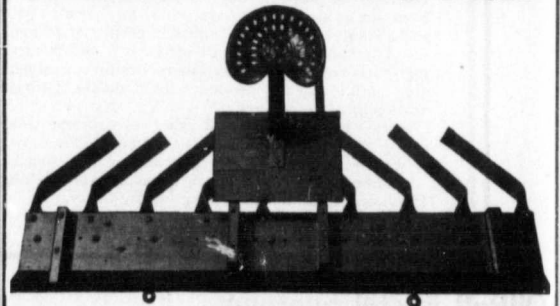
The Petrie Mfg. Co., Ltd.

Head Office and Factory: HAMILTON, ONT.
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MADE IN WINNIPEG

The "D & D" CYCLONE WEED DESTROYER



WHAT IS IT?

It has the properties of a big Gang Plow, but without moldboards; of a Harrow, but without teeth; and of the best-known Cultivator, but without feet.

It is the EMBLEM OF DEATH to the wild oats, wild mustard, French weed, Canada thistle, and the awful Turk (the sow thistle).

This is a Dry-farming implement, and a weed-killer; it leaves the soil in a smooth and well-worked condition, and conserves the moisture in the fallow for the next crop.

Governments and Noxious Weed Inspectors are being defeated for want of the proper munitions of war. We have got the Cyclone gattling gun that will mow the noxious weeds down under the surface, where the roots cannot breathe, and the tops must die!

A new commandment we give unto you: "Thou shalt not harbor noxious weeds on your place so that your neighbor's land will become polluted."

Buy a Cyclone Weed Destroyer.

MADE IN 8, 10 & 12 ft.

PRICE \$5.00 PER FT.

DODDS & DETWILER

Address—c/o THE LELAND HOTEL, WINNIPEG

NOTE.—The saving in labor in cutting, threshing, and the extra twine used in the harvesting a weedy crop on forty acres will pay for this machine, and if properly used, will increase the yield from one-quarter to one-third; in addition to leaving the land reasonably clean.

this item. It is essential that we sell the poorer cows as shown by the test and giving their feed to others which respond more generously. Aim to keep the cow that pays best for her feed, for she is the one the buyer wants, and a high price is a temptation to sell yet she is worth her price to you and her offspring will likely be better than the mother.

Orvin L. Fish.

The Gentleman of the Dairy

Just now I am thinking not of the farmer, but the farmer's right hand helper, the master of his herd of cows. It seems to me we are not in the habit of giving this animal the care and attention we should; for it is a fact that cannot be disputed that upon the nature, the treatment and the breeding of the bull depends the success of the dairy farmer.

In the course of the years since I came on the farm, I have seen a great and an exceedingly desirable change come over the spirit of farmers in this respect. When I was a boy, not much stress was laid on the kind of a bull a man used in his dairy. Anything with four legs and a tail was "good enough." Very little attention indeed was paid by the average farmer to ensure better cows through the channel of the blood infused into them by the sire. Today, the man who would win out in dairying must have the best possible bull, and must give him treatment worthy of the gentleman of the dairy.

In the first place, the parentage of the bull must be good. On our farm, we would no more think of raising a bull from any other than the very best stock we have than we would keep cows whose milk would not hide white beans at the bottom of the pail. The choicest cow is bred to the finest bull we can get hold of. Whether the offspring be a heifer or a bull, we keep it for the farm. If it be a bull, we begin its education at once, as well as its physical nourishment. The bull calf to reach his best never should be overfed. I bought a fine calf once, but it had been overfed by the man who raised it and it came near dying on my hands. That farmer was so anxious to make his calves grow fast that he stuffed them morning, noon and night. It never pays, any more than it does to give too little food. A fair quantity of good food and given frequently is the rule. Just keep the calf growing good, so that it will be thrifty and lively, ready to kick up its heels and have a good time.

And then, never allow anybody to fool with the calf. More than one good bull calf has been spoiled by boys, and often boys, forty or

fifty years old, playing with him. These boys seem to think it a great joke to put their heads down and "bunt" with the calf before his horns are more than little buttons. They will surely live, if they keep this up, to feel the effects of the longer horns that is sure to grow in the course of years. Kindness is all right. I believe in that. No man ever made anything in showing his authority by yelling and pounding his farm animals around. It is a weak man who cannot control by kindness and a steady hand. But be careful.

Once more. The bull should have some exercise every day of his life. If he is orderly, he may be permitted to run with the cows in the pasture in summer. That gives vigor, a most desirable thing in a bull. If he has a habit of fighting fences and everything else he comes to, as some bulls do have, not because of ugliness so much as through sheer overflow of animal spirits, we may have to confine him; in which case provision ought to be made for regular and systematic exercise. We have a full-blooded bull of that sort just now. He is gentle and all right, but he has so much life in him that the minute he is given his liberty he will proceed to pitch into the fence, or even the side of the barn, and show his strength that way. Our painted stable doors now have great scars where he has had a good time with his horns. Now we keep him up and feed him, but every day he has a chance to stretch his limbs out of doors and get a good bite of grass.

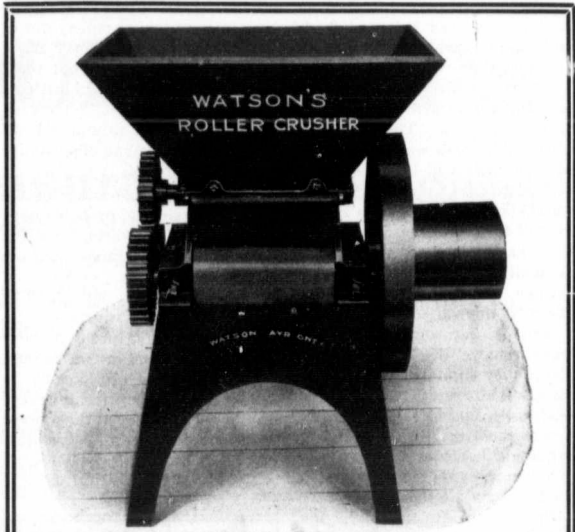
Finally, the bull ought to have a ring in his nose at least at the age of one year. We don't know what he may take a notion to do, and we can handle him a great deal better if we have a ring and a rope to do it with.

E. L. Vincent.

Feed and Care

"Don't sit down in the meadow and wait for the cow to back up and be milked—go after the cow," is a motto a farmer had tacked up in his milking room. He was thoroughly convinced that the dairy is the mainstay of the farm whether it is the principal business or only a part of the farm industry.

Good cows, good management and elbow grease will lift the mortgage on any farm. It is an extraordinarily poor cow that will not respond to liberal feeding. The natural food of the dairy cow is grass, and it is most fitted to the production of milk. Good pasture grass in May and June enables the cow to milk at her best. But as autumn approaches even



Watson's Improved Roller Grain Crusher

Favorably known all over Canada as the latest and best machine of its kind on the market. Regulated by convenient set screws to grind to any degree of fineness. Grain is fed to two grooved or fluted rollers running at different speeds and grinding one against the other. Furnished with pulley for belt drive, but can be equipped with shaft and gear to run by horse power if desired. Has a strong, all-iron frame and solid heavy flywheel. Size of rollers, 12 inches by 6 inches. A big money-saving machine on any farm. Write for FREE Catalogue of the WATSON Line.

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John Watson Mfg. Co. WINNIPEG CANADA

Agents in Manitoba for "STANDARD" Cream Separators and "RENFREW STANDARD" Gasoline Engines.

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FAIR WINNERS
have often been produced by the help of **ABSORBINE**

as it strengthens the muscles and ligaments, keeps out soreness, prevents fatigue, stops pain, reduces swelling and inflammation. It is a positive ANTISEPTIC AND GERMICIDE and therefore especially effective in healing cuts, sores, galls, bruises, etc. Used by successful exhibitors and trainers because ABSORBINE does not blister, stain or remove the hair, and horse can be worked.

KILLS PAIN AND STOPS LAMENESS QUICKLY
It is economical, as only a few drops full strength are required at an application. A bottle of ABSORBINE, diluted as per formula on label, makes three gallons of efficient liniment at a cost of 50 cents a gallon. You will find it a money maker for you in getting all your horses in better shape for regular work or sale and you might also make a prize winner by removing some blemish from them with ABSORBINE. Frank Briscoe, Osceola, Ont., writes May 28, 1912. "Absorbine has cured a big mare that was completely used up with contraction of the muscles. I bought her for \$5.00 and wouldn't take less than \$100.00 now. I owe many thanks to ABSORBINE."

USE ABSORBINE to remove Bursal Enlargements, Bog Spavins, Thoroughpins, Puffs, Shoe Bolls, Capped Hocks, Swollen Glands, Infiltrated Parts, Thickened Tissues, Rheumatic Deposits, Enlarged Veins, Painful Swellings and Affections; to cure any strain or lameness; to repair strained, ruptured tendons, ligaments or muscles; to strengthen any part that needs it. You can buy Absorbine at regular dealers, price \$2.00 per bottle or sent to you, express prepaid with full instructions. Write me about any special case on which you would like advice. Horse book free. Manufactured only by **W. F. YOUNG, P.D.F., LYMAN'S BLDG., MONTREAL, Can.**

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Be sure To Renew Your Subscription Before It's Too Late

on the best of pastures, grass is no longer a well balanced food, and after frost it is always noticeable that the cows shrink in milk.

The man with the silo can then supply his cows with the best substitute for grass. The silo gives a palatable food, which is important as cows will better eat and assimilate food they like. Cows should not be kept too long on one kind of food however. Some products that often go to waste, such as small potatoes, apples, cabbage, turnips, etc., will assist in giving the cows this variety. They relish pumpkins, but some farmers always remove the seed, as they claim they diminish the flow of milk. Salt is an essential to health. A box of salt constantly before them insures their being salted in all seasons.

When cows are fed only enough food to maintain their bodies very little of it goes to the production of milk. To feed in this manner is to feed at a loss, for additional food would all be turned into milk. It is not economy to withhold feed. It is better to give a rich supply and get the milk, which is what we are feeding for. The best-bred cow will be a failure without good care and feed.

Many a well-bred and well-fed cow is not a success because she has not proper shelter in winter. A small investment will fix up any old barn. A chill may ruin a fresh cow and every shiver lessens the cream check. The beef breeds suckling their young give only enough milk for their offspring and go dry in a few months, and the dairy cow will do the same if not milked dry, and if the milk secreting organs are not stimulated by sufficient food.

Every cow that is a heavy milk-er is a big drinker, and will drink more in a warm stable than if she has to travel half a mile and then drink from a hole cut in the ice. A healthy cow will drink from eight to ten gallons per day. The importance of plenty of water is shown by the fact that in every one hundred quarts of pure milk there are eighty quarts of water. Only the quantity and not the quality of milk is increased by feeding. Quality depends upon the individual cow, as some cows give richer milk than others. It has been demonstrated that fat can not be fed into the milk of a cow. As a rule, heifers with their first calf do not give milk that tests as high in butter fat as they do at a more mature age.

The successful management of a cow consists in good feed properly fed, warm, well ventilated shelter, pure water, regular milking cleanliness in every detail, and last, but by no means least—kindness.

When the man behind the cow indulges in a fit of anger and takes

his revenge out by ill treating her he is merely taking money out of his own pocket. He may argue he is training the cow, but there are other more successful methods of teaching the animal. To teach a calf to drink or to milk a kicking cow gives man an opportunity to control himself.

Keeping up the fertility of the farm is an item that probably pays for the labor of caring for the cows. The manure from each cow is estimated to be worth from twenty-five to thirty dollars. The demand for cows is increasing so that it pays a big profit to raise our own stock and instead of buying have a cow occasionally to sell. The high price of every product of the dairy at the present time should induce every cow owner to do his best.

M. C. B.

World's Greatest Industry
By MILO HASTINGS

In the United States the value of the poultry crop excels that of pork, coal, iron or lumber. The product of the hen ranks in the same class with wheat and cotton, and is excelled only by corn, beef and dairy produce.

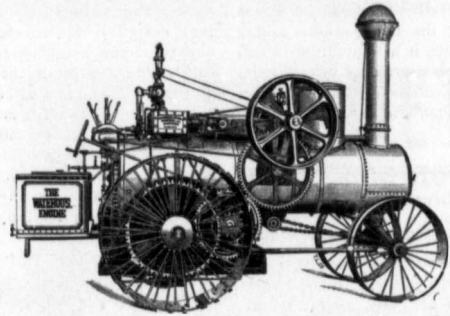
Corn, the Colossus of Uncle Sam's industrial offspring, is a plant native to the Western World, but it is almost unknown in the old and crowded countries; while in Southeastern Asia, where one-half of the world's people live, beef and milk are as unusual articles of food as goat's meat or horseflesh.

Pork is an important American food; it is also a Chinese food; but it is little eaten in Japan or India. The cotton production of the world is almost monopolized by Uncle Sam. Our excessive consumption of lumber is notorious; while the United States, with one-seventeenth of the world's population, produced two-fifths of its iron and nearly as large a proportion of its coal.

Of the great industries of earth, we have left in the race for first honors only wheat and poultry—one the acknowledged staff of life, the other known to the world chiefly as the rude awakener of the suburbanite's dream of an easy road to fortune.

Wheat is the breadmaking material of the inhabitants of Southwestern Asia, Northern Africa, Southern and Western Europe, and the descendants of these people in other lands. But in the populous districts of Northern and Eastern Europe, rye is the staple food; in Mexico and South America, corn is the human breadstuffs; while for nearly one-half the world's population in Asia, wheat bread is replaced

Rebuilt Threshing Machinery



SPECIAL ATTENTION REQUESTED

to the following list of Rebuilt Threshing Engines and Threshers. All Machines have been thoroughly repaired in our own repair shop, and worn parts replaced. Threshers are rebuilt with new belts and all machines put in first-class running order, and are offered at ROCK BOTTOM BARGAIN PRICES to clear out the stock.

THIS IS THE YEAR TO PURCHASE A REBUILT THRESHING OUTFIT

PLAIN STEAM ENGINES.	
1-17 H.P. Waterous Engine with Locomotive Return Tubular Boiler.....	\$600.00
1-18 H.P. Abel Engine with Locomotive Boiler.....	\$50.00
PLAIN GASOLINE ENGINES.	
1-20 H.P. Waterous Portable Gasoline Engine, (good as new).....	\$90.00
1-20 H.P. Waterous Portable Gasoline Engine, (good as new).....	\$90.00
STEAM TRACTION ENGINES.	
1-18 H.P. Waterous Single Cylinder Locomotive Return Tubular Boiler.....	750.00
1-18 H.P. American Advance with Locomotive Boiler.....	750.00
1-18 H.P. Waterous Double Cylinder Locomotive Boiler.....	1000.00
1-22 H.P. Waterous Double Cylinder Locomotive Boiler.....	1500.00
1-22 H.P. Waterous Double Cylinder Locomotive Boiler.....	1500.00
1-22 H.P. Waterous Double Cylinder Locomotive Boiler.....	1500.00
1-25 H.P. Waterous Single Cylinder Locomotive Return Tubular Boiler.....	1500.00
1-28 H.P. Waterous Double Cylinder Locomotive Boiler.....	1500.00
1-30 H.P. Waterous Double Cylinder Locomotive Boiler rear mounted 30" face rear wheels.....	1500.00
1-30 H.P. Waterous Double Cylinder Locomotive Boiler, rear mounted 30" face rear road wheels.....	1500.00
THRESHERS.	
1-28 x 42 McCloskey Thresher, Goodison Side Fan Blower Hawksye Feeder, Wagon Loader.....	700.00
1-28 x 42 McCloskey Thresher, Goodison Side Fan Blower Perfection Weigher.....	600.00
1-32 x 50 McCloskey Thresher, Foston Side Fan Blower Hawksye Feeder, Perfection Weigher.....	725.00
1-36 x 50 American Peerless Thresher 18" Straw Carriers, Peerless Feeder, Short Weigher and Bagger.....	450.00
1-36 x 50 McCloskey Thresher, Goodison Side Fan Blower, Rich Sell-Feeder, Perfection Weigher.....	750.00
1-40 x 60 McCloskey Thresher, Goodison Side Fan Blower, Perfection Weigher.....	780.00
COMPLETE THRESHING OUTFIT.	
1-26 H.P. Waterous Double Cylinder Traction Engine.....	
1-40 x 60 McCloskey Thresher, Goodison Side Fan Blower, Rich Feeder, Perfection Weigher Price f.o.b. cars Cayley, Alberta, as it is, price on application.	
SUNDRIES.	
1-New Perfection Wagon Elevator.....	40.00
1-Power Jack wood frame.....	5.00
1-Set McCloskey Thresher Trucks.....	35.00
1-No. 1 Willford Three Roll Chopper (good as new).....	225.00

WRITE FOR FURTHER INFORMATION.



The Waterous Engine Works Co. Ltd. Winnipeg, Manitoba

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GUARANTEED BY THE LONDON MUTUAL FIRE INSURANCE COMPANY OF CANADA

Combined assets over One Million Dollars. Our Policy Contract guarantees positive protection to Policyholders

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Rates based under the Graduated or Classification System

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Apply General Agents: Matthews, Wrightson & Co. (Canada) Limited

722-8 Union Bank Building, Winnipeg, Man.

The London Mutual Fire Insurance Company of Canada

CONTINUOUS OPERATION FOR 54 YEARS

ESTABLISHED 1859

A GENERAL FIRE INSURANCE BUSINESS TRANSACTED

OUR FARM POLICIES contain many features which are very advantageous to the assured, the most important being the blanketing of all contents of a house or barn under one item. The only property on a farm which we ask for specific insurance on, being live stock.

AUTOMOBILE INSURANCE—This policy covers against loss or damage by fire and/or explosion and self-ignition to the body, machinery and equipment of automobile while in the Dominion of Canada. Insurance covers cars while en route or while kept in private garage, barn or stable. Permission given to keep automobile in any public garage for a stated period free of charge.

CONSULT ANY OF OUR 500 AGENTS IN WESTERN CANADA, OR APPLY TO

General Agents: Matthews, Wrightson & Company (Canada) Limited, 722-8 Union Bank Building, Winnipeg

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by rice, or to a less extent by millet.

The United States produced seven hundred million dollars' worth of wheat, while the value of the world's wheat crop is estimated at three billion dollars. This gives a per capita consumption of wheat of about eight dollars for the American and two dollars for the world-man. In other lands wheat is replaced by other grains, while in the densely populated regions of Asia and Africa poultry serves to replace much of the beef and milk in the diet of the Anglo-Saxon.

If we assume the poultry consumption of the world to be only one-half the American figure, or four dollars per capita, the grand total of the earth's poultry crop would be six billion dollars—twice as much as the world's wheat crop, five times as much as its annual output of iron, and equal to the product of the world's gold mines from the discovery of America until the demonization of silver in Eighteen Hundred Seventy-three.

The Hen's Wonderful Future

We are awed and impressed by the large industries that are concentrated in few hands, but the great totals of small items repeatedly escape attention. The wealth represented by the poultry on hand at any one time is com-

paratively small compared with the output. A hen lays from three to five times her worth of eggs in a year, and rears each season about twice her value of young poultry.

Such commodities as diamonds, oranges or mutton get into commerce because the region of their production is limited; but the hens is grown everywhere, and is eaten everywhere, and it is only in the later stages of civilization, when half of humanity is separated from contact with the soil, and dwells in sterile structures of steel and stone, that poultry products enter into commerce, and thus make known their wealth to us through the power of exchange.

Of all animal industries, poultry production is the best adapted to intensive agriculture. Cattle-growing is but one step above the chase, and is developed in new and sparsely settled countries. Australia has 2.78 cow brutes per capita, the United States 1.22, England .28, Japan practically none.

Into the wilderness with his flocks and his herds the captain of the prairie-schooner takes the hen; the range is fenced—the sod is turned—farms grow smaller, and the flocks and herds give way before the ever-increasing human swarm—but the hen remains, and comes nearer following the man to

a city home than any other food-producing animal.

Some day we will forget the taste of pork, as we have forgotten the taste of venison, and beef will become a by-product of the dairy business, but the hen will stay with us until she is relieved by the analytical chemist, and eggs are made at Niagara Falls.

The Passing of Fear

Dozens of men can be named between eighty and ninety who are taking a very practical interest in the world of politics, business and literature.

The five great insurance companies report an average of fifty-seven deaths where a hundred were due to shuffle off the mortal coil.

Undoubtedly, the greatest factor in longevity is an active interest in human affairs—not village affairs, but the affairs of the nations.

The fear of death, as a philosophical proposition, has passed from the world. We have no sorrow for the dead, and science has shown us that pain is an attribute of life, and that the dying have neither pain nor fear.

The orthodox religion, which

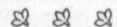
was devised to give men comfort, gave them just the opposite thing.

Happily, the Devil is a joke, and the tears of pity have put out the fires of Hell.

Life is beautiful, and for all we know death is just as good. And death, science shows, is in itself a form of life.

The man who lives well is the one who is willing to go or stay. And the man who is willing to go or stay, stays quite a while.

John Calvin and John Knox had a deal to do with devising and formulating a religion of sorrow, and each died old at fifty-seven. Unfortunately, they took themselves seriously, attempting to say the final word. And anyone who does sclerosis of his think-cells. Life this is suffering from arterio-is fluid; and nothing is permanent but change.



The New Baby

Like most minister's families, they were not extensively blessed with this world's goods. She, however was the youngest of ten children until her father told her of a baby sister who had come in the night.

"Well," she said, after due thought, "I 'pose it's all right, papa, but there's lots of things we wanted more."

The Guinea Fowl

By MICHAEL T. BOYER

THE Guinea hen is a good layer, but on account of the wild, gamy flavor, the eggs have never had an extensive sale for table use. However, by turning the eggs into broilers or roasters, a considerable profit will be derived. The flesh is the nearest substitute we have for the wild game.

The Guinea is of a roving disposition, and one of the best known destroyers of insects.

The laying season starts in early April, and continues until October, the hen laying as many as 120 eggs in a season. In the early part of the season it is not advisable to let the Guinea hen hatch a brood, as she is of too restless a nature, and will not give her young the proper attention. But after the first of July, on account of the warm weather, she will be more quiet, and can be safely entrusted with a brood.

It requires four weeks to hatch out Guineas. The hen always hides her nest, and that too in some very obscure place. As it comes off the nest it gives a shrill cry, and in that way the hiding place can be detected. All the hens of a flock are apt to lay in the same nest, and in taking away the eggs they should not be touched with the hands, for if the hen discovers that the nest has been touched she will desert it and hunt another place. But if the eggs are removed with a stick, the hen will not leave the nest, even though the eggs are taken out nearly every day.

It is claimed that a cross of the Pearl and White Guineas will produce a carcass closely resembling that of the English Grouse. If rightly cooked, the meat of even an old bird will be tender and delicious, while that of the young bird is unsurpassed as a broiler or frier. The dressed Guinea has a round, plump body, good sized breast, and small bones.

Guineas will pair if the sexes are equal. They generally lay between the hours of 10 o'clock in the morning and 2 o'clock in the afternoon. Until well feathered, young Guineas are delicate and tender. It is not advisable to hatch before June. The Guinea cock bird cares as much for the young as does the hen, guarding them during the day and hovering them at night.

The male bird is larger than the female, is more aggressive, and has a different call. The hen makes a noise sounding like: "Come back, come back," while the male gives "Tick, tick!" The cry of the Guinea is one of warning to the rest of the poultry, and

they at once hide until the alarm ceases.

Guineas do not scratch like other fowls, and therefore are safe to have in the garden. They should be given their freedom, as they do not thrive in confinement.

In shipping to market, send only gilt-edged dressed poultry, guaranteeing freshness. Have a tag on every carcass. Never send a scaly-legged bird to market. Quality rather than weight fixes the price of dressed poultry. Clean legs, free from feathers, and small combs, are points to be looked after in marketing broilers.

It is claimed for the White Holland turkey that it is the hardiest variety known, the most quiet disposition, among the heaviest layers, quality of flesh surpassing all other breeds, early maturity, maturing the first season.

Ducks as a rule are hardy. They do not have gapes. The weakest part of a duck is its legs. Indigestion is apt to show itself in the young, if coarse sand is omitted in the food. It is always best to put a handful of sand in a pail of mash food, mixing it thoroughly. This will aid digestion. The oily nature of the feathers makes the ducklings vermin proof. Exposure to hot suns is fatal. There should be a partial shade to the runs.

The market term "green duck" is of late innovation. The cognomen is applied for the reason that the bird was not yet matured. It should weigh not less than four pounds, and be not over 10 weeks old—eight weeks would be better—and should never be allowed bathing water. As an article of diet, if provided by a competent chef, the green duck resembles the famous and fast disappearing canvas back duck.

The Indian Runner duck is not inclined to fatten so readily as other varieties. Its name originated from the fact that this duck has a running rather than a waddling motion. In color it is a light brown or fawn shade and gray. At the joining of the head and bill there is a narrow band of white. The legs are orange. In carriage it is erect, with a long, narrow body, well elevated in front, and closely feathered. The neck is long and slender, and the head rather flat. The bill is long and broad.

Duck eggs are in demand by confectioners, as they impart a glaze to their icing, which cannot be had with hen eggs. For making plum puddings, duck eggs are more economical than those of fowls, being both larger in size and richer. In the household of the writer duck eggs are used in making all kinds of cakes, omelette, cooking generally, and they are also relished fried.

The "MEADOWS" ALL STEEL PORTABLE GRAIN ELEVATOR



Both elevator and receiving hopper are entirely of steel and only the best of heavy sheet steel is used.

The Hopper is absolutely grain tight and has a large capacity. It is the only successful feeder ever devised for a small grain elevator. Both top and bottom ends of Elevator are solid castings heavily ribbed. The top casting has 4-inch slot for adjustment of chains, making it possible to take up 8 inches of chain, so that it will never be necessary to take out a link on account of wear.

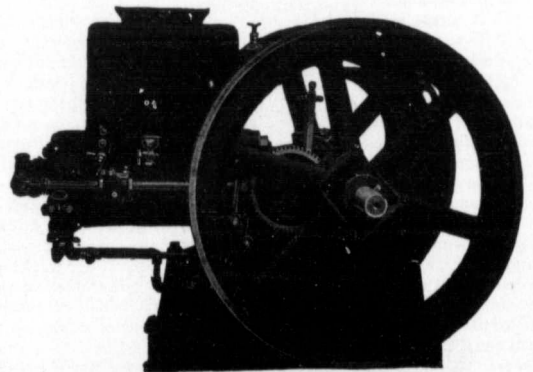
Top and Bottom Sections are both 9 feet long. Middle Sections 4 and 8 feet long. The Sections are coupled together with cast coupling and the Elevator can be easily and quickly taken apart by removing 4 bolts and can be put together just as easily and as quickly. The Capacity is practically unlimited—the greater the speed and Horse Power the greater the capacity. The "Meadows" is positively the

BEST SINGLE LEGGED STEEL ELEVATOR BUILT.

HENRY RUSTAD, 325 WILLIAM AVENUE, WINNIPEG

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

THE STOVER Is the Very Best Engine to Buy



Write for our Extraordinary Prices of

Dry Cells, Crusher Plates, Harness, Oils, Plow Shares, Bag Holders, Scales, Buggies, Cultivators, Plows, Harrows, Threshers, Belting, Grain Crushers, Pole Saws Etc., Etc.

NOTE: OUR PRICE for 12-inch plow shares is \$2.25, for 14-inch plow shares is \$2.50, for 16-inch plow shares is \$2.75. All Guaranteed.

We Can Save You Money

Canadian Stover Gasoline Engine Co., Ltd.

EIGHTH and PACIFIC AVENUE, BRANDON

The Original Farmers' Company

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

An opossum eats the head and neck of a fowl, and kills only one or two at a time. A mink bleeds his victims in the neck, and sucks the blood, and will slaughter a dozen or more birds in a night. Both leave the carcass in the coop or house.

The best way to clean drinking fountains, which cannot be reached on the inside, is to use scalding hot water and a big handful of shot. Fill the fountain about a quarter full of hot water, and then pour in the shot. Shake the vessel briskly so that the shot will scrape along the bottom and sides of the fountain. This will remove the scum and leave the fountain sweet and clean.

In giving medicine to a fowl, commonly speaking, what would be considered the dose for a child is about right for a fowl. A two months' old chick will need as much medicine in a day as a six months' old child. At six weeks it would require the same sized dose as for a year old child; when half grown, as much as for a two-year old child, and an adult bird as much as for a four-year old child.

Immediately after dressing poultry, it should be thrown into ice cold water, and allowed to remain until all the animal heat has left the body. Neglect to do this is apt to cause the carcass to turn green in parts, by the time destination is reached.

Poultry should never be eaten the day it is killed. The tenderest fresh killed chicken will be tough as soon as the animal heat has left the body. In about 12 hours, however, the muscles will relax, and it then becomes acceptable for food.

It is estimated that it requires the feathers from about 10 ducks to make a pound. The sale of which just about pays the cost of dressing the fowls for market.

Some years ago, A. J. Hallock, of Long Island, one of the most extensive duck growers in the country, kept record of the growth in weight of ducklings from shell to market. He found the following averages: Half out the shell 2 3/4 ounces; all out of the shell 2 1/4 ounces; one week old 3 ounces; two weeks old 5 1/2 ounces; three weeks old 7 1/2 ounces; four weeks old 1 pound three ounces; five weeks old 2 pounds 6 ounces; six weeks old 3 pounds 12 ounces; seven weeks old 4 pounds 12 ounces; eight weeks old 6 pounds 2 ounces; nine weeks old 7 pounds 4 ounces; ten weeks old 8 pounds; eleven weeks old 9 pounds 3 ounces.

It requires about four geese to make a pound of feathers. Picking live geese for their feathers is a practice that has been discontinued in this country.

The critical period in the young

turkey is generally at an end when six weeks of age. In breeding, lice, dampness, and improper food are the main causes for great mortality.

The following recipe for carbolated kerosene emulsion, gives not only a vermin killer, but also an odor to the hen house that is effective in the case of bad cold,

and discharges of mucous substance from the nostrils: Half pound ordinary laundry soap, one gallon water, one quart kerosene oil, four ounces crude carbolic

CANADA Portland CEMENT

SOME men ask for so many bags of "cement"—

Others, more careful, say they want "Portland Cement"—

But the man who does the best work insists upon getting "Canada" Portland Cement—

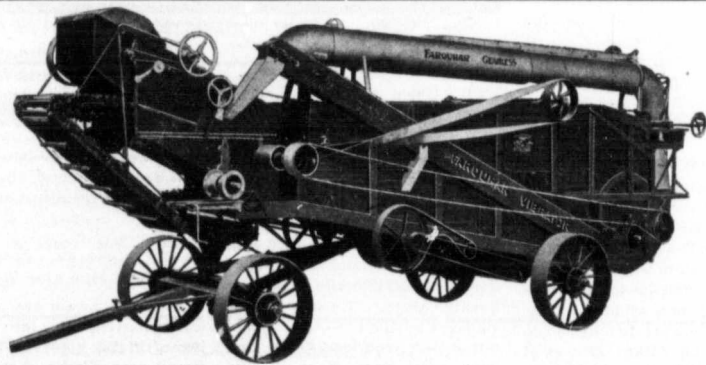
And he looks to see that every bag bears this label



Write the Canada Cement Information Bureau, Montreal, for a free copy of "What the Farmer Can Do With Concrete."

There is a Canada Cement dealer in your neighborhood. If you do not know him, write for his name.

