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# THE CANADIAN THRESHERMAN -AND- FARMER

CANADA'S FARM  
MACHINERY MAGAZINE

WINNIPEG CANADA

JUNE - 1910



E.H. Heath COMPANY LIMITED Publishers

# John Deere Engine Gangs

4, 6, 8, 10, 12 and 14 Bottoms



## BIG PLOWS for a BIG COUNTRY

Why turn a single furrow when you can turn from 4 to 14 furrows at the same time

More John Deere Engine Gangs sold in Western Canada this past spring than ALL OTHER COMPETITIVE MAKES PUT TOGETHER. THERE ARE REASONS FOR THIS

Canada is a country of big farms, big possibilities and big profits—if you are a big farmer.

A general couldn't fight much of a battle with one soldier, and a farmer can't raise much wheat with a one-furrow plow.

### Get the Right Gang

Bottoms in pairs give great strength and make the plows run steady. The beams can be braced and each plow steadies the other. You notice these features on a two-bottom horse gang—you can't beat that construction.

### Don't Clog

Curved frames give great clearance, and the JOHN DEERE Engine Gang will go through straw, trash, weeds and scrub where other gangs clog and cause trouble.

### Screw Clevis

In addition to the regular clevis adjustment, each beam is fitted with a screw clevis when attached to the frame. A man can stand on the platform and adjust any one plow with a wrench while the engine and gang are working. This saves time and is a most important feature.

### Works with Coulters

Rolling Coulters can be used on the JOHN DEERE Engine Gang just the same as on a sulky plow.

### Level Platform

The platform is roomy, free from obstructions and so arranged that the levers are all in reach.

### Standard Sizes

4 or 6 Plows on One Frame 6 or 8 Plows on One Frame 10 or 12 Plows on One Frame

Extension can be furnished for the 12 bottom frame allowing two more plows to be used; making 14.

### ILLUSTRATED BOOKLET FREE

Write us to-day for Booklet showing JOHN DEERE Gangs being used with all kinds of steam, oil and gasoline tractors. Don't fail to get this book and learn all about engine plowing. A post card will bring the book. Mention this paper when you write.

We Carry a stock of Engine Gangs at Winnipeg and at all of our Branch Houses. Orders promptly filled,

# JOHN DEERE PLOW CO. LTD.

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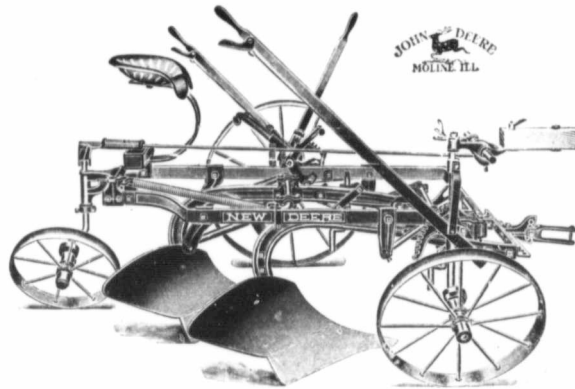
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# LIGHT DRAFT NEW DEERE FOOT LIFT GANG

- Beam Hitch
- Close Adjusting Clevis
- Combined Foot and Hand Lift
- Cushion Spring on Land Axle
- Dust Proof, Oil Tight, Long Distance, Wheel Boxes
- Easy running
- Easy Handling
- Long Wearing



**MOST PLOWS** are built to fit a price.

In other words, the price is fixed, and the plow built so it can be sold profitably at that price.

**John Deere Plows** are built as they should be built—and the price follows—fixes itself.

Draft is not a matter of theory—but a fact! It is not determined by opinions, but by tests, which show the pull in pounds.

John Deere plow bottoms are of special shape—they lift the ground like a thin wedge splits a log.

**Quality and Light Draft**—a John Deere Motto for seventy years.

Send for booklet fully describing the **John Deere Gang**, built especially for northern trade; the best thing in the gang plow line ever offered to the farmers of the north.

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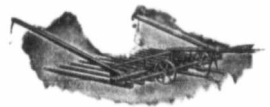
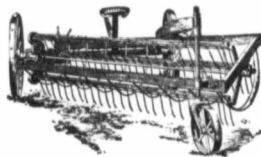
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## THE GREAT DAIN LINE

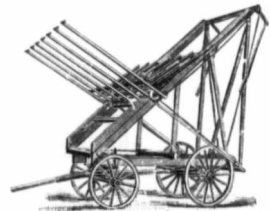
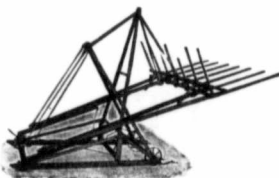
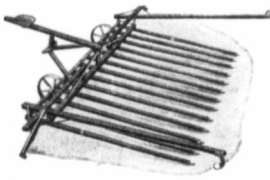
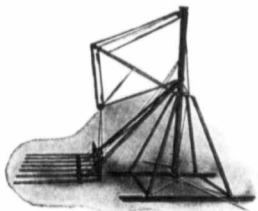
of HAY TOOLS



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

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

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



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# Brockville Vehicles

The Wrought Iron Line

The Brockville Wrought Iron Line embodies more special features and strong points than any other line of Vehicle offered to the Canadian Farmer

### Some Features

- The Brockville Steel Channel Petch Construction.
- The Brockville Wrought Three Prong 12 Inch Circle.
- The Brockville One Piece Wrought Steel Continuous Body Loops.
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- The Brockville Oil Tempered, Graduated Cast Steel Easy Riding Springs.

### More Features

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- The Brockville Full Padded Dash, with Dash Braces and Rails welded to Dash Frames.
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- The Thompson "Patent" Truss Brace Shaft.
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No. 552  
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No. 552  
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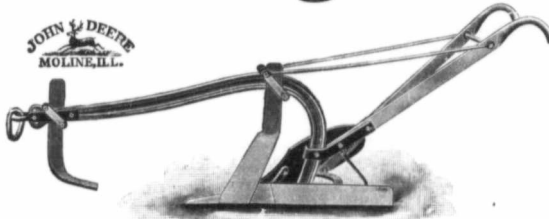
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We carry in stock a full line of  
Road Machines,  
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Wagons.

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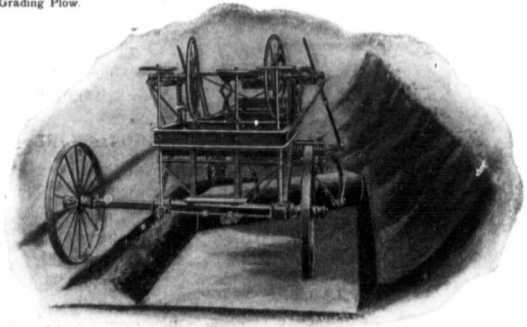


Deere Monitor Grading Plow.

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Still Unrivalled.

In beautiful oak cabinet with largest sound box, latest aluminum scientific tone arm and revolving horn, exactly as shown. No crane, stand or rubber tubing required. So simple, no Attachments. Plays all makes and sizes of disc records. The disc style reigns supreme.

**\$35 Only** freight paid, including 16 large selections of your own choice.  
**PAY \$5.00 DOWN AND \$3.50 Monthly**  
 or Full Payment can be arranged.  
 Seven days' free trial if desired.

We sell all makes of Talking Machines and Records. Our prices are lower than other houses! When buying from us you do not pay for extravagant advertising, nor do we send you second hand goods. Easy payments, from \$2.50 monthly. No C.O.D. Return if not as represented and money refunded. Satisfaction guaranteed. A straight business offer, no mysterious philanthropic aid.

Here are some of our specialities:  
 Columbia 10 inch Double Discs (2 different selections) 85c., new velvet finish, fit any machine, last to ever. All languages. Hear George Laskov and Raymond Hitchcock funnier than Lauder. We send records on approval, write for details.

Gold Moulded Cylinder Records. Edison Bell and Columbia, new, 25c. each if desired.  
 Columbia Indestructible Cylinder Records, 45c. beautiful tone, cannot break, fit any machine.  
 Four Minute Cylinder Records, 50c.  
 Columbia Indestructible Four Minute Records, most wonderful invention, 65c.  
 Edison Gem Phonograph and 12 selections, \$19.50 brand new.  
 Edison Fireside with 6 genuine Gold moulded two minute and 6 four minute records \$33.10.  
 Victor Disc Gramophone with 16 large selections \$26.40 and upwards. Second hand machines at bargain prices. Old machines taken in trade; 40 styles of talking machines; 20,000 records; 40 styles of pianos.

Our Piano Specials \$290.00 and \$350.00  
 Three full payments arranged.

# WINNIPEG PIANO CO.

295 PORTAGE AVENUE, WINNIPEG.  
 Biggest Piano and Phonograph House in Canada  
 Wholesale and Retail.  
 Columbia, Berliner, Victor and Edison experts.  
 Write for interesting phonograph history and Free Booklet, No. 44.

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OF CANADA

AUTHORIZED CAPITAL \$10,000,000  
 CAPITAL PAID UP 5,000,000  
 RESERVE 5,000,000

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# ABOUT OURSELVES

IN these columns from month to month we shall attempt to give to our Readers a brief digest of what we consider the strongest features of the issue in question, notices of New Departments, etc., etc. In short it will be a handy place to turn to when you wish to know what you may expect from future numbers of "THE CANADIAN THRESHERMAN AND FARMER."

ON May 31st the big Two Thousand Prize Wheat Guessing Contest, which The Canadian Thresherman and Farmer put on last November closed.

As it takes considerable time to count the wheat, we are not able to announce the prize winners in this issue, but a full and complete announcement will be made in our July issue.

We have enjoyed this contest thoroughly, principally because the farmers and threshermen of Western Canada have taken hold of it with a will, thus enabling us to add thousands of new names to our list. We are trying in every way possible to make The Canadian Thresherman and Farmer a publication that will prove of interest and value to our readers. For \$1.00 we believe we give really more newspaper value than any other publication in Western Canada. It is gotten up in such a way that we believe we are justified in calling it a "farm machinery magazine." There is no phase of farm machinery that we do not discuss at some time or other during the year and in addition our special numbers on Haying and Harvesting, Tillage, etc., etc., contain a large amount of valuable first hand information that is to be found in no other publication.

Our papers since the first of the year have averaged about 92 pages a month with an average of about 50 pages of reading matter. We have thus given to our readers in the first six issues of this year over 600,000 words of pure reading matter.

We receive letters occasionally in which our readers criticize us for carrying too much advertising. We wonder how many of those readers ever stop to think that advertising is the thing that makes it possible for us to send out magazines of the size we do and of the quality that we carry at the low price of \$1.00 a year. If it were not for this advertising it would be impossible for us to publish such a paper at less than \$5.00 or \$6.00 a year, and this would barely cover the actual cost. Moreover, advertising should be of as much interest to the average reader as the reading columns. Every farmer and thresherman is interested in maintaining a complete and up-to-date farm equipment. He is, or should be, interested in knowing what is on the market in the way of farm machinery. The advertisement is by no means a charge upon the reader to buy, but is simply a piece of information as to what is going in that particular line. Our advertising columns are edited with as much care as our reading columns and we allow nothing therein that we cannot positively and do not positively guarantee. On our editorial page this guarantee is carried every month and we are ready to stand back of it at any time that one of our readers can prove to us that he has been defrauded through an advertisement that has been carried in our magazine.

We carry no fakes or patent medicines, so that when you read an advertisement in The Canadian Thresherman and Farmer you know of a surety that you are being introduced to only reliable firms.

But coming back to our contest. We are just as anxious as you are to know who got that Avery farm tractor. Whoever gets it will get a machine that is worth in cold spot cash \$2500.00 and that will be a money maker every day he uses it.

We are conducting the counting of the wheat in the same way that it was conducted last year. The matter has been placed entirely in the hands of Mr. D. D. Campbell, who is the Dominion Shippers' Agent for Western Canada and whose reliability we can thoroughly vouch for. Mr. Campbell selects the other two judges, one of which is a farmer. On June first we will give Mr. Campbell an order on the National Trust Company, Winnipeg, to go and get the bottle of wheat which has been stored in one of the National Trust Company's safety vaults, since last November. Mr. Campbell and his two assistants will count this wheat in such a way that there can be positively no mistake and will turn over to us the exact count. We will then go over our guess book and will pick out the winners of the two thousand prizes, each one of which will be notified. All the prizes that can be sent by mail will be sent postage paid and those that must go by express or freight will be sent F. O. B. Winnipeg.

We wish to take this occasion to thank each and every one of our readers for the way that they have stood by us in this contest. It is our sincere desire to give you value received and our offer is always open that you can have your dollar back any time that you are not satisfied. This has been a standing offer ever since this publication has been established and we have never yet been called upon to return a single dollar.

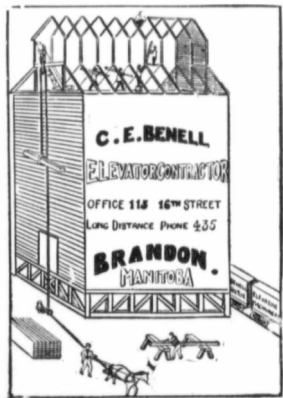


DON'T ask us if the "Barth" Jack is as good as it looks—if it is easy to operate—if it is simple to reverse—if it is always reliable—if it is more than satisfactory—if it is reasonable in price—if it wears well—if it is the Jack you ought to have—

BUT just put these questions up to any man who uses it. His answers will satisfy you. And why? Because the vast army of American threshermen have used our Jacks almost exclusively for 17 years. And that is true—every word of it. A most interesting new book on Jacks is ready for you. Write us. We will mail it at once. Address

Barth Mfg. Co. 39 S. St. Milwaukee, Wis.

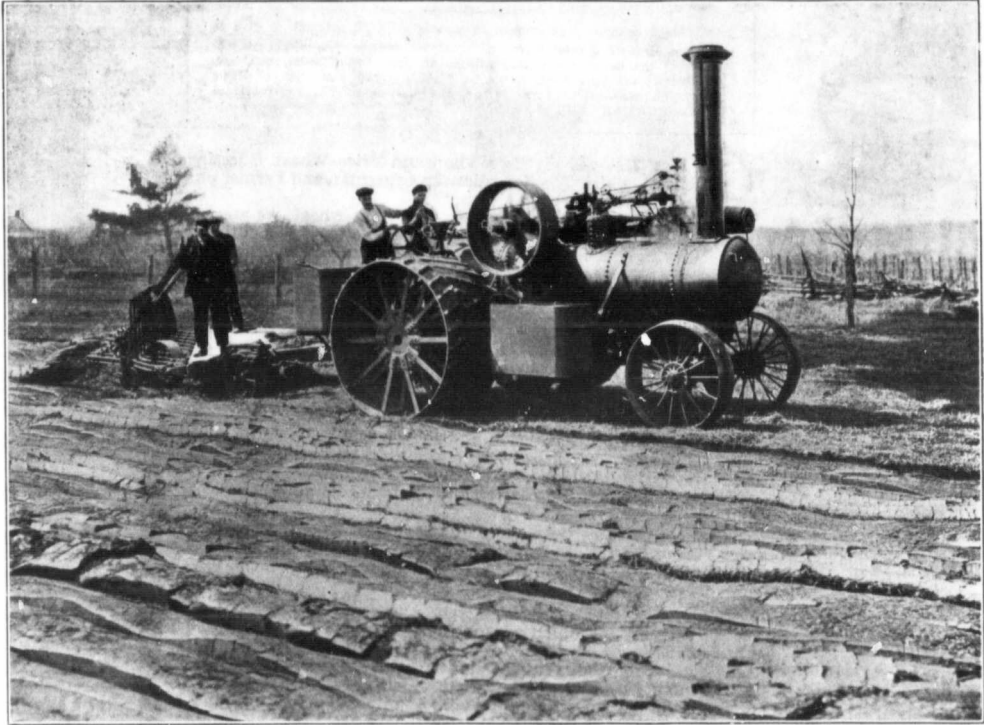
# Farm Elevators



GOES LIKE SIXTY  
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**GILSON**  
 GASOLINE  
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 For Pumps, Cream  
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 Ask for catalog—all sizes.

GILSON MFG. CO., 26 York St. GUELPH, ONT.  
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Don't Forget that Renewal!  
 And patronize those who patronize this Magazine



## The New S-M. is the Best Combination Traction Engine Built

**The Best is Cheapest in the end**

The above, illustrating our new S-M Engine, shows the Machine under field test and before being lagged. Every Engine thoroughly tested at the factory under its own steam and hydrostatic pressure. This latest model S-M Engine will please the eye of the most observant Engineer, and give him the greatest pleasure in operating.

All Gears, Shafts, Studs and parts on which devolve the strain of plowing have been correctly designed and made adequately strong for the work demanded. Our range of Traction Engines this year fully covers all the requirements for threshing and plowing and all other work demanded of a Traction Engine. They are made in 22-25-27-32 Horse Powers.

YOURS FOR VALUE

# Sawyer-Massey Co. Limited.

HAMILTON, Ont.

WINNIPEG, Canada.



Vol. XV.

WINNIPEG, CANADA, JUNE, 1910.

No. 6.



## The Machinery of the Hay Crop

By E. F. W.



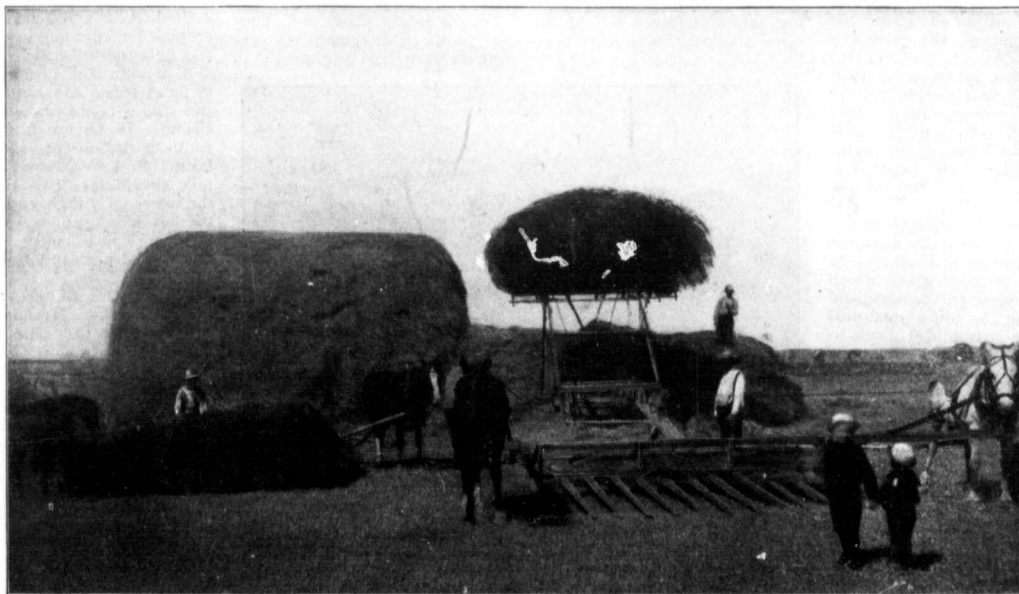
ORDINARILY we do not think of the hay crop of Western Canada as having any great commercial importance. Yet, when reduced to the basis of dollars and cents, it is by no means an insignificant factor in Western Canada's agricultural products.

A comparison of the aggregate production of the West with the hay production of Ontario reveals the fact that there is a side to our agriculture that is very much neglected, and when we furthermore, consider the fact that Western Canada can be made a most excellent hay producing country, we cannot help but feel

among the farmers of Western Canada that tame grasses do not thrive, especially the clovers. But when we get right down to brass tacks, we find that this is due largely to the fact that a start has never been made. In localities where clover has been tried and cared for sufficiently, we find the clover crop in a flourish-

all of the three prairie provinces. As a matter of fact, the Government of Saskatchewan is showing an unusual interest in this crop and has offered some substantial prizes in order to induce the farmers to sow more alfalfa.

Elsewhere in this issue will be found a number of valuable experiences of farmers all over



A Dain Sweep Rake and Dain Swing Stacker erecting a most beautiful stack.

In 1909 Manitoba produced 171,200 tons of hay, Saskatchewan produced 35,500 tons and Alberta produced 89,400 tons, making a total of 296,100 tons. In the same year the province of Ontario produced 4,773,000 tons.

that the farmer is neglecting a source of revenue that at the same time will put money into his pocket and increase the value of his farm materially for every ton of hay that he raises.

There is a prevalent idea

ing condition and the average yield per acre comparing favorably with the yields in some of the best localities on the other side of the line.

We find that alfalfa produces very good results in practically

Western Canada who have grown tame grasses with more or less success, so that in this article I shall attempt to deal more with the machinery of the hay crop with the idea of acquainting the farmers with just what equip-



ment is necessary in order to handle the hay crop successfully. The introduction of modern machinery has wrought almost the same change in the harvesting of the hay crop as harvesting machinery has in the harvesting of the small grain crop. The labor involved under present conditions in cutting, curing and storing a ton of hay is but a small fraction of what it was under hand methods. In the year book of the Department of Agriculture of the United States for 1909, we find when hand methods prevailed that the scythe, hand rake and fork required eleven hours of man labor to cut and cure one ton of hay. Now by means of modern machinery this time has been reduced to 1 hour 39 minutes.

This introduction of machinery into the handling of the hay crop means much to the average farmer. It not only means a saving in time, but it means a saving of considerable hay as well, for when it comes to curing tame grasses, it is wholly and solely a case of "making hay while the sun shines," and every possible advantage must be taken of good weather; otherwise the entire hay crop may be ruined or damaged to such an extent that it is not marketable.

**MOWERS:** The first operation in the handling of the hay crop is that of cutting the grass, and for this purpose the mower is provided. As we see it today there are two types on the market, the side cut mower and the direct cut mower. In the case of the former the cutter bar is placed at the side of the drive wheels, while in the latter it is placed directly in front of the drivers.

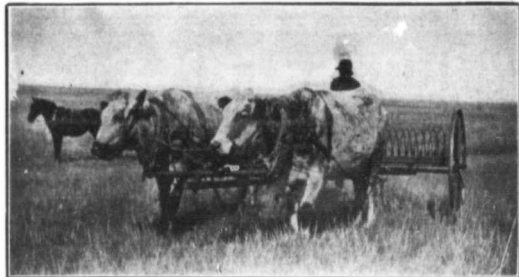
The direct cut mower is not used to any extent as it makes it necessary for one horse to travel in the uncut grass, which is very tiresome on the horse and if the ground be soft a great deal of the hay is trampled down to



such an extent that the cutter bar is not able to get at it and considerable grass is wasted. Mowers today are made in a wide range of sizes; some small machines of 3½ ft. and 4 ft. cut are made for one horse and these machines are used principally for the mowing of lawns and small plots such as are

found on experimental farms. The field machine, however, requires two horses and is usually 4½, 5 or 6 ft. cut. Machines have been built with a 7 ft. cutter bar, but in heavy hay there is so much side draft as to make this almost impracticable.

The mower of today and the mower of a few years ago are considerably different. In the first place most manufacturers build the wheels as high as possible in order to lighten the draft.



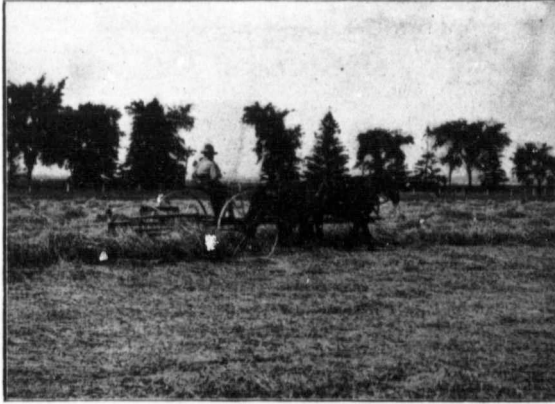
"Buck" and "Bright" and the rake helping to lay up a food supply for winter.

Roller bearings are also used and where any gearing is necessary it generally runs in oil, the principle exception to this being the main spur gears which transmit the power from the wheels to the smaller gearing. A mower is called upon to do more or less heavy work and this is augmented by the fact that a rotary motion must be transmitted into a rectilinear motion, which causes considerable jar. It is, therefore, necessary that all gearing be of ample proportions, that it run in oil and that all journals and boxes be so constructed that the wearing surface is large and at the same time permits of being readily oiled.

there may be several things wrong. First, the knife or sickle may be dull. Second, it may not fit well over the ledger plates, thus losing the advantage of a sheer cut. Third, the knife may not register, or in other words, it travels too far in one direction and not far enough in the other.

The first of these troubles may be remedied by grinding, the second by adjusting the clips on the top of the knife. There should be but a very slight clearance un-

der these clips and the exact amount has been given as 1-100 of an inch. To make the knife register in some makes, the pitman must be adjusted, while in others the yoke must be adjusted. If the mower leaves a narrow strip of grass uncut, it indicates that one of the guards has been bent down, a common thing to happen to mowers in stony fields. Mower guards are now universally made of malleable iron and may be hammered into line by a few sharp blows with a hammer. The guards may be lined up by raising the cutter bar, sighting over the ledger plates and along the points of the guards. In cutting on stony land or ground that



An I. H. C. side delivery rake making ready for the loader.

The mower is a very simple machine and may be said to consist of the following parts: the frame, crank shaft, main gears, wheels, pitman, cutter bar, grass board and such levers as are necessary for the operation of the machine. Ordinarily it causes very little trouble, but the following may be found of considerable use.

If the mower fails to cut the grass and leave the stubble clean,

contains a large amount of hummocks, it is well to tilt the cutter bar pretty well up, as this will allow the bar to ride over the stones and over the hummocks, rather than cutting through the latter. When the cutter bar goes through a hummock it collects considerable grit which tends to wear the edges of the sections and at the same time round off the ledger plates.

**RAKES** come next into service

as a hay machine and form the standpoint of saving labor, it certainly does its share. With the old hand rake it was a killing proposition to rake up an acre of hay, while with the ordinary sulky rake, which is generally drawn by one horse, it is but the matter of a few minutes.

One of the first horse rakes that came into use was what was known as the old spike tooth rake. This consisted of a bar of wood with long prongs on either edge of it. This bar was set in a suitable frame and a man walked along behind tilted the bar up so that the teeth stuck in the ground and hence dumped the hay. While this saved considerable time, it was a killing job, one which no boy could handle. Most of the rakes today are made of the self dump type and there is really no reason why any farmer should purchase any other kind. The mechanism is very simple and throws the labor of dumping on to the horse, where it should be. Most self dumping rakes are made so that they can be dumped by hand if necessary and occasion often requires that this be done.

The sulky rake must be selected to suit different conditions. The spacing of the teeth varies from 3½ to 5 inches and their size may be either ⅜, 7/16 or ½ inches in diameter. The teeth may have one or two coils at the top, giving them more or less flexibility. For light hay the teeth must be closely spaced but not necessarily heavy. Heavy hay must have heavy teeth. For the general purpose rake that with heavy teeth is the one most desired as it will answer the purpose for light hay just as well as a light toothed rake.

A special rake is now manufactured for alfalfa and where this crop is raised, should be purchased. In buying a rake, the width of the mower should be taken into consideration for a rake should take two swaths of the mower. If the swath is split the hay has a tendency to cling together; consequently, a very uneven and unclean job is the result.

With regard to the construction of a rake. It should have a heavy rake bar, with a minimum of holes or slots punched in it and this in turn strengthened by a truss rod. The wheels should also come in for a certain amount of consideration as these are parts which give out most rapidly. Until the advent of the steel wheeled rake considerable trouble was experienced through the falling apart of the wheels in dry weather. Interchangeable wheel boxes which can be replaced when worn, are also recommended.

The side delivery rake is also another type and was brought about by the introduction of the hay loader, the loader creating a demand for a machine which would place the hay in a light windrow. Practically all of these machines consist of a cylinder mounted obliquely to the



front. They carry flexible steel wire tines or fingers, which revolve under and to the front. These tines roll the hay ahead and to one side. Another type which is known as the endless apron side delivery rake is arranged in such a way that the hay is elevated up on to an endless apron which is made to run in either direction at right angles to the direction in which the rake is going, thus delivering the hay in a row on either side parallel to the direction of the rake.

The side delivery rake will take the place of a hay tedder to a large extent, especially with the handling of clover, for it can thus be raked into light windrows shortly after mowing.

**THE HAY TEDDER.** Where the hay is very heavy and in the case of clover where it is necessary to dry quickly, the hay tedder is used very extensively. The hay tedder is a machine which raises the hay out of the swath and leaves it in a light, fluffy mass, in order that the sun and wind may act upon it more rapidly. Grasses when cut with the mower are deposited very smoothly and the swath is packed somewhat to the stubble by the passing of the team and mower over it.

The hay tedder consists of a number of arms with wire fingers at the lower end. These are fastened to a revolving crank near the middle and to a lever at the other end. The motion of the crank causes the fingers to kick backward under the machine, thus engaging the mown hay, tossing it up and leaving it in a very loose condition.

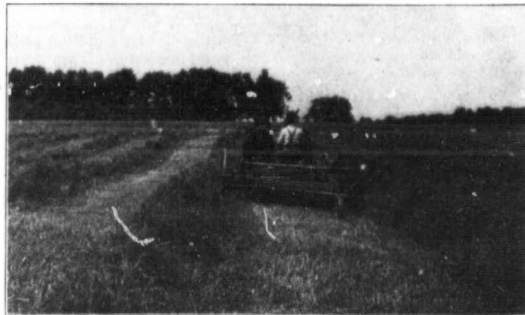
The modern hay tedder is made almost entirely of steel and where any considerable quantity of hay is raised is a very efficient and profitable implement, as the time saved by having the hay dried more quickly may often times be the means of saving the entire crop.

The next machine to come into use is the hay loader and while it is probably the most recent of hay making tools, it is nevertheless, a most valuable labor saver. He who has pitched hay on to a high wagon on a hot day has some idea of the amount of labor that this machine will save. It is particularly adapted to Western Canada for the reason that the country is generally level, and the swaths are long which saves considerable time in turning.

The machine is designed to be attached to the rear of the wagon, to gather the hay and elevate it to the rack on the wagon. It receives its power from its own drive wheels, which in most cases are provided with cleats in order that it may grip the ground more firmly. In all of the early machines, the hay was placed upon the elevating aprons by forks attached to oscillating bars extending up over the load. The hay was pushed along this apron by these oscillating bars with the tines or forks on the under side. This form of loader worked very

satisfactorily, but had one disadvantage in working in clover and alfalfa. The oscillating bars were unsatisfactory as they shook the leaves out of the hay. This led to the introduction of an endless apron, which works very satisfactorily in this respect.

The loader equipped with oscillating forks is of much more simple construction than the other type. It also has an ad-



A Dain side delivery rake doing some nice work.

vantage in being able to draw the swath of hay together at the top and force it upon the wagon. Loaders of this kind are made without gears by increasing the throw of the forks.

Another type is known as the endless apron loader. The hay is elevated in this type of loader on an endless apron or carrier after it has been gathered by a gathering cylinder. The main advantage of this type of loader is that it does not handle the hay as roughly as the fork loaders. This is an important feature in handling alfalfa and clover, as there is a tendency to shake out many of the leaves which form

held to the ground by suitable springs.

The loader has a great range of capacity. All modern machines will load hay from the swath or windrow and the carrier will elevate large bunches of hay without any difficulty.

With a modern mower, hay rake, hay tedder, side delivery rake and hay loader the handling of the hay crop from the grass to

proposition. When the load is secured the teeth are raised, the load is hauled to the stack and placed upon the stack and the rig backed away.

There are three different types of sweep rakes. First, the wheelless with the horses spread to each end of the rake; second, the wheeled rake with the horses spread in the same manner, and, third, the three wheeled rake with the horses directly behind the rake. In the simpler machines the teeth are raised from the ground by the driver shifting his weight either forward or backward. More complicated rakes have lever devices for raising the teeth.

These sweep rakes are constructed almost entirely of wood and as a rule deserve more care than what they get. A trip through the country in the winter time will reveal many of these machines standing out in the hay field where they were last used, with the result that the life of the machine is materially shortened. There is no reason why a set of these machines should not last a farmer a life time, as there is practically nothing about them to wear out that cannot be replaced at very small cost.

**HAY STACKERS.** Hay stackers are made in two general types; the over-shot which raises the hay placed upon the teeth by the sweep rake and throws it back over the machine on to the stack, and the swinging stacker which is loaded on the side of the stack, its load raised to the upper height, swung over the stack and discharged. The over-shot stacker is the more easily handled and is not so complex, but has the disadvantage of always placing the hay in the same spot, with the result that that part of the stack is packed more than the rest and will not allow the stack to settle evenly. In Western Canada where high winds prevail at certain seasons of the year, it is also quite difficult to handle light hay with the over-shot stacker as the hay must always be raised to the same height. With the swinging stacker the hay need not be raised higher than is actually required to place it upon the stack and the hay may be dropped at various points. In using any of these stackers, it is a mistake to overload them as the enormous weight of the hay will sometimes cause trouble that will far



Alfalfa



As I. H. C. sulky rake picking it up clean.

the most valuable part of the hay. Due provision, however, must be made to prevent the hay from being carried back by the carrier when returning on the under side, which has teeth to aid in starting the hay up the carrier. Provision must be made to enable the gathering cylinder to pass over obstructions and uneven ground. For this reason the gathering cylinder is mounted upon a separate frame and the whole

the stack by the hay fork or more commonly, the stacker. The sweep rake has straight wooden teeth to take the hay either from the swath or windrow and is either drawn from between the two horses or pushed ahead. Where it is drawn between the two horses it is required that one horse travel on either side of the rake and it requires some little training in order to accustom the horses to handling this sort of a



Bur Clover

# The Growing of Tame Grasses in Western Canada

AS TOLD BY ACTUAL GROWERS

The growing of tame grasses in Western Canada is assuming such importance as to lead us to investigate the proposition with the result that the following growers have kindly consented to give us their experiences.—Ed.



## A Remarkable Growth.

My experience in growing grass is not very extensive, being practically a beginner at it. Three years ago now, seeing that the native grasses were getting scarcer, owing to the settling up of the land, I decided to try a small patch of Western rye grass.

I procured seed enough to sow ten acres (after spring plowing the piece) but having to sow it by hand and not being used to the job of making my seed pan out, when I had six acres sown my seed was done. Not having a packer or roller, I harrowed it well in. Of course the crop was patchy, but the following year it grew, yielding about a ton to the acre and has done the same ever since.

Last spring I bought 40 pounds of "Turkestan" alfalfa and sowed two acres with it, using a "Cyclone" seeder, which by the way is much better than the arm-swinging business. I used nitro-culture for one-half of the seed. The other half was used without, but distributed over the ground 100 pounds of soil from an old alfalfa field, which soil I got from the Government on payment of the freight charges.

The one acre with nitro-culture was summer-fallow. The acre with inoculated soil was potato land the year previous.

The growth in both these plots was something remarkable. The one with treated seed was a little the better I think. Anyhow, by August the alfalfa was 28 inches high and beginning to flower. I cut the patch and got four big rack loads off it, which I thought very good for the first year when one is not supposed to get anything. I fed it to both horses and cattle and they seemed to relish it. I am expecting at least a couple of crops off it next year. If it turns out all right I shall sow more of it in the future. I sowed a patch of ten acres with a mixture of red clover and timothy with a nurse crop of oats. The oats I bound green for hay, and when the field was stooked the clover and timothy certainly showed up green and healthy.

This about comprises my limited experience in growing grasses, etc. I think most of the farmers around here will have to do it pretty soon, a lot having to buy hay now.

Yours truly,  
J. A. Milne,  
Moose Jaw.



Bromo Grass

## Rye Grass a Success.

I have grown about five acres of Western Rye Grass and one-quarter acre plots of Common Red, Alsike and Alfalfa. The soil in all cases was medium clay loam with clay subsoil.

The plot sown to Rye Grass was broken in the spring of 1905 and sown to oats the same year, fall plowed and sown to oats in 1906, spring plowed 1907 and sown to rye grass about June 1st at the rate of 14 pounds per acre.

oat sheaves with quite a bit of rye grass in the butts off this piece and the catch of grass looks good for next year.

With the clovers I did not have such good success. They were sown in 1908 about the end of June on summer fallow. All came up good and looked fine in the fall, but as the plots were not fenced the cattle made for them and ate the clover right to the ground. Just here I might say it is useless to try to grow clover

Trusting this may be of some use to you I am,

Yours truly,  
William A. Pain,  
Howell, Sask.

## Common Red Clover Not a Success.

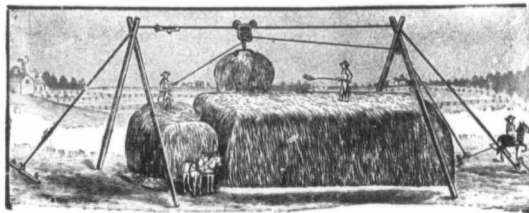
In reply to your letter of recent date respecting the growing of clover and tame grasses, I would like to say that so far as my own personal experience goes I should only be able to deal with alfalfa, but it has occurred to me that it would probably be of more interest if I took the gist of several reports which have recently come into my possession and which reports are the result of very careful experiment by several members of our Agricultural Society.

Three varieties of clovers were tried, in what appears to be the most successful experiment—Common Red, Alsike and Alfalfa. The land, which is a sandy loam with a clay subsoil, was broken about 3 inches deep and afterwards backset, another inch of soil thus being brought up to help to make the seed-bed. Oats were then seeded, and after this crop was taken off the land was plowed and the following season barley seeded. After this crop the land was again plowed, deeper than hitherto and particularly well worked down by harrowing, until the seed-bed was all that could be desired.

Then on the 1st of June, 1908, the clovers were sown, one-third of an acre of each. They were sown without a nurse crop and, in the case of the Alfalfa, the plot was sprinkled with soil inoculated with the bacteria culture. The weather was quite favorable, and the clovers soon developed a good strong growth, the Alfalfa and Common Red having a very even stand while the Alsike was a bit patchy.

Up to this point all the various experiments in this district seem to have had almost the same experience, but on August 13th there was a slight frost and the crops were out by it—the Alsike apparently coming through this ordeal better than the others. One of the plots, however, seemed to withstand the frost, due to the fact probably that it was on higher and lighter land and had more forward and vigorous growth at the time the frost came. On this plot in the fall of 1908 the Red Clover had attained a height of 24 inches, the Alsike 12 inches and the Alfalfa 18 inches.

A light mulch was spread over the plot early in the winter and reasonable depth of snow covered it. The spring of 1909 was, however, just as unfavorable for

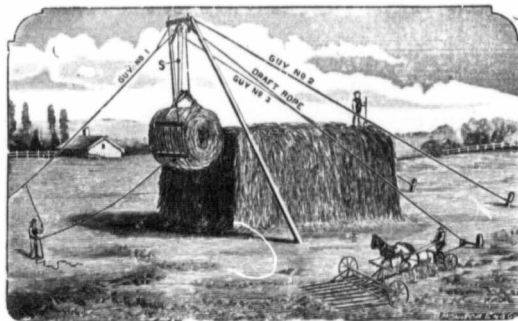


Cable outfit in field No. 3.

This made a fair growth and headed out in the fall but too late for any seed to mature. I may say that I ran the mower over this in the early part of August to check the weeds. In 1908 I cut at about 1 1/4 tons to the acre in the middle of July. This year the crop promised good in the spring, but I was unable to get my cattle to herd till about June 1st and they ate this patch off too close and I only cut one ton to the acre and plowed up the patch in the first week in August and intend to sow to wheat in the spring.

I have about 10 acres seeded on summer fallow this year with

without a fence. In consequence there was a very light covering of snow all winter. Still in the spring there was about half a stand alive until the late heavy spring frosts struck and then only patches, where there was a bit of pig weed standing escaped killing, and a strip of the alfalfa plot that was alongside some wheat stubble. About 6 feet of this was sheltered by the stubble and made good growth this year, averaging from 18 to 20 inches. Although this particular experiment did not succeed I believe that there is no reason whatever to hinder us grow-



Cable outfit in field No. 2.

oats, one bushel oats and one bushel of rye grass to the acre. This was mixed together and sown with a single disc drill opened to its full capacity (as the mixture does not feed good) and the tubes taken out of the boots and in this way it makes a fairly good broadcast seeder, the discs covering seed good and a stroke of the packer afterwards makes a good job. I cut 12 loads of fine

ing clover and alfalfa here. Keep the plot fenced and leave a good growth in the fall to catch snow and I see no reason why we should not grow clover as well as rye grass.

To my idea a mixture of the two would make the finest hay as the rye grass is rather harsh and wiry by itself and the clover would remedy this.

the clover as it was possible to be, alternately thawing and freezing for weeks. The snow would disappear and the top soil soften enough to encourage the return of the sap and commence the growth, and then everything would freeze solid again. Not once did this happen, but time after time, and when eventually the warm spring weather did come we discovered the Common Red to be killed outright. The Alsike came very thin and the Alfalfa rather better—anyway out of the three there was not one plot worth cutting.

Notwithstanding this result, I quite believe that if a covering of straw could be placed all over the plot and given an ordinary spring, that both Alsike and Alfalfa could be successfully grown here. Of the Common Red I am not at all so sure, as I have not heard of a single instance where it has survived the winter.

Of the tame grasses, I am able to give a more encouraging account. The grasses experimented with were Timothy and Western Rye in ground of the same nature and prepared very much in the same manner as that for the clovers.

The grasses were sown on June 6th and by the fall had reached the height, in the case of the Western Rye of 5 inches and in the case of Timothy 4 inches.

A light layer of manure was spread across both plots early in September, and although the spring was as I have said, very unfavorable, the plants were undamaged by frost. The weather was perhaps a trifle too dry for a big crop, but on July 20th the date of cutting, the Timothy was two feet high and the Rye 22 inches in height.

With proper cultivation and a reasonable amount of care, either of these grasses can be grown successfully and even in the West. We are very glad to note this, for the time is not far distant when the "prairie wool" will have to be replaced by its tame kindred.

Yours truly,  
F. W. Townley-Smith,  
Lashburn, Sask.

**Clover a Success.**

My experience with clover and tame grasses in Western Canada has not been extensive enough to be of much value to the farmers of the West, but I will endeavor to give it correct as far as it goes.

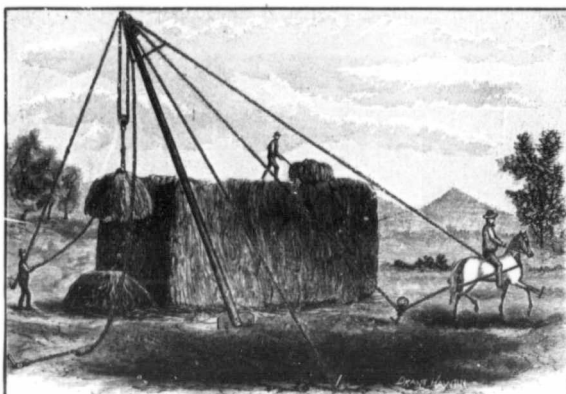
In the spring of 1908 we sowed one-quarter of an acre of Mammoth Red Clover mixed with wheat and drilled it about two and one-half inches deep.

I sowed at the rate of six pounds of clover seed to the acre and three pecks of wheat. The wheat was harvested about the 20th of August, after which the clover grew up to a good height, some of it heading out before the cold weather came.

In the spring of 1909 the clover showed up as soon as the ground thawed out and I don't think there was a single plant in the patch winter killed. I harvested a

very good crop about the 10th of August, but was unable to get it threshed. Therefore, I am not able to give the exact yield, but I think it would have been about two bushels per acre.

The patch of clover described above was sown on medium heavy black soil with clay subsoil, it having been in cultivation three years, one crop of wheat and two of oats being taken off.



Cable outfit in field (No. 1).

In the spring of 1909 we sowed 20 acres of Mammoth Red Clover on land that had been cropped five years in succession, sowing six pounds of clover seed and a trifle less than a half bushel of flax and harvested 14 bushels of flax in the fall and had a good stand of clover. I mixed the flax and clover together and drilled two and a half inches deep. The clover was up as soon as the flax.

Those who are contemplating sowing clover, should not expect a heavy crop the first year

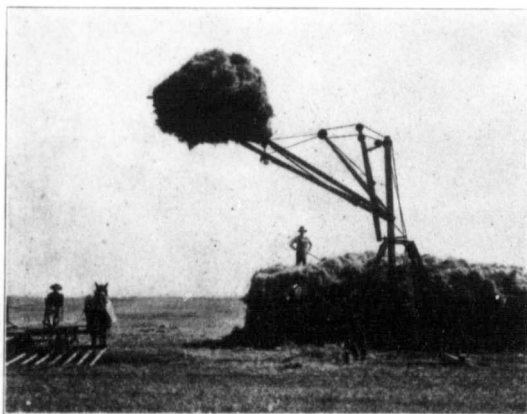
and sowed in the proper way, but I would advise anyone not to sow broadcast and always sow with a nurse crop, mixing the clover with the other grain.

Yours respectfully,  
Frank McKee,  
Wauchope, Sask.

**Don't Sow a Nurse Crop.**

Our experience with the growing of tame grasses is as follows:

In the year of 1908 about the 10th of April, we sowed three acres of Timothy, Red Top Clover and Alsike mixed in proportion, Timothy 6 pounds and the other two 3 pounds each to the acre, using barley as a nurse crop and sowing 2 pounds to the acre. This land had a crop on the previous year after breaking. The grasses came up fine, but about two weeks before cutting barley it began to get spindly and we cut a good crop of barley. The season was so dry that the barley took the moisture from the grasses and they



A Dain sweep rake and swinging stacker handling the hay crop.

or be discouraged if they don't get it. After the land has been clovered two or three times it will give a heavy crop.

I grew clover for ten years in Southern Minnesota and the patch we had here last year was as good as some of the first crops were there.

I see no reason why clover won't grow in Western Canada, if the land is in good cultivation

were almost exhausted for want of moisture.

In the spring of 1909 I intended to plow this up, but on walking over it one day I decided to leave it and about the middle of July we cut 1½ tons of hay. In 1909 we seeded six acres, two of it to Alfalfa and four Clover, Timothy and Alsike, sowing 20 pounds of Alfalfa to the acre. We used no nurse crop but spring plowed and

harrowed well and sowed about the 20th of June and it grew so fast that we cut it with the mower in the fall and left it on the ground to protect it through the winter.



Common Red Clover

I might say that we use a Cyclone Grass Seeder. The clover did not come through the first winter on account of being killed through the drouth the first year.

I might say, as the grass seed is so expensive, I would advise anyone not to sow a nurse crop, for in a dry season there is not moisture enough to support both. We are intending to sow 11 acres this year and will use no nurse crop. I think tame grasses will be all right out West.

Hoping this may be of some use to you, I remain,  
Yours truly,

Foulston Bros.,

Eyebrow, Sask.

**Foul Seeds Bad.**

I am afraid you have not got hold of the right fellow in reference to grasses.

I have only tried an acre or two of Alfalfa last year, but wish now it had been twenty acres, barring the foul seed that was in the seed I purchased.

I sowed on the 4th of June. The seed was treated, except a small portion which I left to note the difference. I compared the two all through the season but found no perceptible difference, and I concluded that the soil here will grow alfalfa without treatment.

The growth was all that one could expect. I did not cut for fodder, but could have taken several tons. I cut it and left it on the ground as a mulch and protection for the winter. I am hoping and expecting to be able to cut and harvest it in 1910 and will then be able to give more particulars. In the meantime, I am satisfied that alfalfa will grow here as well as the prairie grass. I also know clover will grow and survive the winter. The land is black loam, with clay subsoil. I had a few stalks of clover in my garden two years ago, and they are still there, nice healthy plants.

With respect to the foul seeds mentioned. I had a serious battle. I must have gone over my plot at least forty times and always found some. I was thankful I had not twenty acres. The place would have been ruined. I think the plant was some variety of mustard. If any comes up this spring I will try and find the name.

I am very sorry I cannot give you more information.

Yours truly,  
Jas. Hunter,  
Natika,  
Sask.



Alfalfa Clover



Bromo Grass

### What Not To Do.

I have your letter asking for my experience with clovers and cultivated grasses. This is a new country and the experience gained by us farmers here is limited; so I can tell you best what not to do.

Our dependence on scanty prairie grass for hay has proved very disappointing, and the slough grass wasn't much better. The latter has so much moisture therein and so much less food value that the cutting thereof is equally expensive and both very destructive to implements.

In 1907 I purchased a plot of land and sowed alfalfa, alsike and red clover side by side. All grew and came through the succeeding winter satisfactorily. The red clover, being on somewhat lower land seemed to be affected somewhat adversely thereby. In the succeeding year we had a fairly even stand of alfalfa. The alsike was rather short and the red clover reclining, although all were on well-prepared land. Weeds were in evidence.

Finding that a 20 acre pasture of speer and slough grass were insufficient for some working horses I prepared in the spring 20 acres of land and sowed thereon rye grass, 14 lbs. to the acre and mixed in it with Dutch red and alsike clover as well as some alfalfa, sowing the mixture broadcast in June, 1909. We got no crop that first year.

On a lawn I prepared I sowed a quantity of Kentucky blue grass mixing therewith a small quantity of Dutch clover. This grass seed appears to have been old and did not germinate evenly. When re-sown with other seed I got a nice lawn rather thin, but as this grass extends by rootstalks, I think I will find it sufficiently thick for a lawn in the ensuing year. The Dutch clover grows nicely.

In the spring I also sowed some eight acres of Siberian millet on spring plowing and cut some eleven tons of hay. This hay is remarkable for its weight and

makes good feed for cattle. I find to cut and rake it on the field gathers large quantities of earth which makes this hay dusty. I found therein a beautiful sample of the Russian thistle, so you can see the weeds we have ever with us. I purpose sowing further rye grass and alfalfa for fodder and I would advise summer-fallow. Many



Timothy

hundreds of seed are in each square foot furrow deep. Cultivate with disc and smoothing harrow every time a plant appears and after every shower, as this land will stand in crop for many years and it should be well smoothed. If you must sow by hand, stake out the land and sow one half seed, then cross-sow the balance and perhaps you will then wish you had used a seed drill. When the plants are ten inches

### Alfalfa Winter Kills.

Owing to my father's illness, I will attempt to answer your letter regarding the growing of clover and tame grasses. Father has been experimenting with quite a number of tame grasses, viz., Timothy, Bromo, Western Rye, English Blue Grass, Alfalfa, Kentucky Blue Grass and Red Top. He has not kept an account as to the yield, etc., but finds that Timothy is the best all round

### Tame Grasses Did Well.

Referring to clover and tame grass, I might say that I have not had much experience here as yet with the above, although last spring I purchased four pounds each of Red Clover and Alfalfa and seeded them separately on a piece of good soil, being clay loam with clay subsoil, on which I grew two crops of potatoes. The land was spring plowed and harrowed down well and seeded broadcast without a nurse crop about May 20th.

The seed came up well and about May 20th I ran the mower over it to cut off any weeds that were coming in it. The Red Clover did very well. There was a good thick bottom with a growth of 12 to 18 inches and looked very rich and healthy, and there should be a good crop of both clover and alfalfa this coming season.

I also seeded about two acres of Timothy with a nurse crop of oats on land on which I had two crops of barley. The land was spring plowed and harrowed down well and seeded broadcast about the 20th of May. The seed came up well and when the oats were out there was every prospect of a good crop of hay the coming summer.

Yours truly,

J. W. Bates,  
Kelvington, Sask.

### Not Very Satisfactory.

Regarding your enquiry re growing of clover and timothy in Saskatchewan, I may say that my experience has not been very satisfactory. Old Country or even Ontario methods do not suit here. I tried 10 acres in 1908 on stubble well disced and sown with 3 pounds of clover and 8 of timothy along with 1½ pounds of oats drilled in.

The fall was very dry here and the clover that came away all right died out, but the timothy did not. The land is a little light and the timothy made about one ton per acre.

In 1909 I tried the same amount of land treated the same way with just about the same result. Timothy according to my observations will make a fair crop of good hay on heavy soil, but is not as well suited on light soil as other grasses here on account of the long spells of dry weather that are characteristic of this province.

Success may be had as follows:  
1st. Seeding down without a nurse crop as it is termed.

2nd. By seeding on well cultivated land; summerfallow if it can be afforded.

3rd. By not sowing too late as mine was; that is, after all the grain crop was in.

Clover I think will not be much of a success here, and timothy does not make a big crop on light land anywhere that I have been. My next attempt will be Western Rye grass with better cultivation.

Yours truly,

George Cockburn,  
Briercrest, Sask.



A Massey Harris Mower laying an even swath.

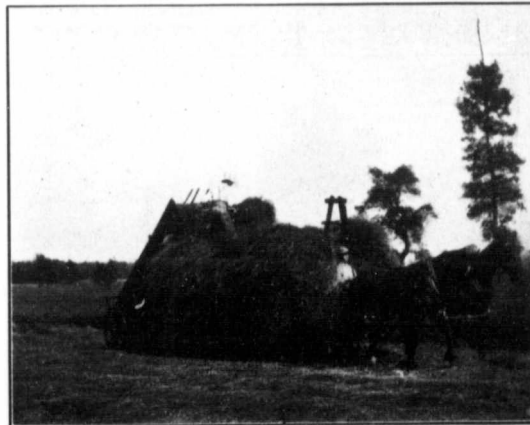
tall cut the whole field evenly with a mower set some 5 to 6 inches high. This will cut off the seed tips of the weeds and give the crop a chance to smother them. Do not allow cattle to pasture your hay the first fall. You need the tall plants to catch the snow. Never allow your stock on clover. Cattle gorge them, trample young plants and eat the crown, thus killing the plants. A good hedge of maple would help the clovers through where the land is exposed to winds. Avoid sowing clover where the land is low and the drainage imperfect. Authorities

grass for either hay or pasture. I think it will be the principle kind sown before long, as it does fine in this climate.

Bromo grows all right, but is a little coarse and some think it hard to kill, but I think it can be managed all right. With us it is a very hardy grower and makes a fair pasture. Western Rye grass is simply a native grass.

I do not know much about English Blue Grass, as we did not have much, but I think it makes fair pasture.

Alfalfa does all right, but winter kills badly. Kentucky Blue Grass makes good pasture and is



A Massey Harris Hay Loader doing a nice stunt.

are divided as to the need of inoculating new clover seed beds. I used none. An Alberta Experiment Station tried both methods and reports in favor of inoculation. Each grower should so experiment as all lands vary in composition.

An excellent hay can be had by sowing oats and cutting whilst green with a binder to avoid dust.

Yours truly,

Wm. L. Ramsay,  
Bladworth, Sask.

a first class yard and lawn grass. I don't think it can be beat for that.

Red Top does well and makes good hay and seems to do well on land that is a little wet.

All of these grasses have been grown on land that is slightly alkali. I am sorry I cannot write better on this subject, but as we have not kept any records, it is impossible. Yours truly,

Alva T. Jones,  
Quill Lake, Sask.

**Alfalfa a Success.**

With reference to your letter of enquiry about the growing of tame grasses, I beg to say that for the first time last spring I tried alfalfa and timothy.

I got 20 pounds of alfalfa of the Montana Seed variety, which I sowed in 3/4 of an acre on the 15th of May. The soil lies in a low place where potatoes had been grown the year before.

The growth was a surprise to me. It came up very thick and strong, standing from 2 1/2 to 3 feet high. My intention was to cut it and leave it on the ground to protect the roots from frost, but on account of some bad weeds I took up the crop which gave me 3 tons of fodder. I cut it on the 20th of August.

It started to grow and was up to 3 inches when the first frost stopped it. I will let you know how it does this spring.

As for timothy, the quantity sown was only one pound. I will keep you posted on the success of this grass, which has not been tried in this district.

Yours truly,  
David Venne,  
St. Julien, Sask.

**Tame Grasses a Success.**

I have just recently returned from a trip to South Dakota and so could not answer your enquiries sooner, as I did not receive your letter until after my return.

I have had no experience with clover except alfalfa. I sowed a little patch of it six years ago, and it is still growing. If I had kept the stock off it in the fall I think I should have had as good success with it here in the West as anywhere in Canada.

As for tame grasses, I have raised timothy for about five years with splendid success. I have seeded down a piece every spring, using a drill and sowing it along with barley. Last year I sowed it about the first of June. I try to get it in just as early as possible. I never use anything but a shoe drill so as not to get it in too deep.

I harvest the timothy immediately after it begins to go out of the first blossom. The average yield per acre has been about two tons. The soil here is a clay soil, not so heavy as in some parts of the West.

This is all the experience I have had with clover and grasses.

Yours truly,  
N. D. Clark,  
Swift Creek Farm,  
Carlyle, Sask.

**Do Not Seed Too Deeply.**

Last spring I seeded half an acre to timothy and half to Western Rye. The land was spring plowed and well packed before seeding. I drilled in the grass as light as I could set the drill along with a little wheat, but the seed was buried too deep and the most of it died before reaching the surface. Another time I would take the tubes out of the dises and let the seed drop from

the base of the drill and pack after.

I also put in half an acre of timothy and alsike, which I seeded the same way only the land was breaking and the drill did not sink into the ground enough to bury the seed.

This was a very good catch. I took a small load from the half acre the same year. Where an old fire guard crossed the patch the clover was quite a height. This was soon rather thick, but I went over the ground twice

mainder was treated with Nitro-Culture and there was a marked difference in the growth and vigor of the plants, those of the treated seed being one-third taller than those of the untreated and if it comes through the winter alive I will consider it a great success, as a great number of plants attained the length of 27 inches in 75 days and yielded two nice crops. But I only cut it once.

Yours truly,  
William Kearns,  
Qu'Appelle, Sask.

nurse crop. I got a good stand, cut it about the first week in August and it grew about ten inches high, but did not bloom. I cannot tell how it will come out this spring.

Yours truly,  
Robert Kerritt,  
Cochrane, Alta.



Common Red Clover

**Very Much Encouraged.**

In reply to yours in regard to the growing of tame grasses, would say that I have had but very little experience in that line in this country. I have only been on my homestead two years and the country is very new yet. Last spring I purchased one pound of Alsike. This I sowed on a low piece of brush land heavy soil. I had cut the brush close and had a good clean burn. I merely sowed the seed on top of the ground, never harrowing it at all, it made a good catch. It fairly surprised me. It grew from 3 to 6 inches long and it was very dry here last season.

I sowed two pounds of Red Clover on higher land, the same as the other, merely cleared off. The catch was very good, but owing to the dry season it was about 4 to 6 inches long. When winter set in it looked very well.

I also sowed one-half pound of Panonian Clover. I could not see much of it in the fall. Now what this will pan out I cannot tell for another season, but I believe it is going to be a success. I sowed about 3 bushels of Timothy the same way on my Red top meadow and when I cut the hay I found a great lot of young Timothy from 1 to 3 inches long, all over the bottom. I believe I am the only farmer in this district who has tried any tame grasses. I am going to keep on experimenting with the tame grasses as my object is to have a hay farm here. I can cut now 150 tons a year of wild Red Top and I intend soon to cut over 300 tons a year if I can make the tame grasses grow here, and from what I have already seen I am very much encouraged.

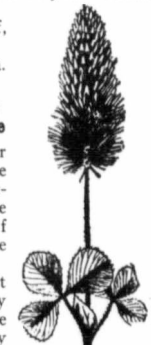
If there is any further information you may want I will be pleased to give it to you. Yours respectfully,

W.S. Woodruff,  
Entwistle,  
Alta.

**Dry Weather Not Favorable**

I received your letter asking me to state my experience in the growing of clover and tame grasses.

As this district is very newly settled, there has been very little grown



Burr Clover



A Frost and Wood Hay Loader and Side Delivery Rake at the finish of a successful season.

with the drill, making rows about three inches apart, so it is well distributed.

I am afraid I cut it too late, towards the end of July. It did not grow much after that.

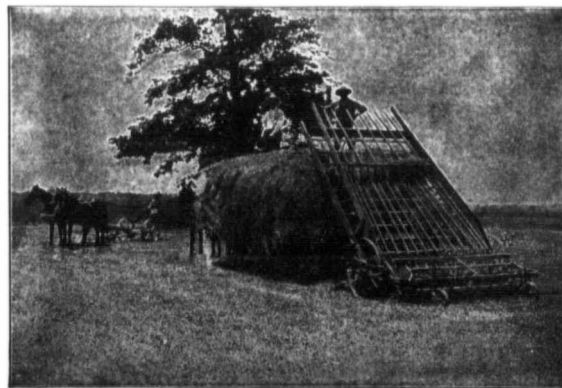
I also had a patch of Turkistan alfalfa at the one end. This is the first winter and if any survives, which I think it will, I shall break up more land around the house where I do not want crop and seed it to timothy and alfalfa.

I hope to get all my waste patches of land seeded to grass of some kind before long, so may

**Clover Better in Alberta.**

I have had but little experience in growing tame grasses and clover. In 1907 I sowed 2 acres of timothy on breaking, which was broken in the summer of 1906. I had a fairly good stand of timothy and I cut the first crop of hay the latter end of July, 1908, which yielded about 2 1/2 tons of hay.

The second crop which was cut the end of July, 1909, was light, only yielding about 1 ton on the two acre plot. I may add that I should have had better results if I had waited a year longer and



An I. H. C. Loader picking it up clean.

have some results to send you later.

Yours truly,  
E. B. Dand,  
Saltcoats, Sask.

**Nitro Culture Paid.**

I just commenced to experiment with tame grasses last spring by sowing alfalfa and white clover on land which had been growing potatoes continually for twenty-six years.

One-fourth of the alfalfa seed was sown as received and the re-

got the land in better shape.

The same year I tried one-tenth of an acre with alfalfa, putting it in with wheat as a nurse crop. I got no stand with it. The land had been cropped one year previously.

I also tried one-tenth of an acre with red top clover, putting it in with oats as a nurse crop and had no better results than with alfalfa.

I tried one-twentieth of an acre with alfalfa in 1909, sowing two pounds of seed. I sowed it broadcast about the middle of May, no



Alfalfa

here yet. There patches of tame grass sown in here this year, 15 acres of timothy on rough breaking, sandy loam; two plots of alfalfa and one of Russian blue grass. The timothy was almost a complete failure and the alfalfa made a good stand. The blue grass, however, did not do well, it being too dry. In the Olds and Bowden districts of this province, where the soil was a moist black loam, my father and I have grown timothy on breaking and cut 13 1/4 tons to the acre the year of seeding and cutting 2 3/4 the following year.

Brome grass yielded about the same while rye grass yielded about 13 1/4 tons to the acre.

I have only seen one patch of clover, it being a five acre plot of red and white clover mixed. It did not do very well. Nearly every winter a lot of it died. It was grown near Olds, but never got long enough to cut.

In whatever places I have been, timothy, alfalfa, brome grass and rye grass seem to do well when properly handled, a large part of failures being due to being sown on rough, soddy ground and often dry land.

I also notice that while a field may yield well the year it is sown in the damper districts on the Calgary and Edmonton railway, in the dryer districts to the east in almost every case it could not be cut until the second year.

Yours truly,

Charles Harding,  
Lougheed, Alta.

#### Sowed it on Low Land

In answer to yours I may say that I tried some alfalfa three years ago on a piece of low land near river. I got a nice stand with it first year; cut the weeds off the top in the summer and the next year I cut it for hay. Then I let the cattle and horses graze on it after. I think they ate it too close as the next spring the most of it was killed with spring frost the same as the fall wheat,



Timothy

and last spring I sowed two acres of Red Clover with Timothy and a nurse crop of one-half bushel of oats to the acre and as I farmed for 25 years in England, yet I never saw a nicer stand of clover. It stood about 10 inches high among the oats. But in the late summer it was very dry weather which must

have hurt it some as it began to wither and now I wait next summer for results with the clover. This also was on low land near the river.

Yours truly,  
James L. Wannop,  
Laurence, Alta.



A Massey Harris Hay Tedder "Kicking up."

#### Some Valuable Advice.

I received your letter regarding my experience in growing clover and tame grasses. I am sorry to say I have not had much experience with tame grasses, only a little with timothy and alfalfa, the latter only being sown last spring.



A Frost and Wood Hay Loader licking it up clean.