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



Farquhar Vibrator Separators

Made by pioneers in the threshing machine business. Does perfect work in all kinds of grain. Works fast and easy, runs smoothly and saves power. Built with fewer parts than any other and has less gearing. Three sizes, 20 to 40 inch. For smaller crops we have the Improved FARQUHAR RAKE SEPARATOR, especially suitable for farmers who do their own threshing. Write our nearest office for catalogue and prices.

THE CANADIAN FAIRBANKS-MORSE CO., LIMITED
WINNIPEG REGINA SASKATOON CALGARY
Montreal St. John Ottawa Toronto Vancouver Victoria

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

acid. Cut the soap in small pieces, and drop into the water and boil. When it comes to a boil remove from the fire and add the kerosene. Shake or stir the mixture until nearly cool. Put away in some well covered vessel until wanted, at which time add about 12 to 14 quarts of hot water and the carbolic acid, and mix well. Use as a spray once a week.

Experiments have proved that a hen in good condition will eat, on an average, three ounces of mash in the morning, two ounces of grain at noon, and four ounces of grain at night.

According to the New York Agricultural Experiment Station, the cost of food, per chick, to weigh one pound, on ground grain, is three cents; on whole grain, is three cents; on whole cents. After making repeated tests in feeding, this station says the ground grain ration proved considerably more profitable than the whole grain ration with the growing chicks; and the same was true of capons of equal weight from these chicks, and from others of equal weight and age, fed alike before caponizing. No difference was noticed in health or vigor of chicks or capons fed either ration.

Pedlar People, Limited, Add to Staff

In keeping with the policy of the house, as originated and developed by the late Mr. Geo. H. Pedlar, additions to the force at Oshawa headquarters have recently been made, which will further increase the efficiency of an already strong and capable organization.

Mr. W. R. Geikie, formerly branch manager of the Pedlar People, Limited, at Toronto, and with a thorough knowledge of the financial end, gained through a long experience while with the Dominion Bank, as manager of various branches, while in his capacity as managing director, bring this ample knowledge into good use, which, added to his experience in selling sheet metal products as manager of branch at Toronto, will enable him to gauge the situation correctly, as applying to trade conditions in sheet metal lines.

The operating department has been strengthened by the addition of Mr. W. Loach, formerly connected with the management of perience in United States and Canada Foundries Limited, Toronto, and with a wide and varied mechanical and manufacturing experience. Several new developments are now under way, which will be of general interest to the

"Save money on your Threshers' supplies and oils"

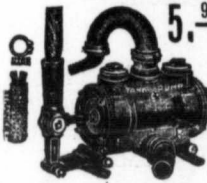
The Western Wagon Tank



T 44. Made of 20 gauge galvanized steel, 14-in. manhole, 1-in. flange fitted in rear end with plug, tank is securely bolted into steel cradle, with channel irons to fit over bolster, also fitted with side rails to protect tank, on the inside we place slush boards. This is one of the most durable tanks on the market, capacity 350 gallons, shipping weight 350 lbs. Price \$35.00.

Tank Pump

CAPACITY 2 BARRELS PER MINUTE



5.95

No other style low-down pump has stood the tests of time like this one. It has the greatest strength. Is the SIMPLEST, and handles more water with less labor than any other low-down pump. Can be successfully used for filling threshing tanks, washing out boilers, for use in shallow stock wells, draining cellars or irrigation purposes. Double acting—draws water on each stroke of the lever. The cylinder is 5 inches in diameter, bored on a lathe and polished; has 2-inch stroke and 2-inch openings for suction and discharge. The plunger is solid; no valves to get out of order. Has brass valve-seats and fitted with drain cocks to prevent freezing. Never wears out. New leathers, easy to replace, make it new. Union Nuts and Attachments are extra heavy and will not break.

T 81. Price complete as shown in cut and including 2-in. round self-fastening strainer, nozzle and hose band. Weight 95 lbs. Price \$5.95

"Yellow Jacket" Wire-Lined Suction Hose



This is what we recommend for all Tank Pumps, we have perfect hose that will stand the racket of the water. We have found it in the celebrated "Yellow Jacket." It is made of the very best material—a heavy flat wire lining, 4-ply of heavy canvas, and a composition containing more pure rubber than is used in any

hose on the market. It is covered on the outside with a tight woven yellow cotton jacket; this outside woven jacket takes all the strain in bending, coiling and handling the hose—making it almost impossible to wear out this hose. It has the cotton jacket, which makes it last three times as long. In 20 and 25-ft. lengths only.

This is the hose we furnish with Tank-Pump Outfits. T 42 and T 43.

T 23. "Yellow Jacket" 2 in. Wire-Lined Suction Hose. Length, 30 ft., diam. 2 in.; Weight 50 lbs. Price \$9.50. Length 25 ft.; diam. 2 in. Weight 60 lbs. Price \$12.00.

1 in. Wire-Lined Injector Hose, length 12 1/2 ft. Price \$3.00. 1 in. Discharge Hose, 4-ply. Price, per ft. 18c. 3/4-in. Water Hose. Price, per ft. 10c.

Endless Stitched Canvas Belts



T 10. Our "Reliable" Belts are the heaviest and most durable offered. They are made on full weight 32-oz. duck. They are filled with pure lined oil, pressed with the new and improved hydraulic machine process, making the belt exceptionally pliable and durable. They are impervious to heat, cold, steam, gas or acid fumes. The "Reliable" will stretch but little. It is made on a special weave of duck of proper width for each size belt, giving a proper salvage and even strain on both edges. You will find our "Reliable" Drive Belts the best and most durable and pliable you ever used.

100 ft., 7 in. x 4-ply. \$26.00	120 ft., 8 in. x 4-ply. \$36.00
100 ft., 7 in. x 5-ply. 32.00	120 ft., 8 in. x 5-ply. 42.80
100 ft., 8 in. x 4-ply. 30.00	150 ft., 7 in. x 4-ply. 39.50
100 ft., 8 in. x 5-ply. 38.00	150 ft., 7 in. x 5-ply. 45.50
120 ft., 7 in. x 4-ply. 39.50	150 ft., 8 in. x 4-ply. 43.00
120 ft., 7 in. x 5-ply. 37.50	150 ft., 8 in. x 5-ply. 49.50

Catalog of Full Line of Thresher Supplies sent to your address free

Gasoline Engine Oil



T 68. Realizing the necessity of a Strictly High-grade Cylinder Oil for Gas and Gasoline engines, we are offering a guaranteed oil on which you can rely. Do not experiment, use the best—it pays.

42-Gal. Hbbs.; wt. 400 lbs.; ea. \$12.50
21-Gal. Hbbs.; wt. 235 lbs.; ea. 10.90
5-Gal. Cans; wt. 40 lbs.; ea. 2.85
1-Gal. Cans; wt. 10 lbs.; ea.70

C. S. Judson Co., Ltd., 181 Market Street WINNIPEG, Man.

Full Price List on all kinds of Oils sent free on request. WRITE TODAY.

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

trade when particulars are announced.

A further addition has just been made in the person of Mr. A. T. Enlow, in general charge of sales and advertising. Mr. Enlow is a steel man of large experience, having been connected with the manufacture and sale of steel in the United States for the last twenty years. He was plant manager for the U.S. Steel Corporation, at Cambridge, Ohio, and later sales manager of Berger Manufacturing Co., and general sales manager of The Stark Rolling Mill Co., both at Canton, Ohio, and while in that capacity developed and marketed the famous anti-corrosive Toncan metal sheets, for which the Pedlar People, Limited, are Canadian distributors.

It is safe to say that the addition of these three experienced men to the already strong and aggressive staff of the Pedlar People, Limited, Oshawa, Ontario, of which Mr. W. H. Hall and F. L. Mason have been prominently associated in the develop-

ment of the great business, as active co-workers with the late Mr. Pedlar, means a continuation of the policy which has kept the firm at the head of sheet metal working activities in Canada and abroad.

Beat Him One Way

As Mark Twain and a friend were chatting at the summer home of the humorist, Quarry Farm, near Elmira, New York, the conversation turned to the wealth of John D. Rockefeller.

"Just think of it, Sam," said the guest, "he has more dollars than there are hairs in that vigorous old thatch of yours."

"That's nothing," replied Mr. Clemens, "I have more dollars than he has hairs in his head."

Had Time to Get Hungry

Customer: "Are you the waiter that took my order for that chop?"

Waiter: "Yes, sir."

Customer: "Bless me, how you have grown."

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

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

THE GRAIN BINDER

Specially written for the Canadian Thresherman and Farmer by Professors R. MILNE and W. J. GILMORE

MANY farmers have the idea that it does not pay to repair the binder, and after it begins to cause trouble it is time to throw it aside and buy a new machine. This is a tremendous mistake. Binders are made up of a great many small parts, some of these will last a life time because of the small amount of wear on them; other parts have



Fig. 1

a great deal of wear, consequently soon become worn enough to cause trouble. Every implement company keeps a good stock of repairs which are the exact duplicates of the pieces on the machine. All the farmer has to do is to get the number of the worn or broken part, and the new piece can be gotten, which will fit perfectly, and in many cases the properly repaired machine is just as good as new, while the cost has only been a few dollars and a few hours work. The writer has known of several binders which were laid aside as useless. In one case a farmer, with ordinary mechanical ability, purchased an old machine for the small sum of fifteen dollars, took it home, bought a few dollars worth of repairs, overhauled the machine thoroughly, and used it for several years, getting entirely satisfactory work out of it.

In repairing the binder keep in mind that any part can be pur-

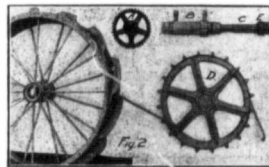


Fig. 2

chased and it is certain to fit; then start and make a systematic survey of the whole machine.

The power which drives the whole machine comes from the drive wheel. The main frame, the drive wheel, and the parts that transmit the power to the

different parts are worthy of close inspection before the machine goes to the field; the adjusting of the parts can be done after the machine is at work in the field. We will consider briefly the parts in the following order.

Frame. The main frame is usually made of either flat steel bars, angle steel, or square tubing. Sometimes a truss construction is used, but in all cases the bars are securely riveted together. This frame is subjected to severe strains at times and it is well to make sure that the rivets are all sound and the joints tight. If any part is loose the frame allows the sprockets and gearing to get out of line, and if run in this way a great deal of damage might be done, which might have been prevented by a simple little rivet. The old adage—"A stitch in time saves nine" is certainly as true of farm machinery as of anything else.

Drive Wheels. There are three common types of drive wheels. While they are all similar in general appearance, yet there is considerable difference in their construction. A loose or broken spoke allows the wheel to get off

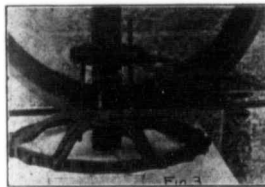


Fig. 3

true, and if run with one broken, extra strain is thrown on the other spokes, which are very apt to give way under this excessive strain, and a serious breakdown occurs which might have been avoided.

The type of spoke shown in Fig. 1 known as the hair-pin spoke, consists of a rod bent around a small projection on the hub of the wheel, and the ends are held in the tire with two nuts, which usually hold on the traction cleats. This type of wheel is easy to put spokes in, but if the hub, which forms the bearings, has had the misfortune to be broken or worn unevenly by the roller getting out of place, it is rather difficult to put in a new hub. When a new hub is put in it is important that the spokes be tightened so that the wheel will run true. This can be done by blocking the machine up till the wheel will run clear of the ground, then spin the

wheel and mark the high side with chalk. The spokes can then be tightened till the wheel runs true.

In Fig. II, notice the method of fastening the spokes. (b) fits into these rings, to which the spokes are riveted, and in (b) the roller bearings and axle (c) are

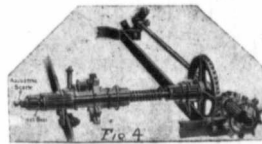


Fig. 4

contained. The sprocket wheel (d) is fastened to one side of the drive wheel and (a) to the other end of the axle. Ball bearings are provided at both ends of the axle to take the end thrust as shown at (a) and (e). Should (b) the thimble become worn or cut by the roller bearings it can be removed and replaced by a new thimble.

Fig. II shows spokes which are riveted at both ends. This kind of spoke is rather hard to re-place and would perhaps require the aid of a machinist. When the thimble bearings are injured it is very easy to replace them. The wheel stays absolutely true, and the new thimble, being slightly tapered, is drawn in tight by bolts throughout the large sprocket wheel. Sometimes trouble is experienced in keeping the large sprocket wheel tight on the drive wheel; this, however, is usually caused by allowing it to run slack for a time till the holes are worn out of shape. If the thimble becomes so loose that it cannot be kept tight by screwing up the bolts that hold the sprocket wheel and it together this trouble can be overcome by screwing the parts up tight, then drill a small hole in each ring or hub in which spokes are riveted. Through this hole fill the cavity between the head of the spokes and the thimble or wheel boxing, with babbitt metal. This makes the thimble fit tight in the hubs of the wheel, thereby making it easy to keep the bolts tight.

The construction of the wheel shown by Fig. III differs from that shown by Fig. II in that there are no ball bearings. Surrounding the axle and roller bearings is a solid hub on which a sprocket wheel is cast with provisions for holding one half the spokes. On this hub is a loose collar, with provisions for holding the other half of the spokes. The

spokes cross and are held in the wooden rim.

The two receptacles for the spokes at the hub end are fastened by four bolts. The spokes are in compression, and to tighten them it is only necessary to draw these two parts together, as is readily seen by referring to cut.

By bringing the loose collar toward the stationary one, which is accomplished by tightening four nuts, the spokes are thrown in compression. The spokes are heavy and are in compression while in Figs. I and II are in tension.

From the master wheel the power is transmitted to a secondary shaft, as is shown in Fig. IV. This shaft is fastened to the main frame by means of two narrow collars, containing roller bearings. This is termed a self-aligned bear-

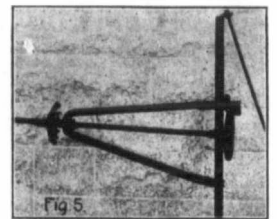


Fig. 5

ing. At the end of this shaft is a bevel gear which transmits the power to the cutting, elevating and tying mechanisms. Notice the means of keeping the bevel gears in mesh. At the opposite end of the secondary shaft is an adjusting screw, which works against a steel ball, which in turn is against the secondary shaft. By turning this screw the proper mesh of the bevel gearing will be that these mesh properly to save wear and extra. The purpose of the ball bearing is to take the

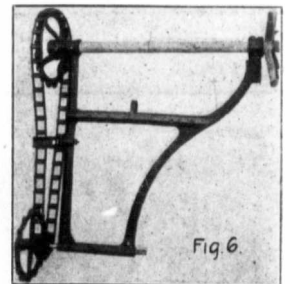


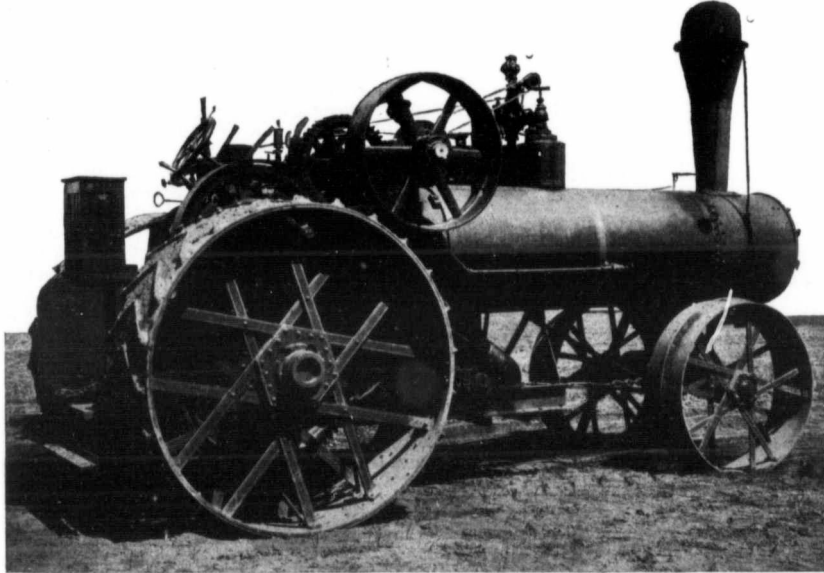
Fig. 6

end thrust caused by the bevel gearing. The roller bearings tend also to reduce the draft to a minimum.

Chains. Three kinds of chains are now in common use. The

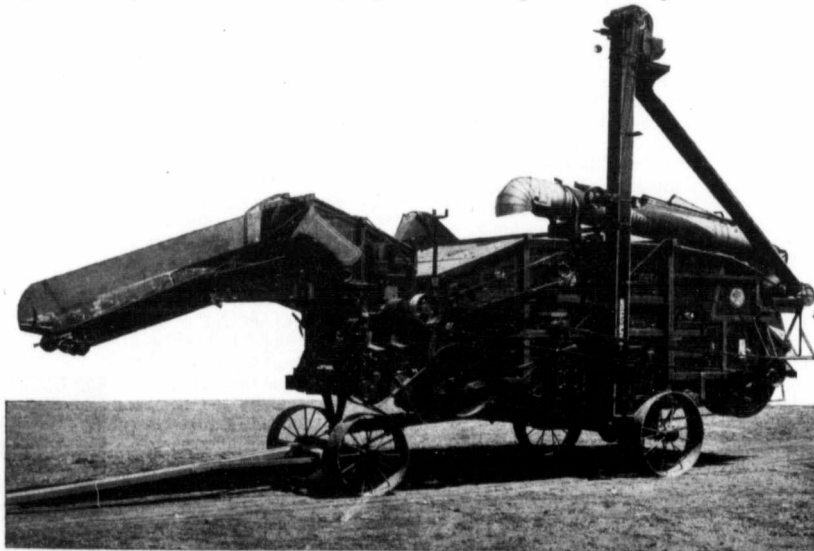
The First Quality Line Threshing Machinery

First in the Field. First in the Estimation of Farmers.
First with those Threshermen who have used our Goods.



THE WHITE REAR MOUNT STEAM TRACTOR

Fifty years experience in building Threshing Machinery is our Record



THE WHITE SPECIAL "CHALLENGE" THRESHER

You take no chance when you purchase the First Quality Line. Our years of experience has eliminated all chance.
Our Goods are field tried and experience proven.

The George White & Sons Company, Ltd.

LONDON, Ont.

BRANDON, Man.

MOOSE JAW, Sask.

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

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crimped steel link, malleable iron link which hooks together; and the malleable iron link held together with steel pins. It is generally believed that for the drive chain the pin chain will wear longest, the steel next, and the secured. It is quite important malleable next. However, no definite data can be found prov-

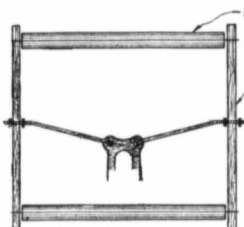


Fig. 7

ing this. It is important that these chains be all put together the same, and run in the proper direction, some have arrows to indicate the direction. The hook end of the link should go ahead, and the opening in the hook away from the sprocket. When chains become worn they get long, and consequently will not fit in the sprockets but ride on top, and when a heavy draw comes it slips, causing a jerk in the machine every time it slips. Chains should be run only tight enough to keep them on. If they are run too tight it increases the draft and is also hard on the sprockets and links.

Reel. The reel plays an important part in arranging the grain to make a neat bundle. When the crop is uneven the reel needs to be adjusted for every different length of straw. It should tip the grain on the table as nearly straight as possible, and not low enough to carry it too far back on the table leaving it uneven. No set rules can be given to adjust the reel for tangled grain, but it is usually well to get it well ahead and low enough to pick it up sufficiently for the guards to catch.

The reel tends to sag at the outer end. Figs. V show provision for adjustments which can readily be made to overcome this sagging. In this Fig. it is seen that a brace rod extends to the upper part of the reel standard, and by loosening and tightening the nuts, the outer end of the reel may be raised or lowered. Fig. VI. shows a different method of accomplishing the same thing. A slotted hole and bolt permits the outer end to be raised and lowered as desired.

Wind Board. The wind board at the back of the table is quite essential, especially in our windy weather. Many people do not pay much attention to this. Some remove the wind board because it is in their way. Others leave it out in the weather till the canvases rot, and there is nothing but the

frame. It is almost impossible to reel grain on to the table properly when you are travelling with the wind, unless there is a good wind-board. My suggestion would be to put on another on top of the regular one, instead of removing it.

Cutting Parts. The cutting parts of a binder are sometimes

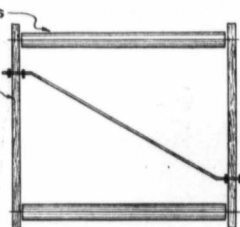


Fig. 8

overlooked. When the straw is ripe, dry and brittle, it is very easy to cut or break it off, but when the straw is green, damp and tough it is much harder to cut and very often, is one of the causes of the binder choking.

Pitman. First see that the pitman is of such a length that the knife registers. This means that the knife section should travel from the centre of one guard through the next and to the centre of the second. If the pitman has a joint it can be lengthened or shortened. If it is a solid wooden pitman a new one is the only remedy. It is quite important that the pitman fit tight enough to prevent pounding, as this is the cause of the knife breaking. A loose pitman usually breaks the knife back at the last rivet hole in the knife head. Tin makes a temporary bushing for a badly worn pitman if there is no means of adjusting it, but new pitmans are cheaper than repairing knives.

Knife. The knife should be watched closely, and when there is any badly worn or broken section, they should be re-placed with new ones. In changing sections care should be taken not to bend the knife back. A crooked knife back adds greatly to the draft, and also dulls the knife sections and ledger plates.

Guards. The guards on all our modern binders have a small steel plate called the ledger plate. It is the sharp part which shears off the grass or grain against the knife section. When this plate becomes dull it is a small matter to put in new ones, then the guard is practically as good as new. See that the guards are perfectly in line. If any are out of line they can be driven back with the hammer without danger of breaking.

Knife Clips and Wearing Plates. On the cutter bar there are small clips which hold the knife down on the ledger plates, so that there is a shear cut. Below these clips

is a flat steel plate called the wearing plate. These plates rub against the back of the knife holding the knife ahead. The plates and clips soon wear if the soil is gritty, allowing the knife to raise and drop back out of place so as not to get a shear cut. This condition allows the tough grass to wedge in the guards. New plates and clips are the only method of repair.

Elevators of binders are not always squared, that is, the rollers over which the canvases run are not at right angles with the frame. If this is true the binder not only runs harder, but will make the canvases run crooked. This causes the slabs to be torn off and also strain which assists in wearing them out. Provision is found on nearly all machines for making this adjustment.

Figs. VII and VIII show two common provisions for squaring. In Fig. VII it is seen that brace rods run from the inside drive wheel hanger up to the front and rear elevator sills. These brace rods have double nuts, one inside and one outside the sill. To adjust the elevators where such provision is made, it is only necessary to loosen and tighten these

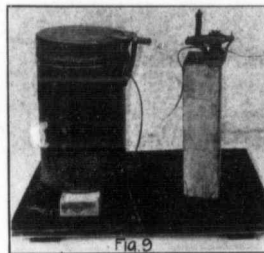


Fig. 9

nuts to cause the rollers to come square. A carpenter's square may be used to determine the condition by placing one side along the roller and the other side should come along the sill if the rollers are square. The diagonals may also be measured with a stick, the distances from one corner to the opposite corner should be equal.

Rollers must run true or damage will be done to the bevel gearing. They sometimes become warped and the gearing will not properly mesh; and as a result cut badly and ruin the gearing in a short time. When it is noticed that a roller does not run true, the best thing is to put in a true one.

Twine Tension. Fig. IX shows two twine tensions. One, as is shown, is fastened to the twine box and tension is changed by turning the nut at the end of the spring. The spring may be tightened to get the desired tension. The other consists of two small cog wheels, through which the twine passes. The tension here is regulated by a spring in much the same manner as that formerly described. The tension is to take

the slack out of the cord and keep it from feeding too fast. Do not attempt to make tight bundles with the twine tension, but use the bundle sizer spring for this purpose.

Be sure and draw the twine from the tag end of the ball. There is a tag on each ball of twine so only carelessness will permit doing otherwise unless the tag is lost. In such case an inspection of the twine ball will determine the end to draw from.

There is often poor twine used, or parts of a ball of twine may be weak. The best tying mechanism will not tie all the grain if the twine will not hold. It is well to determine the strength of the twine before making changes in the binder when a few sheaves are thrown out untied.

Binder attachment. The binding apparatus perhaps gives more trouble than any other part of the machine. Loose bundles are the cause of a great loss of grain as well as a loss of time in a busy season of the year when wages are high and men are scarce.

The binder is driven from the packer shaft, generally by a double drive. This double drive consists of two parts, one part revolves all the time, the other part only when a sheaf is being tied. When the binder has sufficient strain in for a sheaf the trip-stop raises and releases the dog. A spring forces the dog out which catches on the revolving part and drives the binder till the sheaf is discharged. Sometimes the spring breaks or becomes so weak that it will not hold the dog out enough, the result being that no sheaf is made. In many machines the double drive is cased in so it is hard to see making it hard to locate the trouble. A new spring should always be kept in the tool box as it is only a few minutes work to put a new one on.

Packers. Packers are either two or three in number. Their work is to pack the straw into place to form a sheaf as they run at a rather high speed consequently require oiling frequently. When they get badly worn they are apt

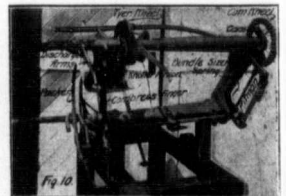


Fig. 10

to catch on the deck and stop the whole machine or break the deck. New packers are the only remedy.

Needle. The needle carries the twine up around the straw to be tied, compresses the sheaf, passes the twine over the duck bill and deposits it in the disk. The needle is driven by the binder pit-

Sawyer-Massey

The Premier Company

The Premier Goods



Photograph of Sawyer-Massey 27 H.P. Steam Tractor in the actual operation of winning the Silver Medal in the 1913 Winnipeg Motor Contest. This Engine finished only one and one-third points below the Gold Medal Winner. Note the quality of work necessary to win.

The Big Producer's Best Buy

SAWYER-MASSEY TRACTORS

THE SAWYER-MASSEY "GREAT WEST"

are the best investment for large users of farm power machinery, because they are built for heavy service. They are designed to give the highest degree of efficiency. They are strong, powerful, readily accessible, easily operated, and economical in the use of fuel and water. They are dependable and reliable always and everywhere, and therefore are most profitable.

Sawyer-Massey Class "C" Compound Steam Tractors are built in 27 and 32 Tractive Horse Power sizes, developing 82 and 100 Brake Horse Power respectively. Also built in 22, 25, and 35 Tractive Horse Power Simple, developing 68, 76 and 115 Brake Horse Power.

SAWYER-MASSEY "Daisy"

is a medium size machine intended for use where great capacity is not necessary. It is built in two sizes:

29 inch cylinder x 44 inch body.

32 inch cylinder x 50 inch body.

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is a highly efficient Thresher for use with small steam or gasoline Engine. It is built in one size, and will run out 500 to 700 bushels a day.

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threshes cleanly all kinds of clover, and is fast becoming a necessary part of every Thresherman's outfit.

is a powerful and efficient Thresher. It is economical of power, saving of grain, easy to operate, and threshes quickly and easily the largest harvests.

The "Great West" is built in five sizes:—

25	inch cylinder	x	42	inch body
29	" "	x	50	" "
32	" "	x	56	" "
36	" "	x	60	" "
40	" "	x	64	" "

The Sawyer-Massey Company has had over three-quarters of a century's experience in building Farm Power Machinery. Every Machine is guaranteed to give satisfaction.

Write today for our Catalogue and a copy of "SAWYER-MASSEY CHRONICLE."

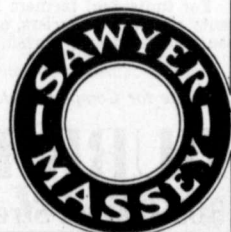
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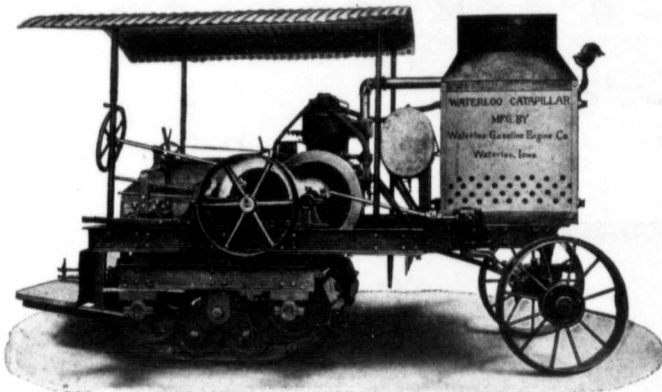
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THE WATERLOO BOY CATERPILLAR



Is the
'Champion Light-Weight' Tractor

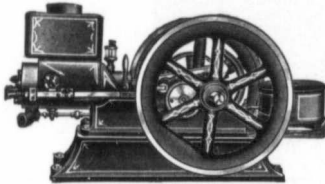
The Tractor with the least weight and greatest power of all tractors that are effective on practically any condition of land. It is one of the strongest engines built—easily managed with four-cylinder, four-cycle, water-cooled motor, using either gasoline or kerosene, which develops 30 H.P. at the belt and will do the work of 12 horses at the draw bar.

CAPACITY AND PRICE MAKES IT THE IDEAL TRACTOR FOR THE QUARTER-SECTION FARMER

Our Power Washer



CHEAPER POWER FOR EVERY PURPOSE



The **WATERLOO BOY GASOLINE ENGINE** will run all day without attention, furnish exactly the power you need, maintain a uniform speed and save you money every hour it works.

Use either Kerosene or Gasoline for fuel—equipped for both at no extra charge.

The recent award of **GOLD MEDAL** at Budapest, Hungary, in open competition with the best engines of all countries is clinching proof that the **WATERLOO BOY LEADS THE WORLD** in Construction, Power, Service and Durability.

Has many important exclusive features: Speed; Lever works like throttle on a locomotive; old reliable fly-ball governor; automatic feed regulation, open jacket, starts easy in winter, interchangeable parts, etc.

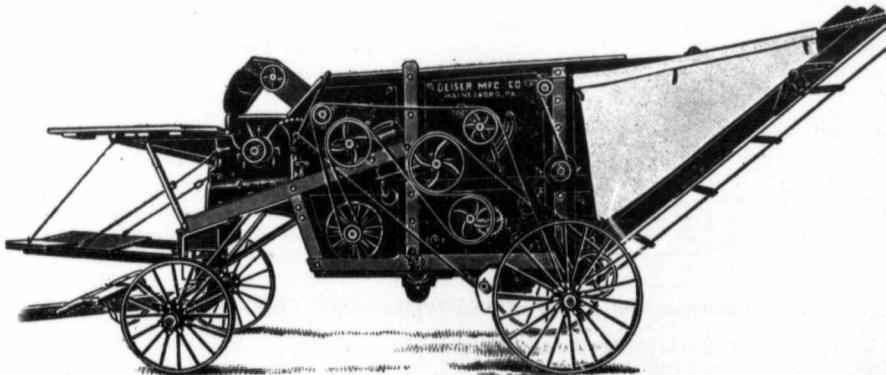
Lowest in price because made in largest quantities, at low manufacturing cost. **GUARANTEED 5 YEARS.** Book free. Write today.

The Machine that responds to every demand. Washer and wringer are both controlled by one lever. Will wash and wring at same time. Wringer is reversible and can be easily changed from one motion to the other.

NO WEAK PARTS.

NOTHING TO WEAR, SLIP OR BREAK

The drive gearing operates much the same as an automobile clutch. It is of great strength—made to render breakage practically impossible.



For individual farmers Peerless Separators in small sizes. These Separators are equipped with hand-feeding attachments and straw carriers, or with regular self-feeders and wind stackers. They have passed through many seasons and have been field-tried and proven. You take no chances with one of these machines, you are taking a big chance without one.

Write for Complete Details of these Greatest of all Time and Labor Savers ever designed, to

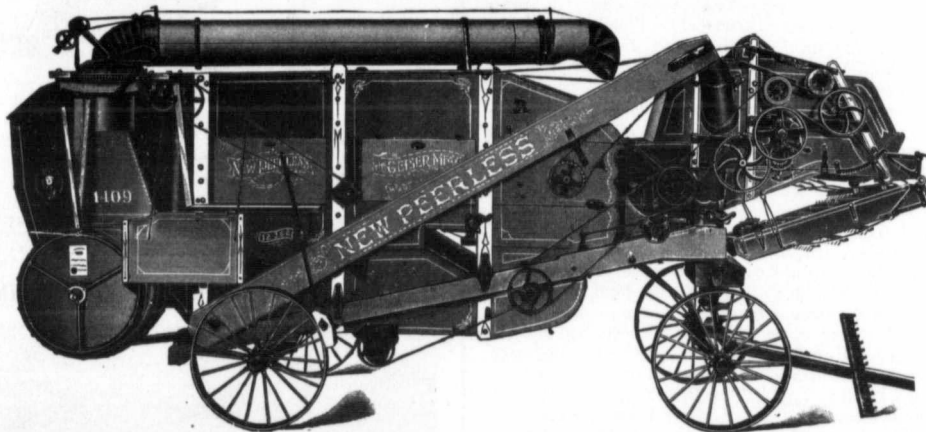
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Any Kind of Grain Any Kind of Weather

is all the same to the
GEISER SIEVELESS SEPARATOR



The modern up-to-date machines, manufactured in the following sizes: 25-29, 27-39, 26-46, 30-46, 33-50, 36-56, 36-60, 40-60.

Special sizes for gasoline engine power.

Leading features: "Sieveless," the grain plate and roller system and automatic blast.

This new process has revolutionized the whole process of threshing and cleaning grain. It eliminates the entire nest of

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

We are agents for the Largest Line of Machinery in Western Canada. Name your wants and we can supply you. Here are a few of our more important:

Gasoline Engines.

- OHIO HOPPER COOLED
- OHIO TANK COOLED
- OHIO ELECTRIC LIGHT ENGINES.....

These Engines are built in a wide range of sizes from 3 to 50 H.P., either stationary or portable. We can recommend this line for all classes of work.

Crude Oil Burning Engines.

The high price of gasoline makes the crude oil engine very popular. Mr. Purchaser, just stop and think what it means to operate in fuel costing only about 5 cents per gallon instead of what you now pay for gasoline. Our line includes Ohio Crude Oil Burners made in a range of sizes from 12½ to 50 H.P., and with 1, 2, 3 or 4 cylinders. We will be able to deliver these Engines in about sixty days. You had better investigate these Engines before purchasing your power equipment.

We also handle: Cream Separators, Grain Cleaners and Graders, Duplex Grain Grinders, Taggart Portable Grain Elevators, Duplex Wood Sawing Outfits, Farm Trucks, Well Drilling Machinery, Duplex Windmills, Electric Lighting Outfits and Dynamos, Strite Governor Pulleys, Erie Steam Road Rollers, Star Reversible Traction Engine, Dumping and Spreading Cars, Cement and Concrete Mixing Machinery, Wizard Tubular Magnetos, Star Power Trip Hammers, Marine Engines, Gode Air Cooled Gasoline Engines (the only satisfactory air cooled engine on the market), Gray Gasoline Engines, Geiser Peerless Separators, Diamond Gas Tractors, Waterloo Gas Tractors, Waterloo Boy Gas Engines, Our Power Washers.

One of the latest additions to our line is our Waterloo Manure Spreader. It is made in two sizes, 50 to 60 bushels and 70 to 80 bushels. Our Farm Trucks are something new in the Canadian truck trade, built with composite Ideal steel axles and gray iron skeins all cast solid. No wood is used in their construction except bolster, reach, tongue and sand board. Malleable iron bolster stakes and malleable hawns, both front and rear. Steel wheels with round spokes, constructed of 6-inch stock with edges rolled. Wheels, 34 inches with 4-inch tires.

Our line is complete. Our goods are all of the very best quality. Write us for your needs.

BURRIDGE COOPER CO., Ltd. - Winnipeg

A NOVELTY IN MYSTERY STORIES
**THE SECRET OF
 LONESOME COVE**

By
SAMUEL HOPKINS ADAMS
 AUTHOR OF **AVERAGE JONES ETC.**

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CHAPTER I.

The Body on the Beach

LONESOME Cove is one of the least frequented stretches on the New England seaboard. From the land side, the sheer hundred-foot drop of Hawkhill Cliffs shuts it off. Access by water is denied; denied with a show of menacing teeth, when the sea curls its lips back, amid a swirl of angry currents, from its rocks and reefs, warning boats away. There is no settlement near the cove. The somber repute suggested by its name has served to keep cottagers from building on the wildly beautiful uplands that overbrood the beach. Sheep browse between the thickets of ash and wild cherry extending almost to the brink of the height, and the straggling pathways along the edge, worn by the feet of their herders, afford the only suggestion of human traffic within half a mile of the spot. A sharp-cut ravine leads down to the sea by a rather treacherous descent.

Near the month of this opening, a considerable gathering of folk speckled the usually deserted beach, at noon of July sixth. They centred on a dark object, a few yards within the flood-tide limit. Some scouted about, peering at the sand. Others pointed first to the sea, then to the cliffs with the open gestures of those who argue vehemently. But always their eyes returned, drawn back by an unflinching magnetism, to the central object.

From some distance away a lone man of a markedly different type from the others observed them with an expression of displeasure. He had reached the cove by an arduous scramble, possible only to a good climber, around the jutting elbow of the cliff to the northward. It was easily to be read in his face that he was both surprised and annoyed to find people there before him. One of the group presently detached himself and ambled over to the newcomer, with an accelerated speed as he drew nearer.

"Swanny!" he ejaculated, "if it ain't Perfessor Kent! Didn't know you at first under them whiskers. You remember me,

don't you? I used to drive you around when you was here before"

"How are you, Jarvis?" returned the other. "Still in the livery business, I suppose?"

"Yes. What brings you here, Perfessor?"

"Holidays. I've just come out of the woods. And as you have some very interesting sea currents just here, I thought I'd have a look at them. Nobody really knows anything about coast currents, you know. Now my opportunity is spoiled." He indicated the crowd by a movement of his head.

"Spoilt? I guess not. You couldn't have come at a better time," said the local man eagerly.

"Ah, but you see, I had planned to swim out to the eddy, and make some personal observations."

"You were going to swim into Dead Man's Eddy?" asked the other, aghast. "Why, Perfessor, you must have turned foolish. They ain't a man on this coast would take a chance like that."

"Superstition," retorted the other curtly. "On a still day such as this there would be no danger to an experienced swimmer. The conditions are ideal except for this crowd. What is it? Has the village gone picnicking?"

"Not sca'cely! Ain't you heard? Another one's come in through the eddy. Lies over yonder."

Professor Kent's eyebrows went up, as he glanced toward the indicated spot; then gathered in a frown.

"Not washed up there, surely?" he said.

"That's what," answered Jarvis.

"When?"

"Sometime early this morning."

"Pshaw!" said the other, turning to look at the curving bulwark of rocks over which the soft slow swell was barely breaking. "If it were the other end of the cove, now, I could understand it."

"Yes," agreed Jarvis, "they mostly come in at the other end, on this tide."

"Mostly? Always." The professor's tone was positive. "Unless my charts are wrong. But this—well, it spoils, at least, one phase of my theory."

"Theory!" exclaimed the liveryman, his pale eyes aight. "You get a theory? But I thought you

**Would You Like to Have \$20.00
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 \$35.00 More a Day for Threshing?**



You can save this amount by using
HART-BROWN WING CARRIERS,
 and **HART UNIVERSAL THRESHER
 RACKS.**

HART-BROWN WING CARRIER Attaches to ANY
 Separator with ANY Feeder.

No alterations or re-building necessary.

The carrier attaches to the main sills and main frame of separator; no weight on feeder. By using this machine, you can thresh more grain in a given length of time, as the delivery is so arranged that practically every bundle goes to the band knives straight and evenly, eliminating slugging and choking and the consequent delays.

"Would Not Attempt to Thresh Without Them"



Gentlemen— Rouleau, Sask., April 1, 1913

In answer to your inquiry as to my experience with the Hart-Brown Wing Carriers and Dump Racks, would say, that after two seasons' experience with same, I am well satisfied especially with the improved carriers, as they have few parts, are strongly built, therefore nothing to get out of order.

I have used them in all kinds of grain and find they save me about twenty dollars a day for help and will enable the machine to run steadier, therefore, do better work as there is no slugging.

The Dump Racks I consider a great improvement over other dumping racks as they do not waste so much grain unloading.

I can recommend both wing carriers and racks to any thrasher man for they are of mutual benefit to both he and the farmer.

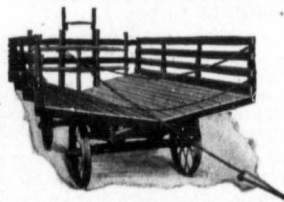
I myself, would not attempt to thresh without them.

Wishing you success, I remain,

Yours very truly,

D. HANKIN.

HART UNIVERSAL THRESHER RACKS



In shock threshing, a big saving can be made by using the racks with the carriers. One Hart Universal and driver will do as much work as two ordinary racks, two drivers and one field pitcher.

If you want to build the rack, we will furnish the hardware and parts.

Let us tell you how you can save from \$20.00 to \$35.00 a day.

WRITE TODAY FOR CATALOG AND FULL PARTICULARS, STATING KIND OF SEPARATOR AND FEEDER YOU USE.

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Haug Bros. & Nellerhoe Co., Ltd.
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General Distributing Agents for Canada

OR

Hart Grain Weigher Co.

PEORIA,

ILL., U.S.A.

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

didn't know anything about the body, till I told you, just now."

"Oh, my ruined theory has reference to the currents," sighed the other. "It has nothing to do with dead men, as such."

"Neither has this," was the prompt response, delivered with a jerk of the thumb toward the dark

"No- What is it, then, if not a dead man?"

"A dead woman."

"Oh! All the same, it shouldn't have come in on this section of the beach at all."

"Thet ain't half the strangeness of it, the way it washed in. Lonesome Cove has had some queer folks drift home to it, but nothing as queer as this. Come and see for yourself."

Still frowning, Professor Kent suffered himself to be led to the spot. Two or three of the group as it parted before him, greeted him. He found himself looking down on a corpse clad in a dark silk dress, and stretched on a wooden grating, to which it was lashed with a small rope. Everything about the body indvate wealth. The dress was expensive-ly made. The shoes were of the best type, and the stockings were silk. The head was marred by a frightful bruise, which had crushed in the right side and extended to a wound behind the ear. Blood had clotted thickly in the short close-curl-ed hair. The left side was unmarked. The eyes were closed and the mouth was slightly open, showing a glint of gold amid very white and regular teeth. An expression of deadly terror distorted the face. Professor Kent bent closely over it.

"That's strange; very strange," he murmured. "It should be peaceful."

"But look at the hand?" cried Jarvis.

Here, indeed, was the astounding feature of the tragedy; the aspect that brought Kent to his knees, the more closely to observe. The body lay twisted slightly to the right, with the left arm extended. The left wrist was enclosed in a light rusted handcuff, to which a chain was fastened. At the end of the chain was the companion cuff, shattered, evidently by a powerful blow, and half buried in the sand. As Kent leaned over the corpse, a fat, powerful, grizzled man with a metal badge on his shirt-front pushed forward.

"Them's cast-iron cuffs," he announced. "That kind ain't been used these forty years."

"What kind of a ship 'ud be carryin' 'em nowadays?" asked some one in the crowd.

"An' what kind of a seaman'd be putting of 'em on a lady's wrists?" growled a formidable voice, which Kent, looking up, perceived to have come from amid

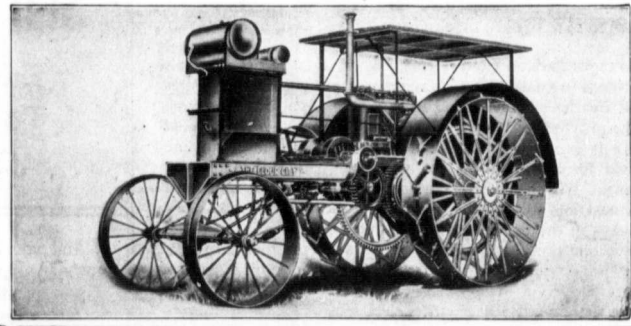
a growth of heavy white whiskers, sprouting from a weather-furrowed face.

"Seafaring man, aren't you?" inquired Kent. "No more. Fifty year of it,

man an' boy, has put me in harbor."

Continued on page 70

FLOUR CITY TRACTORS



FLOUR CITY FACTS

A good operator and a poor tractor is an unsatisfactory combination. A good tractor and a poor operator does not improve the situation; but a "FLOUR CITY" Tractor and a good operator is a paying investment.

The "FLOUR CITY" has many distinctive features. Its design commends it for plowing, seeding, harvesting, threshing and road-making; it is not handicapped by superfluous weight; it saves fuel otherwise expended in propelling excessive weight, and eliminates the danger in crossing bridges.

The bevel gear transmission is a feature worthy of special mention; the gears are made from drop forgings of forty point carbon steel, carefully machined and heat treated, held in position by annular ball-bearings and running in a bath of transmission grease, and are practically indestructible.

The overhead valve is a feature of the "FLOUR CITY" motor; this type is the

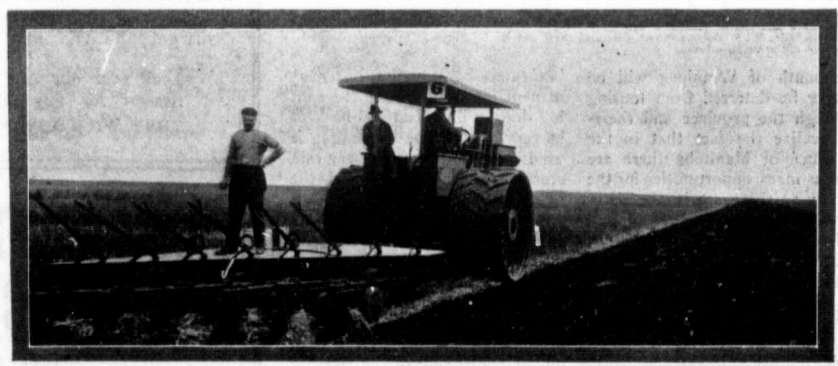
most conducive to perfect ignition, combustion and economy, opening direct into a cylinder free from valve pockets or chambers, the highest percentage of possible energy of the charge is utilized, and the constant necessity of regrinding the valve is eliminated. This type conforms to the U.S. Government specifications and is best adapted to the use of lower grades of fuel.

The "FLOUR CITY" is built in three sizes—20, 30 and 40 h.p., giving a latitude of power suitable for any size farm. It is equipped for Gasoline, Kerosene or Distillate; is controlled by one lever; is mechanically simple, and owing to its construction, you buy Simplicity, Economy and Durability in one machine. The various features of the "FLOUR CITY" will appeal to any mechanical mind.

Our Catalog, giving all details, will be sent on request.

KINNARD-HAINES CO.

828 44th AVENUE NO., MINNEAPOLIS, MINN.



"Number 6" Making a Mathematical Straight Line.

Good Roads in Western Canada

By A. C. EMMETT

THE advantages derived from Good Roads are fast being realized by the rural communities in the province of Manitoba and there is every prospect that in the near future the Good Road's movement will be taken up in real earnest and all of the leading highways in the province put into such a condition that the reputation for poor roads which the south eastern portion of the province has in the United States will be changed for the better, and motorists from the cities to

The work of laying the asphalt pavement from the city ten miles south to the village of St. Norbert is now practically completed and the stakes showing the line of the new grade through the municipality of Ritchot have been placed in readiness for the work of grading and gravelling.

Sufficient attention is not given to the use of the split log drag, an instrument that offers one of the cheapest and best solutions of the road problem in districts where funds will not allow of the



Ex-Mayor Waugh painting the first of the Meridian Road signs between Winnipeg and Emerson. The other members of the party were Mayor Berry of St. Boniface; C. F. Roland, Industrial Commissioner; W. P. Tallman, Street Commissioner; and A. C. Emmett, Secretary Canadian Division of the Meridian Road.

the south of Winnipeg will no longer be deterred from touring through the province and thereby realize the fact that in the province of Manitoba there are just as many opportunities for the settler as there are in the sister provinces of Saskatchewan and Alberta.

The laying out of the Meridian road from Winnipeg to the Gulf of Mexico, has been responsible for a great deal of improvement on the road between Winnipeg and Emerson and when the work, which has been mapped out on this stretch, is completed Canada will have a good highway connecting it with the United States on the south.

immediate construction of a permanent highway. With the split log drag, a dirt road can be kept in very good shape if the drag is used consistently after every rain storm, and the division of the road into dragging districts of two miles each makes it possible to practically cover the entire length of a highway through any municipality in one day.

A splendid example of a dirt road, kept in condition by the use of a split log drag, is the road on the south side of the river to West Winnipeg. This 14 miles of road has been kept in good shape practically the whole year round since the split log drag was put into use and its present con-

It is not Unusual for
"Star" and "Lumber King"
 Endless Thresher Belts
 To Last Through Four or
 Even Five Seasons

And yet these beltings will cost you no more than you are asked to pay for others.

Let us show you how "STAR" and "LUMBER KING" Beltings are made, then you will understand why these beltings must be better.

Listen to the clang and whir of one hundred ponderous machines in our belting plant—each doing its allotted part with infallible accuracy.

Watch the elaborate testing precautions—the scrupulous attention to detail—the expertness of the operators and the wide-awake alertness of the superintendents—from the time the fabric is first run through the vulcanizing machines until it emerges as a finished belt.

Note how little chance there is for human carelessness or inefficiency to mar the perfect work.

That is scientific belt making—factory pride in its products—reputation jealously guarded.

Our Method of Making Beltings that Endure

For forty years we have been making beltings in this way—always with that unwavering care and determination to produce beltings that would be better.

And we learned every lesson that forty years' experience could teach—profited by it and added to it by a close study of Canadian climatic and working conditions.

And now, the oldest, largest and best equipped plant in Canada is ready to make thresher belts for you.

"STAR" AND "LUMBER KING"
 BELTS THAT WILL GIVE YOU MORE AND BETTER
 SERVICE THAN YOU HAVE EVER HAD BEFORE.

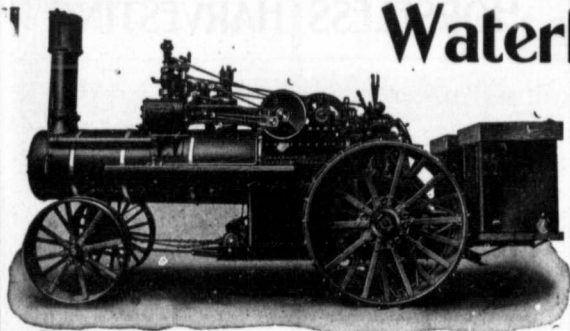
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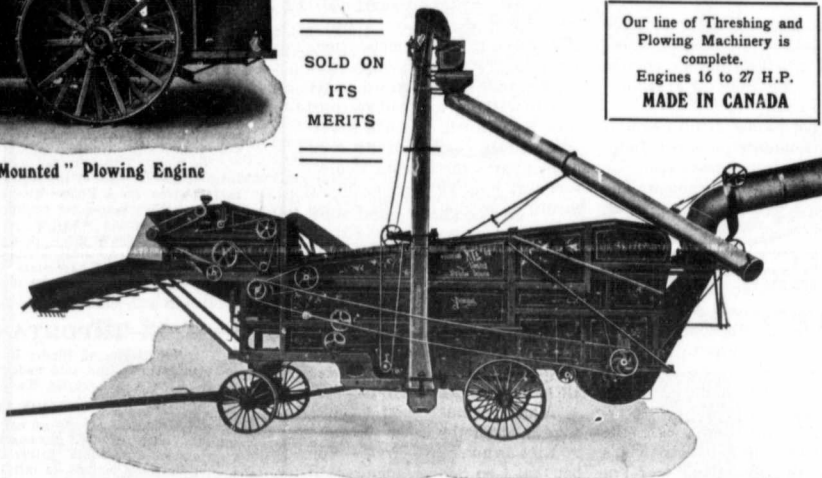
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Our line of Threshing and Plowing Machinery is complete. Engines 16 to 27 H.P. **MADE IN CANADA**

SOLD ON
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dition is a wonderful contrast to the road that farmers and dairymen were compelled to travel over less than two years ago and which was practically impossible for two and three days after a rain storm.

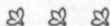
On the west side of Winnipeg, an agitation is on foot to secure a well graded highway clear across the province from the western to the eastern boundaries and a deputation, which waited on the provincial government during the month of July, was assured of the heartiest co-operation on the part of the government in carrying out such a scheme. The government realizes the importance of good roads as a talking point in any campaign for the settlement of the province with men who would bring in capital to develop it and have now determined to use every legitimate means to bring about the desired reform in the highways of Manitoba.

On the eastern side of the province the Ontario government is steadily pushing forward the construction of a road to the west by way of Kenora and although there are many natural obstacles in the way, they will all be overcome and the east will be linked with the west. This will bring about a movement of traffic on

the highways of Canada that will have far reaching effects, not the least of which will be the possibility of eastern tourists being able to make the trip entirely on Canadian territory without having to do as at present, travel through the United States by way of Chicago and Minneapolis in order to reach Winnipeg and the west.

A point that was well made, came up in a recent discussion on freight rates. It was pointed out by one speaker, that farmers were complaining of the high freight rates on wheat and other grains to Fort William. If, said the speaker, farmers would consider the matter a little more deeply they would realize that the railroad charges were by far the lightest part of their transportation expense and that in one particular district they were paying a freight rate to the railroads of $4\frac{1}{2}$ cents on a bushel of wheat to Fort William, they were paying no less than 9 cents a bushel to cart the same grain over two miles of bad road between their farm and the railroad or in other words for every million bushels of wheat they were throwing away between \$50,000 and \$100,000 which could be saved if the roads were placed in good condition.

It may be too late to get this matter fixed before the grain has to be moved this year, but farmers should see that something is done towards making an early start during 1914 as the enormous saving possible on the transportation of the total wheat crop of western Canada is of far too great magnitude to be lost sight of by any farmer who is endeavoring to get the best possible return for his work on the farm. A great variety of literature is now available on the road question and the study of this literature during the winter months when there is leisure for its careful study will help to a proper understanding of the importance of Good Roads in the development of our country.



Useful At Times

The musical lady sat nonchalantly in the saloon of the great professor. Not only was she full of ambition, but she bubbled over with conceit.

"Professor," said she, in such tones of self-commendation as to ruffle the old man's nerves, "do you think I shall ever do anything with my voice?"

She was fishing for compli-

ments, but the grey-headed master failed to bite.

"Madam," he replied, "if there was a conflagration in your road, your voice would be useful to scream 'Fire!'"

Then the lady departed in a huff.



A Method with Drawbacks

Griggs: "When I don't catch the name of the person I've been introduced to I ask if it's spelled with an 'e' or an 'i.' It generally works, too."

Briggs: "I used to try that dodge myself until I was introduced to a young lady at a party. When I put the question about the 'e' or 'i' she replied indignantly: 'Sir! my name is Hill.'"



Mrs. Knicker: "Can you get your boots buttoned without bending your knees?"

Mrs. Bocker: "Certainly; I make my husband do it."

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

Mention this magazine when writing advertisers

The Secret of Lonesome Grove

Continued from page 67

"That's Sailor Smith," explained Jarvis, who had assumed the duties of a self-appointed cicerone. "Not much about the sea and its ways, good or bad, that he don't know."

"True for you," confirmed several voices.

"Then, Mr. Smith, will you take a look at those lashings and tell me whether in your opinion they are the work of a sailor?" asked Kent.

The old hands fumbled expertly. The old face puckered. Judgment came forth presently.

"The knots is well enough. The lashin's a passable job. What gits me is the rope."

"Well, what's wrong with the rope?"

"Nothin' in partic'lar. Only, I don't know what just that style of rope would be doin' on ship-board, unless it was to hang the old man's wash on."

"Suppose we lift this grating," Kent suggested.

At this the man with the badge interposed. "Say, who's running this thing, anyhow? I'm sheriff here, an' this body ain't to be moved till a doctor has viewed it."

"Of course," said Kent mildly; "but I thought you might be interested to see, Mr. Sheriff, whether a ship's name was stamped somewhere on this grating."

"Well, I don't want any amature learning me my business," declared the official importantly.

Nevertheless, he heaved the woodwork up on edge and held it so, while eager eyes scanned the under part. Murmurs of disappointment followed. In these Kent did not join. He had inserted a finger in a crevice of the splintered wood, and had extracted some small object which he held in the palm of his hand, examining it thoughtfully.

"Wot ye got there?" demanded the sheriff.

Professor Kent stretched out his hand, disclosing a small grayish object.

"I should take it to be the cocoon of *Ephestia kuehniella*," he announced.

"An' wot does he do for a livin'?" inquired the official, waxing humorous.

"Destroys crops. It's a species of grain-moth."

"Oh!" grunted Schlager. "You're a bug collector, eh?"

"Exactly," answered the other, transferring his trove to his pocket.

Thereafter he seemed to lose interest in the centre of mystery. Withdrawing to some distance, he paced up and down the shore, whistling lively tunes, not always in perfect accord, from which a deductive mind might have in-

ferred that his soul was not in the music.

Nearer and nearer to high-water mark his pacing took him. Presently, though all the time continuing his whistling, he was scanning the tangled débris that the highest tide of the year had heaped up, almost against the cliff's foot. His whistling became slow, lugubrious, minor. It sagged. It died away. When it rose again, it was in march time, whereto the virtuoso stepped briskly toward the crowd. By this time the group had received several additions, but had suffered the loss of one of its component parts, the sheriff. Conjecture was buzzing from mouth to mouth as to the official's sudden defection.

"Whatever it was he got from the pocket," Kent heard one of the men say, "it started him quick!"

"Looked to me like an envelope," hazarded some one.

"No," contradicted Sailor Smith; "paper would have been all pulped up by the water."

"Marked handkerchief, maybe," suggested another.

"Like as not," said Jarvis. "You bet that Len Schlager figured it out there was somethin' in it for him, anyways. I could see the money-gleam in his eye."

"That's right, too," confirmed the old sailor. "He looked just like that when he brought in that half-wit pedler, thinkin' he was the thousan'-dollar-reward thief last year."

"Trust Len Schlager to look out for number one first, an' be sheriff afterward," observed some one else.

Amidst this interchange of opinion, none of which was lost upon him, Professor Kent advanced and bent over the menaced corpse.

"Have to ask you to stand back, Professor," said Jarvis. "Len's appointed me special dep'ty till he comes back, and he says nobody is to lay finger on hide nor hair of the corpse; not even the doc, if he comes."

"Quite right," assented the other. "Sheriff Schlager exhibits commendable zeal and discretion."

"Wonder if he knowed the corpse?" suggested somebody in the crowd.

"Tell you who did, if he didn't," said another man.

"Who, then?"

"Elder Iry Dennett. Didn't none of you hear about his meetin' up with a strange woman yestiddy evenin'?"

"Shucks! This couldn't be that woman," said Jarvis. "How'd she come to be washed ashore from a wreck between last night and this morning?"

"How'd she come to be washed ashore from a wreck, anyway?" countered Sailor Smith. "The ain't been no storm for a week,

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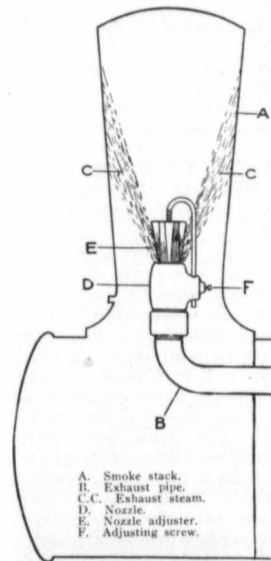
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can be adjusted in a moment's time to give your engine the desired draft under a light or heavy load, either burning straw or coal, and without causing any back pressure on engine. This is done by spreading the steam in the Smoke Stack instead of reducing the Exhaust Nozzle.

Get one before you start threshing.

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Avoid imitations of our CUTLERY by Seeing that This EXACT MARK is on Each Blade.

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an' this body ain't been dead twenty-four hours."

"It plumb beats me," admitted Jarvis.

"Who is this Dennett?" asked Professor Kent.

"Iry? He's the town gab of Martindale Centre. Does a little plumbin' an' tinkerin' on the side. Just now he's up to Cadystown. Took the ten-o'clock train last night."

"Then it was early when he met this woman?"

"Little later sundown. He was risin' the hill beyond the Nook—that's Sedgwick's place, the painter feller—when she come out of the shrubbery—pop! He quizzed her. Trust the Elder for that. But he didn't get much out of her, until he mentioned the Nook. Then she allowed she guessed she'd go there. An' he watched her go."

"You say a man named Sedgwick lives at the Nook. Is that Francis Sedgwick, the artist?"

"That's him," said Sailor Smith. "Paints right purty pictures. Lives there all alone with a Chinese cook."

"Well, the lady went down the hill," continued Jarvis, "just as Sedgwick come out to smoke a pipe on his stone wall. Iry thought he seemed surprised when she spoke him. They passed a few remarks, an' then they had some words, an' the lady laughed loud an' kinder scornful. He seemed to be pointin' at a necklace of queer, fiery pink stones that she wore, and tryin' to get somethin' out of her. She turned away, an' he started to follow, when all of a sudden she grabbed up a rock an' let him have it—blip! Keeled him clean over. Then she ran away up the road toward Hawkll Cliffs. That's the way Iry Dennett tells it. But I ain't never heard of a story losin' anythin' in the tellin' when it come through Iry's lips."

"Well, this corpse ain't got no pink necklace, suggested somebody.

"Bodies sometimes gets robbed," said Sailor Smith.

Chester Kent stooped over the wirthen face, again peering close. Then he straightened up and began pulling thoughtfully at the lobe of his ear.

He pulled and pulled, until, as if by that process, he had turned his face toward the cliff. His lips pursed. He began whistling softly, and tunelessly. His gaze was abstracted.

"Ain't seen nothin' to make you feel bad, have you, Professor?" inquired Temporary-Deputy-Sheriff Jarvis with some acerbity.

"Eh? What?" said Kent absently. "Seen anything? Nothing but what's there for any one to see."

Following his fixed gaze, the

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others studied the face of the cliff; all but Sailor Smith. He blinked near-sightedly at the corpse.

"Say," said he presently, "what's them queer little marks on the neck, under the ear?"

Back came Kent's eyes. "Those?" he said smiling. "Why, those are, one might suppose, such indentations as would be made in flesh by forcing a jewel setting violently against it, by a blow or strong impact."

"Then you think it was the wom—" began the old seaman when several voices broke in:

"There goes Len now!"