My best results with timothy has been on land prepared in this way. After seeding I disc my intended summerfallow once and sometimes twice if the land is not very loamy, then harrow it cross-



An I. H. C. Tedder getting a heavy crop into shape to stack.

wise, leave it for a few weeks so as to let the weeds come up well and then I haul all the manure on it. About the first of July I plow it, harrowing it as I plow and about two weeks afterwards to

keep the weeds from getting too high. The next spring I sow either to oats or barley, generally oats, sowing the timothy sometimes just before I drill the oats in and sometimes just after the oats are sowed, giving it a stroke with the harrow after.

Care should be taken not to sow the timothy too thick as it grows short and leafy when sown too thick or if more than three crops are taken off the land without being broken up again. About 8 to 10 pounds to the acre is enough if the seed is good. If the oats are a heavy crop and the

timothy has yielded from 1 1/2 to 2 tons to the acre on clay loam soil. I cut my timothy just as the second bloom is falling off.

I think it is a mistake to sow timothy on land that has been cropped so long as not to grow a fair crop of grain any more.

In grain districts where it is impossible to manure summerfallow, it should be at least summerfallowed at any rate before sowing timothy. My alfalfa was sown about the 10th of June on land that had been plowed early in the spring and harrowed down.

About the 8th of June I drew a light coat of well rotted manure on it, then disced it, killing all the weeds that had come up, then harrowing it, sowing the alfalfa just before the last harrowing. When it was about 8 inches high I cut the tops off, leaving them on the ground. This seemed to make the plants look a little dull, but about a month before the snow fell there were nice young sprouts coming out from the roots just above the ground.

I gave the land another light top dressing of manure just after the sprouts came out from the roots to protect the young plants from the winter and have no doubt that next summer I will have a fine plot of alfalfa.

This is all the experience that I have had.

Yours truly,  
Noah A. Krueger,  
Wetaskiwin, Alta.

#### Can be Grown Successfully.

The grass that I have grown the most is Western Rye Grass. I have always grown it on low wet land where there was considerable alkali. I sow about 12 pounds per acre. As the seed is very light and hard to sow by hand, I mix the grass seed with about 1 1/2 bushels of oats, and I open my seeder to sow nearly 2 bushels per acre.

I have always had a good patch when I got good seed. I got splendid seed from Mr. K. McIver, of Virden, Man. I have usually had a good crop, but can't give you the amount per acre. Last year I cut 21 big loads off about 10 or 12 acres. It was the second crop. I generally cut two crops of hay then break it up.

I have not grown any Rye Grass on good high land but I think it would be very satisfactory.

In regard to Timothy and



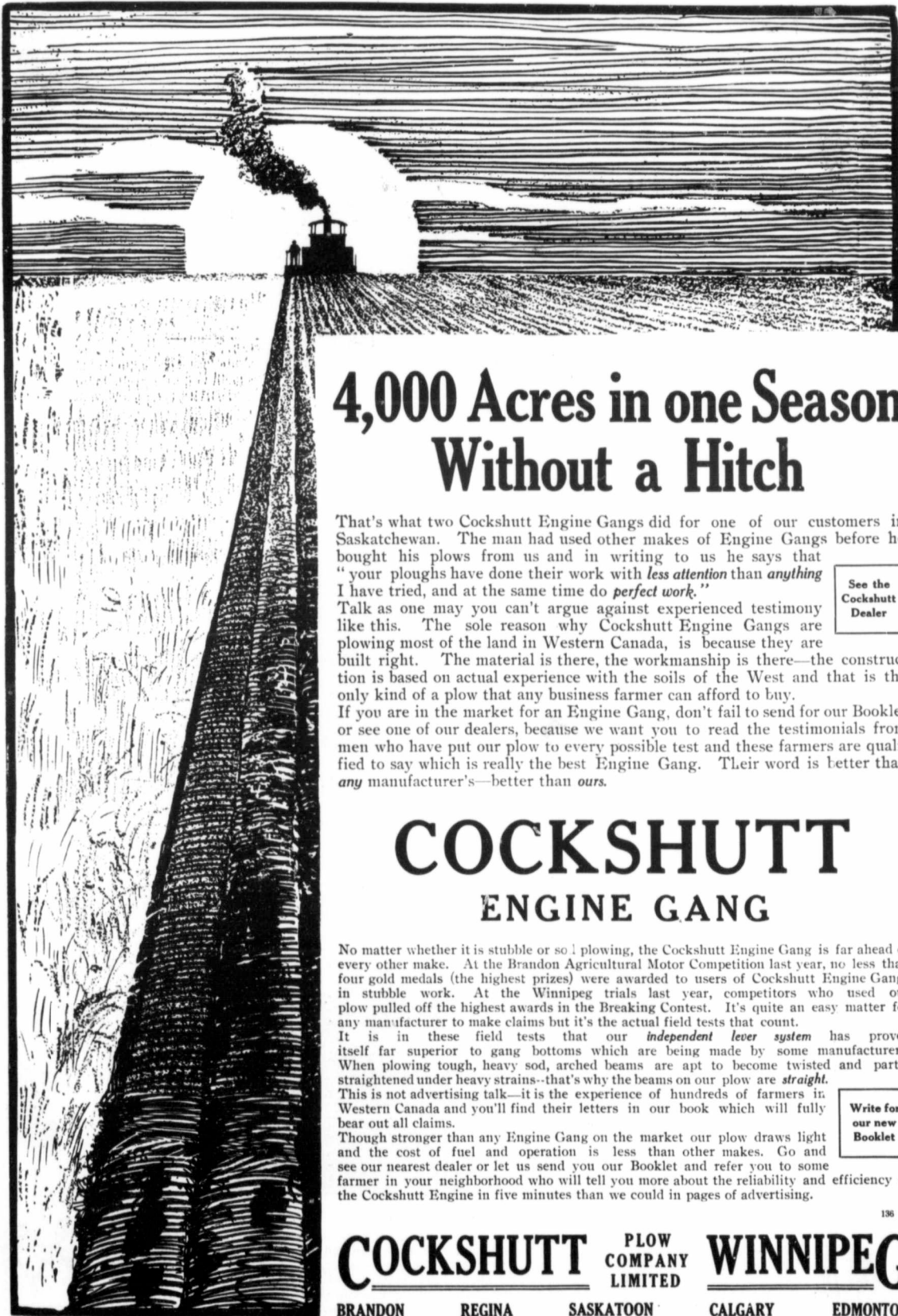
Common Red Clover



Burr Clover

If one could burn off the stubble without injuring the timothy then one could harvest the first crop, but I have had no experience in that yet.

Land prepared in this way for



## 4,000 Acres in one Season Without a Hitch

That's what two Cockshutt Engine Gangs did for one of our customers in Saskatchewan. The man had used other makes of Engine Gangs before he bought his plows from us and in writing to us he says that "your ploughs have done their work with *less attention* than anything I have tried, and at the same time do *perfect work*."

See the  
Cockshutt  
Dealer

Talk as one may you can't argue against experienced testimony like this. The sole reason why Cockshutt Engine Gangs are plowing most of the land in Western Canada, is because they are built right. The material is there, the workmanship is there—the construction is based on actual experience with the soils of the West and that is the only kind of a plow that any business farmer can afford to buy.

If you are in the market for an Engine Gang, don't fail to send for our Booklet or see one of our dealers, because we want you to read the testimonials from men who have put our plow to every possible test and these farmers are qualified to say which is really the best Engine Gang. Their word is better than any manufacturer's—better than *ours*.

# COCKSHUTT ENGINE GANG

No matter whether it is stubble or soil plowing, the Cockshutt Engine Gang is far ahead of every other make. At the Brandon Agricultural Motor Competition last year, no less than four gold medals (the highest prizes) were awarded to users of Cockshutt Engine Gangs in stubble work. At the Winnipeg trials last year, competitors who used our plow pulled off the highest awards in the Breaking Contest. It's quite an easy matter for any manufacturer to make claims but it's the actual field tests that count.

It is in these field tests that our *independent lever system* has proved itself far superior to gang bottoms which are being made by some manufacturers. When plowing tough, heavy sod, arched beams are apt to become twisted and partly straightened under heavy strains—that's why the beams on our plow are *straight*. This is not advertising talk—it is the experience of hundreds of farmers in Western Canada and you'll find their letters in our book which will fully bear out all claims.

Write for  
our new  
Booklet

Though stronger than any Engine Gang on the market our plow draws light and the cost of fuel and operation is less than other makes. Go and see our nearest dealer or let us send you our Booklet and refer you to some farmer in your neighborhood who will tell you more about the reliability and efficiency of the Cockshutt Engine in five minutes than we could in pages of advertising.

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**COCKSHUTT** PLOW COMPANY LIMITED **WINNIPEG**

BRANDON

REGINA

SASKATOON

CALGARY

EDMONTON



**Brome Grass**  
 Clover, I have not cut a crop of it yet, but I seeded some last spring and got a good patch. I only mixed a little clover with the timothy to see if it would do, and when I cut the wheat where I sowed the grass, some of the clover was 4 to 6 inches high. I sowed about five pounds per acre with a grass seeder attachment and put the seed in front of the discs on my grain seeder.

This is all the experience I have had with tame grasses, but I know they can be grown successfully in Manitoba.  
 Yours truly,  
 Thos. R. Patterson,  
 Hayfield, Man.

**Sees no Difference with Nitro Culture.**

My experience with tame grasses and clovers is limited. I have some land unsuited for grain growing, being low-lying and containing a little alkali, with sandy subsoil. I sowed ten acres of it with one bushel of barley with the seeder (drill) and afterwards sowed timothy ten pounds per acre with hand seeder, harrowing and rolling. This was sown June 8th, 1909, and although it did not all come up, still there is a good stand.

I sowed one acre of alfalfa, putting five pounds and one bushel of barley as nurse crop. Part of this seed was treated with nitro-culture and part not. Up to the present I can see no difference between the treated and the untreated portions. This was sown with a hand seeder on May 20th on sandy loam soil and I think all this seed came up.

I also sowed three acres of brome and rye mixed without a nurse crop on a sticky soil, containing alkali, a small part of this being white with it.

This seed came up nicely, doing better on the good parts of the field, but coming up even on the strong alkali land. It was sown by hand on June 12th, 1909, and I cut about two tons of nice hay on September 6th. All this land was in good condition of tilth.



Timothy

**Timothy and Alsike a Good Mixture.**

Answering your kind letter regarding my experience in the growing of tame grasses in this country let me state, first that being

a French Canadian, I am not aware of the English language and that I have no pretense as to a contributor to your valuable magazine

The land in La Salle is nearly all alike: black, hard clay, rich,

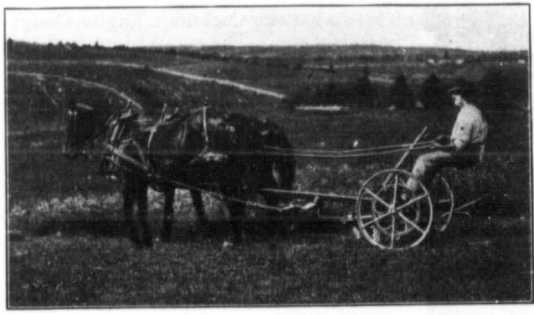
As you know there is no crop in tame grasses on the year we put in the seed. The year after the yield was a little over one ton an acre. The second crop was nearly two tons an acre. The third year was the best, in 1905,



A Dain Hay Loader in a heavy bunch.

and hard to till, especially in low parts. My field of experimentation was first a field of about 6 acres—1-3 high land, 2-3 low land, practically not drained; where water used to stand on the

giving nearly three tons an acre. This was the top; the crop was decreasing in the fourth and fifth years. The small field was well fenced and no animal was allowed on at any time for pasture. The



A Frost and Wood Mower cutting a nice 5 ft. swath.

ground in the wet seasons. After a few crops of wheat and barley on the said land, I first had a good fall plowing made and in the spring, after the wheat was seeded, say about a week after, just on

cutting was done each year between the 10th and 15th of July. That mixture was fed each year to my horses and cattle; excellent for both. It is sometimes a little too dusty for horses when



An I. H. C. Mower laying a beautiful swath in heavy hay.

the eve of a good rain, I had my man in the field with a good hand grass seeder, spreading a mixture of timothy and alsike clover, about 10 to 12 pounds to the acre—half mixed in quantity.

kept in the stable's garret. The mixture keeps all right in stacks when covered, say one foot, with prairie hay. It is extra good for milking cows in the winter. After my provision was ex-

hausted, I noticed every winter that the production of milk had a drop of 40 per cent.

Though sown equally in high land and low land after two years, timothy grew nearly alone in high land and alsike clover alone in low land. The effect on the land is not the same from this mixture. Timothy is as hard on the land as wheat is, drying out the soil too much and the value of the crop, just the same as wheat. Timothy gives extra good pastures, especially in the fall.

Alsike Clover is the most hardy. Its growth according to different kinds of years is from 15 to 30 inches. Its effect on the land is very important. If sown pretty thick it will kill all weeds and its roots—20 to 50 inches each—will deepen the soil and give nitrogen to the soil at a depth of at least 10 inches. Since I had the Alsike Clover raised in this field, we never noticed any water standing on the ground, even in the spring.

In the summer of 1908 after the grasses were cut, I had that field broken anew to the depth of 6 or 7 inches. In the fall, we disc-harrowed the same twice. Last spring, 1909, we put wheat in. The season here, around Winnipeg, was so dry that the crop was nearly a failure around here. On said field, though we lost something on account of hail in July, we threshed a little over 22 bushels of No. 1 Wheat to the acre. In the fall of 1909 I had a good fall plowing done and I expect more than 30 bushels to the acre for next crop.

Besides this small field I had two larger ones sown some years ago with the same mixture, timothy and alsike clover till the third year and decreasing after. But these two other fields have not yet been put again to grain.

I made another experiment with timothy and big red clover. The first cut of said mixture was the summer of 1909 and there was practically no clover. Big red clover would give larger crops, but is not hardy enough to meet most of winters and springs. Besides this, red clover cannot be fed to horses with advantage. It is ordinarily too much lying on the ground and a good part becomes rotten before it is cut. But the effect of all clover is the same on the soil. Where the land is heavy as in



Common Red Clover



Burr Clover

Continued on page 72





# RAINY DAYS

OF

## Mower and Rake Trouble

WILL NEVER CROSS YOUR PATH IF YOU USE THE

# “MASSEY-HARRIS”



Frame is made of best material and in **ONE PIECE.**

All gears are enclosed, keeping out dirt and trash and preventing breakage and excessive wear.

Drive Wheels are high and broad faced--won't sink in soft ground. Well supplied with lugs.

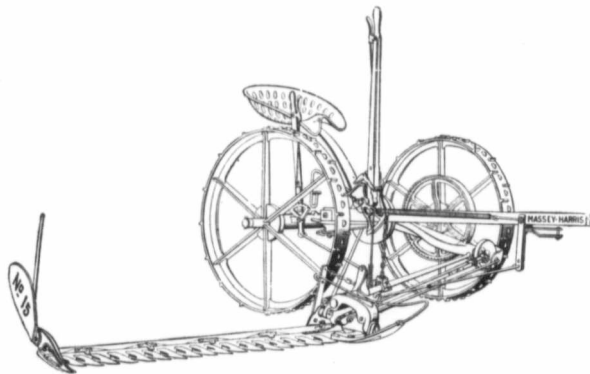
No lost motion with the “MASSEY-HARRIS.” Knife starts the instant wheels begin to turn.

New Foot Lift operates **50 PER CENT.** easier than any previous styles.

Underdraft principle increases power of Mower. The heavier the work the harder the wheels bear on the ground.

Flexible Swathboard is a great improvement. No danger of breakage and movement of board prevents bunching of grass in a heavy crop.

No danger of losing the oil can. This may seem a small matter but one we have paid such attention to that the can will not jolt off machine.



**With New Raised Ledger Plate Knife Cuts Full Depth of Section**

**Adjustable Tilting Lever Ratchet gives ample throw to cutting bar.**

**Adjustable Coupler keeps cutting bar always in line.**

**Forged Steel Knife Head Connection.**

**Strong Crank Head Connection.**

## GET ALL YOUR HAY WITH OUR No. 3 RAKE

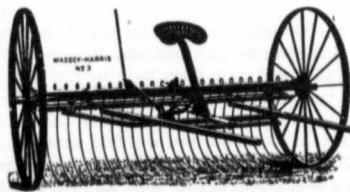
Has Great Capacity. Basket Is Large. Cleaners Are Of Oval Shaped Steel And Are Connected By Steel Rod Extending Entire Width Of Rake.

Well Braced Angle Steel Frame. Oil-Tempered Steel Teeth with shoe points. Each has a coil section giving flexibility and preventing damage.

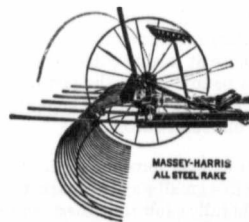
Strong Steel Wheels, Large Diameter, Wide Tires.

Automatic Dump operates by hand or foot.

Teeth Lift Well Above the Windrow. When Dumping Hay Does Not Catch and Drag Behind The Rake.



**MASSEY-HARRIS COMPANY, LIMITED.**



“Our Nearest Agent Has A Sample.”

JUNE



# The Canadian Thresherman and Farmer

CANADA'S FARM MACHINERY MAGAZINE

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

1910



"Everything begins and ends with the soil."

## 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."

WITH the passing of Edward VII another chapter in English history was closed. It was a short chapter, this reign of the late king; yet in the short space of a trifle over nine years no other king who has ever sat upon the British throne has so endeared himself to the hearts of the English people and whose demise has been so universally mourned as Edward VII.

"Edward, the Peacemaker"—in these three words lie the hidden secret of the wide-spread popularity of the departed monarch. In this age of war and invention, with the mammoth cannon, the "Dreadnought" the air ship, the war balloon, the torpedo, the submarine mine and other instruments of deadly and destructive warfare, it is a fact worthy of most careful note that the ruler of the most powerful country in the world should throw his influence toward, and cast his lot on, the side of peace.

"Peace on earth, good will toward men" was his creed and the future historian who writes of Edward VII and of his reign will chronicle both man and reign as standing for "peace and prosperity" universal.

tub is a quick, easy and sure process that is attended with few losses and many profits.

The successful farmer like the successful business man is the one who makes use of his every opportunity. Putting one's entire dependence upon a one-crop system of farming is not a sure thing by any means. Sooner or later the hail, drought or frost will get you and for a year at least your entire profits are gone. A small herd of cows and a few chickens are a small bank account at such a time and when the year is over you will wonder how you came through so easily. Western Canada is big enough, and productive enough to raise all of her natural products. Every pound of butter and every dozen of eggs that is brought in from the outside simply means that a certain amount of money has gone out of the country that should have remained here and goodness knows every new country needs every dollar it can get. Even though the Western Canadian farmer only got two thirds as much for his butter and eggs as the outside producer is now getting by shipping them in the country at large would be much more benefited thereby. Think it over.

## SUBSCRIPTION RATES

Postage prepaid, Canada and Great Britain, \$1.00 Per Year.  
Postage prepaid United States and Foreign Countries \$2.00 Per Year.

Failing to receive paper, you should notify the office at once, when mistakes, if any, will be corrected immediately.

All Subscriptions must be paid for in advance and are positively discontinued at date of expiration unless renewed.

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.

In our last issue we had somewhat to say on the "High Cost of Living." Some of our readers have accused us of being facetious in allowing the author of the article to treat the subject as he did and if looked at from one standpoint alone perhaps it was.

But back of it all there lies a lesson for every farmer in Western Canada. Ye editor lives in Winnipeg and like all other men he must eat. On the day that this was written occasion required that a purchase of groceries be made and upon the bill that the grocer always sends along with goods it was found that butter was quoted at 35 cents per pound and eggs (not over fresh) at 25 cents per dozen. Investigation revealed the fact that only recently 50 cents per pound had been paid for butter and that 40 cents per dozen had been paid for eggs.

The above prices are out of all proportion to the cost of production of such things and are but indicative of but one fact viz: that too little attention is being paid to the production of these staple commodities upon the farm and that a few farmers who are wide awake and up on the demand market are reaping a nice harvest at the expense of thousands of others who are letting golden dollars slip through their fingers, simply because wheat raising is so easy and the production of eggs and butter is somewhat more of a drudgery.

A careful census of the farms of Western Canada will reveal the startling fact that only a small percentage of our farmers make any pretense at raising chickens or milking cows as a means of "turning a penny" upon the farm. A great many farms will be found where no cows at all are kept and the farmers themselves buy their own milk and butter.

But I hear someone say if every farmer went into making butter even in a small way the market would soon be glutted and the price would fall so low that there would be no profit left in the business. Don't let such a thing worry you. Modern butter making is reduced to such a science through the cream separator and other dairy machinery that the handling of butter from the cow to the

The time is not far distant when the farmers of Western Canada are going to be in need of considerable help in order to take care of what promises to be a bumper crop. There is a tendency on the part of a great many farmers to let this matter take care of itself, with the result that when the time comes for securing help, this help is not at hand.

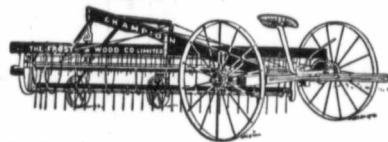
If every farmer in Western Canada will anticipate his needs along this line and would confer with the Department of Immigration or with the Railway, there would of a surety be an ample amount of help on hand just at the right time, and this help would undoubtedly be of a much better class than that which is secured in a hurry.

Western Canada is in a peculiar condition, as regards its help problem, for the reason that it is almost exclusively a grain raising country and help is only needed at certain seasons of the year. In a country where there is work the year around, as is the case where mixed farming is carried on, the help problem is not so serious.

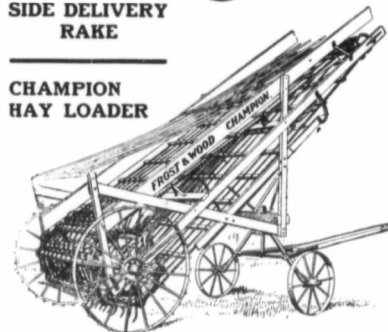
Indications are that there will be considerable grain threshed in Western Canada in 1910. Reports from the different thresher companies show that there has already been considerable threshing machinery sold, but there is yet a large amount of it to be taken care of.

There is money in the thresher business for the thresherman provided he carries on his business in a business-like way. Purchase a good outfit, one that will work every hour in the day, and do not rely upon a cut rate price to securing your work. Secure your jobs upon the merits of the work done and even though you do not have quite so large a fall's run, you will find that you will make more money in the end. Hire a good crew, treat them well, pay good wages, charge a good price for your work and put a certain amount of dignity into the business. Western Canada cannot get along without the thresherman, and while he cannot play a hold-up game, he is nevertheless, entitled to a fair wage for his work.

# Get Ready for Harvest



SIDE DELIVERY RAKE



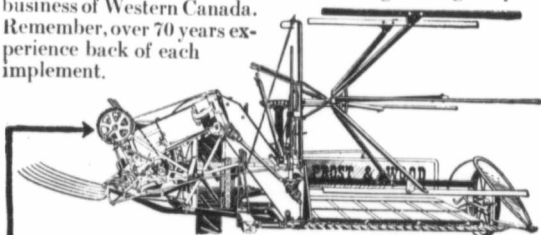
CHAMPION HAY LOADER

# FROST AND WOOD Champion Hay Loader and Side Delivery Rakes

**The Rake** The top illustration shows our Side Delivery Rake which is chiefly used with our "Champion" Hay Loader. The Rake makes windrows best suited to the proper working of a loader. The operator simply drives round the field—he doesn't have to give any attention to the working of the machine—the action of the three sets of teeth leaves the hay in the best possible condition for curing—loose and bulky. Light or heavy crops are all the same to this Rake—it is built for hard work. The Castor Wheels at the rear ensure perfect work under all conditions. This

machine is made of the finest quality of materials, is well braced and strongly built. **The Loader** The "Champion" can load at the rate of two tons in ten minutes—think that over for a few minutes. It has six tooth bars each containing twelve properly shaped malleable teeth. The Apron consists of the finest quality of straight grained slats, tough rope and steel chain. The "Champion" is provided with heavy wind slats to prevent high winds from blowing the hay off the carriers when the machine is in operation. You can't realize the time, labor and money saving qualities of these two machines until you have actually tried them in the field. Write for our fine illustrated Catalogue—it gives you a full list of harvesting machinery which is absorbing the whole business of Western Canada.

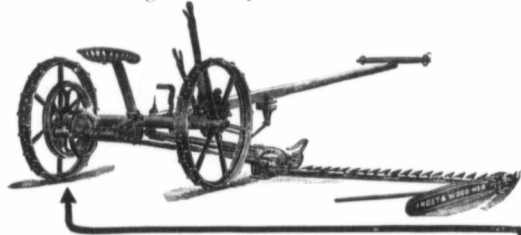
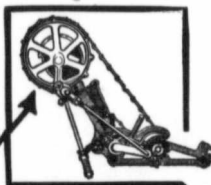
Remember, over 70 years experience back of each implement.



FROST and WOOD BINDERS

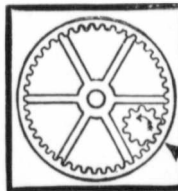
This binder is positively in a class of its own—far ahead of any other machine on the market. We haven't room to detail all its many excellent merits here, but we do want you to consider one important feature—our Eccentric Sprocket-Wheel.

Notice that there are **three long** spokes and three short ones—based on the old leverage idea, the longer the bar, the greater the power. When the grain is being compressed and tied, the packer arms require all the power they can get to make nice tight sheaves and the chain which drives the Eccentric Sprocket is then pulling over the long arms of the wheel, exerting a steady powerful draw. After the bundles are compressed and tied the chain has reached the short arms of the Eccentric Sprocket and must therefore travel faster, thus the bundles are discharged quickly and everything is ready again for another bundle to be compressed, tied and discharged. In short, the long arms develop **power**, the short arms **speed**. But get our Catalogue and go into the whole details carefully yourself.



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Here's another case where space prevents us giving all the good points, so we urge you to write for our Catalogue if you are thinking of buying a reliable Mower. Ours are built in various sizes from 3 ft. 6 in. cut to a 7 ft. cut. You will notice that the small gear wheel is inside the large one on what is called the **Internal Gear** principle. Both these wheels travel in the same direction. Now, on most Mowers the gears are arranged exactly opposite, the small gear wheel being on the outside. This is a decidedly bad feature, because the wheels work one **against** the other, causing a great amount of friction, wearing down the cogs and eventually a loose connection. You can easily prove the superiority of the Internal Gear principle for as soon as you drop the bar and start the team the knives begin cutting. There is no lost motion, no jerks, no backing up—the action is immediate. Our Mower is liberally supplied with Roller Bearings—ensuring long life and light draft. It is made of first-class materials and put together by expert workmen. Let us send you the whole story to read at home—free.



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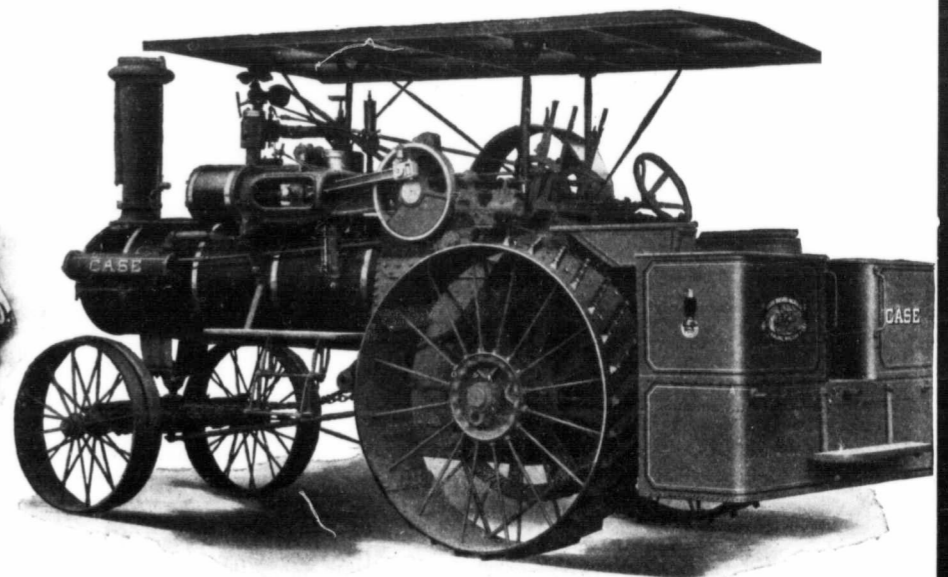
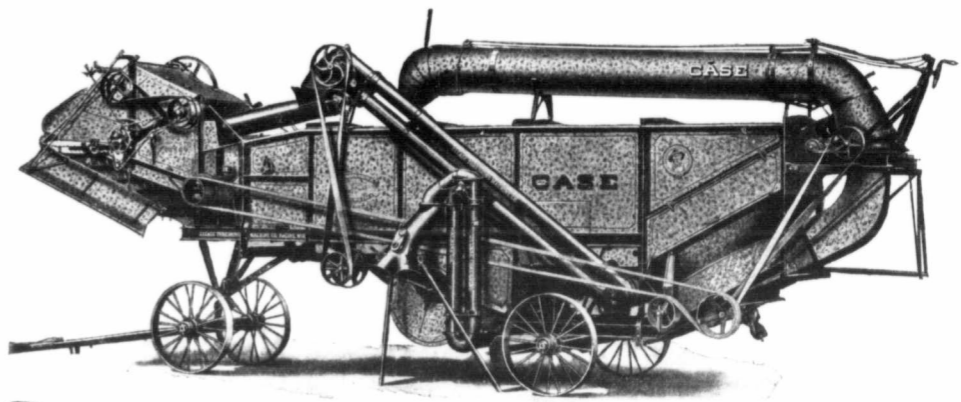
¶ What others have done with Case rigs you can do. The money that others are making with Case rigs you can make. ¶ Why don't you send for the Case catalog? Why don't you take the step that means so much to you? Don't put it off any longer. Write for catalog to-day and let us help you to better your present condition.

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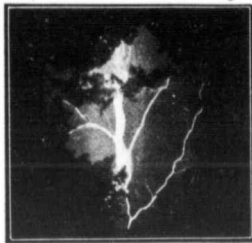
# RIGHT DIRECTION



## Lightning and Lightning Conductors

Paper prepared by Mr. M. M. Townsley, Minneapolis, read at the Last Winter Convention at the Manitoba Agricultural College

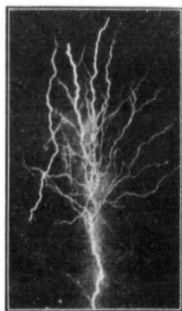
If the phenomenon of lightning were better understood, perhaps the enormous toll it exacts in life and property would be less. Carefully compiled statistics shows that in the United States between 700 and 800 persons are killed annually and twice that number injured by lightning. This great loss of life falls largely upon the people who live away from the great centres of population. So, too, the greater part of the annual



Forked Flash Taken in a Woodland During a Storm

loss of property is chargeable to farm buildings and their contents and live stock in the field. Light and power electrical transmission lines also suffer from the vagaries of lightning, but the great multiplication of these lines in recent times has stimulated the development of means of protection, so that at present the electric power plants and lines are better protected from lightning than are farm buildings.

In what follows an attempt will be made to outline in non-technical language a few of the most important laws of electric phenomena. It is obvious that even a rudimentary knowledge of matters concerning the behavior of electrically charged bodies under various conditions will be of great value to persons who spend the



A Tree-shaped Flash

greater portion of the day in the open.

Lightning, or more particularly a lightning flash, is a discharge of electricity between two electrified bodies, as between one cloud and another. Most of us are familiar with electricity and the varied economic purposes it serves. In all of these, however, it is under

perfect control; it is chained, so to speak, by the wires which distribute it from the cell in which it is produced by chemical action, or from the generator which transforms the energy of the steam engine into electro-motive force.

In order that the difference between the electricity that flows from a mechanical generator or other artificial source and that which abides in the atmosphere and on the earth's surface may be understood, it is necessary that first principles be considered very briefly.