The sheriff's heavy figure appeared on the brow of the cliff, moving toward the village.

"Who is it with him?" inquired Kent.

"Gansett Jim," answered Jarvis.

"An Indian."

"Gosh! You got good eyes!" said Jarvis. "He's more Indian than anything else. Comes from down Amagansett way, and gets his name from it."

"H-m! When did he arrive?"

"While you was trapesin' around up yonder."

"Did he see the body?"

"Yep. Just after the sheriff got whatever it was from the pocket, Gansett Jim hove in sight. Len went over to him quick, an' said somethin' to him. He come and give a look at the body. But he didn't say nothing. Only grunted."

"Never does say nothin' only grunt," put in Sailor Smith.

"That's right," agreed Jarvis. "Well, the sheriff tells me to watch the body. Then he says, 'An' I'll need somebody to help me. I'll take you, Jim.' So he an' the Indian goes away together."

Professor Kent nodded. He looked seaward where the reefs were now baring their teeth more plainly through the racing currents, and he sighed. That sigh meant, in effect, "I wanted to play with my tides and eddies, and here is work thrown at my very feet!" Then he bade the group farewell, and set off up the beach.

"Seems kinder int'rested, don't he?" remarked one of the natives.

"Who is he, anyway?" inquired another.

"Oh, he's a sort of a harmless scientific crank," explained Jar-

vis with patronizing kindness. "Comes from Washington. Something to do with the government work."

"Kinder loony, I think," conjectured a little thin, piping man. "Musses and moves around like it."

"Is that so!" said Sailor Smith, who still had his eyes fixed on the scarified neck. "Well, I ain't any too dum sure thet he's a big a fool as some folks I know thinks likelier of theirselves."

Others, however, supported the little man's diagnosis, and there was some feeling against Sailor Smith who refused to make the vote unanimous.

"No, sir," he persisted sturdily. "That dude way of talkin' of his has got somethin' back of it, I'll bet. He seen there was somethin' queer about the knots, right he ast me about the knots, right off. He knows enough not to spit to wind'ard, an' don't you forget it! Wouldn't surprise me none if he was p'intin' pretty nigh as clus up into the wind as Len Schlager."

Possibly the one supporter of the absent would have wavered

in his loyalty had he seen the trope that Professor Chester Kent had carried unostentatiously from the beach, in his pocket, after picking it from the grating. It was the fuzzy cocoon of a small and quite unimportant insect. Perhaps the admiring Mr. Smith might even have come around to the majority opinion regarding Professor Kent's intellectual futility could he have observed the absorbed interest with which the Washington scientist, seated on a boulder, opened up the cocoon, pricked it until the impotent inmate wriggled in protest, and threw himself on his back and whistled the whole of Chopin's Funeral March, mostly off the key.

CHAPTER II.

Professor Kent Makes a Call

Between the roadway and the broad front lawn of the Nook a four-foot, rough stone wall interposes. Looking up from his painting, Francis Sedgwick beheld, in the glare of the afternoon sun, a spare figure rise alertly upon the wall, descend to the road, and rise again. He stepped to the open window, and watched a curious progress. A scrubby-bearded man, clad in serviceable khaki, was performing a stunt, with the wall as a basis. He was walking from east to west quite fast, and every third pace stepping upon the wall; stepping, Sedgwick duly noted, not jumping, the change of level being made without visible effort.

Now, Sedgwick himself was distinctly long of leg and limber, but he realized that he would be wholly incapable of duplicating the stranger's gracefully accomplished feat without violent and clumsy exertion. Consequently, he was interested. Leaning out of the window, he called:

"Hello, there!"

"Good afternoon," said the stranger, in a quiet cultivated voice.

"Would you mind telling me what you are doing on my wall?"

"Not in the least," replied the bearded man, rising buoyantly into full view, and subsiding again with the rhythm of a wave.

"Well, what are you doing?"

"Taking a little exercise."

By this time, having reached the end of the wall, he turned and came back, making the step with his right leg instead of his left. Sedgwick hurried downstairs and out into the roadway. The stranger continued his performance silently. At closer inspection it appealed to the artist as even more mysterious both in purport and execution than it had looked at a distance.

"Do you do that often?" he asked, presently.

The gymnast paused, poised like a Mercury on the high coping "Yes," said he. "Otherwise I shouldn't be able to do it at all."

"I should think not, indeed! Has it any particular utility, that form of exercise?"

"Certainly. It is in pursuance of a theory of self-defense."

"What in the world has wall-hopping to do with self-defense?"

"I shall expound," said the stranger in professional tones, taking a seat by the unusual method of letting himself down on one leg while holding the other at right angles to his body. "Do you know anything of jiu-jitsu?"

"Very little."

"In common with most Americans. For that reason alone the Japanese system is highly effective here, not so effective in Japan. You perceive there the basis of my theory."

"No, I don't perceive it at all."

"A system of defense is effective in proportion to its unfamiliarity. That is all."

"Then your system consists in stepping up on a wall and diving into obscurity on the farther side, perhaps," suggested Sedgwick ironically.

"Defense, I said; not escape. Escape is perhaps preferable to defense, but not always so practicable. No; the wall merely served as a temporary gymnasium while I was waiting."

"Waiting for what?"

"For you."

"You have distinctly the advantage of me," said Sedgwick, with a frown; for he was in no mood to welcome strange visitors.

"To return to my theory of self-defense," said the other impetuously. "My wall exercise serves to keep limber and active certain muscles that in the average man are half atrophied. You are familiar with the ostrich?"

"With his proverbial methods of obfuscation," replied Sedgwick.

The other smiled. "That, again, is escape or attempted escape. My reference was to other characteristics. However, I shall demonstrate." He rose on one foot with an ease that made the artist stare, descended, selected from the roadway a stone of ordinary cobble size, and handed it to Sedgwick.

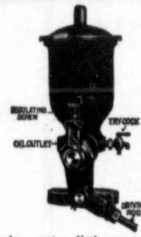
"Let that lie on the palm of your hand," said he, "and hold it out, waist high."

As he spoke he was standing two feet from the other, to his right. Sedgwick did as he was requested. As his hand took position, there was a twist of the bearded man's lithe body, a sharp click, and the stone, flying in a rising curve, swished through the leafage of a lilac fifty feet away.

"How did you do that?" cried the artist.

The other showed a slight in-

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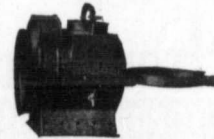
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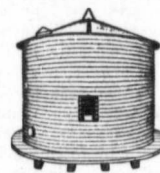
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dentation on the inside of his right boot heel, and then swung his right foot slowly and steadily up behind his left knee, and let it lapse into position again. "At shoulder height," he explained, "I could have done the same; but it would have broken your hand."

"I see," said the other, adding with distaste, "but to kick an opponent! Why, even as a boy I was taught—"

"We were not speaking of child's play," said the visitor coolly; "nor am I concerned with the rules of the prize-ring, as applied to my theory. When one is in danger, one uses knife or gun, if at hand. I prefer a less deadly and more effective weapon. Kicking sidewise, either to the front or to the rear, I can disarm a man, break his leg, or lay him senseless. It is the special development of such muscles as the sartorius and plantaris," he ran his long fingers down from the outside of his thigh round to the inside of his ankle, "that enables a human being, with practice, to kick like an ostrich. Since you found me exercising on your property, I owe you this explanation. I hope you won't prosecute for trespass, Mr. Long-Lean-Leggy Sedgwick."

"Leggy!" The artist had whirled at the name. "Nobody's called me that for ten years."

"Just ten years ago that you graduated, wasn't it?"

"Yes. Then I knew you in college. You must have been before my class."

The bearded one nodded. "Senior to your freshman," said he.

The younger man scrutinized him. "Chester Kent!" said he softly. "What on earth are you doing behind that bush?"

Kent caressed the maligned whiskers. "Utility," he explained. "Patent, impenetrable mosquito screen. I've been off in the wilds, and am—or was—going back presently."

"Not until you've stopped long enough to get reacquainted," declared Sedgwick. "Just at present you're going to say to dinner."

"Very good. Just now you happen to be in my immediate line of interest. It is a fortunate circumstance for me, to find you here; possibly for you, too."

"Most assuredly," returned the other with heartiness. "Come in on the porch and have a hammock and pipe."

Old interests sprang to life and speech between them. And from the old interests blossomed the old easy familiarity that is never wholly lost to those who have been close friends in college days. Presently Francis Sedgwick was telling his friend the story of his feverish and thwarted ten years in the world. Within a year of

his graduation his only surviving relative had died, willing to him a considerable fortune, the income of which he used in furtherance of a hitherto suppressed ambition to study art. Paris, his Mecca, was first a task-mistress, then a temptress, finally a vampire. Before succumbing he had gone far, in a few years, toward the development of a curious technique of his own. Followed then two years of dissipation, a year of travel to recuperate, and the return to Paris, which was to be once more the task-mistress. But, to his terror and self-loathing, he found the power of application gone. The muscles of his mind had become flabby. He quoted to Kent, with bitterness, the terrible final lines of Rossetti's *Known in Vain*: "When Work and Will awake too late, to gaze

After their life sailed by, and hold their breath, Ah! who shall dare to search through what sad maze Thenceforth their incommunicable ways

Follows the desultory feet of Death?"

"When Work and Will awake too late," repeated Kent. "But is it too late in your case? Surely not, since you're here, and at your task."

"But think of the waste, man! Yet, here I am, as you say, and still able to fight. All by virtue of a woman's laugh; the laugh of a woman without virtue. It was at the Moulin de la Galette—perhaps you know the dance hall on the slope of Montmartre—and she was one of the dancers, the wreck of what had once been beauty, and, one must suppose, innocence. Probably she thought me too much absinthe-soaked to hear or understand, as I sat half asleep at my table. At all events she answered, full-voiced, her companion's question, 'Who is the drunken foreigner?' by saying he was an artist. The studios talked of him five years ago. Look at him now! That is what life does to us, mon ami. I'm the woman of it: that's the man of it.' I staggered up, made her a bow and a promise, and left her laughing. Last month I redeemed the promise; sent her the first thousand dollars I made by my own work, and declared my debts discharged."

A heavy cloud of smoke issued from Kent's mouth, followed by this observation: "That formula about the inability to lift one's self by one's own boot-straps fails to apply in the spiritual world."

"Right! You can pull yourself out of the ditch that way; but afterward comes the long hillside. Life has seemed all tilted on edge, at times, and pretty slippery, with little enough to cling to."

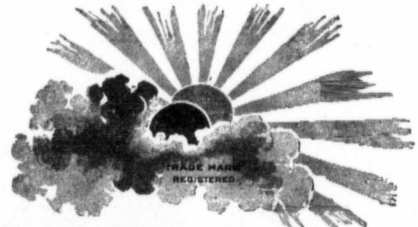
"Work," suggested Kent briefly.

To Be Continued in Next Issue.

THRESHERMEN!

What is SCALE costing you?

ECLIPSE



BOILER ENAMEL

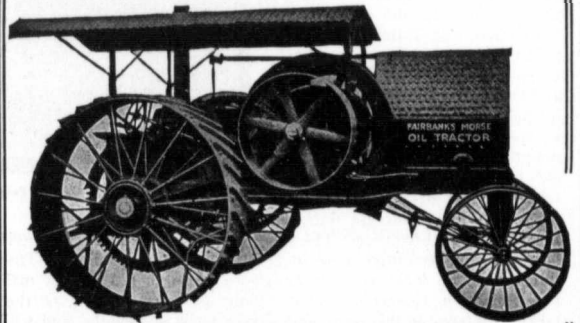
The Eclipse Boiler Enamel absolutely prevents formation of Boiler Scale in any water.

"Eclipse" is a purely vegetable preparation made from tropical plants which treats the iron on a new principle. It contains no mineral acid, soda lye or any injurious substance whatever, and may be used indefinitely without injury to the boilers or their fittings. "Eclipse" forms a film-like coating on the plates and tubes of boilers in which it is used. This coating is of such a slippery character that scale cannot adhere to it. Hence the solid particles in the water are deposited in the bottom of the boiler as a soft, slimy mud, which is readily blown out. The coating has no visible thickness and has nothing of an oily or greasy nature in its composition.

Send for our Booklet, free by mail.

W. W. Carruthers Manufacturers Winnipeg

The Tractor That's a Factor in Successful Western Farming



FAIRBANKS-MORSE OIL TRACTOR

Don't lose the result of the season's hard work through delayed and slow harvesting operations. Let this well-known Tractor make your profits secure by getting your crop off in time.

WE MANUFACTURE

Fairbanks-Morse Oil Tractors, 15-30, 20-40 and 30-60 H.P. Oil Engines, Portable and Stationary, 1 to 500 H.P., for all purposes. Marine Engines, 2 and 4 Cycle, 3½ to 100 H.P. Binder Engines, adapted to all makes of Binders. Hand and Power Pumps for every purpose. Truck and Pitless Scales specially designed for farm use. Electric Lighting Plants, suitable for Country Residences.

The Canadian Fairbanks-Morse Co., Limited
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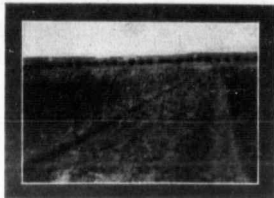


How and When to Plough

"TO plough and sow and reap and mow and be a farmer's boy." This old song suggests that ploughing is one of the first requisites of good agriculture. The early enthusiasts in the Canadian west forgot this old adage, and substituted a new saying, namely: "Scratch the soil and it laughs a crop," and so for a good many years in the Prairie Provinces foolish people did not only scratch the soil, but they came to realize that dame Nature instead of laughing a crop, laughed at them, and slowly as the years have gone by the west has gone back to the basic principal of sound cultivation, namely: thorough ploughing.

Twenty-five years ago, such able cultivators as Angus McKay and S. A. Bedford of the Dominion Government Experimental Farms, began urging upon the farmers of the West the need of better cultivation in order to preserve the fertility of their soil, but the farmers were more concerned with the number of acres they got in than the method of cultivation and little heed was paid to these warning voices; but these men were not discouraged, and slowly but surely the wisdom of their advice came home to the agriculturists of the West and attempts were made to revive the old time ploughing match, and these matches have been carried on with varying success during the last two or three years. There has been a marked increase of interest and the local as well as the Dominion Government has taken an interest in this work, and ploughing matches have come to be regarded as part of the year's work of the prosperous and efficient agricultural societies. During the present year the increased interest in ploughing matches in the Province of Manitoba has been very marked and the local matches have been largely attended and competition has been keen; in fact, interest has been so great as to warrant the Provincial Government of Manitoba in arranging for a Provincial match at the Indian Industrial School at Brandon in the early part of July. The railway companies, ever on the alert to promote anything that will improve crop conditions came forward and undertook to

carry the equipment of the contestants to the place where the ploughing was to be carried on



An ideal strip of good work.

free of charge. The amount of interest taken in this match was very marked and there were a number of lessons to be learned from what transpired in connection with it.

No one who saw the ploughing done had the slightest hesitation in pronouncing the work of the



Horse Power and plenty of it.

walking plough as very superior to that of the gang plough. There were more than twice as many gang ploughs entered as there were walking ploughs, and while some of the best work done with the walking ploughs was done by Canadians, it was noticed that Scotchmen predominated in the entries in the walking plough competition and were among the very best ploughmen. Twenty-two gang ploughs, with four horses on each plough started in one field and nine walking ploughs started in the other. With regard to the work done, the land which the men with the walking ploughs were required to plough was harder and heavier and with a taller growth of weeds than the field set apart for the gangs. Very wisely a large number of points which make up the score of 100 are given for the

covering of weeds, and any one who walked along the fields after the work was done must have been struck with the vast difference in the way the weeds were covered by the walking ploughs and by the gang ploughs. The first prize ploughing with a walking plough was so perfect that an inspection of it from end to end failed to reveal even the tip of a weed, though the volunteer crop of oats and weeds stood from eighteen inches to two feet high on the land before the ploughing was done.

Where does all this lead? may be asked. Well, the point I wish to make is, that the man who has the strength to guide a walking plough has the means at hand of procuring for himself the very best foundation for the cultivation of his land, namely: deep

4 inches. The crops on the land which had been ploughed 7 and 8 inches showed the best results, but the expense of deeper cultivation seemed hardly to be warranted. Of course these plots have not been carried on long enough to make the test an absolute certainty and conditions might vary with different soils and different localities; but judging from these plots 6 to 8 inches for summer fallow is about the correct and most satisfactory depth for Manitoba at least, and, no doubt as these experiments are being carried on by all the farmers simultaneously the most successful depth for Saskatchewan and Alberta will be available in due course.

It is perhaps a little late to be discussing the ploughing of summer fallow for the present year, but the experiments in ploughing are not confined to summer fallow only. There are experiments in ploughing stubble to be sown to oats, fall ploughing stubble and ploughing for late barley as a soiling crop. The indication from all of these plots are that deep cultivation gives the best results, in fact it would seem that as far as the treatment has been carried that shallow ploughing is only good for breaking new sod and that deeper and more thorough cultivation brings its own reward with almost any kind of a crop. The value of intensive cultivation, and particularly the value of a hoed crop for ce-

even ploughing, well turned furrows and all weeds covered. A walking plough is less expensive than a gang plough and properly handled it will give better results.

The new Director-General of Experimental Farms has for a number of years been intensely interested in this question of ploughing, and in order that the farmers of the Canadian west may have the best possible advice on the subject he has prepared and is having carried forward a series of experiments on the value of deeper ploughing. These experiments can be seen in perfection at the present time at the Brandon Experimental Farms, where the writer saw them two weeks ago.

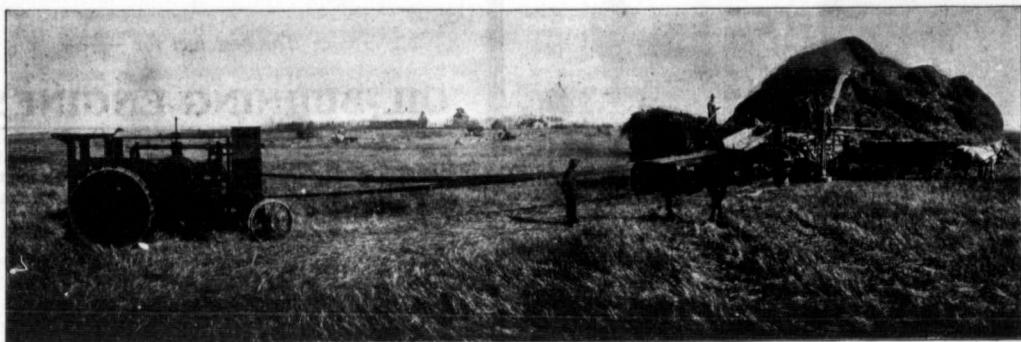
The different depths of ploughing were 3, 4, 5, 6, 7, and 8 inches, then there were plots showing 5, 6, 7 and 8 inches, with sub-soil



A savvy Scot heading for the top score.

reals is shown on the experimental farm this year in a field of barley which has followed corn.

Continued on page 83



O.K. AT BOTH ENDS OF THE BELT

Successful threshing is your aim and your ambition. When everything has a habit of running smoothly and steadily at both power end and thresher end of the belt, when there are no delays and breakdowns, and the yield in total bushels puts your customer in good humor—then your way is easy and profits flow in.

The thresherman knows from experience what reputation means. Nothing is noised about so quickly from farm to farm as is information about the efficiency of your outfit. And a good reputation in the threshing business, once acquired, is a constant asset.

Be sure you are right at the beginning—when you come to buy a threshing outfit. Apply a bit of wisdom and good sense. Nothing will tell you more of what you may expect from an outfit than past records, standing and reputation. Apply these final tests—and all other tests you may think of—to

I H C OIL TRACTORS AND ENGINES

and your outfit will be chosen from these lines. I H C oil tractors will give you the most power and the best steady service, least trouble in the way of care and attention, least difficulty in the way of breakages—and they will prove by far the most economical power for you in the long run. I H C tractors are free from dangerous sparks and annoying soot, and are ready at any instant for work. They are fitted for, in addition to threshing, an almost endless round of farm duties, in belt and draw-bar work. They are built to meet your need in style, weight, and size.

For the other end of the belt, the threshers we sell are built to furnish the same satisfaction—to complete your successful outfit. They range widely in size, capacity, and efficiency, to meet all conditions—to meet yours.

It will take you but a moment to put a letter in the mail, addressed to us. Tell us just what your needs are and we will show you what will fill them. It costs you nothing but it may mean many extra dollars for you. See the local dealer, or, write us for interesting catalogues.

International Harvester Company of Canada, Limited

BRANCH HOUSES

At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton

apprenticeship in a machine shop in Canada, served prior to his graduation from school. His educational qualifications brought him first into the teaching field.



J. M. Robinson.

This did not prove to his taste, and he shortly embarked in the harvester line in Canada, going to Toledo in 1883, where he entered the service of the Toledo Mower and Reaper Works, working in their shops and as an expert in the field for four years.

He was then given charge of the shipping and other office work, until the Toledo concern was merged into the Davis Platform Binder Company, of Cleveland, where he was placed in charge of one of the most important departments in the factory.

In 1891 Mr. Robinson took charge of the Sales Department of the Davis Company and in 1892 was appointed General Manager, which position he resigned in November, 1894, to accept the State General Agency of the Milwaukee Harvester Company at Columbus, Ohio.

At Columbus, Mr. Robinson made a very exceptional record, and established the Milwaukee line as a very strong factor in the Ohio trade, and his ability and success in that field led to his being appointed Sales Manager of the Milwaukee Harvester Company at the Home Office, April 1st, 1899, which position he occupied at the time of the formation of the International Harvester Company in 1902, and his service with the Harvester Company has been continuous since that time, first as Manager in charge of sales in the Eastern district. Then in 1907 he took charge of the sales of the Central district, and in 1912 of the Southern district, so that his experience in the sell-

ing organization of the Harvester Company has been exceptionally wide and varied, bringing him into close personal touch with the field conditions in a very large scope of territory.

Mr. Robinson has always been extremely popular with the sales organization of the Harvester Company on account of his thorough knowledge of the business, his indefatigable work and enthusiasm, and his loyalty to the men under him.

He has also been extremely fortunate in having the advantage of a thorough mechanical training, which has greatly strengthened him in the selling end of the business, and has made his judgment of exceptional value. Mr. Robinson is widely known as an organizer and has had marked success in his selection and development of men. He leaves the Harvester Company with the good will and confidence of its entire organization, and carries with him the best wishes of all of his associates for his prosperity and success in his new field.



Director and Vice-President (in Charge of the Credit and Collection Dept.)

An important step in the reorganization of the Executive Staff of M. Rumely Company is the election of M. R. D. Owings as Director and Vice-President in special charge of the Credit and Collection Department of the business, which has just been announced.

Mr. Owings has had a long and varied experience in the implement business. Beginning with a preliminary training in the business of the Sandwich Manufacturing Company, he entered the



M. R. D. Owings.

employ of the Milwaukee Harvester Company about the time he became of age, and was shortly thereafter appointed its auditor. He then became assistant to the

SILVER STAR ENGINE KEROSENE

— The best fuel for —

OIL-BURNING ENGINES

*Recommended by the Hart-Parr and Rumely Companies,
and used by all Oil-Tractors in all Motor Contests,
at Winnipeg Industrial Exhibition.*

**PREMIER MOTOR GASOLINE
STANDARD GAS ENGINE OIL
POLARINE**

*Carried in Stock at 300 Tank and Warehouse Stations in
Manitoba, Saskatchewan and Alberta*

*For prices at our Branch Stations nearest you, write
to any office or*

THE IMPERIAL OIL COMPANY Limited

Main Office: Winnipeg

Regina, Moose Jaw, Saskatoon, Edmonton, Calgary, Lethbridge

Prices on Distillate Fuel Oil quoted on application

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

No Punctures, no Skidding, and Less Tire Expense Result from the Use of Woodworth Treads

Woodworth Treads have proven beyond question that they are cheaper to use than bare tires and that they are the only means of obtaining safety from punctures without seriously affecting the resiliency of the tires.

Tires used with Woodworth Treads are protected from all outside injury and wear, also from the action of light and air. If they are good when the treads are put on and are kept properly inflated they generally last from 10,000 to 20,000 miles. Woodworth Treads average 3,000 to 5,000 miles on even the worst roads and on average country roads last from 8,000 to 10,000 miles.

Put a set of Woodworth Treads on your car and you can feel you are prepared for any roads. Nothing can injure your tires and your anti-skid is always in place. Besides making your car more valuable to you, they will reduce your running expense from 25 per cent to 50 per cent.

Send for full description and free booklet entitled "PRESERVATION OF TIRES," to the

**LEATHER TIRE GOODS
COMPANY**

Niagara Falls - Ontario

Woodworth Treads are sold by JOHN MILLEN & SON LTD.; RUSSELL MOTOR CAR CO., and the CANADIAN FAIRBANKS-MORSE CO., at all their branches and by first-class dealers everywhere.



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

general manager, head of the purchasing department, sales manager, and in 1898 was made secretary of the company, which office he held at the time of the organization of the International Harvester Company.

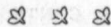
During the reorganization period in the Harvester Company Mr. Owings took an important part in the organization of the International branch houses, establishing the Credit Bureau, re-organizing the office system at the various plants, and assisting in much of the organization work at the head office of the company, thus extending his experience into all parts of the business.

For the past eight years Mr. Owings has been in charge of the Advertising and Publicity Departments and Service Bureau of the International Harvester Company and has broadened the scope of this work until it has become recognized as a substantial factor in the development of agricultural enterprise because of its vital education and betterment, not only in the United States, but all over the world.

Mr. Owings was one of the first men in the implement business to recognize the fact that the making and selling of farm machines is more than a business connection with the food supply of the world, and has been largely instrumental in enlisting the great resources of the Harvester Company in the encouragement of improved methods in agriculture.

In his new position as Vice-President of the Rumely Company, Mr. Owings will bring to his work an accumulated experience as an organizer on a large scale, as a trained advertiser, and as a credit and collection man of long and successful experience. His training in all departments of the implement business will be of especial benefit in his new field.

Mr. Owings leaves the International organization on the friendliest terms, and there is no doubt that his connection with the re-organized Rumely Company will have a marked benefit upon the trade. He will be a valuable factor of strength in his new field.



Futurity Races for Foals of 1913

The Canadian Industrial Exhibition Association are continuing their three futurity races for foals of 1913 to be raced in 1916, the nomination fee being \$1.00. Entries close October 1st, \$5.00 payable April 1st, 1914; \$5.00 payable October 1st, 1914; \$10.00 payable August 31st, 1915, and starting fee of \$25.00, to be raced in 1916.

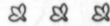
Each nominator to have the

right to substitute another foal by the same sire up to January 1st, of the year of the race

Guaranteed value for each race to be \$1,000 for trotters, \$1,000 for pacers and \$1,000 for runners.

For harness races the best two in three, and for the runners, 1-1-16 miles.

All moneys received over and above the guaranteed amount will be distributed among the winners.



Manitoba Photos Competition Open to Any Resident of the Province

The Provincial Department of Agriculture and Immigration announces a great need for good photographs of Manitoba scenes for publicity purposes, and offers the following:

PRIZES:

Best Photo	\$15.00	Cash	each
Second Best	10.00	"	"
Next Three	5.00	"	"
Next Five	3.00	"	"
Next Ten	2.00	"	"
Next Twenty-five	1.00	"	"

Special Prize

For the most artistic photo of cattle, sheep or other live stock, \$10.00 Cash.

Conditions:—

1—Any resident of Manitoba may compete.

2—Each photo submitted will be considered as a separate entry.

3—Any number of entries may be made by any one competitor, who may win any number of prizes, according to merit.

4—To each photo must be attached a slip giving full particulars of the subject, such as location, name of farmer, name and address of competitor and any interesting facts that are applicable.

5—Photos will be judged entirely on merit—their excellence as photos and their value for publicity purposes.

6—Any subject may be chosen, but particularly desired are scenes showing live stock of all kinds—dairy herds, horses, beef cattle, pigs, sheep, poultry, etc. Garden and farm scenes also desired.

7—The Department reserves the right to retain any photos submitted, whether winning a prize or not. All unavailable photos will be returned promptly.

THE COMPETITION CLOSES AUGUST

31st, 1913. (Announcement of the winners will be made within ten days thereafter.)

ADDRESS: Photo Competition, Manitoba Department of Agriculture, Winnipeg, Manitoba

FOR SALE—small threshing machine in good running order, fifteen H.P. portable I.H.C. gasoline engine, 18 x 36 inch Case steel separator, high bagger, wind stacker, and self feeder. Cost \$2,500. Will sell for \$1,300 F.O.B. Togo, Sask. R. Kennedy, Bruce, Alta.

\$35 DOMINION BICYCLES FOR \$26.50

BIGGEST AND BEST VALUE IN BICYCLES EVER OFFERED



THEY have mud guards, wood rims, Dunlop style tires, roller chain, New Departure coaster brake, large rubber pedals, pump & tools
Retail Price - - - \$35.00
Mail Order Price - \$26.50

SUNDRIES AND TIRES at prices entirely unheard of in the West before. Send for large illustrated Catalog. It is free.

DOMINION CYCLE COMPANY
224-6 LOGAN AVE., WINNIPEG
Mention this magazine when writing advertisers

Ontario Wind Engine & Pump Company's
LINES ARE SUPREME

Buy Service Not Cast Iron

When you buy an Engine you want power; a Well Drill, water; a Feed Mill, ground feed; a Windmill, something that will stand and give you service; the Tank that is tight; a Water System guaranteed to supply water.

Our business is the manufacturing of these lines. It has taken time, money and brains to produce what we are listing in this ad. It will pay you to get our catalogue.

If your dealer does not handle our lines, write the
Ontario Wind Engine & Pump Co., Ltd.
AT
MONTREAL TORONTO WINNIPEG OR CALGARY

Guaranteed Investments are the Best

Safe as GOVERNMENT BONDS and more profitable. Our Booklet explains fully. Send for it.

STEWART & WALKER, LTD.
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Messrs. STEWART & WALKER, Limited
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Gentlemen—Kindly send me Booklet on Investments.
Yours truly,
Name _____
Address _____

Special Cold Water Ejector

For elevating large quantities of water quickly and without raising the temperature, we have designed our No. 77 Ejector, which will elevate 3,600 gallons of water per hour with scarcely any increase in temperature. This Ejector is a necessity for engineers who have been bothered with hot water.

Ask your dealer, or write us for particulars
DESMOND-STEPHAN MFG. CO., Urbana, Ohio



The Bull Dog Wins Again

The Bull Dog entered the 1913 Winnipeg Motor Contest as usual. There were but two others left of the many who have entered in past years. Year by year they have kept dropping out, some not entering, and others entering but getting cold feet before the contest was actually on.

But the Bull Dog has always been there. He's the only one that has been in the Contest every year.

And once more the results of the Winnipeg Contest prove that **AVERY TRACTORS ARE THE GREATEST COMBINATION GASOLINE AND KEROSENE BURNING TRACTORS BUILT.**

The question of fuel economy is the one important point that the Winnipeg Contest covers, and it has been to **PROVE THIS POINT AGAINST ALL COMERS IN A CONTEST OPEN TO THE WORLD** that we have been entering Avery Tractors year after year.

The chart on the opposite page is a condensed summary of the important markings in the 1913 Winnipeg Motor Contest. Note that Avery Tractors were entered in 5 classes but only had competition in 4 of the 5 classes.

See the records which Avery Tractors made in fuel economy!

In the 2-hour Economy Brake Horse Power Test, Avery Tractors were **FIRST IN LOWEST COST OF FUEL PER HORSE POWER** in 1 of the 4 tests and second by only four one thousandths of a cent in another of the tests. In running off the test on the 40-80 H.P. Tractor, water was found in the gasoline and the Tractor did not run as it should until it got out into the plow field.

In the Plow Test, Avery Tractors were **FIRST IN LOWEST COST OF FUEL PER ACRE PLOWED** in 2 of the 4 Tests. The Avery 40-80 H.P. Tractor plowed the cheapest acre of any Tractor in any of the gasoline classes, its record being over 10c an acre less than its nearest competitor.

The Avery Company was the **ONLY** Company entering the **SAME** Tractor in both the Gasoline and Kerosene Tests. **ALL** Avery Tractors are equipped with double carburetors for burning either gasoline or kerosene.

THE 1913 WINNIPEG MOTOR CONTEST AGAIN CLEARLY PROVES THAT AVERY TRACTORS ARE THE GREATEST COMBINATION GASOLINE AND KEROSENE BURNING TRACTORS BUILT AND THAT THEY ARE UNUSUALLY ECONOMICAL IN THE CONSUMPTION OF FUEL.

AVERY COMPANY, 675 Iowa Street, Peoria, Illinois

Other Points of Superiority in Avery Tractors Proven by the 1913 Winnipeg Motor Contest

The 1913 Winnipeg Contest also proves the following additional points of superiority on Avery Tractors:

CLASS.	NAME OF TRACTOR	MFGRS. RATED-H.P.		WEIGHT	TANKS FULL	2 HR. BELT TEST COST OF FUEL PR. BRAKE HORSE POWER IN CENTS.	PLOW TEST COST OF FUEL PR. ACRES IN CENTS.	ACRES PLOWED PR. HOUR	POINTS DEDUCTED FOR VIBRATION	POINTS DEDUCTED FOR TOO VARIABLE SPEED	POINTS GIVEN FOR DIAL OF CIRCLE REQUIRED TO TURN IN
		TRACTION	BELT								
GASOLINE	AVERY	12	25	7500		2.66	57.4	1.01	1.5	0	4.6
	CASE	15	25	8000		2.97	69.6	.946	2.	9.25	3.6
CASOLINE	AVERY	20	35	12000		2.3	61.9	1.372	2	0	4.5
	CASE	20	40	14000		2.26	57.6	1.684	6	7.05	4.2
CASOLINE	AVERY	40	80	20925		3.71	46.5	3.213	.5	4.5	4.8
	CASE	40	80	24000		2.30	59.9	2.73	1.	.25	4.5
	CASE	30	60	24460		2.81	67.4	2.28	6.	32.8	4.5
	SAWYER-MASSEY	25	45	17500		2.66	56.6	2.116	.5	4.65	4.4
KEROSENE	AVERY	12	25	7500		1.9	53.4	1.373	1.5	13.2	4.6
KEROSENE	AVERY	20	35	12000		1.78	60.6	1.326	2.	2.25	4.5
	CASE	20	40	14000		1.91	45.8	1.324	7.	8.5	4.2

First—Avery Tractors were **FIRST IN ACRES PLOWED PER HOUR** in 3 out of the 4 Tests. This is a most important point.

Second—Avery Tractors were **FIRST IN LACK OF VIBRATION** in all 4 of the 4 Tests. This proves our claim that Avery Tractors stand steady and do not shake themselves to pieces.

Third—Avery Tractors were **FIRST IN RUNNING AT A UNIFORM SPEED** in 3 out of the 4 Tests and were second in the 4th one. This proves our claim as to the perfect control of the Avery Governing System, and is a strong point in doing belt work.

Fourth—Avery Tractors **TURNUED IN THE SHORTEST SPACE** in all 4 of the 4 Tests, which is an important point in plowing.

Avery "Self-Lift" Engine Gangs Again Proven to be the Lightest Draft Engine Gang Plows by the Records in Both the Tractor and Plow Contests.

Avery "Self-Lift" Engine Gang Plows **AGAIN SWEEPED THE FIELD IN LIGHTNESS OF DRAFT.**

In the Tractor Contest, Avery "Self-Lift" Plows took First, Second and Third Places in Lightness of Draft per plow. In the Plow Contest Avery "Self-Lift" Plows averaged 29 pounds Lighter Draft per Plow.

Avery "Self-Lift" Engine Gangs have been entered in both the Tractor and Plow Contests in 1912 and 1913 and in each Contest have clearly proven themselves to be the **LIGHTEST DRAFT ENGINE GANG PLOWS BUILT.**

Other Points of Superiority in Avery "Light-Weight" Tractors and "Self-Lift" Plows Not Covered by the Score Card

First—No credit is given the Avery Outfit in the Winnipeg Contest Score Card for the fact that the **ENTIRE OUTFIT** is operated by **ONE-MAN.** The Tractor and Plow Contests are marked separately and there are no markings given for the Outfit **AS A WHOLE.**

This means a big lot to you in buying an Outfit. Where other outfits require two men to operate them, the Avery One-Man Outfit saves you the expense of a plowman, saves all the hard back-breaking work of lifting and lowering the plows by hand levers at the end of each furrow, and saves time at the ends.

Second—The Winnipeg Contest does not cover the important point of **WEIGHT,** in making up the final score. Avery Tractors are the **LIGHTEST WEIGHT TRACTORS BUILT CONSIDERING THEIR POWER AND STRENGTH OF CONSTRUCTION** and because of their "Light-Weight" they were ready to plow and actually did plow **THREE DAYS IN SUCCESSION** while the Contest was delayed on account of the other fellows.

The score card does not show this important fact. Avery Tractors will plow any time the ground is in fit condition to be plowed with horses or mules. That's the kind of a Tractor you want—one that is "**LIGHT-WEIGHT.**" Avery Tractors don't pack the ground to injure the crop, they don't waste fuel moving useless dead weight, and they don't mire down easily like the heavy-weight Tractors do.

Third—Another important point to you that the Winnipeg Contest Score Card does not cover is **SIMPLICITY. AVERY TRACTORS ARE THE SIMPLEST TRACTORS BUILT.** They have the least gearing and shafting of any Tractors, no fan, no fuel pump, no water pump, only one clutch. It's easy to handle an Avery tractor and keep it in running order.

Fourth—Avery Tractors are **BACKED UP BY THE STRONGEST GUARANTEES OF ANY TRACTORS BUILT, AND ARE SOLD ON APPROVAL AT LOW PRICES.** These points are not considered in the Winnipeg Contest Score Card. But they are exceedingly important points to you.

SEE AVERY "LIGHT-WEIGHT" TRACTORS AND "SELF-LIFT" PLOWS (THE ONE MAN OUTFIT) IN ACTUAL OPERATION AT THE FAIRS, SEE THEM AT OUR BRANCH HOUSES, JOBBERS OR HOME OFFICE, OR WRITE A LETTER OR A POSTAL FOR A COMPLETE AVERY TRACTOR AND PLOW CATALOG. ADDRESS:

Canadian Avery Co., Ltd., Winnipeg, Regina, Calgary.

WESTERN CANADIAN DISTRIBUTORS.



P. F. LEGRESLEY.

1st Vice-President and Manager, Regina Branch.

A native of Jersey, Mr. Legresley came to Canada in 1888, entering the service of Wm. Fruing Co., Ltd., the large fish packers, etc., of Gaspé, Que., where he remained for 17 years—the last 14 of which in the capacity of manager. "The lure of the West" brought him to Winnipeg in 1903 and he hitched on to the Burridge Cooper Co. in 1904 when the company was originated, first as vice-president and latterly as president. On the establishment of the Regina branch, Mr. Legresley was placed in charge and the company's wonderful success in Saskatchewan is to a great extent directly due to M. Legresley's ability and persistent working qualities.

THIS Company was incorporated under Manitoba Law in 1904, buying out the business of Messrs. Burridge and Cooper, whose principal business was Blacksmiths' Supplies. On this company taking over the business, they added Gasoline Engines and Electrical Lighting Machinery and in 1908 branched out into Threshing Machinery, taking the agency for The Geiser Sieveless Separator, now so well known throughout these Western Provinces.



LUCIEN THOLIMET, Treasurer.

Born in France, Mr. Tholimet came to Canada in 1899, settling in Ste Rose du Lac, where he opened and successfully conducted a general store, while acting as agent for the International Harvester Co. and Cockshutt Plow Co. He also engaged in extensive farming operations which he relinquished to come to Winnipeg in 1911. On his arrival he purchased an interest in the Burridge Cooper Co., taking the position of assistant treasurer in which capacity he was found so efficient that on the election of his senior to the office of president, Mr. Tholimet was at once promoted to the post vacated by Mr. Wilcocks.

Burridge-Cooper Co., Limited
Western Canada's Foremost Implement Jobbing House

In the early part of 1912 the Company realized that there was a great field for moderate priced Engines and they secured the agency of the Waterloo Gasoline Engine Co.

Burridge-Cooper have for years held the agency for the Ohio Engines with which they equipped nearly all the government Elevators in Manitoba, as well as a large number in Saskatchewan and

outdoor use in winter, or places where there is fear of frost. With it you have nothing to fear as no water is required. They also handle a most complete line of Washing Machines, Cream Separators, Grain Grinders, Grain Cleaners and Graders, Dump Wagons, Steel Farm Trucks, Manure Spreaders, Road and Asphalt Rollers, Saw Mills, Well Drilling Machinery, Generators for operating



H. S. WILCOCKS.

President and General Manager.

Native of Kingsey, Que. Started his business career with Robinson, Donahue & Co., wholesale grocers, Montreal, subsequently opening up for himself in the retail at Picton, Ont., and in addition to his very successful record in this department he at the same time conducted the operations of several farms in the neighborhood. In acknowledgment of his many public services, on the eve of his departure for the West, he was met by the County Warden and Mayor of Picton at the head of a large body of prominent citizens and presented with an illuminated address accompanied by a gold mounted cane embodying the regard of his fellow citizens and their best wishes for his success in his new field of activity. Mr. Wilcocks came direct to Burridge-Cooper Co. in 1911 to fill the position of treasurer, until he was unanimously appointed to the head of the concern at the company's last general meeting.

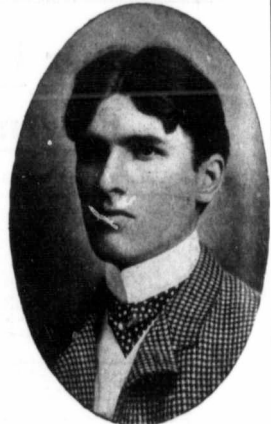
Alberta. These celebrated engines are manufactured by The Ohio Motor Co., of Sandusky, Ohio.

This same Ohio Co. are perfecting a crude oil-burning Engine and expect to have same on the market within 60 days, and will be sold exclusively by Burridge-Cooper Co. These Engines will be made in two sizes, 12 1/2 h. p. and 25 h. p., each having one cylinder, but each engine can be increased in power two, three or four times by additional cylinders.

The Burridge-Cooper Co. are also handling the Marvelous Gade Air Cooled Engine. This is the wonder engine for

Moving Picture Machines, and did I forget to say Gas Tractors. You should see these latter from the Baby Tractor, for the small farmer to the monster of almost-Railway Locomotive proportions for the big farmer who operates several sections.

Burridge-Cooper Co. are situated on Owens St., in large substantial premises of their own, having their own trackage which enables them to handle all orders with despatch. They have a splendidly equipped workshop with an able staff of expert help which enables them to do any kind of a job on their



F. A. FRY, E. E.

2nd Vice-President and Superintendent.

Mr. Fry is the son of ex-alderman Fry, one of Winnipeg's well-known and most highly respected citizens. He was educated at St. John's College, and on graduating as an electrical engineer, he joined the forces of the Winnipeg Electric Railway. On the organization of the Burridge Cooper Co. he was prevailed upon to fill the position of electrical engineering expert and superintendent, which position he has continued to fill with conspicuous ability and success and to the complete satisfaction of the company's many customers whose contracts have been carried out under Mr. Fry's personal direction. "What 'Bert Fry' don't know about gas and steam engines and electrical machinery is not worth knowing" is the reputation he enjoys in the trade.

own premises. This firm is noted for straight-forward square dealing and any just complaint is sure to be immediately made right. One thing that struck the writer was that there were no old weather-beaten machines around their premises and an enquiry as to where they stored these was answered, "Right here; what we have you can see. We sell machinery that stays, does not come back."



F. H. BLACKBURN, Secretary.

Born at Ottawa, Mr. Blackburn came to Winnipeg early in 1911 to join the staff of the General Supply Co. and subsequently the Gaslock Packing Co. He entered the employ of the Burridge-Cooper Co. in July of the present year, and his appointment as secretary was confirmed by the company at its annual meeting. Mr. Blackburn and his family are among the most respected of Ottawa's citizens—his brothers being recognized as belonging to Ottawa's brightest financiers. A big future is confidently predicted for "Fred."

"The Great Minneapolis Line"

POPULARITY

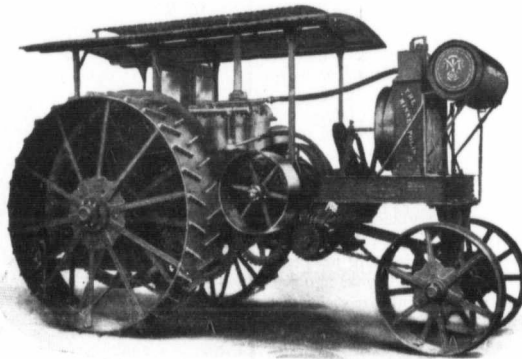
INCREASING



Delivering the Goods in Manitoba

The "Minneapolis 25 h.p. Farm Motor using Gasoline has long since demonstrated its ability to develop Strong, Steady, Economical and Reliable power for all kinds of belt and traction work, and it affords us pleasure to announce the perfecting of a Kerosene attachment for this motor.

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This attachment is not a makeshift merely to advertise, but is fully up to the Minneapolis standard of excellence and different from others in many ways.

We will be glad to explain the difference or demonstrate the superiority to you if interested.

Easy to Operate

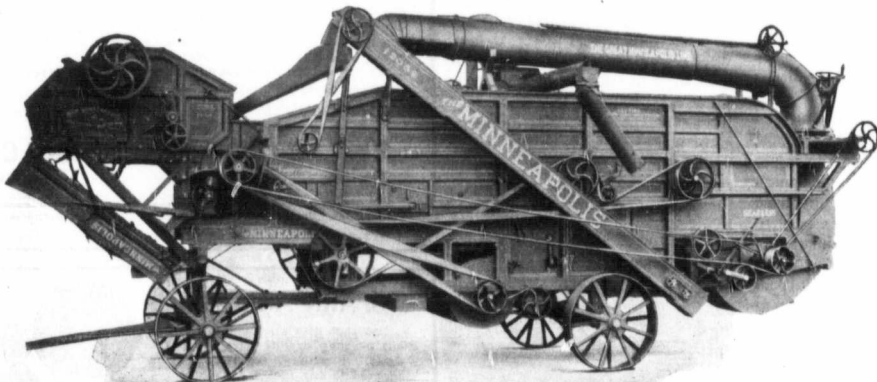
Easy to Keep

Reliable

Durable

The Machine to Buy

Why Delay Longer?



DO IT NOW

DO IT NOW

A Fast Thresher -
A Perfect Cleaner -
It Saves the Grain -

Ask any Owner
Ask the Grain Buyer
Ask the Farmer

The Minneapolis Threshing Machine Co.

West Minneapolis (Hopkins P.O.), Minnesota, U.S.A.

Builders of High Grade Gas Tractors, Steam Tractors, Separators, Engine Gang Plows, etc.

REGINA

WINNIPEG

CALGARY

EDMONTON

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

No. 1
Hard
Aug., 6th 1913

Winnipeg, Man.,

The last option month of the crop year saw a nervous market, with wide fluctuations and two or three sharp advances caused by manipulation. Stocks continued quite big until the end of the month, considerable wheat being held back by some Houses for tender on the option in the last day or two. Much of this has moved quickly from Lake Ports for stocks show at the close of last week a considerable reduction. As a result, buying by Canadian millers has been stimulated and likely a good demand for contract grades will continue in consequence right into the new crop. There can be comparatively little old crop yet back in farmers' hands, though perhaps 20 per cent of wheat stocks at terminals are held by farmers for better prices.

With almost perfect weather for six weeks past, our Western crops have come along excellently, and while fears were entertained some weeks ago that the wheat in many sections was a fortnight late, it is now generally conceded that lost time has been fully made up, and that Manitoba will have a crop quite above the average, and Saskatchewan and Alberta both considerably so. At present there is every indication of the crop being uniformly high grade. Cutting has commenced in many districts as this goes to press, and this should insure an early crop movement. Owing to financial stringency, every possible pressure will be brought to bear upon the farmer to market quickly, and this would seem a good policy for a time at least.

The crop situation south of the Line is of peculiar interest. The winter wheat threshing is pretty well along, and will show good returns, perhaps enough excess over last year's figures to make up for the decided deficiency in the spring wheat crop estimate, which has been greatly cut down by the drought. While prices across the Line are considerably lower for contract wheat than with us, it is probable that American farmers will market readily, fearing a Tariff re-adjustment.

A glance at stocks in Fort William and Port Arthur terminals will specially interest those now holding old grain:

Wheat at August 1st.

	This year	Last year
Wheat,	2,569,517	4,162,174
Oats,	3,085,071	2,248,260
Barley,	646,023	471,642
Flax,	2,638,878	609,351

Note the big decrease in wheat and flax. Duluth bonded stocks of these grains have also greatly decreased. It is well to see it so, as a month ago stocks were certainly burdensome. Undoubtedly, the great decrease in the American hard spring wheat prospect induced foreign buying of our stocks of old wheat, and should later help the demand for our high grade new crop.

Many good traders here feel that the new crop prices are low enough, while others contend that with the tremendous marketings sure to come early and tight money conditions, this October wheat is a sale.

Foreign conditions are better than a month ago. Crops in the United Kingdom are fair to good, lower Russia reports better weather and improved prospects, while other European countries also have suffered somewhat from excess of rain. In Australia drought has been severe. Argentine new crop prospects are good, though of course seeding is only recently finished. European stocks on hand about 10 per cent less than this date a year ago.

Farmers planning early threshing and marketing, should remember the good premium usually prevailing for September shipment, exporters always requiring much stuff to fill boat space. Track selling will probably bring best results for the first few weeks, and once the cars are loaded, farmers should see that same are promptly moved.

The market will for the next eight weeks grow to be gradually less and less affected by weather conditions as crops are saved, but there is still time for an August crop scare, and farmers selling new crop, should do so only on bulges, nor does it seem good policy to sell more than a small part of their prospective threshings, holding over until next Spring if possible, some high grade grain.

In oats the great improvement towards the end of July was caused by the intense drought over the corn and oat states. Some relief has now come, and with a fine oat crop in prospect here and good threshing returns in Ontario and Quebec, our oats will likely not change much. If duty against Canadian oats is reduced, as now seems likely, our prices will improve.

Barley has been weak and dull lately, as all malting operations have ceased in the East till September. This grain should improve rapidly next month. The Western barley crop is much larger than in former years.

FARMERS! SHIP YOUR GRAIN

TO THE CANADIAN ELEVATOR CO. LTD. GRAIN COMMISSION MERCHANTS, WINNIPEG

It is as much our business to give satisfaction as to secure grain shipments. We watch the grading of each car and allow liberal advances on all bills of lading.

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

Stratford Automatic Seed Grain Pickler



Only machine of its kind in use. Handles grain at the rate of 135 bushels per hour.
LIGHT IN WEIGHT. FULLY GUARANTEED.
Write To-day Order Early

Smut Absolutely Killed

Do not suffer loss caused by smut when you can eliminate it with the Stratford Automatic Grain Pickler. Self-operating—weight of grain supplying power for operation. Constructed for using both Bluestone and Formaldehyde. Over 2,500 sold last year. Not one complaint received, nor one machine returned. Made of solid copper for using Bluestone. Interview your local dealers and insist on a

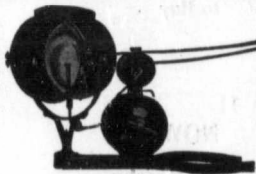
"STRATFORD AUTOMATIC" or communicate with us direct. Write for Catalogue. Liberal discount to the Trade.

AGENTS WANTED. The Macdonald Thresher Co. Ltd. P.O. Box 1296. WINNIPEG, MAN.

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

SPARK ARRESTER

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



ACETYLENE GAS HEADLIGHT

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

FLUE CUTTER

You need this tool to get ready for your Spring Plowing. Is adjustable in length and size. Cuts the flue without burring the end. Try it.

Estate of E. M. POPE, Watertown, S. Dakota, U. S. A. Send for Catalogue and Price List to THE MAYTAG COMPANY, LIMITED, Winnipeg, Man

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

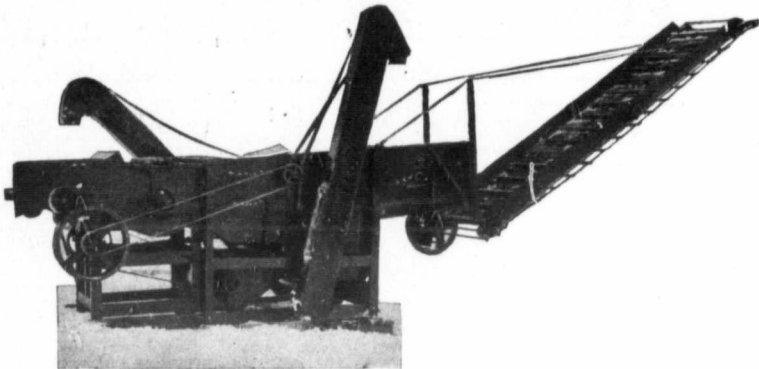
Patronize those who patronize this Magazine

La Compagnie Desjardins Famous Small Threshing Machines

"THE CALL OF THE WEST" Sold by

A. STANLEY JONES :: North Battleford, Saskatchewan*General Sales Agent for Saskatchewan and Manitoba***Offices: "The Industrial Spur East" Phone 223 and 220**

Prices from \$425.00 to \$680.00 including engine, separator and all belts, carriage paid to any point in SASKATCHEWAN. It can all be mounted on one good wagon complete. Capacity from 400 of wheat to 600 or 700, and of oats from 700 to 1500 and more according to size taken. The \$680.00 outfit will easily thresh 600 of wheat and as much as 1500 of oats if in average grain and fed properly, although only sold to thresh 600 to 800 of grain. If you have any size farm your usual threshing bill will be more than your payment on this machine. La Compagnie Desjardins have made these machines since 1864 and were the original makers of the Champion, but owing to the makers of other machines calling theirs Champions we have called ours by what it proved to be last year—

**"THE CALL OF THE WEST"**

We make every bit of it. Don't buy any other machine or any sort of small outfit till you have had my prices. Outfits on show in running order at North Battleford. Drop a card RIGHT NOW.

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

How and When to Plow

Continued from page 74

This land was very dirty but it was ploughed deeply, cultivated thoroughly as a summer fallow and seeded to corn the following spring. This corn was diligently cultivated and when it was taken off in the fall the land was ploughed and then seeded to barley in the spring of 1913. It was headed out and in milk on the 8th of July and indeed was beginning to show a slight color and will certainly yield close up to 60 bushels to the acre. The deeply ploughed field when well worked down and lightly cultivated on top will retain moisture much better than the more shallow ploughing; the deep ploughing gives also more opportunity for surface cultivation.

In the matter of power for ploughing, the work for these experimental plots had all been done with walking ploughs and four horses, and four oxen would have done equally as well, so that there is nothing in the work on the experimental farm which is not within the reach of the ordinary every day farmer. If the additional yield from the deeper ploughing on these small plots is only in a measure repeated in the larger fields the increase of yield would still be very great, in fact

two acres would produce more than three under the old system, with the added advantage of less ground to cover, less equipment needed and fewer farm hands to be employed.

Deep and careful ploughing has an advantage outside of actual returns from the land. It takes a steady head and a good eye to do good ploughing, and the man who possesses these is likely to be thorough in his work.

After the ploughing had been completed at the Provincial match in Brandon, it was extremely interesting to walk along with the competitors and the spectators, and listen to the comments on the different quality of work done. I was much struck with the remark of one man, who arrived late and who walked along one of the furrows ploughed by one of the walking ploughs, and which plot eventually took the first prize, said "This is so-and-so's ploughing." A neighbor said, "I don't think it is."

The first man replied "Oh, yes, I am certain of it, he always makes his crown that way. He is just as thorough about everything he does."

So a man may express his character in the ploughed furrow more thoroughly and effectively than in the spoken word.

**Geo. White & Sons Limited
Make New Headquarters
in Moose Jaw**



The above illustration is that of Geo. E. White of The George White & Sons Company, Limited, who is well known throughout the West, particularly in Saskatchewan, he having made his headquarters in Regina for the past three years, through which territory the First Quality Line has developed into its present popularity.

Through Mr. White's investigation ten lots have been secured

in Moose Jaw as being the most favorable point for headquarters for their business in Saskatchewan. The firm expect to operate largely from that point. Brandon for the time being is the principal distributing point for the Company and Mr. White, who is a director of the Company and the only member of the firm stationed in the West, has recently made his headquarters there.

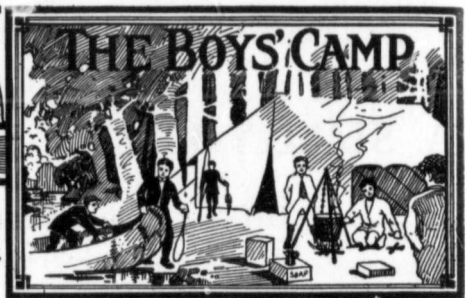
☪ ☪ ☪

The verger of a large church seeing an old woman in one of the seats reserved for some important persons, beckoned to her to come out. But just at that moment the organ started playing.

The old lady never having been in a church containing an organ, startled him and the congregation by calling out, "Ha, man! get somebody younger; ma dancing days are past!"

Gentleman (to his gardener, who has been to the seaside for a week)—"What kind of weather did you have Mac?"

Mac: "There was only wan shoosir, but it lasted a' the time."



Girls' Cozy Corner

Little Brown Baby Bird. By the late Pauline Johnson, the Indian Poetess—From Canadian Pictorial.

"Little brown baby-bird, lapped in your nest,
 Wrapped in your nest,
 Strapped in your nest,
 Your straight little cradle-board rocks you to rest;
 Its hands are your nest,
 Its hands are your nest:
 It swings from the down-bending branch of the oak;
 You watch the camp flame and the curling grey smoke;
 But, oh, for your pretty black eyes sleep is best,
 Little brown baby of mine, go to rest.

"Little brown baby-bird swinging to sleep,
 Winging to sleep,
 Singing to sleep,
 Your wonder black eyes that so wide open keep,
 Shielding their sleep,
 Unyielding to sleep,
 The heron is homing, the plover is still,
 The night-owl calls from his haunt on the hill;
 Afar "the fox barks, afar the stars peep,
 Little brown baby of mine, go to sleep."

GRANDPA'S SNUFF-BOX.

"Ah-chew!" Said Dilly—"Nuh-cho!"
 Said Little Joe.

"Oh, dear!" sighed Dilly Burton to her brother Joe, as they were trudging home from school one day, "it is so hot! Let's go into grandma's and rest."
 "And get a ginger-cake, maybe," said Joe, wiping his sweaty little face.
 "O Joe, you are always wanting ginger-cakes! Now don't you ask grandma for a single one! It isn't polite."
 And Dilly looked very wise as she shut her mite of a blue silk parasol and tapped lightly at grandma's door. Grandma was not in the kitchen; but the children went in, and sat down on the wide lounge to rest and wait for her. Joe's eyes were very bright and always very restless; and he had no sooner sat down than he espied a small box, black and shiny, standing on a table beside grandma's work-basket. In a moment it was in his hand.

"Oh, Dilly, it smells just like mamma's sweet-box!"
 "It's grandma's snuff," said Dilly. "There's the scent-bean in it." And the children sniffed long and deep at the powder in the box.

Then Joe's nose began to tingle, and the tears came into his eyes, and Dilly sneezed. Then Joe sneezed, and the powder flew out of the box upon grandma's knitting.

"Oh, dear!" cried Dilly.
 "Dear! dear!" echoed little Joe.
 "Ah-chew!"
 "Nuh-cho!"
 Joe's hat fell off, and Dilly stepped on it. Then Dilly's hat fell over her eyes, and she dropped her parasol. The gray kitten crawled out from under the lounge and stared, then ran off with a big tail. Just then grandma came in.

"Why, Dilly! Why, Joe! What are you crying about?"
 "We aren't crying, grandma. It's the b-box!" sneezed Dilly.

"Oh, you silly children!" cried grandma. "You have been at grandpa's East Indian root that he smells of for the headache."

"Will it ever stop, grandma?" cried Dilly.

"Certainly," said grandma, smiling a little. Then she took the children to the kitchen sink, and bathed their poor red eyes and swollen noses till they were quite cool again.

"I am very sure, my dears, you will not meddle any more with things you should not," grandma said, as she gave them each a ginger-cake and tied on their hats.

And Dilly and Joe knew they never should again—never!

Girls' Prize Letter

Minneapolis, Man.

Dear Cousin Doris:—I would like to join your Cozy Corner. My father takes the Canadian Thresherman and Farmer and I like to read the letters of the club. I do not go to school, as I have two and one half miles to go, and in the winter it is too cold. I take music lessons every Saturday. I am nine years old and I have two brothers and no sisters. I will finish my letter with a story:

Frisk and Fanny

For a long time a red squirrel made his home in our stable. He was an active little fellow and we all loved to see him frisk about. He would perch on a box or barrel and watch us with a saucy kind of look.

He would let us get almost near enough to touch him and dart quickly away to some hiding place. I named him Frisk.

Frisk seemed to think that his best friend about the place was Fanny, our gentle old horse. He had no fear of her and would eat grain from her stall every day. He got so he knew when it was time for her to be fed. He would come out as soon as her feed was brought and eat with her. I often watched them from a distance and could not help thinking that Fanny liked to have the squirrel with her.

One time I went to the stable, I found the squirrel sitting on Fanny's back as though waiting for a ride. Soon after this we missed him from the stable and have never seen him since. I do not know what became of him. I think he must have got killed for I do not believe he would have left us of his own accord. Hoping this will escape the W.P.B. and wishing the G. C. C. every success, I remain, your cousin,
 Helen Gugin.

Lowland, Alta.

Dear Cousin Doris:—As I am only five years old and too small to write I am having my sister write for me. I am going to tell you about going to the river for cranberries. One day last fall, my oldest sister, who is married, and lived at that time about ten miles from us, came down to go picking berries. She brought a neighbor lady with her. So after dinner mother and I got ready and we all drove down to the river and

began picking berries. It was raining when we left home and we thought it would clear away and be a nice day, but instead, it only got worse, and before long we were just as wet as though we had been dipped in the river. When we saw it was not going to stop we went home and when we got home we had to build a fire and dry our clothes. We only got about 3 gallons of berries, and I made up my mind I would never go picking berries with them again, but changed my mind, and next time anyone was going I got ready and went along, but have not had such a drowning since.

Well, I must close saying that the mosquitoes were terrible that day we went picking berries. They were so thick you hardly dared to open your mouth or you were in danger of swallowing a dozen or two. I hope my letter escapes the waste paper basket.