### Origin of Electricity.

It has been stated that electricity may be produced by chemical action by mechanical means, but there are still other means by which a body may be given an electrical charge. Thus, if one rubs his feet over a woolen carpet several times and then touches his finger to the gas fixture, a slight spark will pass to the latter with an audible snap. In this experiment the body through friction with the woolen carpet, receives a very light electric charge. The latter is discharged,



A Storm at Sea

or dissipated, as soon as the finger touches the gas fixture. This experiment is intended to show the ease with which a body can receive an electric charge.

### Conductors and Non-conductors.

Bodies do not all behave alike when an electric charge has been given them: thus some of them immediately conduct it away; in other words, the charges does not permanently reside on the body. To these bodies the name of conductor has been given, hence the term "lightning conductor" means a body that will conduct or lead away a lightning discharge. Other bodies have the quality of retaining an electrical charge for sometime or of permitting it to escape very slowly. These are called non-conductors or insulators. A conductor, if supported by a non-conducting body, may also retain an electric charge, but the retention of the charge is due to the fact that the non-conducting support of the body prevents the escape of the charge. Telegraph lines, it will be remembered, are insulated from the poles by glass insulators. At one time it was thought

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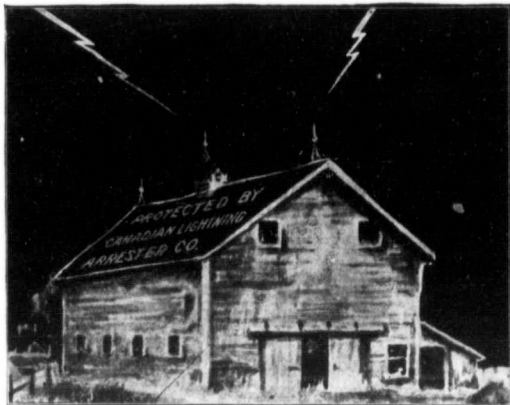
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by The Townsley System, we guarantee you against the worst lightning storm on record. The cost is trifling, and once installed there is no further maintenance expenses for years to come. Write at once for particulars and cost of complete outfit.



### THIS UNPROTECTED BARN

and all its contents of priceless prize winning Stock, was reduced to ashes in a few moments at midnight. Can you afford to dally with a risk that will ruin in one instant the savings of a life-time?

**The Canadian Lightning Arrester Co. Ltd., 197 Main St., Winnipeg, Man.**

necessary to insulate lightning rods from buildings by glass or porcelain insulators, but that view is not now generally held.

An electrical charge suddenly falling upon a copper conductor will be safely disposed of, provided the conductor is in connection with the earth. On the other hand, the same charge falling upon a piece of wood, the latter being a bad conductor, will split it into many fragments and possibly develop enough heat, by reason of the resistance offered by the wood, to set the latter on fire. For this reason lightning conductors are made with a view to preventing the accumulation of electricity in the object of the earth's surface on which it is placed.

### Positive and Negative Electrification.

In nature there are two kinds of electrification, viz., positive and negative; thus a body may be either positively or negatively electrified. The law of electrical attraction and repulsion is generally stated as follows: Bodies electrified in the same manner repel one another; while bodies, one electrified positively, the other negatively, attract one another. In the behavior of oppositely electrified bodies when brought near each other lies the key to many interesting facts in electrical science.

A positively charged body, if placed between two others, one a tive charge, will tend to move toward the latter, due, we are told, to the "electrical field" set up by the oppositely charged bodies. By an "electrical field" is meant the region in which work is done to move an electrical charge from one point to another. This work

is susceptible of exact measurement; it varies inversely as to the square of the distance separating the bodies, and depends also on the material of the non-conductor separating the bodies. The latter is generally called the "medium" or "dielectric," thus the air separating one cloud from another, or a cloud from the earth, is known and referred to as the "medium" or "dielectric." For

manifest in lightning strokes by the rending and splitting of the objects struck, as before stated, and in this we find reason for the rule in the erection of lightning conductors, viz., that the conductor should be continuous; there should be no air gaps in it, because a vast increase in the expenditure of energy on the part of the lightning stroke is necessary to cross the gap of non-conduct-

"potential" is of the same nature as that of difference in level in case of water; thus water always flows from the higher to the lower level, and the force with which it flows depends, among other things, upon the amount of the difference in level. So in electrical terminology a current of electricity flows from a body with a high potential to a body with a lower potential; or, in other words, the distribution of the electric charge on both bodies is very materially changed when they are brought into conducting communication.

In the definition of lightning we find that one of the great differences between a lightning flash and the ordinary electric current was not pointed out, viz., the first differs from the second in that it is at a much higher potential; that is the force or pressure that impels it is tremendously greater than that which, for example, causes an electric current to flow along a trolley line. The latter flows under small pressure through a conductor, while the former breaks down the air, a non-conducting body, throughout a path sometimes more than a mile in length.

Let there be any two parallel wires close together. Through one of them, A, passes an electric current. The flow of this current will induce a current in the other wire, B, in a direction opposite to that in A. Telegraph and telephone lines carried on the same poles are operated with great difficulty because of the induced current set up in the telephone wires by the current flowing through the telegraph wires, and certain devices have



Big Thunderstorm in the Alps

the purpose of this occasion air will be considered as a non-conductor.

The force exerted in transferring an electric charge from one point to another, as before stated, depends upon the character of the medium through which it is transmitted. If the medium is a conductor, it will pass from one to the other harmlessly, but if the medium should be a non-conductor, such as the atmosphere, work will have to be done. The work done in the last named case is

ing air. In this principle is also found an explanation of the fact generally observed in the case of a person struck by lightning, viz: that the shoes are almost always torn from the body and badly wrecked. The air gap between the body and the ground, although small, is sufficient to produce the observed effect.

A point has now been reached when it is necessary to introduce another technical term, viz., "electrical potential," or simply "potential." The idea conveyed by

# Now—WHICH DO YOU WANT?

TO the prosperous, healthy, business-like American Farmer, the days of crude, shallow plowing, the back breaking days of the cradle and flail and the drudgery of hand sowing are merely history. And, too, with him the purchasing of poorly designed and constructed equipment and make-shift outfits are things of the past.

Today, farming is a business—so is threshing. Equipment is purchased on the basis of merit, quality, workmanship, utility and future value. The buyer insists upon being shown the "why of it". Mere words won't do. He buys with the conviction that the **best is always the cheapest.**

Rumely outfits are built on the "best is always the Cheapest" principle. They are money makers, grain savers, modern and substantial in design, correct in principle, strongly constructed and a meritorious product through and through. But, study the construction of Rumely machinery and make comparison.

We issue four separate and distinct catalogs, each dealing with a separate and distinct line.

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The Rumely Clover and Alfalfa Huller Catalog is a 32 page, 7x10 booklet, which explains very clearly the principle and advantages of a rasp huller over what is known as spike huller.

"Toiling and Tilling the Soil" will be found to be a very interesting booklet, descriptive of the *over*. Any one interested in mechanical power for plowing should send for it.

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This Separator is a hurriedly together, nor demand for an individual experience of fit

The same advantage for which the RUMELY embodied in the RUMELY constructed exceptionally long, made in one size—small, but its economical in power, but prove itself a grain saver

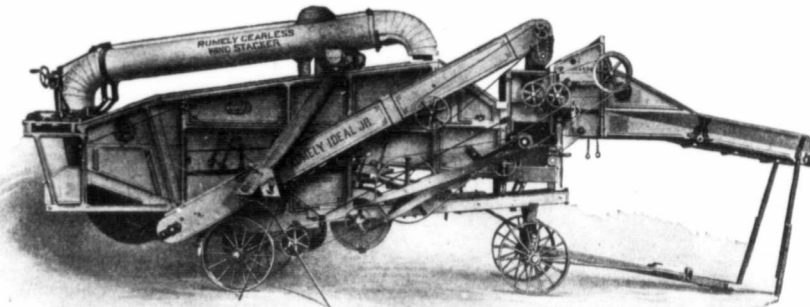
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### deal Junior Separator

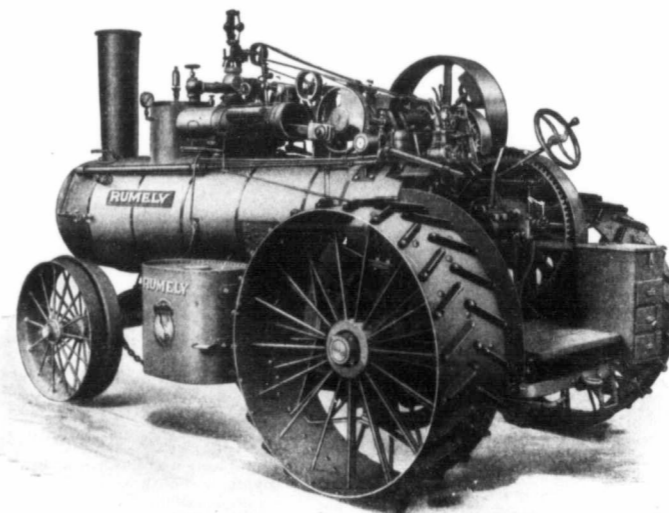
a toy or makeshift. It is not thrown caply built simply to supply the growal outfit, but in its design is embodied eight years Separator building.

of strength, durability and simplicity deal Separator is so well known are Y Ideal Junior Separator. It is hence it is just fine for barn threshing, 40 inch rear. It is **proportionately big.** It is labor. It needs only a trial to money maker—a profitable investment

and study its points of advantage



Rumely Ideal Junior Separator  
Left Hand View



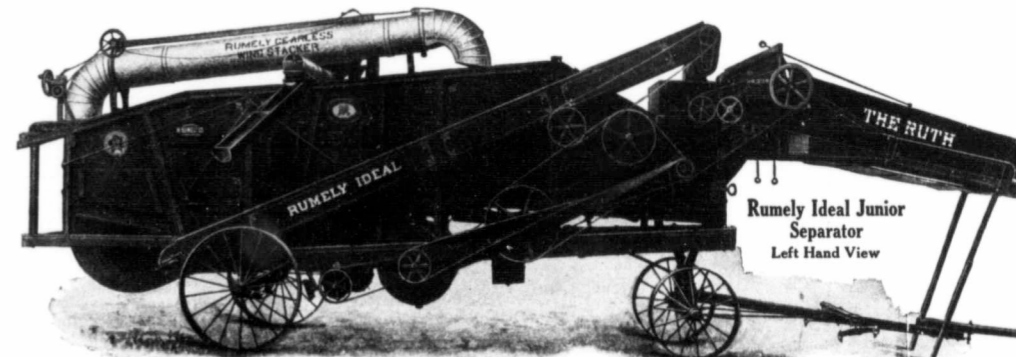
Rumely Single Cylinder Threshing Engine  
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Rumely threshing engines have full water circulation type of boiler, are rear mounted and double geared. Gearing massive and made of steel and semi-steel, and proportioned to withstand the enormous strains.

We can supply this engine in twelve different sizes and styles, either with coal burning patented sloping side fire box boiler or with universal straw, coal or wood burning boiler.

Rumely engines are built so that all important parts are within the reach of the engineer. They are economical, and are time and fuel savers.

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Rumely Ideal Junior Separator  
Left Hand View

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### Rumely Ideal Separators

Are modern and up to date in every particular that is automatic and positive in its action, cylinders of excellent suction, side plates rigid, bearings reducing the possibility of overheating.

The simplicity of the Rumely Ideal Separator is in itself a recommendation. All bearings on the outside, every working part always accessible. Daily and all adjustments so arranged as to permit of changes while machine is in operation. They have more

Rumely Separators are time, labor, money and grain savers. separating surface than any other machine on the market of like size

Send for General Catalog No. 58



## The Why of a Motor Contest

FROM now until after the Winnipeg Exhibition which closes July 23rd, the Western Canadian farmer will hear a great deal about the motor contest. Through reading matter and advertisement, the proposition will be heralded far and wide and the farmer doubtless begins to wonder what it is really all about. Is it a thing that contains for him any real practical value? Is it an attraction for the Exhibition Association? Is it an advertisement for the manufacturers of farm motors? Or is it really a combination of all three?

The motor contest is not of Canadian origin. Its home is in England. The Englishman, as they would say in the States, is from Missouri, and must be shown. When he purchases a farm motor his conservative buying spirit compels him to make a thorough investigation of the merits of the machine and for this reason, probably more than any other, the motor contest was put on. Its early history does not contain a great deal of interest, but when taken hold of by the Royal Agricultural Society and placed upon a real competitive basis, it assumed proportions that made it not only of interest and value to the farmer and traction engine owners, but to the manufacturers as well.

The motor contest is not designed to fix a standard for farm motors. It is not in reality designed to determine which is the best motor, but when properly conducted and carried out it serves as a basis of comparison for determining the good and strong points of the various motors that are entered in the contest. This is why the test is made up of three things, brake test, hauling test and plowing test.

In the Winnipeg test in 1910 each engine will be allowed to go on the brake for a short period of time in order that the manufacturer can ascertain just what load his engine will carry economically. Once this is determined to the manufacturer's satisfaction, the engine starts on a two hours' economy horse power test. The engine is not pulling its full load, but is pulling a load under

which it will work with comparative ease consistent with the least possible amount of fuel and water. The brake is so arranged that by means of increasing the friction it can be varied up or down and registering instruments give the amount of horse power that is being developed. The load is such as an average engine owner would expect to pull when his engine is working on a separator or on any other load where belt power is required.

The average farmer has not the time, the inclination and in a great many cases, insufficient technical knowledge, to enable him to ascertain the actual cost of operating his engine per horse power hour, and herein lies a valuable test for the engine owner. While not every engine is entered in such a contest a sufficient number are entered to enable the farmer to classify them as regards the different types, and what is true of one engine in a class will be for all practical purposes, true of every other engine operating under the same condition.

There is one thing, however, that such a contest does not bring out and that is the cost of operating an engine under less than full load. Oftentimes the farmer who owns an engine is required to attach it to a feed grinder, a wood saw, or some other farm tool that does not require all the power of the engine, and while such a test might be of considerable practical value to the farmer the results that would be derived from such a test would hardly pay for the amount of time that would take to carry it out.

When a farmer buys an engine he buys horse power, and more than this, he buys economical horse power. An engine, unlike a horse, is worth only what the farmer can get out of it. A farmer oftentimes buys a horse partly because the animal attracts his fancy; but when a man buys an engine he buys horse power wholly and solely, and more than this, he buys the most horse power he can get per unit of fuel and water consumption. This being true, the economical horse power test is one of the prime requisites of a motor contest.

There is another test in connection with the brake test, and while it does not contain a great deal that is of practical value to the farmer, it is nevertheless of considerable interest, and that is the maximum horse power test. Every engine owner knows as between an engine operating under an economical load and operating under a maximum load, that the fuel and water consumption will be greater in accordance with the horse power developed in case of the maximum load. No careful engine owner has any disposition to operate his engine under a maximum load. He is developing a small amount of extra horse power at an undue sacrifice of fuel and water and at the same time causing undue wear and tear on his engine.

The traction plowman who has followed the proposition carefully, knows that if his engine will pull six plows with ease but yet has sufficient power to pull eight plows working under a maximum load, that it is far more economical for him, all things being considered, to pull the six plows. He, furthermore, knows that it is not economical for him to pull four plows with the same engine, causing his machine to work under a partial load, as it takes a certain amount of fuel and water to move his engine over the ground in any case and this amount of fuel and water is practically the same whether the engine is working under a full load or a partial load.

The farmer who starts out to buy an engine to-day is up against a rather mystifying proposition. All of the steam engines and quite a number of the gas engines have long since passed the experimental stage. The machines are well constructed, will live out the lifetime of such machines and will render good services throughout that lifetime. For this reason it is hard for the farmer to choose and get the most value for his money. It is largely a matter of the conditions which his engine is obliged to meet and herein lies the practical value of a motor contest to the farmer. Through the brake test, the hauling test and the plowing test, practically every farm oper-

ation is covered, and if the farmer will go carefully into the figures and the results as developed through a carefully conducted motor contest he can with very little difficulty pick out the engine that is best suited to his particular needs. One engine may show a disposition to develop a large amount of power, but is somewhat extravagant on the use of water. Water to a particular farmer may be only a small item; consequently this matter of extravagant water consumption may not be of any particular consequence to that farmer. Another engine may be extravagant on the use of coal. Perhaps in a particular locality coal is cheap and easily secured. Now, providing the contest shows that a particular engine develops a large amount of power, though its fuel consumption is somewhat extravagant, it may not be a detriment to that engine in some localities.

There is another comparison to be made in a motor contest and that is between steam and gasoline. In Western Canada there are certain sections of the country where it is almost next to impossible to secure a good and sufficient water supply. The cost of securing water to keep a steam engine in operation in these localities is of considerable moment to the engine owner, and if the farmer were to base his judgment in selecting the kind of engine that he was to use upon the cost of fuel and water in other localities he would probably find that when he had purchased a steam engine that he had gotten into pretty deep water when it comes to supplying the necessities for keeping that engine running. Even though his oil for use in an internal combustion engine might appear to be a large expenditure, judged from the price of oil per gallon, he would probably find when taking water teams and water men into consideration that the balance is in favor of the internal combustion engine.

The motor contest, of course, does not bring out these costs under all conditions and it requires some little figuring from the standpoint of the farmer in

Continued on page 60



# Pay Your Money—Take Your Choice

Don't forget when ordering a New Rig that our Feeders will fit any make or style of Separator. All you have to do is to insist on the firm from whom you buy your machine, that it is one of our Feeders that you want.

## THE WHITE WINGS---A PERFECT ANGEL

"White Wings" are a fine sight and are becoming more familiar every day. This Angel of Mercy lifts the poor thresherman out of the dirt and dust and gives him a soft snap on top of the stack and says to half the crew, "Go lie in the shade, I will do your work," and fills the boss's pocket book with long green and puts the threshing business on a big paying basis. That's what it does and we can prove it. Send for our latest descriptive matter of these machines.

You don't absolutely need a dump rack with a wing feeder—but you can save an additional \$25.00 per day by having one.



The PERFECTION DUMP RACK is the cheapest, simplest and most effective dump rack on the market to-day. Two days' work will more than save its cost. Write us for particulars and further information.

Parsons Hawkeye Mfg. Co., Winnipeg, Man.

Gentlemen:—I have just finished up one of the best paying threshing seasons I have ever had. I have used one of your Parsons "White Wings" Feeders on my 36x60 Toronto Combination separator and I can say that I threshed 6,000 bushels of grain more this year with four pitchers than I did last year with six and my customers were all more than pleased and were better satisfied with the threshing I did for them than they ever were before.

I advise all threshers not to be without a "White Wings" Feeder because I can prove that the extra number of bushels I was able to thresh, taken together with the money I saved for help, has more than paid for this feeder this the first year I owned it and I will have no trouble to get all the pitchers I want for next year.

Steinbach, Man., Nov. 1, 1909.

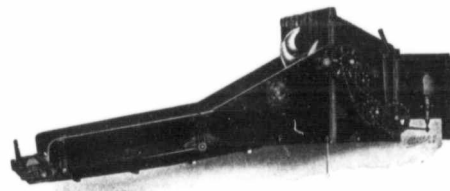
Yours truly,  
G. W. REIMER.

### THE HAWKEYE, THE DADDY OF THEM ALL.



The Hawkeye is the best known machine on the market. The name is a household word with those familiar with threshing machinery. All who have used it, and they are legion, know the value of its positive straw governor which prevents absolutely any slugging of the cylinder, its adjustability, its accessibility and its thorough work in all kinds and conditions of grain. The list of feeders it has met and defeated which have passed on to oblivion is a long one and still they come and are passing out of existence. Why?

### THE RUTH, A MATE FOR ANY SEPARATOR



The Ruth is a perfect mate for the Hawkeye. It contains features that are found in no other self feeder. It delivers the grain to the threshing cylinder in such a manner that it is as near like hand feeding as possible. It has a governor that is positive and so confident are we of what it can do that every feeder is backed by the following warranty:

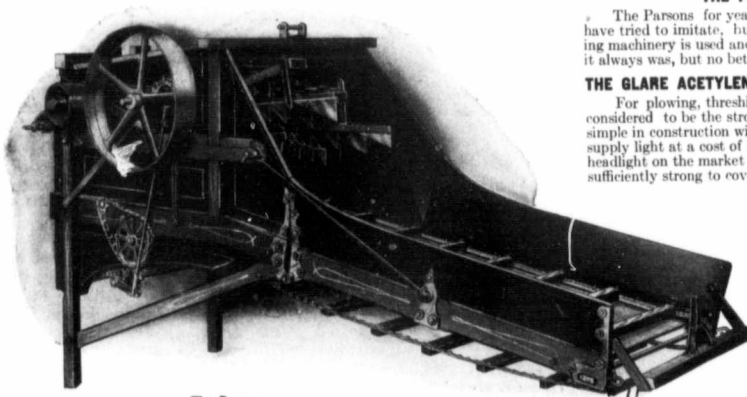
"The Ruth feeder is warranted to feed any make or size of separator to its full capacity without slugging the cylinder or loosening a spike and to do a better job of feeding than any feeder manufactured by any other Company." Need we say more.

### THE PARSONS—THE OLD RELIABLE.

The Parsons for years has set a standard for self feeders that many have tried to imitate, but few have equalled. It is known wherever threshing machinery is used and the user is always its friend. It is just as good as it always was, but no better, because it couldn't be.

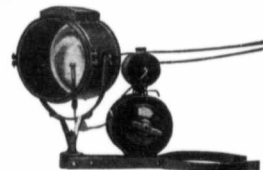
### THE GLARE ACETYLENE GAS HEADLIGHT—TURNS NIGHT INTO DAY

For plowing, threshing, or any other traction engine use, acetylene gas is considered to be the strongest and most satisfactory light. The GLARE is simple in construction with no complicated parts to get out of order and will supply light at a cost of less than One Cent per hour, making it the cheapest headlight on the market for the amount of light produced. It throws a light sufficiently strong to cover the entire separator; works in all kinds of weather, cannot be blown or jarred out. In ordering the GLARE state the make of engine you wish it to be attached to, so that the right kind of bracket may be provided.



The Parsons

We also handle the "Maytag" Automobile. It is decidedly the farmer's car. Has the class and design of the highest priced cars yet the construction makes it particularly adapted for travelling on country roads.



**PARSONS HAWKEYE MFG. CO., Winnipeg, Man.**

## Course in Gas Engineering

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

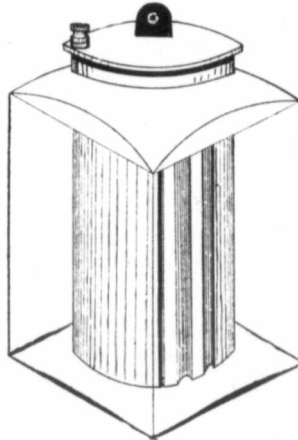
### LESSON VIII.

#### Ignition Continued.

**BATTERIES**—For the internal combustion engine there are two sources of electricity, viz., the battery and the generator. For all practical purposes the batteries may be divided into two classes, viz., primary, which generates the current by its own chemical action and secondary, which requires a current of electricity to be turned into it for a given time and discharges the current for a slightly less time than that which was occupied in charging. This latter is sometimes known as a storage battery or an accumulator.

The primary battery generates its current of electricity by chemical action between two dissimilar elements such as zinc and carbon or zinc and copper. The pressure or voltage of a primary cell is a definite fixed quantity for any particular type.

The primary batteries generally consist of wet or dry cells, these cells consisting of three essential parts, a positive and a negative electrode and a liquid called the electrolyte. As the name implies, in the wet cell this electrolyte is



Wet Battery

used in its liquid form, while in the dry cell it is mixed with some absorbing material and the paste is used to fill the space between the electrodes. Take the dry cell as an example. The negative element is usually a carbon rod placed at the centre of the cir-



Dry Battery

cular case, which forms the envelope of the cell. This rod is surrounded, first by a layer of manganese-dioxide and the rest of the space between this and the positive element, usually zinc in the shape of the cylinder, is then filled with the electrolyte paste, the

original liquid being usually sal-ammoniac and water. These dry batteries are used extensively because of their convenience. The top of the cell is covered with pitch or other substance that prevents the evaporation of the liquid in the paste, except that a small vent hole is left to allow of the escape of any gas that may form within the cell, due to the chemical action that is going on. In such a cell the current, by the action of the electrolyte, passes from the zinc to the carbon electrode, so that as far as the terminals of the cell are concerned the carbon is the positive terminal. The chemical action destroys the zinc after a time and produces hydrogen gas on the carbon element. The greater part of the amount of this gas deposited on this element, the slower the generation of current, so that it may finally cease altogether. The cell is then said to be run out.

In dry batteries the gas is taken care of in two ways. The vent hole in the top allows some of it to escape, while the layer of manganese-dioxide, mentioned above, absorbs another part, but it is a fact that by these means not all of

## Geiser Sieveless Separators And Gasoline Engines

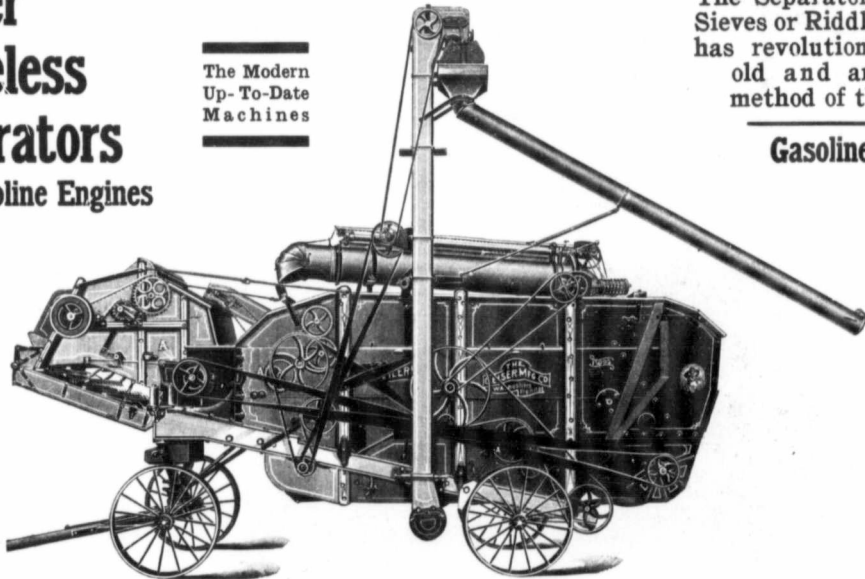
Manufactured in the following sizes

- 27-39
- 26-46
- 30-46
- 33-50
- 36-55
- 40-60

Special Sizes for Gasoline Engine Power

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

The Modern Up-To-Date Machines



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

### Gasoline Engines

In the following sizes:

16-18-20-22

Horse Power Single Cylinder Portable

25-30 Horse Power Four Cylinder Portable

50 Horse Power Four Cylinder Action

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. For catalogue and information address:

**BURRIDGE COOPER COMPANY, Ltd.,** 156 Lombard Street  
WINNIPEG, Man. Canadian Agents for the Geiser Mfg. Co.

BRANCH OFFICE:  
2159 Smith St., Regina, Sask.

the gas is rendered harmless and hence the cells will run out with more or less rapidity. This merely means that if the current is drawn from them continuously for any considerable length of time their strength will fail, making the cell appear dead.

In the case of the wet or sal-ammoniac battery, we have zinc, carbon and a solution of sal-ammoniac. This battery can be recharged by renewing the liquid, and if the zincs are extremely thin or badly eaten away, new ones can be put in. The carbon element should last indefinitely, but should a battery of this type fail to give a satisfactory current after recharging and connections have been looked over and found to be all right, the carbon element has in all probability become clogged in the pores and requires cleaning. To do this it should be removed from the jar and if it is a hollow cylinder with a small plug in the top, the contents of granulated carbon should be thrown away. The carbon cylinders should then be placed in a pot or pan, filled with water to cover them, and placed over a fire, keeping the water boiling for an hour or two.

After this boiling out process new granulated carbon should be placed in the cylinder. This will, in all probability, remedy the trouble, but in case it fails new carbons will have to be purchased.

When purchasing zincs for this type, have the local druggist amalgamate them and they will be found to last a great deal longer. If salts from the liquid leak over the tops of jars, immerse the tops for about an inch in molten paraffine wax until a deposit is left.

The current which any primary battery gives is not any fixed quantity, but depends upon the resistance of the particular circuit through which the pressure in volts propels the current. The resistance consists of, first, the internal resistance of the primary battery itself, and secondly, the external resistance of the outer circuit, such as the primary winding of the induction coil, or the resistance of the filament of a small electric lamp. Therefore, the amount of current which can be obtained from the primary battery depends upon its condition with regard to internal resistance and also the amount of resistance of the external circuit.

Two or more batteries may be coupled together in order to give increased pressure of current (voltage) or increased volume or current (amperage). The two methods of coupling up are termed respectively in "series" and in "parallel." When coupling up batteries in a series, we so arrange the connections between them that the current flows right through all the batteries in serial form, so that the current generated in No. 1 battery of three units must pass through the other two before a circuit can be formed. The positive terminal of one must be connected to the negative terminal of the next and so on throughout the battery.

## Some Interesting Facts About Overlands

**Our 800 dealers now are selling over \$200,000 worth of Overlands daily. That's a far larger sale than was ever attained by any other car in the World.**

### Some of the Users

The Government is one of the Overland users. For a year and a half some of these cars have been used in carrying the mails. For 500 days they have made their regular trips, winter and summer, without a moment's delay. Each of these cars has done the work of three horse-drawn vehicles.

The J. I. Case Threshing Machine Company some time ago supplied 25 Overland cars to their country salesmen. They report that one man with one of these cars can do two salesmen's work.

The Altman & Taylor Machine Co. have also begun to supply Overlands to their salesmen.

We have recently built delivery car bodies on 900 Overlands for the use of storekeepers who want them for use as light delivery cars.

### All Due to Simplicity

All these new uses for Overlands are due to their utter simplicity. A novice can run one as well as an expert.

The operation of the car is by pedal control. One goes forward or backward, fast or slow, by simply pushing pedals. The hands have nothing to do but steer.

Overlands are almost trouble-proof. The usual complexities have been avoided. One of these cars has been run 7,000 miles, night and day, without stopping the engine.

A child can master the car in ten minutes. Any member of the family can run it. And a car that

is relied on to carry the mails is the car which will always keep going.

### \$3,000,000 Plants

Over \$3,000,000 has been invested to produce Overland cars in a perfect and economical way. The cars are made—as watches are made—by modern automatic machinery. Thus we get exactness to the one thousandth part of an inch. And thus every part is made exactly like every other similar part. All parts are interchangeable.

Because of this machinery and our enormous production we are able to make cars for less than anyone else.

This year we are selling a 25-horsepower car, with 102-inch wheel base, for \$1,000. We are selling a 40-horsepower Overland, with 112-inch wheel base, for \$1,250. And these prices include all lamps and magneto.

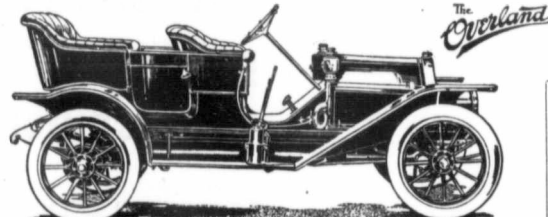
During the past year alone we have cut the cost of Overlands 20 per cent by multiplied production and this labor-saving machinery.

### 10,000 Tests

The various parts of each Overland car are subjected to 10,000 rigid inspections. Then every car, before it goes out, is given a long trial run on rough roads. One of our test roads includes the worst hill in Ohio.

Thus we know that each Overland is a perfect car before it leaves the shop. There are no mistakes.

Those are part of the reasons why Overlands have now come to outsell all other cars that are made. You will want the car which others want when you learn the facts. If you will send us this coupon we will mail you our catalog. We will also tell you the nearest place where you can see the cars.



The 25-horsepower Overland costs from \$1,000 to \$1,100, according to style of body. The wheel base is 102 inches. The 40-horsepower Overland costs from \$1,250 to \$1,500. All prices include five lamps and magneto.

**The Willys-Overland Co.**

Toledo, Ohio

Licensed Under Selden Patent

Please send me the catalog free.