Alberta Sheppard.

Golden, B.C., June 24, 1913.

Dear Cousin Doris:—This is my first letter to the charming club. I take great notice at reading the letters. I came from the East to the West and do not like it very well. I go to Mr. Michel's school and I am in the third book. I am ten years old. We take the Canadian Thresherman and I like reading it. Well, I hope my letter is printed. My letter is getting pretty long.

Carrie J. Johnston.

Weyburn, Sask.

Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. My father takes the Canadian Thresherman and Farmer and I like to read it very much. I go to school every day. My studies are, arithmetic, reading, drawing and spelling. I like my teacher fine. Her name is Miss Clemont. The name of our school is Suris School. I have four sisters and one brother. We have lots of fun. There are four school houses in Weyburn. I will close, wishing the club every success, from,
 Nettie Borum, Age 10.

Blake, Ont.

Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. I am nine years of age. My birthday is on the sixth of March. In the summer we have lots of fun. We live near the lake; we see lots of boats. We have taken the Canadian Thresherman for three years and I like reading the girls and boys letters. I have three brothers and three sisters. I like reading books. I will close, hoping to see my letter in print. Sincerely yours,
 Esther Talbot.

Golden, B.C., Jan. 25, 1913.

Dear Cousin Doris:—This is my first letter to the Cozy Corner and if I can come in, I will come in for a chat. My father has taken the Canadian Thresherman and Farmer for nearly three years and I like it fine. I like reading the letters the best of all. I am fourteen years old and weigh a hundred and six pounds. My hair is a light brown and my eyes are a light brown too. I am five feet tall. I have three sisters and two brothers. My sisters names are, Eleanor, Emma, and Carrie. My brothers names are Willie and Charlie. We have an Edison phonograph. I will tell you the names of the records: "Nearer My God to Thee," "The Vacant Chair," "Hallelujah of Joytown," "The Hymns of the Old Church Choir," "Temple Bells," "Medley of Country Dances," "My Hula

Hula Love," "Ragtime Soldier Man," "I'm Smiling at de Moon dat Smiles at You," "At the Gate of the Palace of Dreams," "Row, Row, Row," "Home Sweet Home the World Over," "Just that You Are You," "The Shepherd Boy," "Light as a Feather," "Bring Back My Lena to Me," "The Poet and Pheasant Overture," "I've Got the Mumps," "I Love the Red Widow." I will have to close my letter for it is getting pretty long. Hope my letter will be in print.

Brown I am and much admired, many a horse have I tired. Tire a horse and worry a man, tell me this riddle if you can. Answer.—A saddle.
 Nora L. Johnston.

Golden, B.C., June 25, 1913.

Dear Cousin Doris:—This is my second letter that I have written to the club. My first letter was in print, so I will write again and I hope this one will escape the W.P.B. I have three sisters, their names are, Nora, Emma and Carrie, and two brothers, Willie and Charlie. My brother Charlie works on the government road here, and Willie is an engineer; he wants to be a conductor. I like doing fancy work, cooking and all house work, so far, what I have done.

I send a recipe of a layer cake: 3 eggs, 1 cup and half of sugar, half a cup of butter, half a cup of sweet milk, two cups of flour, one teaspoon of soda, two teaspoons of cream of tartar, sifted in the flour. I hope you will have good luck with this cake. I guess you can imagine me sitting here at the table writing. I have dark hair, dark brown eyes, five feet two inches tall, and am 14 years old. I like all kind of out-door sports. I will close with a riddle: What walks with its head upwards. Answer.—A nail in a shoe. Yours sincerely,
 Blue Jay.

Golden, B.C., June 23, 1913.

Dear Cousin Doris:—I wrote to the club some time ago and my letter was in print, so I thought I would write again. My father takes the Canadian Thresherman and Farmer. I like reading the letters very much indeed. We are living in town now, but we don't like it very well and are intending to go for a trip to the East in a month or so. We are thinking of going near the town of Port Perry, and we will go to see Auntie; she lives on Scugog Island, the place where I was born. I have three sisters and two brothers. I am 12 years old; my birthday is on the 11th of May. I am in the fourth reader. I will send you the recipe of tea cakes.

A Nice Tea Cake

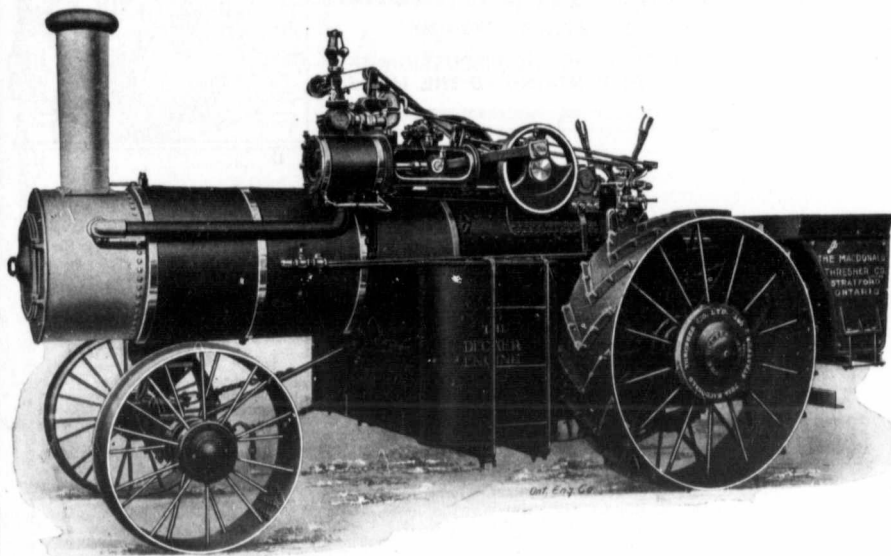
Beat 3 eggs, 1½ cups sugar, 1 cup of shorting butter is the nicest, 3 big spoons of sour cream, 1 teaspoonful of soda, 2 teaspoonfuls of cream of tartar. Flour enough to roll and not stick. I hope to see my letter in print.

Blue Eyes.

Killam, July, 1913.

Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. Papa takes the Canadian Thresherman and Farmer. I like to read the girls' and boys' page. I will be nine years old, the 10th of October. I will have a birthday party. I go to school every day. I will be in the second grade after the holidays. I live on a farm a mile from town and school. I have a little two-year-old pony; her name is Tiny. We have a pair of ponies; their names are Jimmie and Fred. We have about 86 horses and

THIRTY-EIGHT YEARS' EXPERIENCE



Manufacturing the famous "Decker" line of Threshing Machinery. Engines in sizes as follows:

18, 20, 22 and 25 h.p.:

Boilers command 175 lbs. steam pressure. "Decker" Valve Gear, superior to all devices used for the purpose, heavy gear suitable for hard work. Plowing engines a specialty.

"Decker" Separators

made in the following sizes:

24-46, 28-50, 32-54 and 36-60.

Well adapted for gas power, being easy to drive. A marvel of simplicity; efficient in separation and convenient to handle. Wind Stackers, Feeders, Baggers and a full line of thresher supplies.

Write for Catalogue.

THE MACDONALD THRESHER CO. Limited

Western Branch: Winnipeg, Man.

Box 1296

Head Office and Factory: Stratford, Ontario, Canada.

five colts living and five colts dead and 34 head of cattle. I can milk. We have a lot of chickens and turkeys and a pair of geese, two pigs and some little ones. For a pet I have a dog; his name is Bob. I have two brothers, and two sisters. Their names are, Willie, Gordon, Blanche and Blythe. Blythe is married. Her name is Mrs. A. P. Grant. We have 1,440 acres of land, 900 acres of wheat, and 100 acres of oats. I will close, hoping to see my letter in print.

Florence D'Arcy.

all spring and now I drive four. I am going to tell you what I saw one day when I was harrowing. It was a deer. It came jumping along at an easy pace about 30 rods off and jumped over the railroad and over in the next field. It was the prettiest thing I ever saw, about the size of a 2 month old colt. Its front feet were about the size of that of a new born calf and hind ones not as big as the palm of your hand. We had a little colt about 3 months old about the same color as the deer. It died this summer. It was the oldest and best colt in the neighborhood, everybody said. I was about the width of the road away from where a pair of sand hill cranes settled. They were very large and pretty. They rose up and settled about 100 rods distance. When I went to give the horses their grain this morning I heard a rustling among some barrels in the next bin of the granary and thought it was a cat and when I looked to see what it was I saw a skunk. We tried to chase it out but it would not go out. Then it went up by some bags and father caught it by the tail and threw it out. Well I will close for today. Your Friend, John Blair, Jr.

Excuse bad writing, please.

Ravine Bank, Sask., May 6, 1913.
Dear Boys' Camp:—This is my second letter to your camp and would like to see it in print. We have just moved away from town and I like it better here, than where we came from. I have only one sister. I have three turkeys, one hen, one horse, one calf a little wagon and a cat with four kittens. My sister has a dog, a turkey, a hen and a calf. I wish some more boys would write, because one of the girls in the Girls' Cozy Corner said that she did not see many letters in the boys' corner. I am ten years old and my sister is eleven. I will close with some riddles: What is the difference between a sack of sugar and a sack of oats? Answer.—Well, I should not like to send you to the store to get a sack of sugar.

Boys' Prize Letter

Camagna, B.C.

Dear Cousin Doris:—This is my second letter to your magazine and, if you will allow me a place, I will come for a chat. I have to go about half a mile to school. Our school's name is Hilton, and our teacher's name is Mr. F. W. Moore. Does any of the cousins know him? If you do please tell it in the next letter you write to the Editor. I will tell you about my fun at Camagna. In September we got catching a fish called klickney; it is about nine miles from our place, but when we go catching klickneys we have the greatest fun in the world. The families around here often wade up to their necks in the water for them. We generally stay over night when we go there. But what I do like is this, that we change our clothes at noon and have to put them on again. The klickneys are very smart, they have such a pointed nose that they pass right under the net. If Cousin Doris and other cousins want to know more about them, just let me know. I will also draw a picture of the families around here wading in the water for them, if Cousin Doris will accept it. I guess I will close. If my letter is in print I will write about my adventure with a bear, and also about the district. I would also like if the Editor would send me a book. With best regards, yours sincerely,
Raymond Edward, Age 11.

Bogend, Sask., Feb. 14th, 1913.

Dear Cousin Doris:—This is my first letter to the Boys' Camp. My father has taken the Canadian Thresherman for three years, and I like reading the letters very much. We live on a farm, twenty miles from Watson. We have three horses, fourteen head of cattle, seven pigs, two sheep, and about eighty chickens. I have three sisters and five brothers. I am not going to school now, but am going to start Monday, I have three miles to walk to school. I am

thirteen years old and am in the eighth grade. I only went to school three years since we came up here. We moved from Minn. five years ago. I like it well enough up here, only we are too far from town, and it is too cold. Four of my brothers have homesteads out here in Saskatchewan. I have only one brother at home now; he has trapped seven weasels this winter, and I have only trapped one yet. My brother plays the violin. We have an organ. We children can all chord on it. I can play the mouth organ. My father has been councillor for four years now. My oldest sister is married and lives in Albany, Oregon. She said it is more like summer than winter there. My oldest brother has a pool-room in McEgie, Sask., and can run both a gas and steam engine. The snow is about two and a half feet deep and still more coming today. There is a big syndicate broke about 2,000 acres last summer. They had five big four gas engines, and had 21 thousand bushels of flax, and have two sections to cut yet. They worked about three miles from us. They done all their work with engines; my, it was a nice sight. They are going to break along the side of our place next summer. They have a brush cutter, and eight John Deere breaking plows, for each engine. They worked day and night. They had three binders behind each engine, this fall, cutting flax. I am afraid my letter is getting too long so I will close, wishing the club every success. Hoping this will escape the W.P.B., and would like to get a prize. I remain, your cousin,
Freddie Roach.

Loverna, Sask., 1913.

Dear Cousin Doris:—This is my first letter to the Boys' Camp. I have two horses and one colt. One horse is named Mary and the other Kate and my colt Kit. I have a cow and a calf. I made about seven dollars last year. Daddy is giving me 25 cents a week for work. We live 12 miles from Loverna. My daddy has taken the magazine for 6 years, and I like it. I would like to see my letter in print and to receive a book. Yours truly, James Pratt.

Canadian Boys' Camp

The Life Heroic

I like the man who faces what he must
With step triumphant and a heart of cheer;
Who fights the daily battle without fear;
Sees his hopes fail, yet keeps unflinching trust
That God is God, that somehow, true and just,
His plans work out for mortals. Not a tear
Is shed, when fortune, which the world holds dear,
Falls from his grasp; better, with love, a crust
Than living in dishonor; envies not,
Nor loses faith in man; but does his best,
Nor ever murmurs at his lumber lot.
Who with a smile and words of hope gives zest
To every toiler; he alone is great
Who by a life heroic conquers fate,
—Sarah Knowles Bolton.

Oakland Man.

Dear Campers.—May I crawl into your tent? Well we are getting some cold weather and frost now. I run the binder this year. I drove three horses



Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



HEARTS ARE FLOWERS

Hearts are flowers sweetly breathing
Fragrant incense on the air;
Hearts are flowers free bequeathing
Tender gladness everywhere.

Fairy creatures of the light,
Innocent of blast and blight;
Hearts are flowers sweetly breathing
Promises of rare delight.

Hearts are flowers rudely broken
By the heavy hand of doom;
Shattered fragments speak in token
Of their early hopeful bloom.

Spare them gently. Oh, beware,
Of a havoc past repair!
Hearts, like flowers, rudely broken,
Strew life's garden everywhere.

—Mabel Burkholder

Home Economics

Notice—Kindly send all communications to this department to Pearl Richmond Hamilton, 983 Grosvenor Ave., Winnipeg. This will insure prompt attention to all private letters as well as the reports. Home Economics members are requested to consider the correspondence that comes from my private address only, otherwise the business office may get our work confused. I regret exceedingly that so many reports to this department have been lost. From now on if sent to my private address they shall have more satisfactory attention.—Pearl Richmond Hamilton.

REPORTS MIAMI

The Miami Branch of the Home Economics Society have the programme for the year printed in a neat booklet. On the first page is this announcement: "Meets in the Presbyterian Church, Miami, the third Friday of every month at 3 o'clock." The programme is on the second and third pages. On the fourth is printed the names of the officers: President, Mrs. A. C. Kerr; 1st vice-president, Mrs. J. G. Garnett; 2nd vice-president, Mrs. J. Blanchard; secretary-treasurer, Mrs. T. H. Rumbal. Then there are ten women on the board of directors. This printed booklet and the programme itself shows systematic arrangement and splendid management. Following is the programme:

January—Report of Home Economics' Exhibit at Lethbridge.
February—Report of Home Economics' Convention at Winnipeg.

March—Young Ladies' Cake Day.
April—1. Refining Influence of Simple Meals, well cooked and carefully served.
2. Care of Cellar. Care of Sleeping Rooms. 3. Poultry Raising.
May—Patriotic Meeting.
June—1. The Place of Salads in the Diet. 2. Canning of Fruits, Vegetables, etc. 3. Sandwiches and Soups.

August—1. What a Housekeeper should know about Plumbing. 2. Food Value of Milk. 3. A Week's Programme for a Busy Housewife.

September—1. Furnishings for Health, Comfort and Beauty. 2. Selection of Meats in the Market.

October—1. The Place of Cheese in the Diet. 2. Care of Winter Vegetables.
November—1. Value of System in Housekeeping. 2. Curing of Meats. 3. Christmas Ideas.
December—Annual Meeting.

The regular meetings of the Miami H.E.S. were held in the vestry of the Presbyterian Church during the months of April, May and June. In April Miss Collins gave a very interesting paper on "The Refining Influence of Simple Meals, Well-cooked and Carefully Served." Emphasis was laid upon spring cleaning in the house while we neglect the house. cleaning of our bodies.

Miss L. Bowman, an ex-student of the Manitoba Agricultural College, gave those present some interesting and helpful recipes on cooking, others for carpet and silver cleaning.

Mrs. Fraser briefly explained "How to Care for Cellar." Mrs. Rumbal gave a short talk on "Poultry Raising by Incubators."

For our May meeting we had the pleasure of having Miss Kennedy, of the Manitoba Agricultural College, lecture on "Home Furnishings." This was attentively listened to and highly appreciated. Many questions were asked and Miss Kennedy ably answered them.

In June our meeting was devoted to "Salads." Many recipes were given by several ladies and a general discussion took place.

SWAN LAKE

The June meeting of the Swan Lake Home Economics was held on Saturday, June 28, with a fairly good attendance.

The June programme was in the hands of Mesdames Gordon (president), T. Cook, T. Hedley and W. A. McPherson. After the usual business the president spoke of the corresponding secretary's illness and a vote of condolence was passed and sent to Mrs. Langridge with a hope for her speedy recovery. The programme was opened by Miss Cassie McPherson, who substituted for Mrs. W. A. McPherson, and who gave much pleasure by a recitation entitled, "Life's Lesson."

Miss V. L. Gordon substituted for Mrs. Cook and read a paper on "Work and Worry," which was very interesting and should prove of great benefit to all who heard it, as it emphasized the fact that worry was worse than work. It also explained the uselessness of worrying over what was past and therefore inevitable, and pointed out that worry might be turned to advantage if it made one get busy and try to remove the cause of the worry.

Miss Beech, who substituted for Mrs. Hedley, gave a splendid demonstration in making a Baldwin's Turkey wool rug. Everyone was much interested as the rug was a beautiful specimen and very well made. Miss Beech also demonstrated stencilling in the ordinary way as well as the Mexican stencilling, and earned the gratitude and appreciation of all the members by the clearness of her explanation and the care and thoroughness with which she had prepared her subject.

Mrs. Gordon read a paper entitled, "Before Six," which was not, as one might imagine, a plea for early rising, but for the early and systematic training of children. It is a well-known fact that a child is susceptible to influence at a very early age, and it is impossible to start the inculcation of good habits too soon. A child of only three months old can understand the difference between a frown and a smile. A child's mind is absolutely virgin soil, in which

all impressions, whether for good or evil, must be implanted; unselfishness, obedience, discipline and self-control are easily learned, but it is also, unhappily, equally easy to become disobedient, bad tempered and selfish.

Mrs. W. E. Gardner again kindly acted as corresponding secretary. The serving of a dainty tea brought a very interesting meeting to a close.

HOME ECONOMICS SOCIETY

Under the auspices of the Home Economics Society a very interesting lecture on "Home Decorating" was given in the Odd Fellows Hall. The lecturer was Miss Kennedy, one of the household science staff at the Agricultural College. The speaker, after being introduced to the audience, congratulated the society on the successful year it had just completed and warmly commended the action of the society in encouraging needlework among the girls of the district. It was a splendid thing for a community to have Home Economics Society women in every school district ready and willing to take such a practical interest in so important a matter. The lecture followed, and was illustrated by wall papers and window curtains, and some charming color schemes were suggested. At the conclusion of the meeting tea was served by the executive committee.

DELORAINE

The May meeting of the Deloraine Home Economics Society was held on Saturday, May 3rd, in the basement of the Methodist Church with an attendance of over sixty—Mrs. Thornby, president, in the chair. The programme was suited to the day, which was Patriotic Day.

The first paper was given by Mrs. F. Neys, the subject of which was "Our Empire." The second paper, given by Mrs. J. A. Mather, was on "Woman as a Patriot." Both papers were well written and adapted to the subjects, and very much enjoyed by all present. We were also favored with two solos. Miss I. Veasey sang "Mother Machree," and Mrs. R. J. Price sang "There's a Land." At the close tea was served by a few of the ladies.

VALLEY RIVER

The May meeting of this society was a most interesting one, taking the form of a demonstration on methods of cooking by Mrs. Charlton Salisbury. Everyone thoroughly enjoyed it, and many of the party felt a keener interest in the work of the demonstration train which brought them together in June. This and a share in the work of our annual Sunday school picnic gave us informal meetings during the month of June. In July we held a picnic in conjunction with the Grain Growers.

GLENROSE HOMEMAKERS' CLUB

(I regret exceedingly that this paper reached me after a delay of four months. I am publishing it because it contains an interesting report.)

The regular monthly meeting of the Glenrose Homemakers was held in Glenrose School. Mrs. A. Main gave a very instructive talk on butter-making, which was much appreciated by all present, judging from the open discussion which followed her address.

Mrs. N. Main gave an excellent paper

on "Good Literature for Prairie Homes." Miss Olsen gave a demonstration on darning, which was very interesting.

Miss K. Richardson and Mrs. J. J. Knowles were appointed the delegates to attend the convention in Saskatoon.

The Homemakers served a ten-cent tea in the rest room at North Battleford, the proceeds helped furnish the rest room.

The next meeting was held on May 22nd. The subject was "Systemic Housekeeping: Your Way and Mine." The president was the leader of the topic. An open discussion followed. As usual, the meeting closed with the National Anthem.

A series of surprises were sprung on the evening of Mar. 28th by some of the members of the Glenrose Homemakers' Club at the home of the secretary, Mrs. H. Mitchell, who, instead of retiring to rest about 9 p.m., was called upon to entertain a household of guests, upon she did in her most hospitable way. Games of various sorts, with both music and singing, took up the time until midnight, when lunch was served. A little later Mrs. J. J. Knowles called the company to order in a few well-chosen words, extolling the able manner in which the president, Mrs. Ellis, and the secretary, Mrs. Mitchell, had done all in their power to make the Glenrose Homemakers' Club a success. She asked them to accept from the members of the club as a slight token of their esteem and respect a present consisting of a silver-mounted sugar basin and cream jug on a silver salver. Mrs. Ellis and Mrs. Mitchell were then presented with the gifts by Mrs. A. Main. After a few moments allowed for drying tears of surprise from the president and secretary, both ladies collectively and individually returned thanks. After a few more songs were sung the guests departed.

The Home Economics' Programme Committees may find some ideas from the following programme which I have clipped from American Motherhood.

September

Medical Inspection in the Public Schools.
Rural School Problems.
Food for the School Child.
Adulteration of Food.

October

Suitable School Dress.
Schoolhouse Sanitation.
Simplicity in Children's Lives.
Clothes, Social Life, Manners, Entertainment, Food.

November

School Hours.
School Studies at Home.
Course of Study in Grammar Schools.
Home Occupations for Little Folk.
Kindergarten Work.

December

Peace and Education.
The Christ-Child Spirit in the Home.

January

Playgrounds.
Public Parks.
The Psychology of Good Reading in the Home.
The Story Hour.

February

Examinations.
School Requirements.
The Delicate Child.
The Spoiled Child.
The Precocious Child.

Don't Shiver Next Winter Have A Warm House

A COLD HOUSE cannot help being a damp house. Muscular rheumatism, la grippe, pneumonia and neuralgia are often caused by continued exposure to a cold, damp atmosphere. Install a McClary's Sunshine furnace in your home this summer and next winter you can defy the zero days. A Sunshine furnace will make your home worth living in—warm, cozy, comfortable and healthful.

And, mind you, when rocking down the ashes, no dust escapes to go up into the house and settle on and injure the furnishings. It all goes up a sure-acting dust flue, and thence up the chimney. McClary's experienced furnace builders have simply thought of every little, as well as every big thing, to make the Sunshine the cleanest, most convenient, healthful, durable and economical furnace in the world.

The Cost of a Sunshine

The cost of a McClary's Sunshine furnace is no more, or as much, as you have often paid for an agricultural implement. Yet no agricultural implement is one half so important to your health and to the welfare of your family. A Sunshine furnace is the cheapest protection against winter sickness that you can invest your money in.

Requires Little Attention

As far as taking care of a Sunshine furnace, it's almost no trouble at all. It only takes a minute to open the wide, double feed doors and throw in two or three shovels of coal—or a big chunk of wood if you have any you wish to burn up.

Then it requires only another minute to fill up the water pan, which is conveniently and correctly placed over the feed doors. By so locating the water pan, the moisture, as it is evaporated, takes the short, direct route to the rooms and the proper humidity of the atmosphere is obtained.

No old-fashioned, back-breaking shaking to McClary's Sunshine, either. You simply "rock" a handle, and to and fro, about six times, and the ashes fall into the ash pan. Then to take out the ash pan and empty is a small chore. Taking care of a Sunshine furnace requires less work than one ordinary heating stove.

Fire Under Control From Upstairs

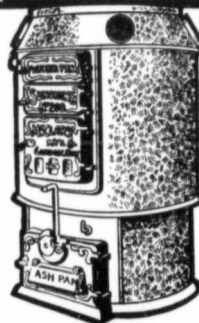
The fire, for instance, is always under control without going down cellar. By merely pulling up a chain from, say the hall on the ground floor, you can make the fire burn up briskly in a few minutes. If too warm another chain will check the fire. The only time you need go down to the Sunshine is to put in two or three shovels of coal night and morning.

Very Economical on Fuel

McClary's Sunshine is very economical on fuel. Hundreds of Sunshine owners say the Sunshine burns fully a third less coal than other furnaces they have used. Certainly, it will heat your house to your satisfaction! We, the largest stove and furnace makers in the British Empire, guarantee it.

Our installation experts will also help you and the McClary agent in your locality to plan the arrangement of your heating system. They will also co-operate in other ways to insure the proper installation of your Sunshine furnace.

Drop a line to our nearest office for a Sunshine furnace booklet. It contains particulars about many other features of the Sunshine furnace that we could not cover in this advertisement.



Big Double Feed Doors



Filling Water Pan



"Rocking Down" the Ashes

McClary's Sunshine Furnace

207 LONDON ST. JOHN, N.B. TORONTO HAMILTON MONTREAL CALGARY WINNIPEG SASKATOON VANCOUVER EDMONTON

March

Higher Education.
Our Boys and Girls Just Out of School.
Vocational Education.
Vocational Education.

April

Schoolhouse as the Social Centre.
Library Needs of the Small Town.
The High Cost of Living.
Woman's Part in Reducing Cost.

May

Domestic Science in Public Schools.
Trade Schools.
Bureau of Child Welfare.
Child Labor.
Consumers' League.

June

Medical Discussion.
Comic Papers. Magazines.
Recreation that Educates Children.

AN IDEA FOR HOME ECONOMICS' CONSIDERATION

Being "Popular"

Mrs. W. writes that her children upon their entrance into school — a country

school—were so shocked and disgusted with the vulgar talk and actions of some of the pupils, and with the filthy markings on the outhouses that they came home in tears and fright. These children have been carefully trained and kept free from any taint of uncleanness and impurity, but their first introduction into school has also been an introduction to vulgarity and an uncouth atmosphere.

The mother fears that her children, because they refuse to enter into this spirit of impurity, may become "unpopular," and asks if it is possible that she has made a mistake in raising her children so carefully by themselves that they are going to be shocked and repulsed by the too common vulgarity of other children. I shouldn't worry about them. Better be decent and unpopular than popularly indecent.

I do think it is a pity not to prepare children's minds to some extent for the sights and sounds they are going to hear when they start to school.

It seems a shocking pity—a veritable tragedy, in fact, that at school—the institution for learning, for character building, for training the mind, for preparation for life, the child should get

his first real initiation into impurity and vulgarity. The institution isn't to blame, the teachers aren't to blame, the school boards aren't to blame—always. The people are to blame. Whose fault is it if the boys go out and mark and mutilate their outhouses? Not the teacher's. She can't be constantly on guard. Not the fault of the institution—not of the board. But what are the people about that they will stand for such a thing? What kind of people are you if your boy is one that will draw dirty pictures and write dirty words? And what kind of people are you if you haven't that kind of a boy—or girl—and still allow such a condition to exist where your child will have to come in contact with it? Why don't you go to see what kind of an outhouse your child has to use?

Laxity in home morals which breeds the nature to originate such conditions, or slothfulness in interest and care regarding the place where your child spends his days—one of the two is in existence in every neighborhood where the schoolhouse and school grounds are ununservised.

Here is more work for women's clubs. Never mind whether your children are

popular or whether you are popular so that you stand for clean lives and clean surroundings. You don't have to be a prude or a crank. You can be as jolly and full of fun, companionable, agreeable, or stylish as the next one, and the more attractive you are in all these things the more influence you will have when you take a stand.

I don't think it does anybody any harm to follow the fashions — to a reasonable extent. It's a harmless little amusement and provides entertainment and business. But—the more attractive you are, the higher position you hold—the greater is your responsibility and obligation toward others. For the masses of people will always follow the attractive personality—the leader.

ECONOMY (?)

By Berton Braley

The times are mighty stringent, and we've got to plan
The way to keep expenses just as low's we can;
I need a better mow than the one I've got,
And I'll have to get the fencing for that pasture-lot,

And the hog-pen must be lengthened—
it is far too small,—
And we'll need another silo for the corn
next fall;
So I cannot put that stove in which I
promised you,
And you'll have to make the old one do!
There's forty head of cattle that I sure
must buy,
And I need more land for pasture now
that feed's so high,
And I'll build a new addition to the
cattle-shed—
There's a lot of heavy outlays looming
up ahead;
So I guess we cannot visit with our boy
in town,
And we'll have to give up buying you
that black silk gown.
Yes, I thought we'd put in plumbing and
a force-pump too,
But you'll have to make the old well do.
I'll need another helper when the summer's
here,
So you see we'll have to figure very
close, my dear.
To bring the ends together makes my
old head whirl,
And I guess you'll have to do without
the hired girl.
I'm fixing up the horses in a brand-new
place:
That barn they used to stay in is a
plain disgrace—
So, although the kitchen's leaking and
the rain comes through,
You'll have to make the old roof do.

NEXT year I'm going to buy you every-
thing you need,
And we'll have a car to ride in and some
books to read.
LAST year I made that promise—and I
meant it, too—
But so many things have happened that
I've changed my view,
And you'll have to make the old stuff
do!

Mothers' Corner

MOTHER

I had a mother once like you,
Who o'er my features hung,
Wiped from mine eyes the briny dew,
And taught my faltering tongue.

She, when the nightly couch was spread,
Would bow my infant knee,
And place her hands upon my head,
An kneeling, pray for me.

In foreign lands I travelled wide,
My pulse was bounding high,
Vice spread her meshes at my side,
And pleasure lured my eye.

Yet still that hand so soft and cold
Maintained its mystic sway,
As when upon my curls of gold
With gentle force it lay.

That hallowed touch was ne'er forgot,
And now, though time has set
His frosty seal upon my locks,
These temples feel it yet.

And if I e'er in Heaven appear,
A mother's holy prayer,
A mother's hand and gentle tear,
That pointed to a Saviour dear,
Have led the wanderer there.

Our lives are songs: God writes the
words,
And we set them to music at pleasure.
The song grows glad, or sweet, or sad,
As we choose to write the measure.

Kindly send all communications to
this department to Pearl Richmond
Hamilton, 883 Grosvenor Avenue, Winni-
peg. The booklet entitled "Helps for
Expectant Mothers" will be sent free
to any wife who requests it.

A LOVE LETTER OF MARK TWAIN

Reviewing the manuscripts which
Mark Twain's wife induced him to dis-
card and certain edited manuscripts, one
gets a partial idea of what the reading
world owes to Olivia Clemens.

It should be said here that there is
not the least evidence (and the manu-
scripts are full of evidence) that Mrs.
Clemens was ever supersensitive or
narrow or unlitary in her restraints.
She became his public, as it were, and
no man ever had a more openminded,
clear-headed public than that. No one
realized her worth more than he. No
one made fuller acknowledgment of it,
not only afterward, but then, and to
her. On her thirtieth birthday (Nov. 27,
1875) he wrote her a letter which con-
veys something of the tribute of his
love.

"Livy, Darling—Six years have gone
by since I made my first great success
in life and won you, and thirty years
have passed since. Providence made pre-
paration for that happy success by send-
ing you into the world. Every day we
live together adds to the security of my
confidence that we can never any more
wish to be separated than we can
imagine a regret that we were ever
joined. You are dearer to me today,
my child, than you were a year before
—you have grown more and more dear
to me the first of these anniversaries,
and I do not doubt that this precious
progression will continue to the end—
that is, if my strong but sluggishly
demonstrative love has not already
reached its limit and perfection.

"Let us look forward to the coming
anniversaries, with their age and their
gray hairs, without fear and without
depression, trusting and believing that
the love we bear each other will be suf-
ficient to make them blessed.

"So, with abounding affection for you
and our babies, I hail this day that
brings you the matronly grace and
dignity of three decades!"

TODAY

Read this aloud each morning and see
how it works.

Oh, may I be brave today,
And may I be kind and true,
And put good cheer in the things I say,
And love in the things I do.

Some women in another part of the
country gladdened the hearts of the old
men and old women in their community.
They gave a luncheon party to all of the
aged people and served old-fashioned
dishes in old-fashioned ways. Prizes
were given for the best reminiscences,
and the competition was keen. It was
a beautiful tribute to pay to the
pioneers to whose heroic fortitude we
are indebted for the development of this
country.

A COMMON DIFFICULTY

"Dear Editor: My little girl is eight
months old and weighs fourteen pounds.
Three weeks ago I weaned her, the
doctor gave me a formula and diet list
including oatmeal and Graham mush,
unstrained, and egg. She has always
been constipated, so I thought for a
week that perhaps it was all right, be-
cause her bowels acted. She didn't gain,
got peevish and vomited. I asked ad-
vice and he said make the milk less
strong and continue solid food.

"Since I have worked according to my
own ideas, but fear I may go wrong and
want to ask several questions.

"Now I am giving her four ounces
whole milk, two of boiled water and a
dessertspoonful of lime water six times
a day with no night nursing.

"Shall I add the oatmeal water and
would it be best to continue the use of
it? How much lime water is best to use
and how long should I use it?

"She drinks very little water unless
there is prune juice or orange juice in
it. I have wondered if the boiled water
is tasteless, but will not give the water
unless it is boiled.

"Feeding formulas and constipation
are my big worries. Mrs. W. W. W."
The formula you are now using may
be at fault. Try this one: Whole milk
13 ounces, milk sugar 2 level teaspoon-
fuls, lime water 1 tablespoonful,
strained gruel 6 ounces. Give from 6 to
8 ounces every three hours up to ten
o'clock at night. To remedy the con-
stipation give plenty of boiled water.
Cool this and aerate it by pouring from
one pitcher to another. Give her this
plain or sometimes prune juice may be

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It is absolutely FREE to subscribers who take advantage of this offer

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The Canadian Thresherman and Farmer

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Weekly Free Press and Prairie Farmer.
Winnipeg, Man.

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Name _____
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added to it, but every morning it is advisable to give her prune juice or sweet, fresh orange juice.

The lime water and gruel may be continued until baby is weaned from her bottle and able to drink plain milk from a cup and to eat cooked and unstrained cereals and other suitable foods. The egg may prove too heavy for her. At present give her only part of the codded or poached or soft-boiled white.

At eleven months an ounce of beef juice will be good for her each day. I think if the milk formula is right and she has plenty of water to drink the constipation will be overcome. Milk of magnesia is sometimes used with success in the milk instead of lime water, from one-half to one teaspoonful being added to twenty ounces of food. The continued use of enemas is to be avoided. Give baby plenty of fresh air and try to establish a regular habit of stools.

WHEN BABY IS ANAEMIC

"Dear Editor: My baby is fourteen months old and I have given him cows' milk, and that did not seem to agree with him, then I gave him patent foods and after a time they all seem to disagree. I thought he was old enough to take cows' milk so two weeks ago started him on it again. But he seems so restless and his stools are cheesy and slimy all the time so that doesn't seem to suit him.

"He is very white, looks as though he didn't have a bit of blood in his body and his flesh is just as soft as can be. He now has the whooping cough, but before that he was not any better in looks.

"Can you give me a formula for his milk that will agree with him and what can I do so he won't be so white and flabby? He worries me all the time.

"Mrs. E. B. M." As baby is not strong, his indigestion may not yet be equal to taking care of plain whole milk. For this reason it may be advisable to try him on a gruel and milk formula. The one already given in answer to a previous correspondent might meet his needs. It contains, you will notice, two-thirds milk to about one-third gruel.

Prepare the latter as follows: 3 level tablespoonfuls of Robinson's Patent Barley or Prepared Barley Flour thoroughly blended with a little cold water; to this add one pint of boiling water and a pinch of salt. Cook in a double boiler for thirty minutes and strain. Add as much boiled water as has boiled away. If he still remains constipated after taking the gruel, try substituting from one-half to one teaspoonful of Philip's Milk of Magnesia to each 20 ounces of the food instead of the lime water. Do not use more than is necessary. Experiment will show how much.

Continue using the orange and prune juice, giving a couple of ounces between his 6.30 a.m. bottle and his 10.00 bottle.

The happiness or misery—success or failure—of her little one depends upon the knowledge and sympathy a mother puts into the task of bringing it up.

PLAYTHINGS FOUND IN EVERY HOME

Here are a few things children of from one to two years of age like to play with: small blocks of all kinds and descriptions, even the odd, smooth bits from a carpenter shop; shavings, clothes pins, rubber dolls and animals, rag dolls, tin-ware articles from the kitchen; and most of all they love a box or pan of clean sand, with spoons and dishes to dip with.

It isn't always best to provide new things continually for a child to play with. This fosters discontent. Let them have playthings that can be adapted to various uses and show them how to vary the play.

If you cannot get oranges, stew up prunes and give prune juice instead. This is excellent for the bowels. So, also, are stewed figs, but the fruit, of course, cannot be given to very young children. Yes, the massaging of the bowels with olive oil is always beneficial for constipation.

Eating wholesome nourishing food and drinking plenty of gruels, cocoa and milk are the best means of enlarging the

supply of breast milk. Plenty of exercise should be taken, but one should not overwork.

MOTHER

By Laura Simmons

Oh, Mother—hands of balm and gracious healing,
And cool, soft fingers that could heal
and bless!

So sure to charm the aching and the fever
With magic spell and soothing tenderness.

Oh, Mother—feet that grew so very tired
Treading Life's pavements and its burning sands!
Have they found rest at last, and cooling waters
Where they may stop to loose their earthly bands?

Oh, Mother—eyes so keen to probe the sorrow!
So quick to see the hurt and understand!

Do they not shine tonight from highest Heaven—
Bright with the old-time courage, high and grand?

Oh, Mother—heart, so wise and strong and tender—
That has not died, nor failed, but lived and wrought
In deeds and words—in daily work and action—
In lovely memory and blessed thought!

Oh, Mother—love that lives past death and parting!
That reaches still to bless and guard and guide,
To hold me from the snare undreamed and waiting—
To point the refuge where I yet may hide!

And, oh—the things my heart hath yearned to utter!
The joys that thrilled—the pain that scared and scarred!
But I must wait—I, too, till sunset's splendor
Shall hold for me its shining gates unbarred.
Past joy, past sorrow, past the driving torrent
Of tears, I see her stand and watch for me;
And clear the sweet old Mother-question cometh:
"Oh, child—dear child! And is all well with thee?"

RECIPES

These are my recipes that I have tried and found successful. P. R. H.

FOR PRESERVING TIME

Grape Jelly

Put your grapes over the fire in a large double boiler, without water. Cover closely and cook until the fruit is broken to pieces. Rub through a colander, then squeeze through a flannel bag. Measure the juice, and to each pint allow a pound of sugar. Put the sugar in pans and set in the oven to heat, but not to melt. Stir it from time to time to prevent scorching. Return the juice to the fire in a porcelain-lined kettle, and bring to a boil. Cook for twenty minutes, add the heated sugar, boil up just once and pour the jelly into glasses set in a pan of hot water.

Currant Jelly

Wash the fruit, put it over the fire in a porcelain-lined or granite kettle, and let it heat very, very slowly. When the fruit is hot and broken, remove from the fire and squeeze it through a jelly bag. Measure the juice and allow a pound of granulated sugar to each pint of the liquid. Return the juice to the fire and set the sugar in shallow pans in the oven to heat. When the juice has boiled twenty minutes skim it; add the heated sugar, stir until this has dissolved, bring to the boiling point, and take from the fire. Fill your jelly-

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and Tuition.

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glasses while they stand in a pan of hot water.

Crabapple Jelly

Cut juicy crabapples into quarters and put over the fire in preserving kettle, with just enough water to keep from burning. Cover; bring slowly to a boil and stew for several hours until broken all to pieces. Strain and press without squeezing, through a jelly bag, and proceed as in currant jelly. Do not let it boil longer than two minutes after the sugar is added. I just let it come to a boil. If it boils longer it will turn to stringy candy.

Canned Raspberries

Last year I tried several recipes for canning raspberries and I found the following most satisfactory as it kept the berries whole, preserved the original color and the flavor was more like the fresh fruit. I placed the glass sealers side by side, then put in each a layer of berries and a layer of sugar alternately until each was filled. I then put the tops on, but did not screw them. I put cold water in a large preserving kettle and set the jars in the kettle so they would not tip over and let the water come up to about half way on the jars. I left this on the stove till the water cooked the fruit. When the sugar is dissolved the fruit is cooked. Then, as in each jar the berries had settled, I used the berries in one jar to fill the other jars while they were still standing in the boiling water. Then take each out and seal quickly. As the berries have not been disturbed they are whole and a prettier color than if all stewed together. They kept all winter nicely. You may can any fruit in this way. P. R. H.

Cucumber Pickles

Choose only small cucumbers, as they make pretty, as well as tender, pickles. Lay one hundred and fifty small cucumbers in cold water for an hour. Remove and drain, then turn into a perfectly clean stone crock, and pour over them cold brine, so strong that an egg will float on the surface. After standing in this for three days the pickles may be removed, drained and dried on a clean towel. Wash the stone crock and return the cucumbers to it. Cover with pure water until the next day. Have ready on the range, hot vinegar, in which you have boiled two minced onions, twenty cloves, an ounce each of mustard and celery seed and a few blades of mace. Fill the jar with this boiling mixture, and add a cupful of sugar, stirring the cucumbers from the bottom. Cover tightly. In a few days seal the vinegar again and return to the jar. Let the pickles stand for six weeks before using. Six months is better.

Red Cabbage Pickles

Chop a red cabbage and several cooked beats. Boil together in vinegar, spices and sugar for half an hour with some horse radish. This makes a tasty pickle.

Pickled Cherries

Bring to the boiling point a pint and a half of vinegar, into which you have stirred half a cup of brown sugar, a tablespoonful of whole cloves and a dozen blades of mace. Boil all together for five minutes, and set aside to cool. Have ready, three quarts of firm, tart cherries (leaving the stems in them) and put them into glass jars. Strain the spices from the cold vinegar, and pour the vinegar over the fruit, filling the jars to the brim. Seal at once.

Green Pepper Mangoes

Cut tops off peppers, cut inside out and soak in salt water over night. Chop up cabbage, sprinkle salt over till it draws water—squeeze the water out. Mix mustard seed with cabbage. Stuff peppers with the cabbage and mustard seed and tie covers on. I sewed them on. Have ready, hot vinegar on stove. Put in vinegar each pepper separately. To scald, pack in jar. Make regular sweet pickle vinegar and pour over them. Every morning drain vinegar off, scald and skim and heat; pour back over peppers. Do this for nine mornings.

When these peppers are served, take the tops off.

Plum Preserve

1 basket blue plums; 1 package juice and rind of 2 oranges, cut rind up raisins; 1 lb. walnuts (cut up a little); in small cubes; pound for pound of sugar and plums.

Cook plums slowly until tender, add raisins, oranges and sugar, and just before taking off the stove add your nuts. Do not boil after sugar is added.

Cake From Bread Sponge

1 cup bread sponge, 1½ cup light brown sugar, ½ cup milk, 2 eggs, level teaspoon soda, ½ cup butter, spices to taste, cinnamon, nutmeg, raisins. Flour not too stiff. Let rise ¾ hour, then bake.

The Rebecca cake recipe sent from Miami is splendid. I hope our readers have tried it.

An ancient way of making blueberry pudding consists in laying thin slices of buttered bread and hot stewed blueberries in layers in a pudding dish. The mixture is allowed to stand for two hours to chill, when the bread will have absorbed the excess juice. It should be accompanied by cream or an orange sauce.

Blueberry Cake

One tablespoonful and a half of lard, a cupful of sugar, an egg, half a teaspoonful of salt, half a teaspoonful of vanilla, a cupful of milk, two cupfuls of pastry flour, four teaspoonfuls of baking powder and a cupful of blueberries or huckleberries.

Cream together the lard and sugar, add the egg, salt and vanilla, then the milk alternately with two cupfuls of flour mixed with baking powder to the berries. Bake in two pans in a rather quick oven.

Raspberries with Rice

One of the simplest ways in which raspberries may be combined with inexpensive materials is to use them with rice. Cook the rice in milk, pack it into a jelly mold and let it stiffen. Turn it out upon a glass plate and surround it with a raspberry sauce. To make this, boil a cupful of water and half a cupful of sugar for five minutes and pour the sirrup over a pint of berries; allow to stand for an hour before using. A dash of salt and lemon juice is an addition. Plain baked custards with raspberry sauce are also delicious. Spanish cream is at its best when combined with fresh berries; raspberries in lemon jelly are unusual and the old-fashioned raspberry whip of our great-grandmothers finds a ready welcome.

Raspberry Sponge Cake

Prepare a sponge cake mixture in two layers. Pick over a pint of raspberries, crush slightly with sugar, cover and let stand an hour to ripen. Drain the juice, put the cake together with the raspberries and gradually whip the juice, with two tablespoonfuls of powdered sugar, into a cupful of heavy cream. Pile on top of the cake, garnish with whole berries and serve at once.

Raspberry Bavarian Cream

A cupful and a quarter of sifted raspberry pulp and juice, a cupful and a half of heavy cream, a cupful of powdered sugar, a tablespoonful of granulated gelatin, a tablespoonful of lemon juice and a fourth of a cupful of cold water.

Soak the gelatin in the cold water, then dissolve it over steam. Stir it into the fruit juices, and let the mixture stand until it is consistent like the white of an egg. In the meantime whip the cream and sugar together, combine the mixtures, folding in the cream, and pour into a mold that has been very sparingly rubbed with olive oil.

Polish out the mold with paper before the mixture is poured in. Let chill about five hours, then serve with fresh berries.

ADVANCING IN TURKEY

The coming to Boston of Dr. Mary Miles Patrick, president of the American College for Girls at Constantinople, Turkey, brings news of the advancement

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of women in that country. Despite the seclusion and traditions of ages, women in Turkey are replacing men in many industries. This change, Dr. Patrick says, is a direct result of the war. As was the case during and at the close of the Civil War in this country, the thousands of killed or disabled made it necessary for women to go out into the world to work. This industrial awakening will lead, as it did here, to the opening of educational opportunities and to the entry upon unbeaten paths. Already, women in large numbers are students at the Turkish University, where five years ago Dr. Patrick herself was refused entrance.

A remarkable instance of the rapid development of a young Turkish girl is related by Dr. Patrick as reported in the Boston Herald. Less than a year ago she was graduated from the College for Girls. Today she is chief editorial writer on the Tannin, the leading Young Turk newspaper.

7907 Semi-Princesse Dress for Misses and Small Women, 16 and 18 years.

With Four-Piece Skirt, Elbow or Long Sleeves.
7895 Two-Piece Draped Skirt, 22 to 32 waist.



With Hib or Natural Waist Line.
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With or without Openings in Side Seams, with Straight or Curved Edges.
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The above patterns will be mailed to any address by the Fashion Department of this paper, on receipt of ten cents for each.

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482 Embroidery Design for Dress.

7893 Fancy Jacket, 34 to 42 bust.

With Elbow or Long Sleeves.

7448 Semi-Princesse Gown, 34 to 44 bust. With Four Gored Skirt, with Back Gore that can be laid in Box Plait or Gathered, with Square or High Neck, with or without Cuffs.

7892 Baby's Short Set, One Size.

Consisting of Petticoat, Bloomers and Dress that can be made with Square, Round or High Neck, Short or Long Sleeves, worn with or without Belt.

7918 Child's Under Waist and Drawers, 1, 2 and 4 years.

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7887 Fancy Blouse, 34 to 42 bust.

With Long or Three-Quarter Sleeves.

7889 Fancy Blouse for Misses and Small Women, 14, 16 and 18 years.

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7570 Men's Single-Breasted Coat, 36 to 44 breast.

7164 Men's Outing or Negligee Shirt, 34 to 46 breast.

With Attached Turned-Over Cuffs, Soft Collar or Neck-Band.

7650 Men's Bath Robe, Small 36 or 38, Medium 40 or 42, Large 44 or 46 breast.

6709 Boy's Middy Blouse, 6 to 12 years.

7485 Boy's Blouse, 4 to 12 years.

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USE

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More Power Less Carbon

The Grain Binder

Continued from page 82

man from the cam wheel. By altering the length of the pitman the travel of the needle can be regulated. The needle should come far enough forward to deposit the twine well in the disk and also press against the cord stripes enough to hold it steady. The needle is made of malleable cast and can be easily bent to the proper shape. It sometimes gets sprung up or off to one side, so it does not put the twine over the duck bill so it will catch nor deposit the twine in the disk. By turning the binder over slow it is quite easy to see if it does its duty. If not bend it to shape.

Disk. There are several kinds of disks but they all have the same work to do that is to hold the end of the twine while the sheaf is being formed. There is always some means of adjusting the tension. If the disk is too slack the end is pulled out and the sheaf not tied. If it is too tight the twine will break when the knot is being made. To adjust the disk take hold of the twine and pull. If the twine breaks the disk is too tight. If it pulls out easily it is too slack. It should be so a good pull will make it slip a little. In no case should it hold it tight enough to break the twine. In adjusting turn the adjusting screw only a quarter turn at a time and try it. As the binder wears there is a tendency for the disk to lag behind, that is, it does not start to turn in time and does not turn far enough. On some machines there is a corrugated drive pinion which can be altered to take up this wear but in most cases new driving gearing is needed.

Knotter. The knotter also requires careful adjustment. There is usually a little roller on the end of the tongue of the bill hook. This roller has pressure brought on it by a spring which has an adjusting screw. If the screw is too tight the bill hook will hold so tight that the twine will break before the cord stripper can pull it off. If this is the case the twine will remain on the bill hook. If the spring is too slack the bill hook will not hold the twine tight enough to pull the ends through the loop. In this case sometimes a knot is found on one end of the string. Sometimes the sheaf appears to be bound but on picking it up the knot slips. The knotter like the disk should not be tightened or slackened more than a quarter of a turn at a time. A rusty or mutilated bill hook causes trouble. It should be polished before starting a season's cutting. A few drops of oil occasionally keeps it smooth.

Knife and Cord Stripper. The cord should be cut at the right

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\$50 Pays for 4 Months Course

Insure success by a business training. Get it in the best Business College—the College that has made the greatest success of its business. This is the Success Business College, with schools at Winnipeg, Regina, Moose Jaw, Weyburn, Calgary, Lethbridge and Vancouver. We use 309 typewriters. Send to the nearest school for free prospectus, beautifully illustrated. Don't put it off. Act now!

FG. GARBUTT, PRINCIPAL



SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS

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

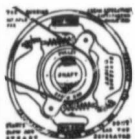
Duties—Six month's residence upon and cultivation of the land in each of three years. A homesteader may live within time rules of his homestead as a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$2.00 per acre. **Duties**—Must reside six months in each of six years from date of homestead entry (including the time required to secure homestead patent) and cultivate fifty acres and erect a house worth \$300.00.

W. W. COBY,

Deputy of the Minister of the Interior
N.B.—Unauthorized publication of this advertisement will not be paid for.

Mention this magazine when writing advertisers



Desires Increase Your Sales!

Take a Look at the

Strike Governor Pulley

It's the original and the only thing for driving crane separators with gasoline engine. Once tried, always try O.K. More in use than all others combined. Costs no more than 100 dollars. Also ask about our friction clutch pulleys.

STATE GOVERNOR PULLEY CO., 310 S. 3RD ST., MINNEAPOLIS
Mention this magazine when writing advertisers

THE



Double Track Route

Detroit, London, Hamilton, Toronto, Montreal and New York via Niagara Falls

Smooth road bed, polite employees, unexcelled dining-car service, and latest standard equipment

AGENTS, COOK'S TOURS AND ALL STEAMSHIP LINES

Rates, reservations and all particulars at Ticket Office

Phone Main 7098 260 Portage WWINNIPEG

Mention this magazine when writing advertisers

Gas, Automobile and Traction Engineering



The young man who completes either one of these courses is sure of a job, with good pay. In the West there is a continual demand for young men with a technical knowledge of gas, traction engines and automobiles.

Each course may be finished in three months.

You can learn more about an engine at

Highland Park College

in three months than in that many years as an apprentice. Students work right in machine shop, traction engine house and auto garage. Repair and drive gas and steam engines and automobiles. Gas Engine Course may be taken with either the Traction Engine or Auto Course without extra tuition. Small tuition fees. Low cost of living. Largest garage and machine shops in the country. No entrance examinations. Send for catalogue.

H. H. LONGWELL, Pres., Highland Park College, Des Moines, Iowa



time. If it is cut too soon it will not bind a bundle, nor will it if it is slow in being cut. The cord should be cut at just the instant the knotted bill tongue closes on the cord. Time the knife, if it is not timed by springing it a little with a monkey wrench. It is malleable and can be bent easily. A dull knife will cause the springing of the knife arm. Keep the knife sharp at all times. This can be done by using a small whet stone on it.

Removing parts. When any part of the binder is removed to make an adjustment or for repairing be sure that it is marked so you know just how it goes back, especially is this true of the binder attachment.

Binders are sometimes equipped with a small gasoline engine to furnish the power to drive the machinery, thus relieving the horses of all the work except that required in drawing the machine. This attachment is used with satisfaction in some cases, especially when cutting on soft ground, as the large wheel often becomes filled with mud and refuses to furnish power.



Traction Plowing Letters

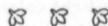
Continued from page 36

each man has to do his share of work. I have threshed as much as 1,500 bushels of wheat in 10 hours and 3,000 bushels of oats in a day of 10 hours. Engine has power to spare in dry weather, but no power to throw away when straw is damp. Oil tractors are far more numerous in this district than steam. In fact, all the outfits that have been purchased within the last five years are oil tractors.

I do not think a tractor is detrimental to plowed land, as I have noticed wherever a road is made by teams drawing the grain away from the separator that there is always a good strong stand of straw the following season, and it always ripens first.

I will close now, hoping to be able to give you more experience by this time next year.

Yours respectfully,
John A. Young,
Mountain Peak, Kishy, Sask.



The 1913 Plowing Contest

Continued from page 27

ratio is 2 to 1 and in the case of steam tractors 3 to 1. Modern tractor design and construction has however changed these ratios in favor of the tractor horse power.

When the results were finally tabulated and the scores totaled it was found that the following were winners.

WINCHESTER



"REPEATER"

Smokeless Powder Shotgun Shells

Winchester "Repeater" shells have won first place in the estimation of hunters because they

give the maximum efficiency at a minimum cost. Although comparatively low priced, "Repeater" shells are made and loaded with the same care and precision which have made Winchester "Leader" the best shells on the market. Only the highest quality of powder and shot are used in "Repeater" shells, and for any load in 10 gauge up to 3 1/4 drams and in 12 gauge up to 3 1/4 drams of powder they give entire satisfaction. No shells, price considered, give better results than the Winchester "Repeater." Try them and you'll be convinced. Ask for "Repeater."



TRADE MARK

The Yellow Shell with the Patented Corrugated Head



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

BIG CARTAGE COMPANY RECOMMENDS

MOLASSINE MEAL

THIS IS WHAT THEY SAY:

THE SHEDDEN FORWARDING CO. LIMITED
Cartage Agents for
THE GRAND TRUNK RY. SYSTEM, THE INTERCOLONIAL RY. SYSTEM, ETC.
Messrs. The Molassine Co. of Canada, Limited Montreal, June 9th, 1913
402 Board of Trade Building, Montreal.
Dear Sirs—I have much pleasure in recommending your "MOLASSINE MEAL" which has been used by this Company for several years with good results.
Yours truly, (Signed) G. E. BELCOURT, General Manager

ROYAL WARRANT



MOLASSINE MEAL

This Company owns and uses such a large number of Horses that the feeding becomes a very important feature with them. "MOLASSINE MEAL" will do as much for your horses—try it.

Put up in bags containing 100 lbs. Get it at your Dealers or write us directly.

Look for this Trade Mark



on every bag
ST. JOHN, N.B.
MONTREAL
TORONTO


MOLASSINE Co. OF CANADA, LIMITED

WESTERN DISTRIBUTERS
The A. McDonald Co., Winnipeg, and all branches
Crown Feed and Produce Co., Calgary, Alta. A. S. Gavin & Company, Vancouver, B. C.

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

Patronize Those Who Patronize This Magazine

Well Drilling Machines



Over 20 years and either deep or shallow wells in any kind of soil on wheels or on glides of horse styles, for drilling or rock. Mounted on sills. With engines, strong, simple, durable. Any mechanic can operate them. Send for catalog.

WILLIAMS BROS.
ITHACA, N. Y.

Mention this magazine when writing advertisers

Imperial Bank OF CANADA

Established 1878

Capital Authorized	\$10,000,000
Capital Paid Up	6,788,169
Reserve Fund	7,000,000
Total Assets	75,000,000

BRANCHES IN WESTERN CANADA

Province of Manitoba

Brandon Portage la Prairie Winnipeg

Province of Saskatchewan

Balgownie Broadview North Battleford
 Southern Fort Qu'Appelle Prince Albert
 Saskatoon Moose Jaw Regina
 Wilkie Hague Wynyard

Province of Alberta


Athabasca Landing Edmonton Strathcona
 Banff Lethbridge Wetaskiwin
 Calgary Red Deer Redcliff
 Rocky Mountain Hqs. Medicine Hat Millet

SAVINGS DEPARTMENTS AT ALL BRANCHES

Interest allowed at Current Rates
 Drafts and Letters of Credit issued available in all parts of the world.

Winnipeg Branch
 N. G. LESLIE, Manager.

Mention this magazine when writing advertisers.



MYERS PUMPS

Shaw Ladson, Etc. SHAY TOOLS

Double-acting, Lift Tank and Spray

Myers Stayon Flexible Door Hangers with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—“Stayon.” Write for descriptive literature and prices. Exclusive agency given to right party who will buy in quantity.

W. E. MYERS & CO., Ltd.
 Ardara, Ont.

Mention this magazine when writing advertisers.



Boring Machine


THE OLD RELIABLE

Easiest to operate
 Bore Faster
 Most Durable

Improved Up-to-date Drilling Machines

DEVELOPER CATALOGUE FREE
 Cherokee Mfg. Co., Dept. A, Cherokee, Iowa.

Mention this magazine when writing advertisers



WELL DRILLING

GUS PECH
 FOUNDRY AND
 MANUFACTURING
 COMPANY

Manufacturers of the Celebrated
MONITOR WELL AUGERS AND DRILLS

Write for prices and illustrated Catalogue.

LE MAR, IOWA
 U.S.A.
 Branch House—
 BOWINA, SAS

Mention this magazine when writing advertisers

Division 1 (Gasoline)

Class A

points

Gold Medal—J. I. Case.....325.60
 Silver Medal—Avery.....238.95

Class B

Gold Medal—J. I. Case.....352.00
 Silver Medal—Avery.....316.75

Class C

Gold Medal—Sawyer-Massey.....359.05
 Silver Medal—J. I. Case.....355.55
 Bronze Medal—Avery.....290.05

Division 2 (Kerosene)

Class A

Avery—h.p. won diploma being only engine in class.

Class B

Gold Medal—J. I. Case.....338.10
 Silver Medal—Avery.....238.25

Class C

Gold Medal—J. I. Case.....331.05
 Silver Medal—J. I. Case.....306.15

Division 3 (Steam)

Class A

Gold Medal—J. I. Case.....383.85
 Silver Medal—Sawyer Massey.....382.50

Class B

Gold Medal—J. I. Case.....406.70
 Silver Medal—Sawyer Massey.....322.55

Class C

Gold Medal—J. I. Case.....437.30
 Silver Medal—Sawyer Massey.....349.80

To Live Long, Keep Busy

The death of John Bigelow in his ninety-fourth year closes a busy life of an extraordinary man. Up to the weco of his death Bigelow took a hearty interest in all political and social happenings that were of import to the world. Bigelow was just eight years younger than Abraham Lincoln. When Lincoln died Bigelow was forty-eight.

Herbert Spencer once said that the majority of Englishmen who live to be over seventy have softening of the brain. And then he explained that the reason they had softening of the brain was because they did not use their brains.

The brain is an organ, and the only way to exercise it is by thinking—pleasurable thinking; and an interest in what the world is saying and doing, with the proper expression of your own thoughts, is eminently hygienic.

Letizia Rothschild, the mother of ten great Rothschilds, lived to be a hundred; and when she was ninety-eight she did not hesitate to express her disapprobation of some of the policies followed out

UNION BANK OF CANADA

Established 1868

Head Office Winnipeg

Paid-up Capital	\$5,000,000
Reserve and Undivided Profits 3,375,000	
Total Assets, over	70,000,000

Hon. President - HON. J. SHEARLES
 President - JOHN GALT
 VICE-PRESIDENTS
 W. PRYCE R. T. RILEY

DIRECTORS
 W. R. ALLAN S. HAAS
 S. BARKER, M.P. F. E. KENASTON
 M. HULL G. P. REID
 Lieut-Col. J. CARSON G. H. THOMSON
 E. L. DREWRY W. SHAW
 E. E. A. DU VERNET, K.C.

G. H. BALFOUR, General Manager.
 H. B. SHAW, Assistant General Manager
 F. W. S. CRISPO, Superintendent of Branches and Chief Inspector.

London, England, Branch No. 51 Threadneedle Street, E.C.

This Bank, having over 300 branches in Canada, extending from the Atlantic to the Pacific Coast, offers excellent facilities for the transaction of every description of banking business. It has correspondents in all cities of importance throughout Canada, the United States, the Continent of Europe, and the British Colonies. Collections made in all parts of the Dominion, and returns promptly remitted at lowest rates of exchange.

Head Office, Winnipeg.
 SPECIAL ATTENTION GIVEN TO FARMERS' BUSINESS
 Grain Drafts Negotiated. Interest Allowed on Deposits.

Branches and Agencies West of Great Lakes:

Manitoba—Baldur, Birle, Boisvevain, Brandon, Carberry, Carman, Carroll, Clear water, Crystal City, Cypress River, Dauphin, Deloraine, Glenboro, Hamiota, Hartney, Holland, Killarney, Manitow, Melita, Minnedosa, Minto, Morden, Neepawa, Newdale, Nianga, Rapid City, Roblin, Russell, Shoal Lake, Souris, Strathclair, Virdin, Waskada, Wawanessa, Wellwood, Winnipeg.