H 93

When coupling up batteries in parallel, we so arrange the connection between them that the current may flow through any of them or all of them. In this case all the positive terminals are connected together and all the negative terminals are connected together.

As has been stated before, after using batteries for a short time, they gradually lose their power, but if left to rest a short time recuperate again. However, after running down a number of times they begin to lose life and the full power is not derived after recuperation.

Batteries are a source of considerable trouble to the operator of the internal combustion engine,

as a great many things may happen to interfere with the current. For instance, a broken wire is a very perplexing problem for the novice to locate. If a broken wire is suspected between one battery and another, it can be easily located by connecting a piece of wire to the zinc binding post at the end of the set and rubbing the other end of the wire on the carbon plate of the battery at the other end of the set, but not on the binding post. If the connections between each battery are all right, a small arc or flame will occur between the wire and the carbon each time they come in contact, but if an open circuit prevails or the batteries have become exhausted no spark will appear.

Before placing the wire on the zinc binding post remove the permanent wire therefrom and open the switch, so that there can be no ground at any point in the outside wires and through the battery box in any unforeseen manner.

By going over each binding post very often a loose connection with the wires and binding post will be found as the cause. If the binding posts are making a good connection with the piece of wire still fastened with the zinc binding post, making a perfect metallic connection, touch the carbon of the battery next nearest the end where the zinc wires are connected, and continue thus with each battery toward the zinc con-

Continued on page 64

### Gas Engine Experience Department

**U**NDER this heading we shall publish regularly the experiences of our readers with gas engines, stationary, portable or traction, as a matter of mutual help. We want you to give us your experience. Tell us your troubles, no matter how small, and we shall be pleased to set you right. We have made arrangements whereby your questions will be referred to a staff of experts, and the answers to your questions can thus be relied upon. What we want principally is your experience with a gasoline engine. It is only in this way that we can build up this department making it mutually valuable to yourself, your neighbor, and to this magazine.

#### Likes the Small Gas Engine.

In the winter of 1904 I was in the machine business and purchased a 3 h. p. Stickney upright gasoline engine. I kept this engine in my warehouse all winter and had some grain on hand in order to show customers how it worked. I had no trouble whatever in mild weather, but on a cold day often I could not get it to start. I however, found by pouring some hot water on the mixer that it would start at once.

In the spring of 1904 I sold my business, but kept the engine, and in 1906 I moved out to my homestead, taking the engine with me. It had been idle two years; in fact had never done any work excepting on exhibition. It stood outside for one whole summer. In the fall I attempted to start it, but of course the valves and all other parts were so rusty that I could do nothing.

I took the valves all out and cleaned them thoroughly, also cleaning the cylinder and all the parts and put them together again. I then tried to start up. It took in the first charge and exploded, but that was the last. I again examined every part and could find nothing wrong, except the battery was a little weak. When I turned the wheel over the compression was good, but no explosion. I placed my hand over the exhaust during the intake stroke; immediately the inlet valve opened and took in the charge and exploded. I knew then that the engine was taking in air at the exhaust, but the cause I could not nor did not then locate, though I took every part off and examined it.

During the winter I was in Winnipeg and called on the firm who handled this engine and told them my trouble. Their expert at once told me that the exhaust valve was stuck and did not work. I assured him that I had it out and cleaned it thoroughly. He smiled and replied, "Oh, there is one that you have not found." He took me down to the repair room and showed me the part and where it was located in the cylinder. I at once saw where my trouble was and when I came home had no trouble in getting at this valve which I found rusted fast in the cylinder. When I cleaned this the engine started off at once. After getting a new battery we got along pretty well.

We now grind our grain for feed, saw wood and do some custom work. We use about one-half gallon of gasoline per hour or four gallons in ten hours' run. I get it for 30c. per gallon in five gallon lots.

When I tighten the governors down so as to make the speed rather high and work heavy, it will only explode half the number of times it should, and I conclude from this

that it should not be loaded nor speeded above normal.

I find this size of engine very handy for one's own use, but for custom work would prefer a larger size. From my experience with a gasoline engine a person to be successful must know every part of his engine in detail, what every piece is for and when every part is right and then watch the engine and it will tell you its needs before any part gives out.

Yours truly,  
Isaac Moore,  
Bond, Sask.

#### Took Some Time to Learn

I have a three horse power Ideal stationary engine, which I use for grinding and sawing wood.

For grinding feed grain, an engine this size will do all any farmer needs for his own use, but of course will not grind or rush a lot of work through in a few minutes. I have a six-inch plate grinder and can put through 18 bushels of barley per hour and oats from 25 to 30, and during one year I ground 1,500 bushels of grain and sawed 10 cords of wood.

To sum the whole thing up I think that gasoline power on the farm is the best thing that any farmer can have. But first of all, he must learn how to run it. Every part must work in harmony with each other, or it will not work.

I spent pretty nearly one year getting mastery of my engine, and during that time I would have some very rusty feelings in regard to gasoline engine power. But after taking it all apart several times and putting it together again, I succeeded in making it go every time I wanted it to.

The greatest difficulty I had was with the gasoline, it being a force feed on my engine and the quantity of gasoline required to run the engine properly had to be regulated by a thumb screw and when the right amount was secured, was held by a jam nut. All this was quite simple after I had learned it thoroughly.

So now after four years of experience, I consider that the engine has got to go every time I want it to, and with no kick either.

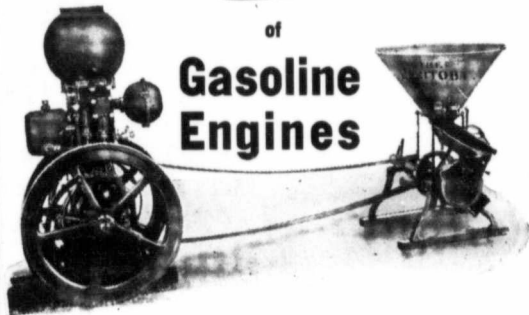
It has cost me nothing for repairs during all that time.

Yours truly,  
Wm. Montgomery,  
Miami, Man.

#### Likes Gas Engine.

Enclosed please find \$1.00 for The Canadian Thresherman and Farmer. It happened that I picked up your paper by chance. I have had a man working for me who takes your paper and he happened to leave your last issue behind when he left me and on looking through it I saw your article on gasoline engines and being an owner of one,

## The Manitoba Line



### of Gasoline Engines

are Simple, Reliable and Economical. Fully Guaranteed and Always Satisfy.

Made in all sizes from 2 to 25 h.p. vertical, horizontal, stationary and portable.

Dear Sirs: Whitewood, Jan. 20, 1910  
The 7 h. p. gasoline engine I bought from you is giving us good satisfaction, and runs the 8-inch grinder with ease. Your engine is very simple and very easy to learn to run, there being no complicated parts and no pipes to freeze. With a pail of warm water we can start it in any kind of weather, and I do not think I could get a better outfit. Your steel saw frame is a good one, and would not be without it. Yours truly, A. Cartwright

We also manufacture Windmills, Grain Grinders, Steel Saw Frames and Wood and Iron Pumps. See our 25 h. p. Portable Threshing Engine before buying. Send for Catalog C.

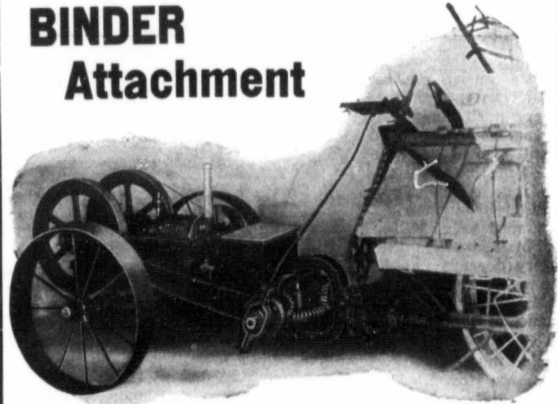
**The Manitoba Windmill & Pump Co. Ltd.**

Box 301 Brandon, Man.

## The Gilson Engine

PATENTED

### BINDER Attachment



Has proved its worth by saving the farmer thousands of dollars in the South---by enabling the farmer to cut his grain no matter how wet the ground, or how much lodged---as well as saving two horses.

Every farmer has use for a small engine on his farm for pumping, sawing wood, running a cream separator, etc. Why not buy a Gilson 2 1-2 Air Cooled Binder Attachment and Engine, nothing to freeze. Can use it 365 days in the year. Will operate on any binder. Let us send you further particulars. Our supply is limited for this year---first come first served---Our prices are right, every engine guaranteed.

The Gilson Manufacturing Co., Guelph, Ont.; Port Washington, Wis., U.S.A.

GENERAL AGENTS

**The Harmer Implement Co.,** 182 Princess Street  
Winnipeg

I was much interested and decided to send my subscription for the paper at once.

I would like to send you my experience, but I am afraid it is rather short, only having bought the engine in the early part of the fall. I have a 20 h. p. International Harvester gasoline engine and a 30 x 40 Belle City separator. I have not tried to make a record day's threshing, but on Saturday, October 9th, I threshed 1500 bushels of oats in 9 hours. My expenses for that day were: Wages \$20.50, gasoline \$4.00, lubricants 50c., amounting to \$25.00. I received 5c. a bushel which amounted to \$75.00, leaving me clear \$50.00 and I can honestly say that this is a true statement.

The grain I threshed on this particular day was off new land.

The straw was very long and a little tough. Since then I averaged about 1400 to 1500 bushels per day. I have also reached as high as 1789 bushels in 11 hours.

Next spring I intend to do all my plowing, harrowing and discing with the engine and will let you know how I get on.

This outfit is the first in this district, so you can guess how it has been criticized. Neighbors are saying "I can see that fellow going under." Even one of the men who was working with me condemned it to people because one or two things went wrong with the separator, which I knew nothing at all about, only having been in this country three years. But when the expert came and adjusted things and put it into shape, the talk began to change and every farmer whom I have threshed for has made me promise to go and thresh for him next year. Just imagine a threshing gang sitting down to their meals consisting of only 10 to 12 men instead of 18 to 20.

The gasoline rig is the coming power for the farmer. It is such a simple outfit to handle and as regards the work done by the separator, I have not seen better work done by a steam outfit. I could give you several items of where a gasoline outfit has a marked advantage over the steam outfit, but I do not wish to intrude too much on your valuable space. Let me say in conclusion, however, let a man go and examine a genuine gasoline traction outfit and he is bound to admit the fact that for the individual farmer, they are the coming rig. Let him also note the simplicity and the surroundings, no great pile of straw, no waterman, no fireman, but the engineer running the engine and a separator.

Yours faithfully,  
Archie Matthews,  
Oakburn, Man.

**A Good Experience.**

I own a 20 h. p. International portable gasoline engine and have run the same for two seasons.

I use the engine for threshing, crushing and sawing. For threshing I have a 32 inch by 40 inch Belle City separator with feeder, high bagger and weigher and blower.

I had never had anything to do with a gasoline engine until I got my own in 1908. With this

machine I threshed 26,200 bushels in 25 days using 488 gallons of gasoline at a cost of 23½c. per gallon. In the fall of 1909 I threshed 32,000 in 37 days, using 817 gallons of gasoline at a cost of 25c. per gallon. Thus you will see that in 1909 it cost me more to thresh than in 1908, but I will say here that we had considerable more straw than in 1908. I find that in ordinary threshing, say 80 bushels of wheat per hour, when grain is dry, that the engine will only use about 1½ gallons of gasoline.

For crushing I have an 11 inch Fleury grinder, and can grind about 100 bushels per hour. I use 1½ gallons of gasoline for 100 bushels of oats and about 2 gallons for barley.

In 1908 I ran my engine outside until Christmas, and had very little trouble. I find by using a strong battery say from 5 to 7 No. 8 dry cells and taking them out and putting them in the house at night, and by pouring a kettle of hot water in pipe above cylinder, that the engine can be started outside when it is as cold as ten below zero.

But for grinding in the winter I have built a shed for my engine, and put a little stove in it. Then I have a door for the belt to run through. I have no trouble even when 40 below zero and can start my engine ready to run any time in fifteen minutes.

I might here say that I find a gasoline engine a very economical power for the purposes that I have used it for, and it can be run for about half the expense that a steam engine can. I might add that in threshing I run both the engine and separator myself. I expect to trade my engine for a traction engine in a short time and shall use it for all kinds of farm work. I do not see why a gasoline engine should not be very economical for plowing as it does away with a lot of labor that a steam engine has to have.

I find my engine very convenient, as one team can move it, and I also think it is very simple. Outside of batteries my engine has just cost me \$2.00 for repairs and it has been run about one hundred days.

Hoping my experience may be of use to someone else, I remain,

Yours truly,  
Edward McDonald,  
Fleming, Sask.

**The Gas Traction Binder Hitch and Steering Pole**

It is only recently that the farmer has been enabled to pull more than one binder behind his traction engine. The difficulty has always been to secure a suitable hitch that would enable the binders to run in their proper position and at the same time permit of being steered.

Some time ago, however, the Gas Traction Binder Hitch appeared upon the market and so thoroughly did it fill this long felt want that in-so-far as the farmer is concerned, it can be classed with some of the inventions of Edison.

The pole itself is a tongue with adjustable cross bar operated by a worm gear or screw. It is made in two sections—a stub tongue at-

**Best by Far in Wind Power**

is the "Imperial" wind engine made at Brantford, Ont., by Goold, Shapley & Muir Ltd. Under the most severe test in competition with other makes, this Wind Mill has never failed to come out top dog.

Made throughout of best quality material, and every unit is thoroughly tested and guaranteed before leaving the works.

Write for Catalogue and details of the FUEL SAVING of the IDEAL.

Proof against any Wind Storm that will not move a ton from its foundations.

Most Reasonable in Price

**The "IDEAL" Grain Grinder**

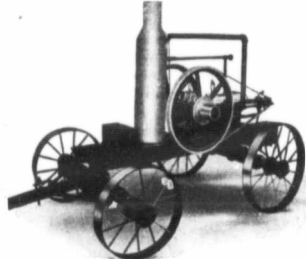
is Canada's Standard. Built exceptionally strong and so nicely designed that it is very easy on power. Has sectional plates and all wearing parts are lathe turned. Large hopper capacity. An endless belt can be used with this grinder.

We are also makers of Gasoline Ploving Engines from 20 to 35-h.p.



**The "IDEAL" GASOLINE ENGINE**

Is in every respect exactly what its name indicates. It is a perfect engine for Farmers and Threshermen and there is not a job on the farm where power is required, which it will not adapt itself to perfectly. This unique engine is made (Stationary or Mounted) from 1½ to 50 horse power; is guaranteed in every detail to be constructed of the very best quality material and by skilled, conscientious workmen.



**Goold, Shapley & Muir Co. Ltd.**  
Factory: Brantford. 230 Princess St., Winnipeg.

Here is **An Attractive Line of Machinery**

for summer use that will save you more hard work and make you more money than most others.



Canadian Pumping Airmotors

"FLOUR CITY" Traction and Portable Gasoline Engines

Stickney Stationary and Portable Gasoline Engines

Well Drilling and Boring Machinery

Aylmer Standard Farmers' Wagon and Truck Seales

Grain Grinders Wood Saws Feed Cutters

Aylmer and Toronto Pumps, Double and Single Action, in Wood or Iron

Stock Watering Troughs—Basins and Tanks Eagle Steel Lawn Wings

**Ontario Wind Engine and Pump Co., Limited**  
Winnipeg Toronto Calgary

tached to the cross bar—and a main tongue which attaches the whole apparatus to the engine. A steer wheel is so arranged that it goes directly in front of the man who is operating the binder. In this way the binder can always be kept in its proper position, can be made to follow the engine around the corners, and if a binder goes wrong it can be immediately shifted out behind the machine in front of it and those behind and in front still do their work of cutting.

As many as five binders have been operated with this device with the best of success. There is

no side draft and the number of binders that can be pulled is limited only to the capacity of the engine. All parts are adjustable and the hitch is easily attached to any make or size of harvester.

The Gas Traction hitch is no experiment. It has been used with entire success on thousands of farms in Canada and the United States. The Gas Traction hitch lets the farmer do his harvesting with the same engine that has plowed and seeded his farm.

For further information regarding this labor-saving tool, address The Gas Traction Co., Grain Exchange, Winnipeg.

# GASOLINE TRACTION ENGINES

## A DEPARTMENT FOR THE USER

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

### Well Satisfied.

In the spring of 1909 I purchased two 22 horse power Hart-Parr gasoline tractors.

One of these was used for pulling a six-furrow John Deere gang in breaking, with roller attached, and broke from 15 to 23 acres per day with an oil consumption of about 3½ gallons per acre.

The other engine was used for summer fallowing, pulling six mould-board plows and heavy sub-soil packer. We plowed about 1,000 acres with this engine this season and then seeded 1,500 acres with the two; drawing four discs and two drills, which did the work on the sod that had been rolled very well.

After this work was completed we double disc and harrowed, drawing five 8 ft. discs and 20 foot lever harrow, over 1,200 acres of land which had been previously broken with the steam engine.

These engines have proven very satisfactory and we believe that by arranging for the shipment of oil in quantities and the securing of better men to handle them they will prove to be very profitable pieces of machinery. The success in operating these engines, however, depends largely upon the character of the ground on which they are used, our land here being perfectly level and free from stone and we can plow for almost any distance without any obstruction and they certainly enable the operator to get a large amount of work done in the right season.

Yours truly,  
C. S. Noble,  
Monarch, Alta.

### Batteries Did Not Last—But?

I own a 30 h.p. Flour City Traction Gasoline Engine. My engine arrived on September 15th. There was no expert at hand to run it off the car and the agent who sold the engine did not seem to understand much about it.

However, he managed to get things together and got the engine to work. He wore out a set of batteries before he left town. They were replaced and we started out for a 24 mile trip. We got out of town about 9 miles when the second set of batteries played out. The agent started back to town for more batteries with the man who was to work for me during the threshing season and who claimed to understand gasoline engines fairly well. My man came back next morning with another set of batteries, but the agent had failed to put in an appearance. Business had urged him away.

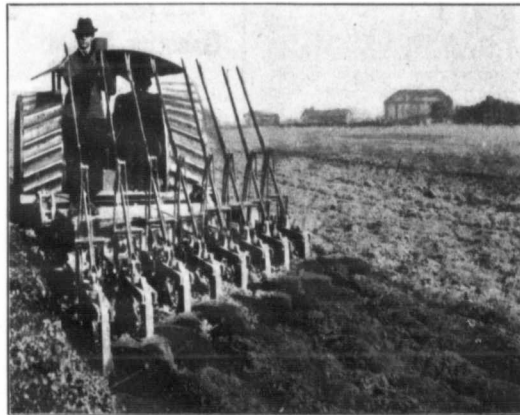
I then left this man to do the best he could in regards to getting the engine to my farm. As I had the team, I pulled on home and told him that I would meet them at the Bow River in the morning, which is about 9 miles from my farm. When I got to

Then I began to make enquiries. I had had some experience with gasoline engines before and always had fairly good luck. So I asked the lad how they used the switch and he told me that they gave it a quarter turn to the right. I enquired if it did not

i said to him, "You have been running the engine on the batteries all the time. When we get more new batteries, we will start the engine on the battery and then run it on the magnetto. Turn the switch to the left as soon as your engine is started and I think probably the batteries will last longer." And sure enough they did. I threshed more than 25 days on the set of batteries that we sent back to town for.

Then we spent three days on running the engine. It looked to me as if the agent and expert had gotten rid of their responsibility, but the expert arrived on September 23rd and put everything to rights, giving me some information regarding the handling of the engine, and since then I have had very little trouble.

The only difficulty that I have encountered since is the magnetto, which somehow slipped cogs and the cylinders got out of time. Occasionally a cylinder will get out of order and miss firing, but I always find that there is some reason for missing. One can easily tell by the explosions if they are all working properly or not. If not I find out by feeling the exhaust pipe which cylinder is missing. Knowing this, I trace up the wire and if no defect



A Gould Shapley & Muir Gas Tractor pulling an 8 Bottom Cockshutt Engine Gang

the river I met the outfit on the hill. The man had the engine and separator that far when the third set of batteries were done.

turn as much to the left and he said that it did, but they had only used it to the right as at that point they got the engine to work.



## THE Flour City Tractor

Twice Winner of the Gold Medal in  
the Winnipeg Contest, 1908 and 1909



A General  
Farm  
Engine of  
the  
most  
Modern  
Design  
and  
Construction



The Acme  
of Strength,  
Lightness  
and  
Durability

Our Catalog  
tells all  
about it

An Engine that has Demonstrated by Comparative Tests its Superiority

**Kinnard-Haines Co.,** 828 44th Avenue North and Bryant, **Minneapolis, Minn.**  
Ontario Wind Engine & Pump Company, Ltd., Dominion Sales Agents, **Winnipeg, Calgary and Toronto.**

is there, examine the spark plug or put in a new one and the trouble is ended. I would advise all engine owners to be cautious about the water circulation, as very often the pipes get clogged up with dirt, which stops free circulation, which is very injurious to the cylinders.

My engine during the threshing season consumed three gallons of gasoline per hour, or 30 gallons per day of 10 hours in the belt. I used my engine for a couple of days after threshing on the farm, pulling three four-horse discs and two hour-horse harrows. I could handle more if I had had them. I intend to get a plowing outfit this spring and put the engine to work as early as possible.

I can't see if the engine is properly handled why I can't do nearly all my farm work.

Hoping this may benefit some inexperienced person, I beg to remain, Yours very truly,

Neil McLeod,  
Cleverville,  
Alta.

plete without a motor power of some kind. We are just entering into the motor age and it will not be long till motor power will be down to a fine point. The West especially (the new West) where grain growing can be done on a large scale, is the place where motor power will rapidly develop.

My idea of motor power is not to have a heavy motor, for where you have a heavy motor, it is harder to propel over the soft ground and, consequently, there is lost power. Get a motor power as much compact as possible.

We have been doing some chopping with our engine and find it handles a 10 inch plate with ease in all kinds of grain.

I hope this information will be of some use to your paper, although we have not had plenty of experience.

Yours respectfully,  
Laird Bros.,  
Tate, Sask.

**Averaged 2200 Bushels Per Day**  
We have a 45 h.p. brake Hart-



A Hart-Parr Gas Tractor Pulling an 8 Bottom John Deere Engine Gang

**Don't Overload.**

We are in receipt of your letter regarding our gasoline engine. We purchased a 20 h.p. International traction (the latest design) with high wheels. We have not, however, had a wide enough experience with it to give you full information.

We have been discing and harrowing and breaking new land. We pulled two six horse discs and one four horse harrow, and this was an easy load for the engine. Our motto is, "Don't overload any kind of motor power supposing it can pull more." A person will have all kinds of trouble if they overload.

We are highly pleased with our outfit and anyone with a mechanical turn of mind should have no difficulty these days with a gasoline engine.

Now as to the gasoline. Twenty rounds on the half mile cost us \$4.50 and figuring this out per acre would be 25c. an acre discing twice and harrowing twice at one operation, and one man at \$50.00 a month handled the whole thing. Figuring out his wages, would cost 25c. an acre; so that the total cost would be 50c. an acre.

No farm of any size is com-

Parr gasoline traction engine. In twelve hours our machine consumes 10 gallons of gasoline and one barrel of gas engine oil. We have a Nichols and Shepard Separator 36x56 with all its attachments.

We averaged 2,200 bushels per day. When plowing we draw eight fourteen-inch Cockshutt plows and a set of heavy eighteen foot harrows and it handles this easily. As for good work the engine makes good time. We took 500 bushels of wheat twenty miles to town last fall. We however, had some trouble with the traction wheels as we broke thirteen spokes going in and some coming out. The roads were in good condition and I would be glad if you could give me any reason why they should break. Gasoline is 28c. a gallon and gas engine oil 20c. per gallon. Yours truly,  
A. J. Bell,  
Ingleford, Sask.

Some men look for work like they would for the smallpox.

It is almost as easy for some men to keep a promise as it is for some women to keep a secret.

Music hath charms, so hath the rattlesnake.

# This is The One-Man Outfit



One man can run the Gas Traction Engine with plows.

Our self steering device works easy and sure.

It works just like a flange on a car wheel which keeps a car on the track.

After one furrow is plowed the wheel of steering gear is put in. It steers the engine and lets one man attend to both engine and plows.

The **Gas Traction Engine** is made at Winnipeg.

You can come and see it before you buy. See it in operation.

**FREE**

Our Book, "The Passing of the Horse."

This is an advantage if repairs are needed. You can get them right here--no time wasted. That is something to remember when buying a Gas Tractor.

Mr. Farmer: You don't invest in a Power Outfit every day and before you do invest you ought to know you are getting the best for your money.

Therefore examine into the **Gas Traction Engine**.

Examine it for ease of operation.

Examine it for economy of fuel.

Examine it for power with lightness.

Then you will be satisfied to buy a **Gas Traction Engine**.

C. T.

## Gas Traction Engine Co.

Winnipeg

Pin this slip to your letter



# Buying a Gasoline Engine

By Prof. J. B. Davidson



That the selection of a gasoline engine is being considered by many farmers today, is proven by the large number of engines being purchased annually. After having been convinced of the economy and utility of the gasoline engine as a source of farm power the selection of the type, size, and make of an engine is certainly a difficult problem. It is the purpose of this article to offer some suggestions in regard to the selection of a gasoline engine for farm conditions, as they may vary.

## THE TYPE.

Gasoline engines may be placed in several classes, as they differ in the method in which the fuel mixture is drawn into the cylinder, the methods by which the engine may be cooled or be mounted. There are other ways in which gasoline engines may differ, and by these differences they may be classified, but the types or classes mentioned include the principal classifications. Another problem to decide in connection with the purchase of an engine is its size, and in this connection the power required for different conditions will also be discussed.

## TWO OR FOUR STROKE CYCLE ENGINES.

Although the majority of engines now sold are of the four stroke cycle type, there are several good two stroke cycle engines on the market. The main advantage of the two cycle engine is that it is only about two thirds as heavy for a given power. Thus it might seem that where minimum weight is of extreme importance the two stroke cycle engine might be chosen. For this reason, it may be the desirable type to mount upon a field machine as a harvester. Further in favor of the two cycle engine it may be mentioned that it is more simple in construction than the four cycle engine, due to the fact that secondary shafts, gears, and poppet valves are dispensed with. The two cycle furnishes also a more steady power than its competitor. On the other hand, a four cycle engine is so much more economical in fuel consumption that a two cycle engine is seldom found larger than six horse power. The four cycle is more positive in the action and will give better satisfaction in the hands of the operator who is not an expert. The best evidence that this statement is true is an investigation of the comparative number of two and four stroke cycle farm engines.

## THE COOLING OF THE ENGINE.

Gas engines must be provided with some means of dissipating the heat from the cylinder walls

and in this connection we find air cooled, water cooled with thermo circulation, pump circulation, or open jacket and oil cooled engines.

Air cooled engines have ribs or fins extending from the outside of the cylinder to radiate heat to the air and these may be assisted by a fan which drives a current of air against them. Air cooled engines are made only in small units, as this method of cooling is not satisfactory when the engine is large and a large amount of heat must be radiated away. However, for light power this type of engine has several important advantages. First, it is the lightest; second, there is absolutely no danger from frozen jacket water and, lastly, the engine is self contained, dispensing with the cooling tank or bulk of the open jacket.

A water cooled engine is always satisfactorily cooled, but there is always the danger of the water freezing in water jacket and bursting the same when the engine is left idle in a freezing temperature. A circulating pump will enable the amount of water to be reduced, making the engine lighter. It may be said that the water cooled engine is perhaps the most effectively cooled, and as far as the cooling of the engine is concerned there can be no objection to it.

The open jacket, water cooled engine represents the more recent development in the cooling of gas engines and is very satisfactory. A small quantity of water is used and can be easily replaced if the jacket be drained to prevent freezing. The water placed in this open jacket is heated to the boiling point and then cooling is accomplished by the absorption of the latent heat of the water driven off as a vapor. It is an easy matter to prevent freezing with this type of an engine by adding an anti-freezing compound to the small amount of water required. Calcium chloride is generally used for this purpose. The open jacket engine has little to be said against it, and for farm purposes will be found the most convenient.

The oil cooled engine is frost proof, but to be effective a large radiator must be provided and this increases materially the weight as well as adds a very unsightly and cumbersome part.

## MOUNTING.

A gasoline engine will do its work best when placed on a solid foundation, but the work for which the gasoline engine may be utilized varies so widely that it may be desirable to have a farm engine so mounted that its location may be changed easily. If the need of a change of location

is to occur only at rather long intervals and the engine is not over six to eight horse power a mounting on skids will be found very satisfactory. Although slightly more expensive a portable engine on truck wheels should be purchased if the engine is to be moved often. Traction engines being for a distinct purpose will not be considered.

## SIZE OF ENGINE.

One of the most important phases of the problem of selecting an engine is the decision pertaining to the size or the horse power. Some of the most common lines of farm work to which the gasoline engine is adapted are:—pumping, churning, washing, running cream separator, grinding feed, shelling corn, sawing wood, elevating grain, cutting ensilage, threshing and electric lighting.

The amount of power required for these various lines of work will vary from one-half horse power to the largest of the portable engines. The following table will indicate the approximate size best suited for each class of work.

Machine	Size of Engine, Horse Power
Washing machine	1/2 to 1
Cream separator	1 to 3
Grindstone	1/2 to 3/4
Pump	1 to 2
Feed Grinder	2 to 20
Sawing Wood	3 up
Portable Grain Elevator	3 to 4
Ensilage Cutter	12 up
Threshers	8 up

A feed grinder small enough to be driven by a two horse power engine will grind so slowly as to be a waste of time for one man to look after it. It is desirable to use 8 to 12 horse power, as then the capacity will be sufficient to keep a man quite busy supplying the grain and removing the ground feed.

It is to be noted in this connection that it is not economical to use a large engine for light work. The increased fuel consumption will more than justify an investment in a small engine for light work. Assuming a mechanical efficiency of 75 per cent., which is above the average obtained in practice, it will require 60 per cent. more gasoline to run an eight horse power engine empty than to run a one horse power under full load. In like manner it would require over twice as much to run a twelve horse power under no load, or over three times as much under a load as one horse power. With an engine that is used for several hours per day, as for pumping, this increase in fuel consumption becomes an important factor. From this analysis, it would seem that a one horse power and a twelve horse power engine would

fulfill the requirements of a large general farm at least. At present many farmers would hesitate at the purchase of two engines, but in time no more consideration will be given to having several gasoline engines than now in having several teams of good horses.

## German Patent Office.

The following statistical information, regarding the German Patent Office for 1909, has been furnished through the courtesy of Egerton R. Case, Patent Attorney, Temple Building, Toronto, Ontario.

The total number of applicants filed, 44,411. Applications originated in Germany, 34,998. Originating in other countries, 9,413; originating in the United States, 1,913; originating in France, 1,552; originating in Great Britain, 1,301; originating in Switzerland, 1,080; originating in Austria, 1,034; originating in other countries, 2,533.—Total 9,413.

The number of patents granted was 11,995.

To German inventors, 8,166; to United States inventors, 935; to Great Britain inventors, 714; to France inventors, 590; to Austria inventors, 426; to Switzerland inventors 350; other countries 814.

It will be noted that the number of patents granted to German inventors to applications filed was 231.3 per cent; to United States applicants, 48.8 per cent; to British 55 per cent; to French, 38 per cent; to Austrians, 41 per cent; to Swiss, 32.5 per cent. etc.

It will be noted that the higher ratios are to the countries where the strictest examinations are made.

In addition to the large number of patent applications filed in Germany during the year 1909, there were also 52,933 Gebrauchsmuster (or petty) patents applied for, making a total of 97,344 patents of the classes applied for, and 11,955 regular patents and 43,510 Gebrauchsmuster issued, or a total of 55,505.

## Cylinder Through a Needle.

An expert workman in one of the great needle factories, in a test of skill, performed one of the most delicate feats imaginable. He took a common sewing needle of medium size, an inch and five-eighths in length, and drilled a hole through its entire length from eye to point, the opening being just large enough to permit of the passage of a very fine hair.

One thing about falling in love, you don't get any bones broken.

The worst thing about tainted money is to get your hands on it.



# To Make Money

in threshing it is largely a question of saving time and labor. This is why your separator should be equipped with a

## Hart-Brown Wing Carrier



Hart-Brown Wing Carriers are not an experiment, as a number of them were placed on different makes of separators last year and the tests made show that this carrier will dispense with the service of from two to four pitchers in stack or barn threshing, and from four to six teams in shock threshing.

The Hart quality is put into every one of these carriers, which is in itself a guarantee that the machine is first class in every respect.

Farmers demand them and

investigate it yourself the scarcity of labor makes them a necessity. We do not ask you to take our word for it,—investigate it yourself and you will find that many threshermen have them and are doing more and better work with fewer men.

We have been making Grain Weighers for all makes of separators for about twenty-five years and know just what a thresherman must have. We know that the thresherman must have wing carriers and have decided to make the Hart-Brown Wing Carriers for them, as it is the best Wing Carrier on the market.

Ask for illustrated booklet which gives full description.

### Will Fit any Separator and can be Used With any Feeder Without Alteration of Either

The carrier rests at all times on its own frame work, which is attached to the main sills of the separator, the strongest and most rigid part of the machine. Has no overhead derrick or support to the ground to interfere with moving or take up time in setting.

Carriers are (15) feet—the longest made—and 32 inches wide at top; they are raised and lowered by a screw operated by a reversible handle and are swung about by a small crank, which may be operated from either end of carrier.

All bearings except the counter shafts, are oilless and require no lubrication or attention during the life of the carrier.

Sold by all Threshing Machine Companies

## Hart Weighers

DO YOU WANT a good, honest weigher? If so, get a HART. Its accuracy will not be questioned. It is the standard the world over because it weighs correctly and gives entire satisfaction. We have been making weighers for over twenty years, and they have been adopted and used by all threshing machine companies on all makes of separators. Why? Because the Hart Weigher is no experiment—it is a sure thing. It has been tried for years and has stood every test.

HERE'S ANOTHER THING! When you get a weigher you want to be sure that you will be able to get repairs and get them quickly as long as the weigher lasts. You are sure of that when you get a Hart Weigher. Repairs for the Hart Weigher can be obtained from the General Agents of the threshing machine companies.

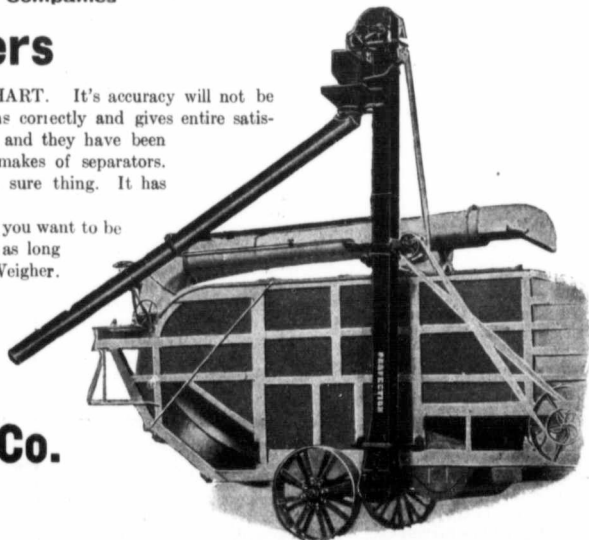
Send for our new Catalog.

SOLD BY ALL THRESHING MACHINE COMPANIES

Manufactured by

**Hart Grain Weigher Co.**  
Peoria, Illinois, U.S.A.

Watch for our new Dump Rack for Wing Carriers



## The Traction Plowman

As told by the men who do it

### Uses 2500 Pounds of Fuel per Day.

In reply to your recent request for my experience with traction plowing I have a 25 h.p. J. I. Case traction engine, and an eight-bottom, fourteen-inch Cockshutt engine gang.

In breaking four or five inches deep, I used six plows, and plowed from fifteen to eighteen acres per day; in shallow breaking or back-setting, I could easily haul the eight plows.

It took three men to run the outfit, one man to steer, while the engineer could run the engine, fire and look after the plows. It just took one man with team to draw water, if the water could be got near by.

We used coal for fuel and used about 2,500 pounds per day.

Yours truly,

Richard T. Church,  
Niverville, Man.

### A Clear Profit of \$45.00 per Day.

I have got a 25 h.p. Case engine and my soil is medium blue gumbo. I plowed about 25 acres a day, which cost me \$3.00 an acre. My expenses were as follows:

2 teams at \$5.00	.....	\$10.00
Fireman	.....	3.00
Cook and board	.....	5.00
Coal	.....	10.50
Oil, wear and tear	.....	1.50
Total	.....	\$30.00

This leaves a clear profit of \$45.00.

I have, however, plowed in some heavy gumbo where I could only plow about 20 acres per day and the expenses would be just as high, or even higher when the water had to be hauled two and a half or three miles, for I had to put on another team and man which added \$5.00 to the expense bill.

Yours truly,

Wm. H. Dyck,  
Lowe Farm, Man.

### Uses Barrell of Water in 24 Hours

I own a 22 h.p. Hart-Parr gas traction engine and a six bottom Cockshutt engine gang. In seven weeks and two days I broke 1100 acres. I lost 44 days of this time for repairs and moving. The repairs were on account of the burning out of boxing on crank shaft caused by oil feed-pipe becoming dislocated from rough ground.

I double disc and dragged 900 acres in 27 days. I lost, during this time, six days from rain, six days on account of broken double crank shaft, one day in moving, one day adjusting frame work for the five discs. The latter weighed from 125 to 200 pounds extra.

I employ five men: two engineers and two plowmen, who work twenty-four hours in four shifts of six hours each, and one man to haul oil and do general work. I use

two horses, which only work half the time; and consume about 100 gallons of kerosene and 5 gallons of gasoline in twenty-four hours.

I used about one barrel of water in twenty-four hours. When plowing in a straight line, 2 miles without a turn, I averaged 33 acres breaking in about 22 hours, and when half-mile breaking with the usual turns and fairly moist ground, I averaged 28 acres.

The cost of oil, delivered, was 24 to 28 cents per imperial gallon, and gasoline 28 to 31 cents.

I consider plowing very much harder on an engine than threshing. Farming with an engine, however, is as far ahead of farming with horses as the automobile is ahead of the highway.

Yours truly,

W. M. Beck, M.D.,  
New Dayton, Alta.

### Discing Hard on Gears.

My outfit is composed of a J. I. Case 25 h.p. engine with 36-inch drive wheels and a 10 furrow Cockshutt engine gang. I only use seven plows as I consider that number enough for a 25 h.p. engine when breaking.

I run my own engine and employ a fireman who also looks after the plows, a tank man and team, and a man and team for hauling coal or wood. The coal man also sharpens what shares he can between times as I have my own blacksmith outfit.

I have done some stubble plowing and as my plow frame is on skids it seems to draw as hard in stubble as on breaking, so that I can use only seven plows. I also did about 80 acres of discing, pulling 5 sets of 4 discs and 4 sections of lever harrows.

I find that the discing is harder on gears than any other kind of work, as the dust seems to rise in a cloud and cuts the gears out. The 80 acres of discing did more harm, in fact I believe twice as much harm, to the gears than 500 acres of plowing, although it did not wear the engine very hard.

I did 425 acres of breaking, averaging four inches deep, during the season and did from 15 to 25 acres a day, using 7 plows, at a cost of about \$1.50 per day. We used about two tons of coal and from 40 to 50 barrels of water a day.

I find traction plowing a good deal harder on my engine than threshing.

Hoping that my experience may be of benefit to someone, I am,

Yours truly,

George A. Anderson,  
Ruddell, Sask.

### Well Pleased with Steam Plow.

We have used a steam plow for about three weeks and are well pleased with it. We have a 32 h.p. Case engine and hauled ten 14-inch bottom Cockshutt plows and found no trouble whatever for want of power.



## IHC Auto Buggies

### Ride Easiest

THE easiest riding vehicles on country roads are IHC Auto Buggies for these reasons: High wheels protect occupants from jars when going over rocks, clods or bumps. The same size clod or obstruction of any kind naturally offers more resistance to the low than to the high wheel. In plain language, the low wheels must jump over—the high wheels roll over. That's one big advantage of high wheels. It means not only greater comfort but less jar and jolt to the working parts of car.

### For Business and Pleasure

this is the ideal vehicle. Simplest to operate, costs less to keep than one horse, travels from 1 to 20 miles an hour over hills, through mud, snow, over any roads. Front wheels are 40 inches high, rear wheels 44 inches. Equipped with roller bearings and solid rubber tires, 1 1/4 inches wide. IHC Auto Buggy wheels do not damage roads any more than the ordinary spring wagon wheels. Solid tires mean no punctures, no "blow out," no delays, no heavy repairing and replacing expense. Full elliptic springs; 36 inches long and 1 1/2 inches wide, also long wheel base, add to easy riding qualities. Send for proofs. Learn what other farmers think of this car. See your local agent, or write the International Harvester Company of America at nearest branch house for further information concerning this car, and if you are interested in a light delivery wagon ask for information on the International Auto Wagon. This vehicle has the same features of construction as the Auto Buggy and is equally efficient in its service.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.

INTERNATIONAL HARVESTER COMPANY OF AMERICA Chicago U S A  
(Incorporated)

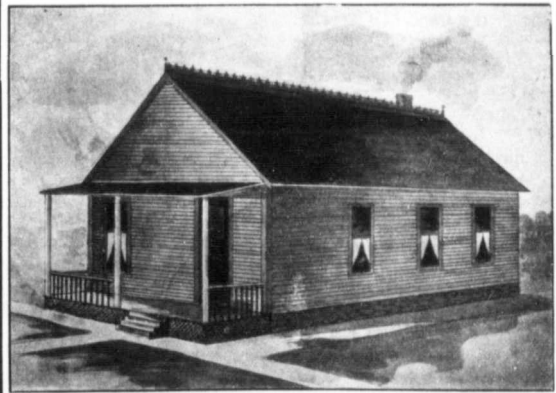


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NOW HAVE TIME TO BUILD

### The Weir Ready-Made House

IS WHAT YOU WANT



Size 18x30 F. O. B. Winnipeg 5 Rooms \$468.00

Built in all sizes and ready to occupy in two or three days after delivery to Station. Built absolutely warm, simple, substantial and economical. Seven distinct thicknesses of material used in construction. THE CHEAPEST WARMEST and BEST READY-MADE HOUSE ON THE MARKET.

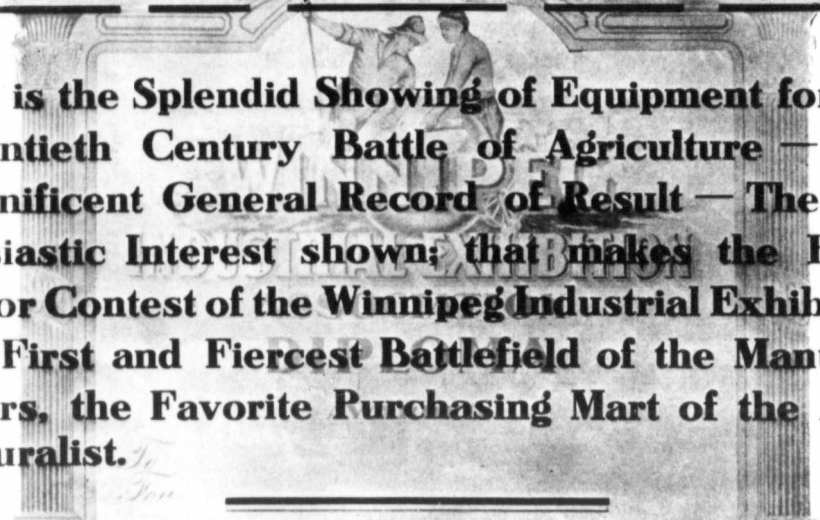
SEND FOR FREE CATALOGUE, SHOWING 12 DIFFERENT DESIGNS

**WILLIAM S. KING CO.**

232 Portage Ave.

WINNIPEG

# IT ISN'T SO MUCH THE AWARD



as it is the Splendid Showing of Equipment for the Twentieth Century Battle of Agriculture — The Magnificent General Record of Result — The Enthusiastic Interest shown; that makes the Farm Motor Contest of the Winnipeg Industrial Exhibition the First and Fiercest Battlefield of the Manufacturers, the Favorite Purchasing Mart of the Agriculturalist.

## THE GREAT FAIR OF THE GREAT WEST

### JULY 13-23, 1910 — TEN GREAT DAYS

We had five men employed and used straw for fuel. We have a straw rack right on the engine, which holds about ten cwt., and that will make a round on a mile easily.

We used four horses, one team to draw straw and one to haul water. We had to haul the water about two miles as it was scarce, but we only had one tank and never had to wait for water.

I would say that plowing is harder on an engine than threshing, for it is harder work and then there is the twist and jar when travelling over rough ground.

Yours truly,

James Coleman,  
Froude, Sask.

#### Fuel Costs \$1.00 per acre.

I have been wanting to write you for some time, but have been too busy, but will now state briefly our experience in traction plowing.

We have a Hart-Parr 22 h.p. gasoline traction engine. We drew a seven furrow Cockshutt plow with 6 plows attached most of the time and sometimes seven. Part of the time we broke sod day and night, during that time four men were employed. Two men operated the outfit at night and two in the day. Most of the time we worked about 18 hours per day and three men were employed. The only use we had for horses was to haul fuel oil about once a week and to do a little driving occasionally, so we had only one team with us. The fuel oil used was mostly kerosene.

In using kerosene as fuel it is necessary to use some water, it taking about forty gallons in 24 hours of steady work. The amount of fuel used per acre while actually engaged in plowing was about

three gallons, but considering the fuel consumed by moving from place to place, would bring the amount used very close to four gallons.

From June 1st to August 15th, we broke one thousand acres with a cost of \$1000.00 for fuel oil, at an average of 28c. per gallon.

We purchased a Red River Special separator, 32 in. cylinder, and threshed thirty thousand bushels of grain, including flax, wheat, barley and oats, in 24 days of actual work. The threshing is much easier on the engine than the breaking.

Kuhl & Sturgeon,  
per P. C. Kuhl,  
Namaka, Alta.

#### An Extra Good One.

We are just in receipt of the 1910 catalogue of the Parsons-Hawkeye Manufacturing Company and we cannot let it pass without making a few words of comment.

For the thresherman it is a daisy, containing full and complete information on practically everything that the thresherman needs in the way of attachments and supplies.

For the farmer it also contains a great deal of interesting information regarding portable grain elevators, gasoline engines, hay presses, detachable wagon box manure spreaders, to say nothing about the Maytag Automobile. "the car that does things."

Even the housewife is not left out, for the Past-time Washing Machine which has taken Western Canada by storm is given a full and complete discussion.

A postal addressed to the Parsons-Hawkeye Manufacturing Co., Winnipeg, will bring you a copy.

Be sure and mention The Canadian Thresherman and Farmer.

#### Press Bulletin.

The Saskatchewan Department of Agriculture, through its statistical and crop reporting service, has completed its estimate of the acreage sown to wheat and oats in the province this year. The estimated increase in acreage sown to wheat is 557,000 acres or 13.6 per cent. This compares with an increase last year of 381,000 acres or 10.3 per cent.

The estimated acreage sown to oats shows a decrease of 137,000 acres or 6 per cent. In 1909 there was an increase of acreage sown to oats of 467,000 acres or 26.3 per cent. There is a widespread tendency this year to neglect oats in favor of flax, wheat and barley. This movement is almost entirely a reflection of the prices that have been obtainable for the various grains during the past six or eight months. Oats have been comparatively low in price while the other grains named have commanded satisfactory prices. Other causes tending to a decrease of oats acreage are the early spring and the presence in many districts of large surplus supplies of oats of the crop of 1909.

Estimates of this acreage under barley and flax respectively are in course of preparation and will be published when the seeding of these grains is completed. It is expected that barley will show a

slight, and flax a very material, increase in acreage.

93 per cent. of the wheat crop acreage, or 4,317,000 acres, was sown prior to May 1st last year. In 1909 only 62 per cent. was sown prior to May 10th.

Of the acreage sown to oats 45 per cent, or 956,000 acres, was sown prior to May 1st, 1910. In 1909 only 11 per cent. of the oats acreage was sown by May 10th.

One acre of every 20 of the area sown to wheat was sown in March. The acreage estimated to have been sown in March is 257,000 or 5.5 per cent. of the whole.

The dates upon which seeding of wheat and oats was general this year were April 12 and April 26 respectively. These compare with May 3rd and May 11th respectively, last year, and April 20th, the average date by which wheat seeding has been general during the past 12 seasons.

The above figures are compiled from the returns of a staff of 1500 farmer crop correspondents.

#### Came and Went With the Comet.

A contributor to a New York newspaper calls attention to the curious fact that Mark Twain's life was almost exactly coincident with the period of Halley's comet, as follows:

Mark Twain, born November 20, 1835.

Last perihelion of Halley's comet, November 16, 1835.

Mark Twain died April 21, 1910.

Perihelion of Halley's comet, April 20, 1910.

**JUST CHAFF**

Sift it thoroughly and find the kernels

It is a very simple matter for a man with a balance in the bank, and with nothing to contend against, to be "honest."—To be really honest you first must be dishonest.

Don't think because you are able to have a whole automobile to yourself that you are as good or as happy as the man who walks with his wife and children along our streets.

Do not do things because other people may hear of it and laud you; "keep it dark," and if you are honest you will be happy. Mean men do not do things unless they can tell every one about it. If you feel that way don't do anything.

Pat met a friend one day, who said to him: "Will you have a drink?" Pat answered: "Begorra, I know a hundred reasons why I should not, but I can't think of one of them now." Then, of course, he had the drink—and—Pat was honest.

Show me a man who puts poor material in a house and covers it over with plaster and sells it for more than it is worth, and I will point out to you a man who has had material in his own composition, but with him the difficulty is that the plaster is too thin and you can see the teredo and worm-eaten slats out of which he is constructed.

Don't be afraid to tell a falsehood if it is going to do someone good and hurt no one. In such case the Recording Angel debits you with a pencil mark easily erased, and, at the same time, credits you with a good act in indelible ink.

Any man who would "deliberately" dodge a conductor to save five cents, would steal candy from a child or coins "off a dead man's eyes," if he were really "up against it." "Don't be an ass because you have long ears," and hear everything about other people's affairs and nothing about your own. Some people are very careful to be honest about other people's faults, but lie themselves "black in the face" about themselves.

Be decent; have a little respect for yourself, for your parents and people—who—unfortunately, have to sit opposite you at the dinner table and watch you eat like a pig—with your knife. Do not butt in for a drink—rather go to some honest, decent "good fellow" and he will "give" you a "V" if you are clean and don't tell him you are the son of some "lord."

A good girl will live happily with a "good fellow," and be miserable all her life,—if she is square,—or get a divorce, if she marries a "good man."

Some people think that because they have not spent anything, and in that way become rich, they are better and more honest than a grocer, for instance, who does not put sand in his sugar, or a milkman who leaves the adulteration to the "honest" cow. In fact, rich men ought to be afraid of their future state if these two men are on the jury which some day they will have to face.

A friend of mine once asked concerning another "man" if he had any money, and the answer which I was forced to give was to "state that he has all he ever saw." Figure this out for yourself.

This is very much like a man who was proud to state that "he never refused a drink in his life but once, and that time he did not hear the other fellow ask him to have it.

A 'poor' man dies and everyone misses him, because he became poor by being a "good fellow." A rich man dies, and the only people who are sorry are those left out of his will.

I have never met one yet who would not take interest on an overdue account if the other fellow offered to pay it. But most of them kick when they get a bill from the solicitor or doctor for brains—delivered. Even your wealthy friends will do this—I hope mine will read this.

Be healthy; be honest; and do not worry about the man who meets you to-day and tomorrow passes you on the street. Let the other man worry, because there is something wrong with him, not with you.

Bankers are a poor class of humanity. Bank clerks sometimes find themselves out and—get out. The fact remains that most of the clerks in the banks today are young men—why? Simply because they would not be there if they were not young and inexperienced. When a man gets experience and common sense he resigns.

What the word "society" means, no one knows. A good, intelligent and honest man does not have to steal anything—everything comes to him—and probably, after all, the true interpretation of the word "society" is "a class of people, intelligent, decent and honest, who are, on that account, in a class by themselves—a small class." This is probably the reason why they say that "society" is a "select class," because it is "small."

A man who drinks is a good kind of man to meet, because his bad habit teaches him to forget—he does not want to remember and—does not. One of the worst kind of men you can meet is the man you have spent the night with, and who comes around the next morning to find out, if possible, what happened and recall many instances which you have long since forgotten. Of course, he does not remember—neither do you. A poor memory, in this case, stands to your credit.

A man cannot be a successful drinker unless he be honest, because, when drunk his associates soon find out his true character, and, if he is no good and has no money, one "drunk" is all he gets. Do you follow me?

I think the word "umbrella" (thief) originated from the word "umbre," a bird which preys upon frogs and small fish, and which embellishes its nest with anything bright and glittering it can "pick up,"—or from umbral," meaning "shady."

Life is a funny thing and made up of many "water wagons" but they all go slowly; none of them have a receptacle for the whip; the seat is built on an angle—and—sometimes you slide—off; the whip is too short to reach the poor, miserable animals you are driving—and—there you are. If you sit on the wagon long,—sometimes the water gets stale—is not fit to drink. Be temperate—don't be a total abstainer; don't let the water get stale; don't drink too much intoxicating liquor; be a man; be honest; be intelligent; think, and you will find that you can turn the tap and that it has not become rusted or corroded, and the water which comes from the tap will be pure.

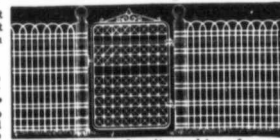
Also remember that there never was a water wagon drawn by two poor "skates" of horses which was not all the time driving uphill—and, at that—a five per cent. grade; roads muddy; horses unshod; lines weak; whip too short, axles ungreased; and everything rotten—believe me.

Let us get down to the facts. Forget, when you go to the polls to cast your vote, that you are Democrat or Republican, Conservative or Liberal, Whig or Tory, use your brains—vote for the best man. How many men on this hemisphere can "class"—Whig or Tory? Very few—none.

Don't wear a wig because you are bald, because most men who wear wigs have nothing under them. If your hair goes,—you get even with the barber. Cultivate and exercise your brains—you are real, and live without hair; under a wig you must be—and are a delusion.

**As handsome as the best iron fence at less than the cost of cheap wood**

Here's a neat, strong, durable fence that will add to the appearance of the handsomest city lawn and is cheap enough, close enough and strong enough for the farm. The



**Peerless Lawn Fence**

is made of heavy No. 9 steel spring wire, so it can never sag. It is carefully galvanized and coated with white enamel paint. No investment you can make will add so much to the appearance of your property.

Also a full line of poultry and farm fences and gates. Write for particulars.

THE BANWELL HOXIE WIRE FENCE CO., LTD., Box V HAMILTON, ONT., WINNIPEG, MAN.



This is it!

Scouten's

**Say, Mr. Thresherman**

Saves time Automatic Coupler

Why waste time with that pin coupling? You're losing money every day in threshing season if your engine is not equipped with one of our Automatic Couplers. It's got them all beat. It's always ready to couple. Can easily be uncoupled without slacking speed of engine under any load. Is provided with a safety lock for up-hill work. Can't be uncoupled accidentally. Is made entirely of malleable iron, and will stand any strain that can be exerted by a forty-horse power engine. Write for pamphlet with particulars and testimonials. We have testimonials from users in all parts of the country. We guarantee every coupler. Money back if not satisfactory. Price..... **\$10.00**

SCOUTEN BROS. RIDING MOUNTAIN, MAN.

**Provincial Exhibition Regina, Sask.**

Under the Auspices of the

**Regina Agricultural and Industrial Exhibition Association, Limited.**

The above Exhibition will be held in the City of Regina, Province of Saskatchewan, on the

**2nd, 3rd, 4th, 5th of August, 1910**

when good prizes, splendid attractions, and attractive purses are offered

The City of Regina are expending about

**\$75,000.00**

in the erection of new buildings, and other improvements to the Exhibition Grounds, and every provision is being made for the care of Exhibitors of all kinds.

Application for space, and Prize Lists, will receive prompt attention.

L. T. McDONALD, Manager

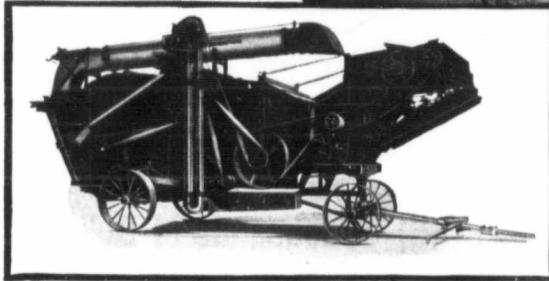
**Patronize Those Who**

**Patronize This Magazine**

# Double Separation *beats* Single Separation *as a* PROFIT EARNER



The Reeves Compound Separator  
With Mammoth Cylinder.



### In this REEVES "Compound" Separator

the upper separating device, itself the most effective ever invented, is re-enforced by a second separating table which in turn is as effective as the whole separating mechanism of most machines.

### Remember that point

when buying a threshing outfit. If there is any one thing more than another that will drive away a customer it is to see what he knows to be too large a proportion of his grain going into the straw.

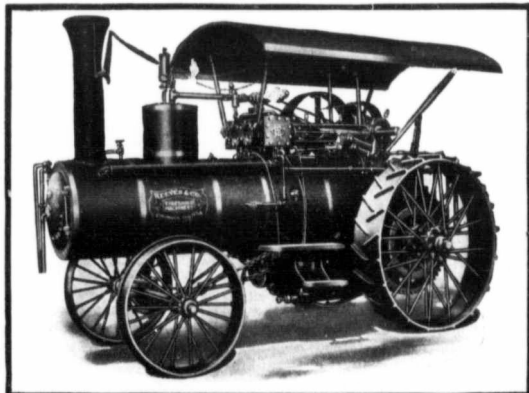
¶ You cannot fool a farmer. Most of them have seen a REEVES "Compound" Separator in operation and they know what "real" separation is. REEVES Double Separation tickles the farmer every time and brings you business. Lack of it is liable to cost you many good accounts.

¶ A thresherman is known by the work he delivers. Thresh with a REEVES Compound Separator and you will have the satisfaction of knowing that you have nothing to fear from your competitors on this point.

## Another Pointer

Don't buy a SINGLE CYLINDER engine without reading the comparison between them and this REEVES DOUBLE CYLINDER ENGINE in the REEVES Engine Catalogue.

After that you won't want one.



# REEVES & COMPANY

COLUMBUS·INDIANA·U.S.A.

Chicago  
engraving  
co.

CANADIAN BRANCH: REGINA SASKATCHEWAN.



### The Farm Separator.

How about the advantages of the farm separator from the milk producer's standpoint? These are too well known to discuss at length, but I might mention briefly the three most important items to the farmer:

First, the hand separator has greatly reduced the expense of hauling the raw product to the factory. Not only does it require less space, but also less time, for as milk is delivered six times a week it is not necessary to deliver cream so often, and the load being so much lighter it is transported more readily and at less cost. This, I believe, is a very important item to consider in connection with the hand separator problem. Going on the basis that a man and team on the farm or a man and horse have a value representing labor, it is not difficult to figure or ascertain the expense of transporting milk or cream to market, and it often happens that the time taken out for this delivering is most valuable time, as in cases where certain important work is in progress on the farm, such as harvesting, planting, haying, etc. It often happens that a farmer's time can really not be estimated by the hour, for there are rush seasons when his time becomes very valuable. It is therefore fair to figure that his time throughout the year, whether rushed or not, has at least a certain value and that this value is not by any means small.

Secondly, the value of fresh skim milk on the farm is often underestimated. By the use of a hand separator night and morning at milking time, the by-product skim milk can be brought to its highest possible value. This should not be lost sight of, and, by a careful calculation may be figured to be worth all the way from 15 to 40 cents per hundred-weight, according to the use to which it is put.

The third and last important item under the advantage of the hand separator may be considered as, independence of the producer. As cream is a marketable product it may be sold to any buyer or it may be made into butter on the farm.

Considering all the advantages that are stated, it is not more than fair that the producer be somewhat independent in his decision as to whether or not he finds the hand separator a practical machine for him to use.

There are many sections of the country where creameries are

close together and the short haul makes the hand separator less necessary. In fact, the whole-milk creamery patronized by a neighborhood included within a radius of two miles about the factory should continue the whole-milk plan if possible.

Now, of course there is another side to this problem and it is a big one, but as I stated in the beginning, I do not intend to discuss this other side. However, it is so closely allied with the producer's end that it must be considered. During the last twelve months the centralization creameries have passed through a crisis. I say passed through, because I believe they are now in a safe way to handle better the hand separator cream. The crisis I mention was brought about naturally by the system which they used in collecting and paying for cream. The cream receiver necessarily had to be a man who knew little about the importance of caring for the product. The producer was not encouraged to turn out a good article. In fact, he was discouraged, simply because the man who was careless and delivered bad cream received the same price for his product as did the man who exercised great care in delivering good cream. For some reason the large creameries seemed to neglect this end and to endeavor to turn out a good quality of butter from poor cream. This they found an impossibility and also that their butter was fast depreciating in value. It was therefore found necessary to grade cream and pay according to the grade.

The subject of grading I do not care to discuss in this article, but I wish simply to mention that the producer is vitally interested and should take an active part in not only encouraging but building up the best possible method for grading the product.

There is no question but what grading is the only salvation for market cream, and the producer, whether he sell to a large creamery or small, it seems to me, should be as much interested as the manufacturer. To produce good cream, then, I believe, is one of the most important problems now before the hand separator users who market cream for butter-making purposes, for in this lies the opportunity to correct the greatest fault connected with the use of the hand separator, and I believe it will be, if the proper opportunities are had to value this cream according to its butter-making qualities. The hand

## The Great Skimming Machine "Magnet" Cream Separator No. 6

Skims 1,000 lbs. an Hour.

Children Operate It.

The "MAGNET" Cream Separator, 1,000 pounds an hour, can be operated by children to take care of the milk of 50 cows.



The Dairy Farmer with large herds has been waiting for this. No need for gasoline or steam engines, and does not require a man. It has the "MAGNET" square gear construction, the large steel bowl supported at both ends, "MAGNET" Brake, one piece skimmer, easily cleaned, will skim perfectly as fast as ten can milk.

Made strong and durable to outlast your time, and run as well for the next generation.

The "MAGNET" has six sizes in capacity, all run by the same drifting gear, and fit the same stand.

F. W. Hodson, Esq., formerly live stock commissioner says, "I have tested your machine of different sizes and consider your separator of 1,000 lbs. an hour capacity excels even the other for obvious reasons."

If you have a large herd of cows write us and it will not cost you a cent to learn how easily the "MAGNET" will take care of your milk.

The "MAGNET" will not wear out in 50 years.

### THE PETRIE MFG. CO. LIMITED

Head Office and Factory: Hamilton, Ont.

Branches: Winnipeg, Man., Calgary, Alta., Hamilton, Ont., St. John, N. B., Regina, Sask., Montreal, Que., and Vancouver, B.C.

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## Thousands of Dollars

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Last year we distributed upwards of TWO HUNDRED THOUSAND DOLLARS among our patrons for CREAM.

We are prepared to double that amount this year. How much of this are YOU going to get?

Have you any CREAM, EGGS or BUTTER to sell?

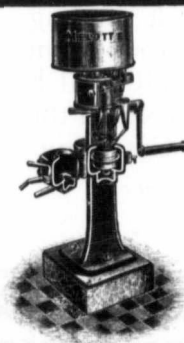
Write us at once and we will make you a proposition. Do it to-day.

Address

### The Brandon Creamery & Supply Co., Ltd.

Box 2310

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## The MELOTTE

IS A

## Cream Separator

the most perfect because the least complicated of any dairy machinery on the market. For this reason, it is most easily operated and is popularly known as the

### "Easy Running Melotte"

The bowl of this machine is suspended by a steel spindle—ONE support only, only ONE point of friction and cannot get out of balance.