Saskatchewan—Adam's, Alsaek, Arcola, Asquith, Bourny, Buchanan, Cabri, Canora, Carlyle, Craik, Cupar, Cut Knife, Esterhazy, Eyebrow, Filimore, Gravelbourg, Gull Lake, Herbert, Humboldt, Indian Head, Jansen, Kerrobert, Kinderley, Lanis, Lang, Langman, Leeville, Lemberg, Lumsden, Luneland, Macklin, Maple Creek, Maryfield, Milestone, Moose Jaw, Moosomin, Netherhill, Neudorf, Ogema, Outlook, Oxbow, Pense, Perdue, Plenty, Qu'Appelle, Regina, Rocanville, Rosetown, Saskatoon, Scott, Simpson, Sinitaulta, Southey, Strasbourg, Swift Current, Tessier, Theodore, Toza, Tompkins, Vanguard, Viceroy, Wapella, Wawota, Watrous, Webb, Weyburn, Wilkie, Windthorst, Wolseley, Yorkton, Zealandia.

Alberta—Airdrie, Aik, Barons, Bashaw, Bassano, Bellevue, Blainie, Blairmore, Bowden, Bow Island, Brooks, Calgary, Carbon, Cardston, Carleton Place, Carstairs, Claresholm, Cochrane, Consort, Cowley, Didsbury, Edmonton, Fort Saskatchewan, Grande Prairie, Grassy Lake, High River, Hillcrest, Innisfail, Irvine, Laocomb, Langdon, Lechbridge, Macleod, Medicine Hat, Okotoks, Pasburg, Pincher Creek, Seven Persons, Strathmore, Swallow, Three Hills, Wainwright.

British Columbia—Enderby, Hazelton, Nanaimo, New Hazelton, Prince Rupert, Telkwa, Vancouver, Vernon, Victoria.

Winnipeg Branch, D. M. NEEVE, Manager. F. K. WILSON, Asst.-Manager.
 F. J. BOULTON, Manager Portage Ave. Branch, corner Garry (adjoining Post Office)

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

CAEW "BAT" PLUG TOBACCO

THE ROCK CITY TOBACCO CO. LIMITED - QUEBEC.

Perfect Lubrication

is necessary for perfect separation. Get both by using

STANDARD

Hand Separator Oil

A light colored, light bodied oil, compounded especially for the delicate bearings of a separator.

Insures free, even spinning. Never gums. Never rusts. Never corrodes. Prolongs the life of the machine and increases the cream yield.

Ask your dealer for Standard Hand Separator Oil. One gallon cans.

Main Office: WINNIPEG
 Regina, Moose Jaw, Saskatoon, Calgary, Edmonton, Lethbridge, Vancouver.

USE Advance Pump
Governors on all
your pumps now!

Adjusted to fit any pump,
Warranted two years,
Price, \$3.75 each.



See it life size

YOUR MONEY BACK
if not
exactly as
represented.

They carry all the weight and do the lifting. Windmills run in lightest breeze; also gas or steam. Expense reduced one-half. Exclusive territory to salesmen. Some clear \$80.00 weekly. Apply early.

INTERNATIONAL FOUNDRY CO.
Industrial Bureau, Winnipeg

Mention this magazine when writing advertisers

1877-1913

Thirty-six years' experience in
brewing

**Drewry's
Redwood
Lager**

tells the story of its popularity

TRY IT

Mention this magazine when writing advertisers

**CHEW
MAPLE
SUGAR
TOBACCO**

MILD, SWEET, MELLOW AND JUICY

Manufactured by
ROCK CITY TOBACCO CO.

Quebec Winnipeg

**WANTED - SALESMEN AND SALES-
WOMEN**—Hundreds of good positions now open
paying from \$1,000.00 to \$5,000.00 a year. No
former experience required to get one of them.
We will teach you to be a high grade Traveling
Salesman or Saleswoman by mail in eight weeks
and assist you to secure a good position where you
can earn good wages while you are learning Prac-
tical Salesmanship. Write today for full particulars
and testimonials from hundreds of men and women
we have recently placed in good positions; also
list of good positions open. Address Dept. 273,
**NATIONAL SALESMEN'S TRAINING ASSO-
CIATION, 806 Kent Building, Toronto, Ont.**
Mention this magazine when writing advertisers

in a political way by Nathan, her brilliant son.
Caroline Herschel, musician, astronomer, student, school teacher, also made the century run.
Bishop Bowman, of England, is ninety-two.
John Tenniel, famous cartoonist, is ninety, and at work.
Lord Strathcona, otherwise Donald G. Smith, is 90, and the other day he quoted Sir Humphry Davy, who when asked what was his greatest discovery replied, "Michael Faraday!" Continuing, he said that his own greatest achievement was the discovery of James J. Hill, "who would yet make a mark for himself."
Sir Charles Tupper and Clara Barton are both in their ninety-first year.

Alfred Russell Wallace is in his eighty-ninth year, and not long ago refused to buy a horse that was twelve years old, stating that he wanted a colt so he could break it, and it would last him the rest of his life.
Doctor Robert Collyer, E-Senator Davis and John Buckner are each eighty-seven, and still stirring up the animals.
Levi P. Morton is eighty-six, and is out with an article in favor of the National Reserve Association, saying that he never wants to live to see another financial panic.

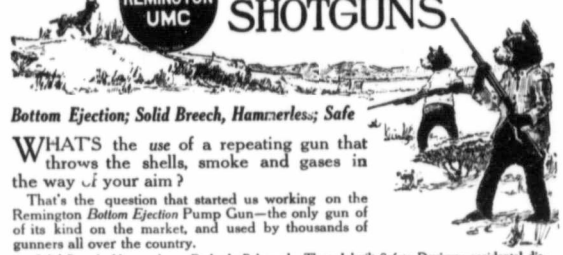
Enough to Make a Cat Laugh



Hard Luck

It was a cold winter night, and the wind was howling round the trees. The weary wayfarer was wandering along without knowing, and not much caring, where he was. He had lost his way for hours.
Stop! What is that? A signpost for certain!
The weary wayfarer fumbled in his pocket, and brought out his box of matches. Luckily there was one left.
Carefully and slowly he toiled up the signpost, and at the top struck the match to see what was written thereon. The flickering glare of the match showed these words: "Try Poot's Pills."

REMINGTON UMC **REPEATING SHOTGUNS**



Bottom Ejection; Solid Breech, Hammerless; Safe

WHAT'S the use of a repeating gun that throws the shells, smoke and gases in the way of your aim?
That's the question that started us working on the Remington Bottom Ejection Pump Gun—the only gun of its kind on the market, and used by thousands of gunners all over the country.
Solid Breech, Hammerless. Perfectly Balanced. Three Inbuilt Safety Devices—accidental discharge impossible. Simple Take-down—a quarter turn of the barrel, without tools.
We will be glad to send you a booklet that explains simply many technical points of gun construction which are well worth your closest study. Your name and address on a postcard brings it by return mail.

Remington Arms-Union Metallic Cartridge Co., Windsor, Ontario

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

CHALLENGE

THE ACME OF COMFORT
is assured to every wearer of
"CHALLENGE"
Collars and Cuffs



WATERPROOF

GOLLARS

They have the same dull finish, texture and fit as the best linen collar, and won't wilt or crack. "Challenge" Collars can be cleaned with a rub from a wet cloth. Always smart—always dressty.
If your dealer doesn't sell "Challenge" Brand, send us 25c for collar or 50c for pair of cuffs. You'll be delighted.
New style book sent free on request.
THE ARLINGTON COLLAR CO. OF CANADA LTD.
64-66 Fraser Ave., Toronto, Can.
P-16

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

CANADIAN NORTHERN RAILWAY

SUMMER SERVICE OVER THE GREAT LAKES
— TO —
Eastern Canada and United States

VIA DULUTH
The Longest Trip on the Largest and Finest Steamers on the Lakes. One day longer at the same cost.
Leave Winnipeg daily, 6 p.m. and 7.40 a.m.; arrive Duluth 8.25 a.m. and 10.40 p.m.
All Rail connection via Chicago or the "Soo."

VIA PORT ARTHUR
Connects all Steamer Lines. Train runs down to the dock.
All Docks and Hotels adjacent to Canadian Northern Station.
Leaves Winnipeg daily, 6 p.m.

PATRONIZE THE POPULAR TRAINS
The Alberta Express, between Winnipeg, Saskatoon and Edmonton.
The Capital Cities Express, between Winnipeg, Brandon, Regina, Saskatoon, Prince Albert.

REDUCED FARE SUMMER EXCURSIONS
For full information apply to any Canadian Northern Agent, or write
R. CREELMAN, General Passenger Agent, Winnipeg.

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

Family Group Photos a Specialty

AT
STEELE & CO., LTD.
MAIN ST. AND BANNATYNE AVE. WINNIPEG

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

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY

**Gombault's
Caustic Balsam**
IT HAS NO EQUAL

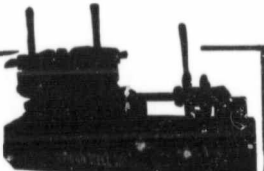
FOR — It is penetrating, soothing and healing, and for all kinds of Sores, Bruises, the Wounds, Pain, Swellings, Cancer, Boils, Corns and Blisters. CAUSTIC BALSAM has no equal as a Liniment.

Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

REMOVES THE BORNENESS—STRENGTHENS MUSCLES
Oranhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$10.00 paid in doctor's bills."
Price \$1.50 per bottle. Sold by druggists, or sent by express prepaid. Write for booklet to The LAWRENCE-WILLIAMS COMPANY, Toronto, Can.

Mention this magazine when writing advertisers



\$1500 to \$5000 Per Year

have been made by hundreds of people operating the "American" Drilling Machines. 40 years' experience, 50 regular styles and sizes and the output of the world's largest manufacturers of this kind of machinery make "AMERICAN"

MACHINES STANDARD

Made in types for every kind of earth and rock drilling or mineral prospecting, equipped with any power, or operated with your traction engine. Our new 1913 page Catalog Free.

THE AMERICAN WELL WORKS

General Office and Works:

AURORA Ill., U.S.A.

Chicago Office: First Nat. Bk. Bldg.

Mention this magazine when writing advertisers.

PATENTS TRADE MARKS AND DESIGNS

Write for booklet, circulars, terms, etc.
FETHERSTONHAUGH & CO.
FRED. E. FETHERSTONHAUGH, E. C. M. E.
GERALD S. ROXBURGH, E. A. Sc.
Portage Avenue, WINNIPEG.
209-10 Bank of Nova Scotia

ention this magazine when writing advertisers

ERZINGER'S No. 2 CUT PLUG

Leads them all. It's the Best Dollar Tobacco sold anywhere.
JOHN ERZINGER
McIntyre Bldg. - 293 Portage Ave.
Phone 69 Phone 2677

Mention this magazine when writing advertisers, been waiting for the chance."

She Handled the Poems

"Is the editor-in-chief in?" asked the visitor, as he strolled into the magazine office at eight o'clock in the morning.

"No, sir," answered the charwoman politely. "He doesn't get here so early. Is there anything I can do for you?"

"Perhaps you can. I suppose you are not connected with the poetical department of the magazine?"

"Oh, yes, sir!" was the quick reply.

"You are?" And what do you do?"

"I empty the waste-paper baskets, sir!"

There Was a Difference

Magistrate: "Officer, what is this man charged with?"

Constable: "He's a camera fiend of the worst kind, yer worship."

"But this man shouldn't have been arrested simply because he has a mania for taking pictures."

"It isn't that yer worship; he takes the cameras."

The Only Kind He Knew

One of the lessons at an East End school was reading from the daily paper. Recently one pupil got the sentence:

"The King and his escort passed by."

"Now, boys," asked the master, "do any of you know what the word 'escort' means?"

The class thought deeply, and then one grubby little paw was waved violently aloft.

"Yes, Jimmy," said the master, "tell me what is it."

"Please, sir," cried Jimmy in triumph, "it's a feller what's got a girl, an e' takes 'er out walkin'!"

The vacar was paying a parochial visit to Mrs. Miggins, and presently inquired about each member of her family.

"And your second son—William," he asked—"the musical one, you know—how is he getting on in London?"

"Thank'ee, sir," said the dame, "seems to me 'e be doin' all right. 'E do write an' say as 'e's a conductor now."

"Really, Mrs. Miggins?" beamed the good man. "That's excellent news! And what band is he conducting?"

"Sure, an' 'e didn't say that, sir," said Mrs. Miggins. "But 'e wrote as 'e was conductin from 'Ammersmith to Whitechapel!"

Young Bride (pouting): "Here we have only been married two days, Clarence, and you're scolding me already."

Husband: I know, my dear, but just think how long I have

**Mackenzie, Brown, Thom & McMorran
Mackenzie, Brown, MacDonald & Bastedo**
Barristers, Solicitors, &c.

Regina, Saskatchewan, Canada
Norman MacKenzie, K.C. Hon. George W. Brown Douglas J. Thom
T. Sydney McMorran Hector V. MacDonald Frank L. Bastedo
General Solicitors in Canada for the National Thresher-Manufacturers' Association of America
General Solicitors in Canada for the American Collectors' Association.
General Solicitors in Saskatchewan for Fifteen Canadian and American Thresher and Implement Companies.

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

The Occidental Fire Insurance Co.
Head Office: WAWANESA, MAN.

A. NAISMITH, President R. M. MATHESON, Vice-President
A. F. KEMPTON, Sec. and Mgr. C. D. KERR, Treasurer
Subscribed Capital \$500,000.00
Security to Policy-holders 640,817.29

Full Deposit with Dominion Government
Agents wanted in unrepresented districts

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

Alex. Naismith, Pres. S.H. Henderson, Vice-Pres. C. D. Kerr, Treasurer

The WAWANESA MUTUAL INSURANCE COMPANY
HEAD OFFICE: WAWANESA, MAN.
A. F. KEMPTON, Secretary-Manager

Amount of Insurance in force Dec. 31st, 1912 \$54,606,660.00
Assets over Liabilities \$587,537.67

THE NUMBER OF FARMERS INSURED, 31st. Dec. 1912, 23,261
The Largest Farmers Mutual Fire Insurance Company in Canada. Agents wanted in unrepresented districts.

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

INSURANCE—INSURANCE
FRED W. PACE F. J. HARRISON F. GRANT MILLAR

PACE, HARRISON & MILLAR
Keewarden Building Portage Ave. East
General Agents:

NATIONAL FIRE INSURANCE COMPANY of Hartford, Conn. Assets Exceed \$12,000,000.00	GENERAL FIRE ASSURANCE COMPANY of Paris, France. Assets Exceed 7,500,000.00
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Adjustment and payment of losses arranged from our office. Liberal contracts to live agents. WRITE FOR AGENCY.

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

National Trust Company, Ltd.
TORONTO, WINNIPEG, EDMONTON, MONTREAL, REGINA, SASKATOON

Capital and Reserve, \$2,900,000.00
The strain and worry of managing Estates will all be borne for you by this Company.

A PRIVATE Executor may die or become incapable of acting before the completion of the Trust. A Trust Company is PERMANENT and will survive the longest Trusts.

This Company's financial strength and expert staff ensure responsible and capable administration.
We act as Trustee, Executor, Administrator, Guardian, Liquidator, Assignee, Financial Agent
SAFE DEPOSIT VAULTS SAVINGS DEPARTMENT MONEY TO LEND
D. H. COOPER, Manager, Winnipeg Branch, 323-325 Main Street.
C. Y. STAINER, Secretary.

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

RIDER AGENTS WANTED

In every town and locality to ride and demonstrate a sample 1913 "HYSLOP SPECIAL" bicycle furnished by us and fitted with coaster brake, roller chains, three-coil spring saddle, extension handlebar and other leading features. Good money can be made selling our bicycles, tires and sundries.

Our large production, together with unexcelled facilities and 25 years' experience in building bicycles, places us in a position to ship high-grade wheels direct from factory to user at LOWEST PRICES.

TEN DAYS' TRIAL We will send a wheel to any address in Canada on approval and allow ten days' trial. It will not cost you one cent if you do not desire to keep it after that time. We could not afford to make this offer if we were not certain our wheels are the best value for the money on the market.

Write at once for new illustrated catalogue and full particulars of our attractive new offer and special prices.

HYSLOP BROTHERS, LIMITED
SHUTER AND VICTORIA STREETS, TORONTO, ONT.

NOTE—Mention name of paper when answering this advertisement.

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

Don't Fail to Renew Your Subscription Before it is Too Late.

WESTERN CANADIAN IMPLEMENT DIRECTORY

EXPLANATION.—First find the Implement Wanted and the Number opposite will be the Number of the Concern, in the first column, that handles it.

1—AULTMAN & TAYLOR MACHINERY CO., Regina, Calgary, Saskatoon.

2—BEATTY BROS., Brandon.

3—BELL ROBT ENGINE & THRESHING CO., Winnipeg.

4—BRANDON PUMP & WIND MILL WORKS, Brandon.

5—BRITISH CANADIAN AGRICULTURAL TRACTORS, Saskatoon.

6—BUFFALO PITTS CO., Moose Jaw.

7—BURRIDGE-COOPER CO., Winnipeg.

71—Canadian Armstrong Quam Co., Saskatoon.

71a—Canadian Corrugated Pipe Co., Portage la Prairie.

71—CANADIAN CUSHMAN CO., Winnipeg.

8—CANADIAN FAIRBANKS CO., Winnipeg, Calgary, Saskatoon, Vancouver.

9—CANADIAN HOLT CO., Calgary.

10—CANADIAN MOLINE FLOW CO., Winnipeg.

11—CANADIAN RUBBER CO., Winnipeg, Vancouver.

12—CANADIAN STOVER CO., Brandon.

13—CANADIAN SWENSONS CO., Winnipeg.

14—CAPE, J. I. T. M. Co., Winnipeg, Regina, Calgary, Saskatoon.

15—COCKSHUTT FLOW CO., Winnipeg, Regina, Calgary, Edmonton.

16—CRANE & ORDWAY, Winnipeg.

17—DEERE, JNO. FLOW CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Lethbridge.

18—DE LAVAL SEPARATOR CO., Winnipeg.

19—DOMINION SPECIALTY CO., Winnipeg.

20—DUBS GEO. & CO., Winnipeg.

201—EMERSON BRANTINGHAM IMPLEMENT CO., Winnipeg, Regina, Calgary, Saskatoon.

21—EMPIRE CREAM SEPARATOR CO., Winnipeg.

2114—GARDEN CITY FEEDER CO., Regina.

22—GAR TRACTION CO., Winnipeg, Saskatoon, Calgary.

23—GENERAL SUPPLY CO., Winnipeg.

24—GOODYEAR TIRE & RUBBER CO., Winnipeg, Regina, Calgary.

2414—GOLD, SHAPLEY & MUIR, Winnipeg, Regina.

25—GRAY-CAMPBELL CO., Winnipeg, Brandon, Moose Jaw, Calgary.

26—HACKNEY MFG. CO., Winnipeg.

26—HAUG BROS. & NELLEMOE CO., Winnipeg, Calgary, Regina.

27—HARMER IMPLEMENT CO., Winnipeg.

28—HART PARR CO., P. la Prairie, Regina, Calgary, Saskatoon.

28—HERO IMPLEMENT CO., Winnipeg.

291—HUBER MFG. CO., Winnipeg.

30—INT. HARVESTER CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Brandon.

31—LISTER R. A. & CO., Winnipeg.

32—LODEN HARDWARE & SPECIALTY CO., Winnipeg.

33—MANITOBA ENGINES LTD., Brandon.

34—MASSEY-HARRIS CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon.

35—MAYTAG CO., Winnipeg.

36—McLAUGHLIN CARRIAGE CO., Winnipeg.

37—McRAB ALEX., Winnipeg.

38—MELROTH CREAM SEPARATOR CO., Winnipeg.

39—MINNEAPOLIS STEEL AND MACH. CO., Regina.

391—MINNEAPOLIS THRESHING MACHINE CO., Winnipeg, Regina, Calgary.

40—MOODY MATHEW & BONS, Winnipeg.

41—NEEPAWA MFG CO., Neepawa.

42—NICHOLS & SHEPARD CO., Regina, Winnipeg.

43—ARMSTRONG MANUFACTURING CO., Saskatoon.

44—PETRIE MFG. CO., Winnipeg, Regina, Calgary, Vancouver, Edmonton.

45—PIONEER TRACTOR CO., Calgary.

46—RAYMOND MFG. CO., Winnipeg.

47—REEVES & CO., Regina.

48—RENFREW MACH. CO., Saskatoon.

49—RESBURY PUMP CO., LTD., Brandon.

50—RUMELY M. CO., Winnipeg, Calgary, Saskatoon, Regina.

51—SAWEY & MASSEY CO., LTD., Winnipeg.

52—SHARPLES SEPARATOR CO., Winnipeg.

53—STEVENS BRUSH CUTTER CO., Didbury.

54—STEWART SHEAF LOADER CO., Winnipeg.

55—TIDHOPE-ANDERSON CO., Winnipeg, Regina, Calgary.

57—VULCAN IRON WORKS, Winnipeg.

WATERLOO MFG. CO., P. la Prairie, Regina.

60—WATSON JNO MFG. CO. Winnipeg.

61—WESTERN FOUNDRY CO., Saskatoon.

62—WESTERN STEEL & IRON CO., Winnipeg.

63—WHITE, GEO. & SONS, Brandon.

631—WINNIPEG CEILING & ROOFING CO., Winnipeg.

64—V. INNPEG RUBBER CO., Winnipeg.

BUGGIES AND CUTTERS.

Armstrong Buggies and Cutters. 15

Barrie Buggies and Cutters. 61

Bayne Carriages Co. 37

Brookville Buggies and Cutters. 17

Dominion Carriages (Transfer Agents) 6

Emmett 204

Gray Buggies and Cutters. 25

Grey Buggies. 62

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McLaughlin Buggies and Cutters. 36

Munro-McIntosh Buggies & Cutters. 10

Reynolds Buggies and Cutters. 17

Tidhope Buggies and Cutters. 55

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Magnet 44

Massey-Harris 34

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Standard 48

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Cockshutt Cultivator. 15

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Deering Cultivator. 30

Eik (2 Horse) Cultivator. 17

Emerson 201

Flury & Co. Cultivator. 201

Frost & Wood Soother. 15

Holmes 17

K. A. (2 Horse) Cultivator. 54

McCormick Cultivator. 30

Massey-Harris Corn Cultivator. 35

Paris Soother. 49

Sylvester Cultivator. 55

Verity Cultivator. 34

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Boze Disc. 17

Boze Drag. 50-60

Canadian Moline Boss Drag. 10

Canon Disc. 53

Case, J. Disc and Drag. 32

Cyclone Wheel Disc. 15

Cockshutt Disc and Drag. 15

Cockshutt Lever and Clip. 15

Deer Disc and Drag. 17

Deere King Bone Drag. 17

Deere Steel Bone. 17

Deering Disc Harrow. 30

Defiance Jr. Disc. 62

Economy Disc. 10

Emerson Disc and Drag. 64

Evans Disc. 30

Flury's Clipped Drag. 17

Flury's Disc. 17

Flury's and Johnson's Drag. 30

Grand Detour Drag and Disc. 60

Hosmer Wheel Disc. 1

International Diamond and Lever. 30

Massey-Harris Disc and Drag. 34

McCormick Disc. 30

Most Working Disc. 30

Noxon Disc and Drag. 64

Harris Disc and Drag. 49

Superior Wheel Disc. 30

Universal Drag. 17

International Diamond and Lever. 30

Harrows. 17

Watson Drags. 60

Louden Drag and Disc. 61

Windsor Drag. 15

FEED AND ENSILAGE CUTTERS AND PULPERS.

Cockshutt Feed Cutters. 15

Cockshutt Pulper. 15

Flury's Feed Cutter. 15

Geiser Feed Cutter and Grinder. 7

Massey-Harris Feed Cutter. 34

Massey's Feed Cutter. 60

Watson's Feed Pulper. 60

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Challenge. 60

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Daisy. 7

Diamond. 55

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Gold Shapley & Muir. 15

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Dain Hay Loader. 17

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Emerson Mower. 201

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International Sweep Rake. 30

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Louden Hay Tool. 32

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Massey-Harris Sweep Rake. 34

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Cockshutt Horse Power. 15

Cockshutt Horse Power and Jacks. 17

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Flury's Pulverizer. 30

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Case, J. Engine Gang. 27

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Deere Engine Gang. 17

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Emerson Engine Gang. 55

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Cockshutt Harrow Cart. 15

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Avery. 30

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New Deal Wagon & Sleigh. 17

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T. G. Mandt Sleigh. 10

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Good Shapley & Muir Wind Mills and Pumps. 24

Hayes Pumps. 35

Louden Pumps. 34

Manitoba Pumps and Sleighs. 30

Manitoba Tanks. 33

Ontario Pumps. 43

Robbery Pumps. 49

Make Every Acre Pay Biggest Profits

Superior and Original - Features of Design - found only in the Small, Light Hart-Parr Tractor and "Self Lift" Plow -

Tractor Lightest weight, yet greatest strength. No dead weight to drag around and waste power. Fewest parts—only 300. All others have 800 to 1500. Main frame is a strong, one-piece casting. Entire frame consists of only four pieces. Drive wheels with wonderful wave form lugs, are solid steel castings—not built up or pieced. Driver lugs give 31% greater surface contact than any other. Drivers can be equipped with Hart-Parr "Hold Fast" extension lugs, the lugs with a bulldog grip in soft soil. Especially designed carburetor which operates positively and efficiently on cheapest KEROSENE—heavy load, light load or no load. Motor oil cooled, insuring perfect operation in hottest or coldest weather.

Plow is one-third lighter than any other and has one-third less parts. Combined automatic and hand lift attachments. To raise or lower bottoms, merely pull a rope attached to the clutch lever and the bottoms lift automatically. Any individual bottom may be raised with the hand lift attachment without disturbing the adjustment of the rest of the plow. Special spring beam coupler enables plows to skid around or pass over obstructions and prevents breakage. Furrow wheel keeps plow right in furrow.

You can't afford to overlook these money saving features in a tractor and plow. Investigate our line before purchasing any kind of an outfit.

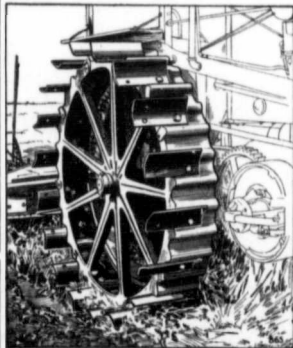


Illustration shows how Hart-Parr "Hold Fast" lugs grip the ground and pull out straight away without tearing up the soil.

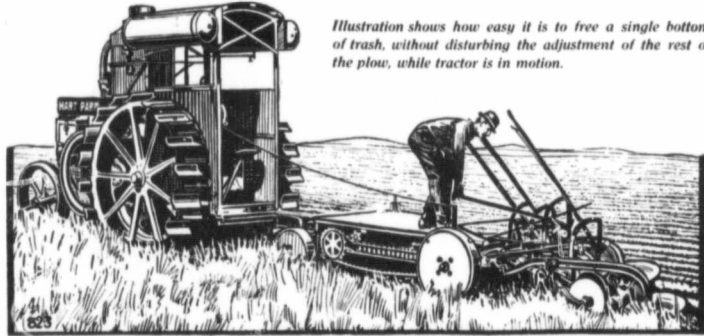


Illustration shows how easy it is to free a single bottom of trash, without disturbing the adjustment of the rest of the plow, while tractor is in motion.

The ONE MAN Plowing Outfit

YOUR soil conditions control your farming profits. The best seed in a poor seed bed will produce only mediocre crops. Yet it costs just as much to prepare a poor seed bed as a good one. Deep, early fall plowing is the foundation of an ideal, mellow seed bed—one that is best for seed germination and growth. But early fall plowing that is deep enough to secure the best results would run the sturdiest of horses and prove a costly operation. Instead of risking your horses, do your fall plowing with a

HART-PARR -OIL TRACTOR-

and save time, labor and money. The small, light tractor and "Self Lift" plow shown in the illustration make an ideal One-Man Outfit for farms of 100 to 320 acres. You operate both tractor and plow right from the engine platform. Easily plow 10 to 15 acres daily—6 to 8 inches deep—the work of 12 good horses. Work the outfit 24 hours daily, if necessary. It never tires or gets overheated.

Fall Plowing Means Bigger Profits

With this outfit, you can follow up harvesting and threshing without delay and kill injurious weeds, insects, grubs and bugs before they do any damage. You can turn up new plant life, conserve the rainfall and distribute your farm labor more evenly over the entire year. Incidentally, you cut a big chunk off your plowing bill and save all back breaking drudgery. When spring comes, your rush work is a simple task instead of a heavy round of hard work. Your plowing is done—you need only disc and seed and do it with this same tractor. And no matter how wet or backward the season, with your plowing out of the way, you can get your seed in several weeks earlier and give it a better start.

Power for all Farm Work

And remember—this Hart-Parr Tractor is more than a one-purpose outfit. In addition to plowing, use it for discing, seeding, harrowing, harvesting, threshing and hauling; fill silos, shell corn, in fact, do all your traction and belt work with it.

We build a size for every farm, large or small. We can meet your power requirements.

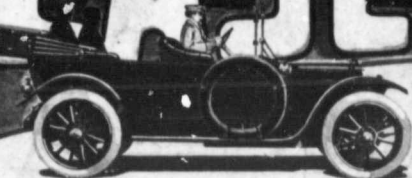
Write today for catalog, special circulars and expert information on power-farming costs.

Hart-Parr Company

30 Main St., Portage la Prairie, Man.; 57 W. 23rd St., Saskatoon, Sask.;
1616 Eighth Ave., Regina, Sask.; The Chapin Co., 325 Eighth
Ave. West, Calgary, Alta.

THE CAR WITH THE FAMOUS ENGINE

THE CASE CAR



Good News Travels Fast

An old saying but a mighty true one of the Case Cars. The Automobile Buying Public was quick to learn that the Old Reliable Case Policy of construction was in every Case Car. Owners of Case Cars received such genuine satisfaction and pleasure that they could not resist telling their friends about it.

Everybody Who Heard, Wanted a Case Car

This resulted to selling the out-put of our factory long before the Cars were completed. Every Case Car sold made new friends through its reliable performances under all conditions—it made the best traveling salesman for the Case Company.

The Sales Of Case Cars Are Phenomenal

Very very few automobiles have made such rapid strides or have given such universal satisfaction to their owners. The closer you examine the Case Car, the more thoroughly you will be convinced that its purchase means to you the greatest value. When looking it over, study every feature, be as critical as you can, the more you know about automobiles, the more you will be convinced of the safety of the Case Car as an investment.

Let Us Take You For a Ride

In this powerful, roomy and luxurious car—you can select your own roads. The rougher the way the better we can demonstrate to you the wonderful riding qualities of the Case Car.

Remember This, In The Case Car

you have the acme of modern automobile construction with abundance of power—style—convenience—durability coupled with Case Service—sixty-five branch houses and eleven thousand local dealers in the United States, Canada, Mexico, South America and Europe.

The Case 1913 Models range in price from \$1500 for the Thirty Horse Power, Two-passenger Roadster and Five-passenger Touring, to \$2200 for the "Case Forty," Five-passenger; \$2400 The "Case Forty," Seven-passenger Touring—Electric Lighted with Electric Self-Starter and all of the Luxurious Appointments of Cars a great deal more expensive. All prices F. O. B. factory.

Ask us to send you our latest catalog describing all Case Models.
You'll find it interesting, instructive and money-saving



J. I. CASE T. M. COMPANY.
INCORPORATED

741-791 State St. RACINE, Wis., U.S.A.

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