Send for Catalog B. (FREE) to the

### Melotte Cream Separator Co.

WINNIPEG

CALGARY

separator has come to stay, at least for a good while, and no doubt will be more largely used in the future, and the best work we can do is to improve the quality of cream delivered at the creamery station. In this improvement both the producer and the manufacturer or buyer have a part to play.

The cream should be graded when delivered, for after this change the producer is not responsible for its care. Careful grading will be a great factor in educating the producer for when a man's pocketbook is touched he is inclined to become interested, and it will require interest to improve the quality of cream.

This is an important factor when we consider that nine-tenths of the cream producers in the entire country are not dairymen in the strict sense of the word, but rather farmers who are doing some dairying along with their other farm operations. Grading cream and paying for the grade rewards every effort by the producer to furnish a good article. Perhaps in four cases out of five the producer will make some attempt to turn out a better article or one that will demand a good price. The fifth man will either not be sufficiently interested to produce a good cream or will find that his conditions compel him to produce a second grade cream.

I have found in many cases farmers who are perfectly willing to receive a lower price for their second grade of cream, as they find it is too expensive for them to produce a No. 1. This would not do except where the cream is sold to the large creamery, for with the small creamery or whole-milk plant, but one kind should be received, and that No. 1. Therefore, in most markets of the country No. 2 is not wanted. Time may regulate this difficulty by cutting out the patron who insists on delivering No. 2 cream.

Great improvements could be made in the quality of cream if the producer was more skilled in the processes of cream production. It seems to me that in nine cases out of ten improvement could be made with very little, if any, extra work or expenditure. The simple fact of cooling and airing cream immediately after separation and maintaining it at a low temperature to preserve its quality, does not seem to be generally understood among cream producers. The lack of cleanliness through all the operation is another great drawback to quality, and this one of the hardest things to correct, but by carefully grading and rewarding for good quality. I believe much of the trouble can be overcome. It might be well also to introduce some method of inspection whereby inspectors can devote their time to improving the quality of cream by teaching the patron how best to produce it.

The washing of dairy utensils is one of the features most neglected by the average cream producer. There is a strong temptation on the part of the user to wash his machine but once a

day or even less often. Milk pails, cans, and strainers are not as a rule properly washed and aired. The cow stables are often dirty and unsanitary, and through the entire operation of production there is a lack of cleanliness. It seems to me there should be much more care taken in keeping the utensils clean and sweet. Washing powders could be used to good advantage and should be encouraged. I believe that in nine cases out of ten there is not enough cleansing material used. Some agent should be employed in the process of washing that will aid the removing of grease and at the same time will sweeten and cleanse the utensil.

Better rooms or buildings could be made for doing the work. I find the location of the hand separator in about three cases out of four is in the kitchen. While this may be necessary it is not desirable and certainly it does not improve the quality of the cream. The separator should be located in a place where odors and contaminating influences do not exist. A little dairy house can be cheaply made and fitted to accommodate all the utensils and work necessary in the production of cream. This may be equipped according to the size of the dairy; if a large one, it certainly should have some facility for producing steam which could be profitably used in heating water and steaming dairy utensils.

In conclusion, let me say that the hand separator has made possible a marvellous growth in the dairy industry. It has made possible the marketing of dairy products in regions which would never have been reached by whole-milk system dairying. It has stimulated and encouraged the introduction of improved dairy breeds and it has brought to thousands of farmers millions of dollars which would have been impossible for them to accumulate had it not been for the hand separator. The hand separator users are a vast throng, and their influence should be used to improve their position. They should insist, where their cream is marketed for buttermaking purposes that it be graded according to its quality and tested for butter fat by accurate methods. They should take an interest in all the operations that are necessary to place this product on the market to the best advantage. They should give care to its assembling and care to its receiving.

There are many opportunities open for co-operation; but co-operation can only be carried on where there is a desire on the part of all to work in harmony. This is possible where the right spirit exists and it seems to me it is well worth the trial.

Sometimes the fire escape turns out to be a board-bill escape, also.

Li'le Ephram says—Ef Mistah Halley's comet wants t' see me it'll have t' change its gittin' up time.

## There's a Mighty Sight of Difference 'Twixt a Tickle and a Truth

**DO YOU KNOW** that the separator bowl which on paper looks easiest to clean, is the most difficult in the dishpan?

**DO YOU KNOW** that the hollow "gas pipe" bowl can only be washed by guess slightly assisted by a plunger, and that the bowl of this type ordinarily in use must be placed in a pan on the floor to allow the operation to begin?

**DO YOU KNOW** that the "one piece skimmer" bowl device is so rough that it will cut your fingers and tear a dishcloth and that the milk outlet is through four tubes which there is no means of cleaning?

**DO YOU KNOW** that the perforated, corrugated "nutmeg grater" skimming device coats with cream on one side and slime on the other and that many times a knitting needle must be used to open the perforations?

**DO YOU KNOW** that the "disc" bowls represented to be "just the same" as the De Laval more nearly resemble the De Laval of twelve years ago, and that they do not admit of the use of the patented De Laval Disc Washer?

**DO YOU KNOW** that the New Improved De Laval bowl is free from tubes, that its interior is perfectly smooth, that the discs are made of steel (not tin) and that absolutely nothing adheres to them?

**DO YOU KNOW** that it is possible to take a New Improved De Laval bowl apart, wash and re-assemble it in less time than any one of these things can be done with any other bowl?

If you don't know these facts and are considering the purchase of a cream separator, the free trial of a De Laval separator may be had by simply asking the De Laval Company or its nearest agent.

**The DE LAVAL SEPARATOR CO.**  
Montreal WINNIPEG Vancouver

**THIS IS THE LOCK!**  
USED IN GREAT WEST WOVEN FENCING

"GREAT WEST"  
Woven Fencing is made of the best quality of No. 5 Hand Drawn Galvanized Wire, with a "The" or "Lock" that holds the wire absolutely secure at each intersection. Every roll guaranteed to be of highest quality. Dealers can get best results by handling "Great West" Woven Fencing, as on account of the factory being located in Manitoba you can get repeat orders filled at shortest notice. Manufactured by  
**The Great West Wire Fence Co. Limited, Winnipeg**

**Of Seventeen Successful Years**  
1909 has been the best in the business of THE GREAT-WEST LIFE ASSURANCE COMPANY, as the following figures indicate.

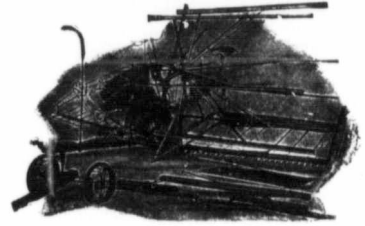
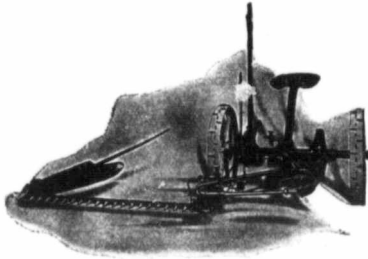
Business in force, December 31st, 1909	46,990,686
INCREASE for the Year	6,124,900
Business Paid for in 1909	9,936,769
INCREASE for the Year	1,487,382
Total Assets, December 31st, 1909	6,866,725
INCREASE for the Year	1,269,513
Surplus to Policyholders	1,465,536
INCREASE in divisible Surplus	271,069

INTEREST EARNED AGAIN AVERAGED OVER 7 PER CENT NET.  
—In short, the year's business is yet another argument for insuring in—  
**THE GREAT-WEST LIFE ASSURANCE COMPANY**  
Head Office - Winnipeg

**Patronize those who patronize this Magazine**

## DOES A GOOD BINDER INTEREST YOU?

Read a few facts about the NOXON No. 9a  
 A simple efficient knoter that will tie all day every day  
 An elevator that will elevate the heaviest crops without choking  
 A reel of many adjustments for crops in all conditions  
 A light but rigid main frame fitted with roller bearings  
 A whole binder that point for point cannot be beaten



The NOXON No. 3 MOWER is another interesting machine  
 IT will interest you. Look it over  
 A one piece steel pitman that gives no trouble  
 A perfectly aligned cutter bar that cuts where others fail  
 An automatic attachment that throws the bar out of gear when folded  
 Every machine is thoroughly run off and tested before leaving  
 the factory. Catalogues sent on request

**THE NOXON CO., LTD., INGERSOLL, ONT., CANADA**

### Dipping Sheep

**Object of Dipping**—Sheep are very commonly infested with ticks or other external parasites. These cause an irritation of the skin and provoke restlessness in sheep so that their growth and health are seriously affected. Much energy is expended by the sheep in their anxiety to relieve themselves of these troublesome intruders and as a consequence feed consumed does not produce the gains that it should. It is to free sheep from these parasites and restore them to normal health and growth that they are dipped.

**Time to dip**—Spring is generally considered the best time of year to dip, though cautious sheep growers dip in the fall as well. If only a few ticks are on the sheep in the fall, by spring these will have multiplied until they occasion great discomfort. In spring after shearing, when the wool is short, the dip penetrates more readily and this is another reason why spring dipping is commonly practiced. Whether in spring or fall a warm sunny day should be chosen for the process since the sheep is less likely to catch cold.

**Apparatus for Dipping**—A tank of some sort to serve as a receptacle for the dip is necessary in dipping. Some farmers have stationary tanks, others movable ones. Both observation and experience have led us to believe that a stationary tank is far more satisfactory than a movable one. It is always at hand when needed, it is not lent to a neighbor, is not so easily cracked, is, as a rule, more water tight, and is more durable. Various materials are used for tanks, among them being wood, galvanized iron and cement. Wood is hard to make and keep water tight, and it rots out quickly. Galvanized iron bends easily, cracks and rusts. Cement is in our opinion the most

desirable and most economical material to use for tanks. Either a wooden mold may be built to shape it in or it may be built in the ground. In size the tank should be about two feet wide at the top and one foot at the bottom and anywhere from ten to eighteen feet long. One end (where the sheep enter) should be made only a little slanting, while the other (where the sheep walk out) should be made quite so.

**Dips**—Most of the dips are made from the coal tar series. It is the phenols and coal tar acids in these that bring death to parasites. Some of the dips are standardized, and these are the most reliable to use, since their strength may be depended upon. In using any dip it is well to mix up a quantity according to directions and try it on isolated ticks or bed bugs, placing these under glass for a few hours to see if they are really dead or only numbed. If necessary the solution may then be strengthened until it does prove effectual. It is almost a waste of time to dip in a too weak solution.

**Hints as to Dipping**—Warm dip penetrates to the skin more readily and so gives better results than cold dip. The sheep should be entirely immersed in the dip, head, ears and all, a broom or like tool being used to keep it under if necessary. Not less than one minute, better longer, sheep should be kept in the dip. Much surer results are obtained if sheep are dipped again in eight or ten days after the first plunge, for eggs may have hatched out in the meantime, and thus the foundation be laid for another large crop of parasites.

Li'e Ephraim says—Ah bet Teddy'll make de Sphinxen open dere eyes, even ef dey doan't say ennything.

### Alfalfa Growers' Contest

Practical hints for growers. Many persons upon reading the announcement which was published recently regarding the offer made by the Saskatchewan Department of Agriculture of \$6,300 in cash prizes for fields of alfalfa will be anxious to get some information regarding the growing of this important crop.

As the plot to be entered in the provincial competition must consist of at least 10 acres and must be sown not later than 1912, persons who intend to take part in the contest must soon begin their preparations. It would be well to begin with a small plot this year and the experience thus gained will be invaluable at a later date when the competition is on in earnest. 1912 will soon be here so our farmers should get busy and be among the 1000 progressive ones who will take up this competition.

While alfalfa is adaptable to a variety of conditions and is found in all countries where agriculture is practiced, it has certain well defined characteristics which must be kept in mind if the greatest degree of success in growing it is to be attained. Alfalfa thrives best on a well drained loamy soil with a porous subsoil, as it is a deep rooted plant and sends a large tap root to a depth of from five to fifteen feet. While it utilizes a large quantity of water during its growth, it is essentially a drought resistant plant and kills out when sown in fields that are subject to flooding. In land that is not too heavy but inclined to be sandy, its root system is better able to penetrate and draw the required supply of soluble plant food.

The soil should be well cultivated and firm. Alfalfa thrives when grown on land which was planted in the previous year with potatoes or some other hoed crop.

For the same reason a piece of summer fallowed land is very suitable for alfalfa as, if it has been properly and intelligently worked, the growth of weeds will have been checked, moisture will have been conserved, the soil will be firm and in a good state of tilth so that the tiny rootlets can obtain a foothold and be able to develop for the support of the plant at a later date. This crop, however, should never be sown on a summer fallow that is subject to drifting, as the seed may be uninvolved early plowing to a depth suitable land is not available, a piece of stubble should be prepared early in the spring. The preparation of spring plowed land involves early plowing to a depth of about five inches, followed at once by harrowing and packing or rolling. Plowing should be done as early as possible in May and seeding about the end of May.

Weeds are among the worst enemies of alfalfa and are a serious menace to the young crop, but if the land is well worked the weed seeds within germinating distance of the surface will have grown and been killed by frequent cultivation and the young plant will thus have a chance of developing without the competition of weeds. The cultivation necessary to secure these results will have left the land firm and with sufficient moisture near the surface. Nothing could be much worse for the young plant than a layer of loose soil at the bottom of the furrow, such as would result from leaving the plowed land without the necessary after cultivation. Never sow alfalfa with a nurse crop. Cultivate properly and let the alfalfa use the moisture that the "nurse" crop would use and thus prevent the so called "nurse" crop from becoming a "murder" crop.



The crop should be seeded during the last half of May or early in June, or at such time as there is an abundance of warmth and moisture in the soil. The quantity of seed per acre varies, but from 12 to 20 pounds per acre is sufficient for our conditions. If there are weed seeds in the soil more than this might be sown. A well worked summer fallow having reasonably heavy soil will carry a heavier stand of plants than will sandy soil spring plowed. Alfalfa can be seeded with an ordinary drill by mixing it with chopped wheat or barley and adjusting the drill to sow the required quantity. Or if one is going to sow a quantity that will make it worth while it will be found advantageous to buy a wheelbarrow grass seeder. Sowing broadcast by hand and harrowing with a light harrow may be resorted to if the other facilities are lacking. Seeding twice, using half the seed each time, and sowing the second time at right angles to the first seeding, will give good results. The seed should be planted to a depth of 1 to 1½ inches.

The seed should be clean and of a hardy strain. Turkestan alfalfa is most commonly grown in this country and has proven hardy and suitable for our climate. As it is easy to practice deception in supplying seed, patronize the seedsman with a reputation for fair dealing.

For success in growing alfalfa it is necessary to have present in the soil the root nodule bacteria peculiar to alfalfa. These bacteria are not present in all soils, and the absence of them is denoted by the alfalfa plants turning yellow thus indicating a lack of thriftiness and vigour. The remedy is to apply at the rate of about 100 lbs. per acre soil from an established alfalfa field. One sack can be obtained from either the Indian Head or the Lethbridge experimental farms, the applicant paying the freight charges.

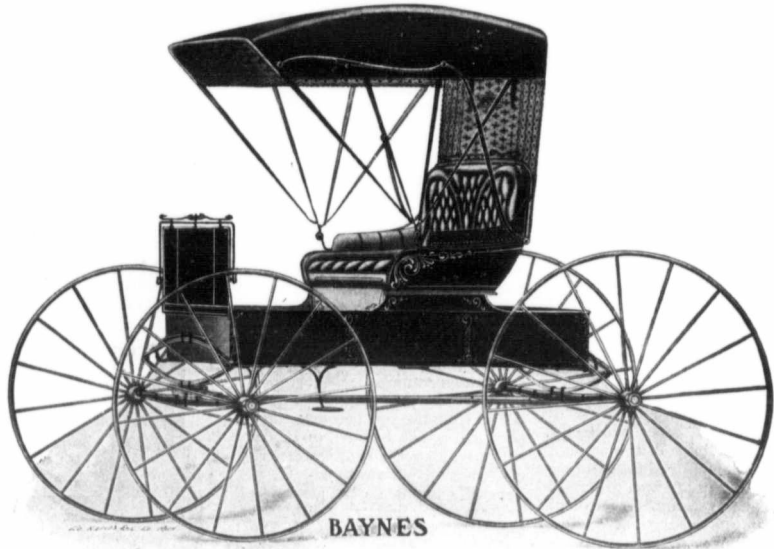
During the first year the plot should not be allowed to produce a crop of hay. It should be mowed several times during the first season. Nor should the plot be pastured before the third year. Sheep crop it too closely and swine are liable to root up the crop. If any weeds are noticed, the mower should be run over the plot before they have a chance to form seed. The last cutting should not be later than the beginning of August and when the crop goes into the winter it should be about 8 or 10 inches high so as to collect the snow and thus protect the young plants during the winter. The cuttings during the first year may be left on the plot where they will act as a mulch.

Fuller particulars may be obtained from F. Hedley, Auld, Regina, Sask., and questions relating to the growing of alfalfa will be fully answered upon request.

Alfalfa growers should know:

1. What to sow. Alfalfa seed of a hardy strain and free from

Continued on page 92



No. 480—STANDARD BUGGY

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We can assure you prompt shipments if you mail your orders direct to our General Agents.

They have a large stock.

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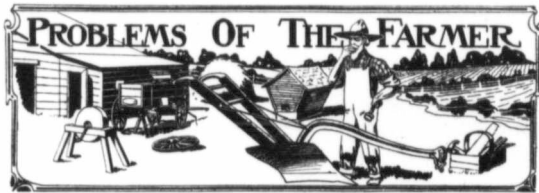
## Crescent Creamery Co. Ltd.

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Authorized Capital \$250,000

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In answering advertisements, please mention *The Canadian Thresherman and Farmer*



### Manitoba.

By Prof. S. A. Bedford.

#### I.

There are a few successful farmers in Manitoba who have obtained good results without resorting to summer-fallow. The soil in their districts is exceptionally retentive of moisture and they having kept their farms very free of weeds from the start largely independent of fallow.

As a rule, however, summer-fallow is indispensable in the West. Its frequency should of course vary greatly with the character of the soil, the amount of rainfall and the class of crops grown. It would show a lack of judgment to recommend frequent fallow in the Red River Valley, but in Southern Saskatchewan and portions of Southern Manitoba it is impossible to succeed unless the land is fallowed every few years.

In these days very few persons believe that this operation adds fertility to the soil, but it certainly makes a large amount of material that is already in the land available for plant food.

Where land has produced wheat for several years consecutively it becomes filled with partly decayed stubble, preventing that compact condition so necessary for the best results with wheat. A properly worked summer-fallow hastens the decay of this material and turns it into useful plant food.

Even in our most favored districts the rainfall is none too plentiful; in fact one of our greatest problems is how to obtain sufficient moisture for our crops, and there is no better way of conserving moisture than by means of a properly worked summer-fallow.

Remove the surface inch or two of soil on a fallowed field and even on the hottest day of summer the soil below will be found quite moist; this moisture I have found extends for several feet below the surface, providing a supply for the grain to draw upon at the most critical period of its existence. Noxious weeds are spreading to an alarming extent in all parts of the West. Even in far western Alberta I found many of these pests getting a firm hold. Without a properly worked summer-fallow I do not see how they are to be checked. Our areas are too large for intensive farming and fallow will have to take its place for weed extermination.

There are many different methods of summer-fallowing but we should adapt our system to the prevailing conditions of soil, altitude, etc. The following plan is the one I have found best

adapted to Western Manitoba. Run over the land with a disk harrow in the fall as soon after harvest as possible, so as to get all the weed seeds covered. In the spring start the plows just as soon as the weed seeds have all germinated, turning a furrow at least five inches deep in old land; follow with the harrow at once, so as to retain the moisture. Then surface cultivate the field for the balance of the season. At first the ordinary spike toothed harrow will tear out the weeds, but in time the soil becomes compact and a disk harrow, or better still, a wide toothed cultivator will give better satisfaction. It is generally a mistake to plow fallow a second time, as it brings a lot of fresh weed seeds to the surface, which do not germinate that season, but are just ready to come up the following spring in the grain. Skim plowing is some times permissible where wild oats or perennial weeds are bad, but even this should be as shallow as possible.

It is a good plan to sow half a bushel of wheat on the fallow for the cattle to pick over and pack the soil, at the same time.

#### II.

In these days of high priced wheat there is a great temptation to leave out of our rotation the very important item of grasses. We cannot afford to do this, for an occasional crop of some variety of grass is necessary on all kinds of land. The roots are useful in keeping light soils from drifting with the wind. When rotted the roots add humus to the soil and thus keep up the supply of plant food; they also check the spread of such weeds as wild oats.

If Timothy can be grown with success it is certainly the best kind for Western Canada, it requires very little seed. It can be grown with a nurse crop of grain, and makes ideal hay when properly cured. Where the soil is lacking in humus Timothy seldom succeeds; then Western Rye Grass can be grown to advantage; it flourishes even in fairly dry soil and when cut as soon as in head makes very fair hay. Where the soil is so sandy that no other grass will grow, there Brome grass will give a fair return and it will not be difficult to exterminate it on such soils.

A large proportion of the hay in Western Canada is injured by careless handling; it is either over cured or else left in the coil until it is badly bleached. With the exception of Brome and rank meadow grass, all should during fine weather be in the stack within forty-eight hours after cutting. Our dry fall weather apparently

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Subscribed \$656,000 Capital \$656,000

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## HAIL INSURANCE

IT IS EVERY MAN'S PRIVILEGE to carry his own risk and save the insurance premium, but why pay a premium and still carry the risk?

WE OFFER insurance that has been on trial for TEN YEARS in Manitoba and Saskatchewan and it shows an unbroken record of loss claims PAID IN FULL, to which thousands of satisfied insurers will bear witness.

WHY EXPERIMENT with something that is on record as having failed whenever put to the test of a bad hail season, or with the NEW and UNTRIED METHODS of Companies having little or no knowledge of Hail Insurance.

Ours is not cheap insurance, but an article that CAN BE DEPENDED UPON, and the price is reasonable.

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 The Saskatchewan Insurance Co., - Regina, Sask.  
 The Alberta-Canadian Insurance Co., - Edmonton, Alta.

**Insurance Agencies Limited**  
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LOCAL AGENTS in all districts will be pleased to quote rates and furnish other information

THE ALBERTA-CANADIAN INSURANCE CO. THE SASKATCHEWAN INSURANCE CO.  
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# Inter-Provincial Fair

BRANDON, MAN.

The great Agricultural and Industrial Exhibition of Western Canada

## July 25 to 29, 1910

Larger and Better in every respect than ever before.

**OUR PREMIUM LIST** will be found liberal and comprehensive. It embraces all the principal breeds of Horses, Cattle, Sheep, Swine, Poultry, Horticulture and Articles the result of skill, for which liberal premiums are offered.

### Industrial Exhibits a Feature

It's here you see the latest inventions and improvements. It's here the Manufacturer meets the buyer of his machinery and implements. No manufacturer can afford to overlook **The Inter-Provincial Fair**. Special efforts are being made to provide display space for all Industrial Exhibits.

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**TROTting, PACING and RUNNING.** Races on the best 1/2 mile track in Canada. Brandon has a national reputation for good racing.

**THE MID-WAY,** the largest and most refined ever seen in the West, **Barnes' Animal Show** of 200 Trained Wild Animals will be here. The best in the World.

**GRAND STAND ATTRACTIONS.** For sheer merit these cannot be excelled. Fireworks—a dazzling moving picture of Fireworks "The Battle of the North Sea."

**Special Excursions and Reduced Rates on all Railroads.**

Entries close July 16th. Sead for Prize List.

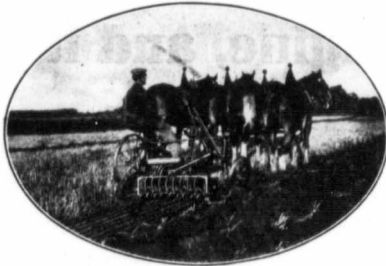
EVERY DAY A BIG DAY.

PETER PAYNE,  
President.

W. I. SMALE,  
Secretary.

**Don't Fail to Renew Your Subscription Before it is Too Late.**

# SUMMER FALLOWING



is a generally practiced operation throughout Western Canada during the summer. It is done for two reasons; first, to destroy the weeds and secondly, to conserve the moisture in the soil as much as possible.

Modern scientific agriculture conclusively shows that there is no better way to conserve moisture than by cultivation. Where land is plowed and the rough furrows are allowed to remain exposed to the wind and weather, the soil becomes thoroughly dried out and as there is little or no connection between the top soil and the subsoil there is no chance for the moisture to work up from beneath. Here is where a **KRAMER ROTARY HARROW** attachment does the trick. Attached to your plow, it will enable you to summer fallow and harrow at the present time, leaving the land in such condition that all possible moisture is conserved. The one operation does two jobs with the same amount of time and labour as it takes to perform one.

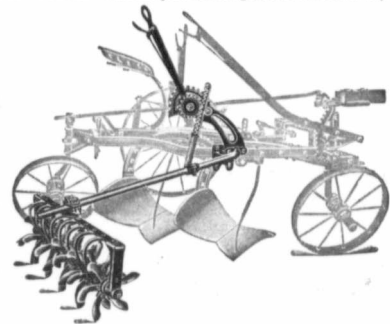
The **KRAMER ROTARY HARROW** attachment is an implement that no Farmer can afford to be without. It permits the farmer to harrow while he plows, saving all the time and expense of harrowing and making the most perfect seed bed. It was the first implement of its kind to be placed on the market. It is the first implement of its kind to-day—years ahead of any other attachment. Don't buy a substitute, but

It has imitators, to be sure; what really good thing has not. buy the real thing. Here are a few reasons why:—

Kramer attachments are built for use in connection with every sized plow. Suitable adjustable brackets are provided for all manner of Stag and Disc Plows. It is easily controlled. The point of the curved blades cleave and penetrate the ground first and gradually their entire cutting surface is utilized, thus chopping the ground all to pieces—the only perfect way. Kramer attachments are simple, strong and durable, perfectly built from the best material by skilled workmen.

You will need a harrow attachment for your work of summer fallowing and don't forget that you buy the real thing when you buy a Kramer.

Write for catalogue and full particulars.



**THE KRAMER COMPANY, PAXTON, ILL.**

Sole Canadian Jobbers:

**JOHN DEERE PLOW COMPANY LIMITED**

WINNIPEG

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encourages the making of very indifferent stacks; many are simply heaps without shape or form and so low that a large proportion of the hay is bleached from exposure, this can be remedied by making the stack fairly high and narrow, remembering that all hay settles rapidly for some time after stacking.

If by June 1st the prospects are poor for a crop of perennial grass our supply can be greatly augmented by sowing some kind of Millet. If sown on clean, moist soil like last year's summer-fallow, or root land, this annual grass will give us a large addition to our stock of fodder. It can be sown about the first of June at the rate of 23 pounds per acre; drilling gives the best results here, it should be cut as soon as the head is formed, and no more than one sheaf a day fed to horses as it is very strong food, Hungarian is the best variety for the West.

**Saskatchewan.**  
By A. Frank Mantle.

I.  
In many parts of Saskatchewan, as in the provinces to east and west of it, a pressing problem throughout the past winter and spring was, and to some extent now is, the securing of a good water supply. Perhaps no one thing so much makes for comfort, satisfaction, and contentment on the farm as the possession of an abundant supply of good water. Those who are fortunate enough to have such a supply give little thought to it, and

reckon it among those other blessings of life such as good health, a peaceful home, etc., which seldom are really appreciated until they are withdrawn. Not only is a supply of pure water of great importance to the household of the farm but it is almost an essential of mixed farming. Thousands of head of cattle and hogs were marketed in Saskatchewan last fall in unfinished condition which, but for the lack of water, would have been carried over the winter, finished, and marketed on a rising and strong market in the spring. It is too much to expect that a man who has to haul all his water several miles, or melt snow or ice, is going to keep more stock than he must. Therefore, apart from its bearing on the pleasure and healthfulness of life on the farm, the whole future status of farming in some districts depends upon a more satisfactory source of water supply being developed.

There are not many districts in which an abundant supply of fair water cannot be secured by boring. In some cases the boring would need to be of considerable depth, while in others from fifty to 100 feet would suffice, rock being the obstacle that prevents dug wells being put down to the necessary depth. But boring wells takes considerable time and costs a lot of money. Many men would have a well bored but cannot afford to as yet, while others would gladly foot the bill but cannot secure a reliable outfit. So, admitting that the ultimate solution of

the water problem lies in obtaining a bored well, is it not possible to do something in the meantime to remedy the situation created by the lack of water fit for drinking? We believe that much may be done along three lines.

In the first place the existing supply (which is usually derived from a "dug-out" or other artificial open air cistern or receptacle) may be improved and enlarged by underdraining and the digging of two or more wells at a distance from the dug-out of several yards and deeper by six or eight feet than the latter. By laying a tile drain below the frost line around the dug-out the loss of water by seepage or percolation could be stopped and the water thus collected carried to the wells at either end of the drain. By having these wells extend six or eight feet below the point at which the tile drain entered them they would act as settling basins, and in many cases such a development of the existing source of supply would do much to solve the problem of securing a sufficient quantity of fairly good water.

Most farms have upon them some depression or hollow which is not broken up and these places gather snow in the winter and rain water in the summer. By planting a few rows of some trees of a bushy habit, such as the Russian willow, around these low places their value as a source of water supply could be much in-

creased. They would gather and hold more snow in winter and would lose less water by evaporation in summer. In this way the wants of the live stock of the farm during spring, summer and fall might be largely met. Their wants during winter may be partially supplied in another way.

It is a fact generally realized that turnips and mangels are composed of nine parts of water to one part of solids; sugar beets are four parts water to one part solids. Fodder corn has almost as large a percentage of water. Thus the animal receiving in the course of 24 hours one bushel of mangels eats 56 pounds of water. Does it not stand to reason that an animal so fed will not require as much water as one receiving nothing but hay or straw and chop—all of them feeds having a small percentage of water? In Scotland it is quite customary to winter cattle on straw and turnips exclusively, never giving them any water at all.

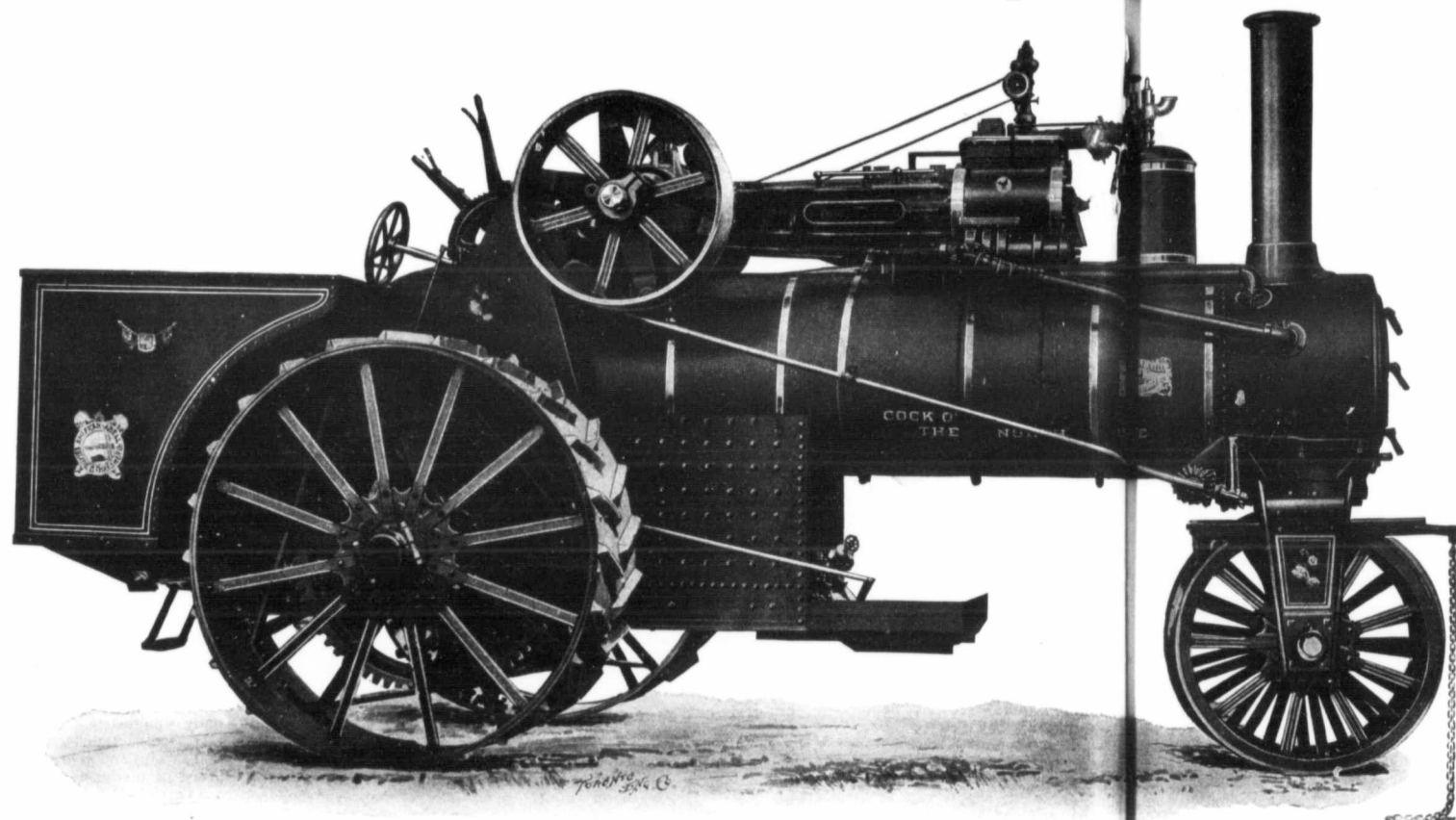
II.

The problem of chief importance to the farmers throughout a large area of Saskatchewan and of the southern portion of the adjoining provinces is: How to grow grain most profitably on an annual rainfall on the average of less than 17 inches. Up to a few years ago this problem was thought to be impossible of solution and such lands were believed to be worthless from an agricultural standpoint, or at least only

Continued on page 93

# It Looks Like a Plowing Engine

It works like a plowing engine, and it produces results that are satisfactory to its owner.



## American-Abell 32 h.p. Plowing Engine

This illustration represents our new 32 h.p. plowing engine, which has taken the West by storm in 1910.

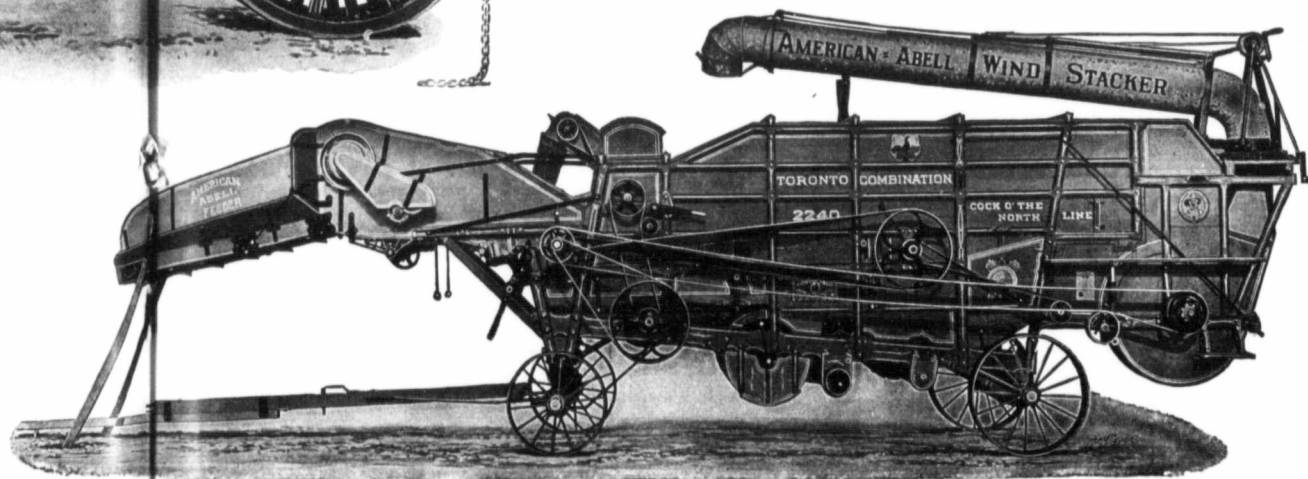
It is rear mounted, is equipped with step gears, intercepting valve, patent steering device---no chains to break; has large fuel and water capacity, making it, we think, the best plowing engine on the market to-day and we know that you will agree with us once you have fully investigated its merits. The first step is to send for a catalogue.

## Toronto Combination Separators

Complete with American-Abell Wind Stacker and Self Feeder

The Toronto Combination Separator is admirably adapted to the handling of wet and tangly grain such as is sometimes found in the fields of Western Canada. The straw decks are of new design and made in four sections with a drop of 25 inches at the end of the first set of decks. One crank shaft drives the four decks which are perfectly balanced and admirably adapted to the separating of the grain from the straw. The complete shaking up which the straw receives in passing over the different sections, thoroughly completes the separation of any grain that is left by our Imperial grate and forks. The decks are pivoted on one end and the crank gives them the necessary motion on the other. That the principal is correct is demonstrated conclusively by their success in the past.

Hundreds of threshermen who have used them stand ready to testify to their merits.



**T**AKE it in your own case, has not experience shown you that the better grade of farm tools do better work, last longer and are more satisfactory all round. Is it not reasonable that this should hold good in the case of Traction Plowing Engines and Threshing Machinery?

No machine works so near the limit of its power and is necessarily subjected to so much abuse and so many hard knocks as the Traction Plowing Engine. To do your plowing, hauling, threshing and all heavy work successfully and profitably you should have an American-Abell Engine. They are built on merit of the very best materials that can be had, skilfully designed to stand the grind and put together with the greatest care. All American-Abell machinery is the best that can be produced, not excepting our supplies and by the way we would suggest that you get into line right now for such supplies and repairs as you may need for 1910. Do not leave this matter until the rush is on, but order early and be assured of having them on hand when you want them.

The Advance Thresher Co.  
Battle Creek, Mich.

We Represent:

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## American-Abell Engine and Thresher Company, Limited.

TORONTO

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## Practical Talks to Threshermen

Conducted by PROFESSOR P. S. ROSE

TALK No. XXXIII.



The size of rig to buy is a problem requiring careful study. It is not an easy problem to solve because there are a number of factors to be considered and weighed before a correct decision can be made.

The factors to be considered are the kind of work the outfit has to do, the amount of work available, the condition of the labor market, and the character of the country in which the outfit operates. All of these things have a vital bearing on the question and must be well considered from every point of view before the outfit is purchased.

Taking these up in the order named, let us proceed to consider what particular bearing each has on the problem. If the outfit is to be used for threshing purposes only, the size of the engine of course will be determined by the size of the largest separator. An engine with much more than enough power to handle a separator easily will not do its work as economically as one that is working at or near its full capacity. It will require more fuel and water for the power delivered at the fly wheel will require more power for self propulsion.

Since the largest sized separators are about 44x72, it follows that for threshing purposes all that is required is an engine large enough to handle such a rig at its full capacity in all kinds of grain. This will require an engine rated at about 30-horse power. More power than this would be a source of loss rather than of gain, as already pointed out.

This presupposes that the separator is fitted with blower, feeder, weigher, and all extras. The next size of separator smaller, those with 36-inch cylinders, will not require more than a 25-horse power engine, although this is as small as should be used. An engine working under a load heavier than it can handle easily is at a serious disadvantage and wears itself out quickly.

If plowing is to be done, or grading, or other heavy road work, in addition to threshing, the desirability of a more powerful engine must be considered. The question here resolves itself clearly into one of first cost and additional earning capacity. In order to get at this in a concrete way let us consider one of the largest sized engines made, and compare it with one of the moderate sized engines. Several of the largest field locomotives now on the market weigh upwards of twenty tons and if bought for cash will cost about \$4,000 delivered. Engines of this size are not usually rated in horse power

but will develop upwards of 150-horse power at the fly wheel, while their smaller prototypes which will weigh fourteen or fifteen tons will actually develop about 90-horse power. The cost of the latter delivered in the field will be, if paid in cash, not far from \$2,700. The difference in price will be, therefore, about \$1,300. Since the smaller engine is large enough for threshing purposes, this extra amount must be charged to plowing only, and must be paid for in plowing if the venture is to be financially successful. It is perfectly clear that all expenses over and above what is necessary for threshing must be charged entirely to some other account, which in this case is plowing or grading or some similar work. In order to use comparative figures we will assume plowing to be the work performed.

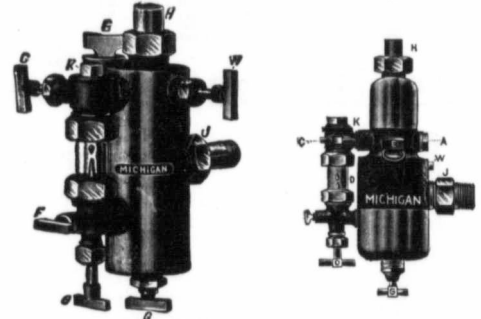
If we make the same assumption in regard to the number of day's work that we did in the last lesson, namely twenty-four days threshing and thirty days plowing, our daily expense account will be about as follows:

Interest on \$2,700 at 8 per cent.	\$216 00
Interest to be charged to each working day of a threshing engine (\$216÷54)	4 00
Interest on \$1,300 at 8 per cent.	114 00
Interest to be charged per day on extra cost of plowing engine (\$114÷30). To be charged to plowing only	3 80
Depreciation per year on threshing engine (\$2,700÷8)	337 50
Depreciation per day (\$337.50÷54)	6 25
Extra depreciation on plowing engine (\$1,300÷8)	162 50
Extra depreciation, charged to plowing only (\$162.50÷30)	5 45
Extra fuel per day, coal at \$8.00 per ton	4 00
Extra for repairs (estimated)	1 00
Extra profit at 20 per cent. on \$1,300	260 00
Extra profit per day (\$260÷30)	8 67
Plowing only	8 67
Total extra daily charges are—	
Large engine over and above smaller engine	\$22 89
Charges on smaller engine as per last lesson	59 45
Total daily charges on large engine	\$82 34

At \$1.50 per acre for plowing this would require a daily average of practically fifty-five acres per day. In order to increase the average to fifty-five acres it would be necessary to use at least one-third as many more plow bottoms or to turn sixteen instead of twelve furrows.

The cost of plows and plow frames would also be greater than for the smaller rig, thus making it necessary to increase the average daily amount plowed to at least fifty-six acres per day. It is very doubtful even with a rig as large as the one we have considered if it is possible to maintain such a high average.

## MICHIGAN LUBRICATORS



**Our Hot Stuff and Pepper Pod Lubricators** are guaranteed to maintain the oil at scalding temperatures, in the most severe cold weather.

We want Threshermen to have a copy of our catalogue free.

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Manufacturers, DETROIT, MICH.

OUR GOODS ARE JOBBED BY:

- J. H. Ashdown Hardware Co., Winnipeg, Man.
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## HOW TO MAKE \$2.00

Grow where  
\$1.00 Grew Before

Use Sawyer Drive Belts  
They Outlast any other Make  
Two to One



A Postal Card will bring Book "L" to You

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CLEVELAND, OHIO.

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## The Gullick Spark Arrester

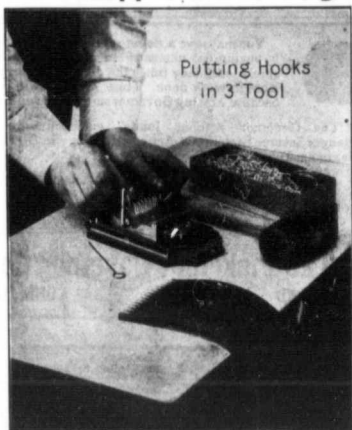
Play safe and buy a spark arrester. The Gullick is best, and the best is none too good.



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Putting Hooks in 3 Tool  
Turn hands of ECCENTRIC PIN upright so that pressure is off before placing Hooks in slots alternately, long and short ends. Then insert loose pin and turn ECCENTRIC PIN from you until hooks are held firmly in place.

Any thresherman purchasing one of these outfits saves time and money. Guaranteed to save 25 per cent. of your belting bills. If your implement dealer does not handle this machine write us direct, and we will be pleased to give you full information as to price, etc. This outfit is done up in neat case 128886, containing all tools required and 1000 of each size of hooks, and remember, a boy ten years old can operate it. We would be pleased to have you call at our Ware-rooms at any time.

For  
**LEATHER,**  
**RUBBER**  
or  
**CANVAS**  
**BELTING**  
Made To Run As  
**Smooth As**  
**ENDLESS.**

**THE GENERAL SUPPLY CO. OF CANADA, Limited**  
Woods Western Bldg., Market St. E., Winnipeg

## "Dreadnought"



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

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

Dealers wanted in every locality.

In view of these figures it seems clear that an engine of the size specified would be unprofitable unless it could be made to work much more than thirty days per year in plowing. If the engine could be used sixty days per year, and maintain an average of fifty acres per day it would make money for its owner. Of course the charges for depreciation and repairs would be considerably greater but the fixed daily interest charges would be much less. It would be interesting to figure the problem on this basis, but enough has already been given to enable the reader to do this for himself. My object in this series of articles is to call forcibly to the reader's attention all the factors involved so that he may overlook none of them in making his own calculations.

In addition to the financial interest involved in using large engines the matter of weight must be considered with reference to the character of the soil, the size of the bridges, etc.

An engine that is too heavy to travel over the soil without sinking in is too large, or an engine that is too large for the bridges over which it must pass is a poor investment. These are things that the purchaser must consider before buying.

Then there is the matter of labor and the amount of work available. Since an engine may last eight years, the future as well as the immediate present must be considered. If a man owns two

or three sections of land, making enough land of his own to keep the engine busy, he can easily discount the future, but if he expects to do custom work and the farms are small, averaging from one-quarter to one-half a section, labor conditions may change in a few years so that there will not be enough work available to keep the engine busy. As the country fills up with people and horses it becomes more and more difficult to operate these large rigs at a profit.

Another thing that must be considered is the size of the fields that are to be plowed. Small fields are unprofitable on account of the lost time spent in turning. Where furrows a mile long can be turned it is much easier to maintain a high average of acres plowed per day than where the fields are smaller. This factor alone may be the determining factor in all steam plowing and where very large engines are contemplated it is always an exceedingly important factor.

In concluding this discussion of large engines it would seem to me that where the fields are large, labor is scarce and high priced, and especially where a man owns several sections of land there may be some profit in using very large engines. Conditions such as now exist in Western Canada or in a few sections of the Western part of the United States are particularly adapted to engines of this class, but in view of the rapid development of the country it is

doubtful if very large engines are to be preferred to the medium sized machines.

Another interesting discussion and one that I may take up in a future lesson relates to small threshing outfits for private use or for the use of one or two neighbors. The size of outfit to buy and the amount of grain to be threshed in order to make the venture profitable are points to be considered.

In our next lesson we will take up the matter of keeping accounts, making settlements, price cutting, etc.

### Just in Time.

A circus paid a flying visit to a small town not long ago, and the price of admission was 50 cents—children under 10 years of age, a quarter. It was Edith's tenth birthday, and her brother Tom, aged 13, took her in the afternoon to see the show. Arrived at the door, he put down 75 cents and asked for two tickets.

"How old is that little girl?" asked the man at the door doubtfully.

"Well," replied Tom, "this is her tenth birthday, but she was not born until rather late in the afternoon."

The ticket taker accepted the statement and handed her the tickets but it was a close shave.

### Rapid Growth in Canada.

In the past nine years 425,611 settlers have come to Canada

from the United States, while 504,056 have come from the British Isles in the same period. In the past five years 370,519 settlers have arrived in the provinces of Manitoba, Alberta and Saskatchewan, 80 per cent. of whom were from the United States. For the calendar year ended December 31, 1909, 90,000 immigrants have arrived in Canada from the United States.

Official figures show that 10,000 homesteaders from the United States took up homesteads and pre-empted during 1909. These 10,000 homesteaders each taking up a homestead and a half that number of pre-emptions gives 2,400,000 acres taken up by Americans. The homestead law compels the cultivation of 30 acres each year on homesteads and pre-emptions. Under this clause, therefore, next year these 10,000 homesteaders would have 450,000 acres under cultivation. Presuming they cultivate wheat and that the acreage gives the same average for 1910 as it gave in 1909, these homesteaders will produce next year 8,100,000 bushels of wheat additional to the Western yield. The homestead regulations give every man of sound mind, of 18 years of age 160 acres, the conditions being payment of \$10 entry fee, residence six months in each year for three years, bringing 30 acres under cultivation each year and at the end of three years having a dwelling of at least \$300 value.

## The Thresherman's Question Drawer

Answers to Correspondents

**S. T. Q.** Tell me which **CARMANGY** will give an engine the most power; to screw the governor down or up to climb a hill?

**A.** Since screwing the governor "down or up" does not change the relation between the cylinder and traction wheels, there will be practically no difference in the load the engine is capable of pulling, that is, within a reasonable range of speed. However, at the higher speed the engine will pull a smaller load than at the lower speed, for more of the power is used up by extra friction due to the speed. The cylinders will develop more power at the higher speed and greater power is required to pull a load at high speed. So changing the governor so that the engine runs faster it will develop more power, but will pull a smaller load.

**T. G., Q.** When a double **FRANK**, engine does not start **ALTA**, at all points of the stroke what is the trouble?

**A.** The maximum cut-off on a double engine should be later in the stroke than that of a single engine. The object of having a later cut-off is not so much to get power as to be able to start a heavy load at any position of the cranks. The cranks being set at 90 degrees, one would naturally think that a valve gear set at a little over one-half cut-off would start the cranks at any point; and it would, if the load were not too great. When the maximum cut-off is, say five-eighths of the stroke (the one crank on dead centre and the other at one-half of its stroke—the later only having to move a short distance till the steam is cut-off) this brings the one which was on the centre in position to move; but it being so near the dead point and now alone in the work, it has a poor chance to start a heavy load. Hence the advantage of having a late cut-off, for it is clear that if one piston follows its crank with steam to the point of, say, three-fourths of the stroke, the other piston and crank is so far on its travel that it can take the load and can help itself. Thus not only is the ending ready to start at any position, but by having a late cut-off it can start a heavy load at any position of the cranks; for when one cylinder is in cut-off the other is at its best.

**L. B. Q.** While engine is running slow and pulling very hard doing traction work, it will run smooth and quiet. When it is running fast, threshing, it pounds terribly. Tightening the crank-pin and cross-head box does not help it any. If the crank-pin is worn out of round would that cause it? There is a good hand oil pump

on steam chest, so have used enough oil to satisfy me that the trouble is not in the cylinder. Have been very careful in taking up the slack in all the other places.

**2.** Which is the best kind of steam gauge, single or double springs?

**A.** The crank-pin being out of round will certainly have something to do with the trouble. It may be your crosshead is out of line or the crosshead loose in the guides. The engine will naturally run better when running on the road on account of the engine running over and when threshing the engine runs under, which will exaggerate any trouble in the guides or crosshead beside the harder pull while threshing.

**2.** The double spring steam gauge was designed for traction work to stand up under the excessive jarring it gets in this service.

**G. M. Q.** Would a crown **CARMAN**, sheet patch riveted **MAN**, on the inside of the sheet be safe? It is cracked between four flues. Would it hold with bolts and a nut on the end or can it not be drawn tight enough with a bolt?

**A.** The way to patch the crown sheet of a fire-box is to cut the damaged part out and fit a patch on the hole, allowing 2 inches for a joint. All around the hole drill 11/16 inch holes, one inch from the edge of the patch and two inches apart. Mark the holes on crown sheet, through the holes in the patch, drill the holes in crown sheet for 3/8-inch tap. Tap the holes in crown sheet and countersink them in the patch to fit patch bolts. The patch bolts have a head like a wood screw, but instead of a slot in the head they have a small square end for screwing them in, which is cut off after screw is in place. Screw all the bolts up tight before chipping off square end and then chalk the joint to make it water tight.

**G. Y. Q.** How can safety **RADISSON** plug, which appears to be limed in, be taken out without injuring crown sheet?

**A.** In taking out the safety plug you are more apt to injure the plug than the crown sheet. If the plug will stand screwing out no harm will be done, but if the plug is so tight that it will twist it off a little hammering round the plug may loosen it up. Care should be taken not to hammer too near the stay bolts as they may be loosened and made leaky.

**A. B. Q.** What would you **STROME** consider the standard **ALTA**, and H.P. of these engines and boilers:

Engine No. 1 has boiler waist size 28 in., length of tubes 78 in.,



# \$1. SAVED AND \$10. LOST PER DAY

You may save a dollar on first cost of Governor by buying one unsteady in action but you will surely lose many times the difference every day. Loss in work done. Time and Cost in repairs because a racing Governor surely racks an Engine.

"The Governor without Joints" equipped with Speed Changer Secures Stability in Action, Economy in Service and Maximum Durability.

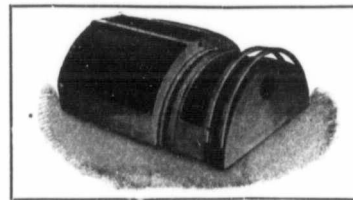
**SPEED CHANGER IS PATENTED**  
And obtained only on Genuine Pickering.

**The Pickering Governor Co.**  
PORTLAND CONN., U.S.A.

Our Booklet, "THE EVIDENCE," in the case of

## The Gould Balance Valve vs. The Common Slide Valve

will be mailed to you on receipt of a postal card. This booklet contains testimony that shows what we are doing for the threshermen.



Over 10,000 threshermen will use the Gould Balance Valve for 1910. Be one of the 10,000.

Guaranteed to increase the power of a traction engine, using a common

slide valve, from 18 to 30 per cent.

Can be attached to any make of traction engine in the field with the ordinary tools carried by the engineer. We have valves in stock for your engine. No measurements required.

Send for our special proposition to agents

**GOULD BALANCE VALVE COMPANY, Kellogg, Iowa, U.S.A.**

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Geo. White & Sons Co., Ltd., London, Ontario, Manufacturers in Canada  
John M. Brant Co., Bushnell, Illinois  
Sachse-Bunn & Co., Cherokee, Iowa

## Stenger's Automatic Couplers



are absolutely faultless. They couple automatically, uncouple without slack; one working part, one lever one spring. They are POSITIVELY guaranteed for a 40 H. P. engine. Broken parts replaced free. Replacing for 1909 was less than 13c. per 1000 couplers. They gave entire satisfaction. The sales of the Stenger Automatic Couplers for April only were 165 per cent greater than the entire sales for 1909. The record is startling. Overhauling is their success. They will amaze you. Selling O—so E—Z. Folders free.

**W. J. Stenger, Mohall, N. D., U. S. A.**



# THE KING

## SIGHT-FEED STEAM LUBRICATOR

Specially designed for Threshing and Portable Engines, Steam Pumps, Saw-Mill and Hoisting Engines, etc.

### The Best by Test for the Great North-West

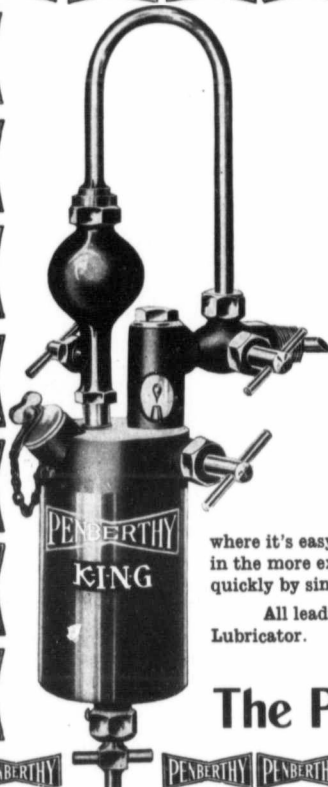
IF YOU WANT the Lubricator that's easy to attach—easy to operate—that works when you want it to work—that has the best sight feed feature ever seen on a Lubricator—that has few working parts—that has a drain valve and a filler plug that can't lose off—that will work in cold weather—in short—a Lubricator that will give you satisfaction the year round—YOU WILL BUY THE KING.

Note the design and construction of the King Lubricator—neat, compact and simple. Notice specially the position of the sight feed glass, at the top of the Cup where it's easy to see the oil feeding at a long range. This is an up-drop oil feed the same as found in the more expensive Lubricators. The Sight Feed Glass will not break easily and can be removed quickly by simply unscrewing the cap on the top of the sight feed chamber.

All leading jobbers and dealers stock them. Write for booklet describing fully the King Lubricator.

MANUFACTURED BY

The Penberthy Injector Co. Windsor, Ont.



number of tubes 42, diameter 2 in., length of firebox 40 in., width of firebox 26 in., height of firebox 32 in., size of cylinder 8x10.

Engine No. 2: Length of firebox 36 in.; width of firebox 26 in.; height of firebox 32 in.; length of tubes 78 in., diameter 2 in.; number of tubes 42; waist size 29 in.; cylinder 8½x10.

Engine No. 3: Waist, 28 in.; firebox, length 40 in., width 25½ in., height 37 in.; number of tubes, 36, length of tubes, 84 in.; diameter, 2 in.; cylinder 9x12.

2. Will an engine, say 7x10 cylinder, give out as much power on a 12 h.p. boiler as the same size engine, 7x10, would on a 15 h.p. boiler? Both boilers having the same steam pressure, say 110 lbs.

3. Are boilers always rated by the heating surface? If so, how many square feet of heating surface is considered a horse power.

A. It is presumed that you have in mind nominal h. p. As you give no conditions under which these engines are to run, all we can do is to make a comparison between the sizes given in question. We will base our calculation on engine No. 1 and call it a 13 h.p. both in cylinder and boiler and if it is 13 h.p. No. 2 boiler would also be 13 h.p. as there is very little difference in the size. The cylinder of No. 2 would be 14½ h.p. No. 3 boiler would be 12½ h.p. and the cylinder would be 16 h.p.

There is a great difference in the rating of engines made in this

country as each manufacturer has a different standard to figure from. Some carry higher pressure than others; some run at different points of cut-off to accomplish the same results. Some boilers have to be fired harder than others. As the power of a steam engine is very flexible there is usually a wide range as to the amount of work which can be done.

2. A 7x10 cylinder is generally termed as a 10 h.p. There would be no difference in the power if put on a 12 or 15 h.p. boiler. The difference would be that the larger boiler would steam the easier.

3. Boilers should always be rated by heating surface. Twelve square feet of heating to a nominal h.p. is considered good practice in this country but some manufacturers give more and some less.

M. H. Q. How can I CROSSFIELD get the slide ALTA valve in my engine steam tight?

A. Slide valves and seats are made steam tight by scraping them to a true surface. The valve and face should be trued up separately. The valve is scraped first in the following manner: Take a little red lead or lamp black mixed with a little oil, and smear it over the surface of the plate with your fingers, wiping it nearly dry with the palm of your hand. Then slide the valve over the surface plate and wherever

the dressing on the surface plate rubs off on the valve face it should be scraped down, as the marks on the valve face indicate the high places. Continue this operation until the spots become close together and get to be quite a number of them. It is not safe to have a large spot on the valve which you cannot mark by rubbing it on the surface plate, as it may be quite hollow at the spot. When the spots are close together it follows that the places between the spots cannot be very low.

After the surface of the valve is thus made straight the valve seat is treated in the same manner, by using the valve to mark the seat instead of the surface plate used to mark the valve. Rub the dressing (oil, or red lead or lamp black) on the valve and slide the valve over the seat in the same way it is moved by the eccentric and proceed to reduce the high places with a scraper indicated by the dressing.

A good way to make a scraper is to grind off the end of a file and also grind the teeth of the file off at the end. The cutting edge of the scraper should not be as a knife's edge, but a square edge, just like the end of a board.

W.D.E. Q. Please tell me how much lap should be used in welding ends on flues.

2 Which end of the boiler should the welded end be used in.

3. Why?  
4 What special care should be taken in welding ends on flues.

5. How is a welded flue tested before going into a boiler?  
6. Could you give me the address of one of the nearest places where I could get my boiler feed water analyzed and compound made for it?

A. At least a half inch and better five-eighths of an inch should be used in welding the ends on flues.

2. It makes very little difference, but if there is any preference, have the welded end nearest the fire box.

3. The welded end is placed nearest the firebox for the simple reason that there is the greatest heat to be secured there.

4. The principal thing is to keep the fire clean and see that there is no dirt in it.

5. One method of testing is to drive a plug in one end of the flue and fill it full of water, holding the flue on end. If it does not leak in any way after being allowed to stand for some time you can generally be assured that you have secured a perfect weld.

6. We would suggest that you write the University of Saskatchewan, Saskatoon, who will doubtless be able to fix you up in this matter.

We are all ready to acknowledge the corn when the shoe pinches.



## Foaming and Priming of Steam Boilers

CAUSE AND PREVENTION

The foaming and priming of steam boilers, says a writer in *The National Engineer*, is a most annoying occurrence, to say nothing of the loss of time in being compelled to shut off steam from engine to prevent the danger arising from the passage of large quantities of water suddenly into the cylinder, resulting in many cases in a total wreck, fit only for the junk heap. The cylinder heads, of course, receive the first impact of the blow. Whether the fly wheel will escape destruction depends largely upon the point at which maximum strain is reached. The closer to mid-stroke the exhaust side of the piston fails to clear itself of water, the greater is the danger to the revolving parts of the engine.

In the minds of many engineers no difference exists between foaming and priming and therefore it is of first importance to state that foaming, in its cause as well as its remedy, differs essentially from priming. Foaming is caused by impure water and the effect of these impurities may be illustrated by two pots, one filled with pure water and the other with milk. The water will boil and emit steam without rising much above the same level as when cold; but the milk will rise suddenly when brought to the boiling point. The reason is that, in boiling water the globules of steam formed upon the heating surface and rising through the water burst as soon as they reach the surface and cause so little agitation as to be imperceptible in a steam boiler.

With milk, however, it is entirely different. The walls of the vapor globules have sufficient cohesion to remain intact when the surface is reached, and a great number of them will adhere together, making a foamy mass ever increasing in volume and in violent ebullition. Precisely this effect takes place in a steam boiler when the water contains foreign substances which are of such a nature as to prevent the steam globules from opening as soon as they reach the surface. The prevention of trouble from this source obviously lies in consulting competent authorities for the purification of feed water, and in supplying the suggested remedy.

Numerous causes contribute to the priming of steam boilers, which may be divided into the following heads:

First: Sudden changes in the water level.

Second: The water level may be kept too high, or the steam room may not be enough.

Third: Siphonage may take place by reason of wrong relative position between engine and boiler.

Fourth: There may be grave faults in the construction of the boiler, or in the steam piping between the boiler and the engine.

Fifth: The boiler may be entirely too small for the engine.

The first cause, that of sudden change in water level, is active in locomotives and traction engines, which are usually provided with steam domes from the highest point of which steam is taken.

The second condition which often causes priming is found in deficient room between the water level and the exit pipe for the steam. The only remedy for this is to lower the water level as far as is consistent with safety and maintain it at that point.

The third and least suspected cause of priming is siphoning. Wherever the relative positions of the boiler and engine are such that the lowest point of the engine cylinder is lower than the opening of the steam pipe in the boiler, there is not only danger that priming may occur as an immediate effect, but in consequence extremely large volumes of water may be siphoned over to the cylinder.

In a small carpet factory a vertical boiler and a horizontal engine were placed on the same level on the first floor and, although the construction of the boiler was liberal as to the amount of steam space, priming was of frequent occurrence, especially after a larger engine had been installed which made it more difficult to maintain a uniform water level.

An enlargement of the mill made it necessary to remove the boiler into the basement, while the engine remained upon the first floor. From the time this change was made, some fifteen years ago, the boiler has never primed, although the change in relative locations of the engine and boiler made it impossible for the engineer to give the same close attention as formerly.

The fourth cause of priming, that of grave faults in construction, is usually the most formidable because remedies can seldom be supplied except at prohibitive cost. One of the most common errors in construction is dispensing with the steam dome on the horizontal tubular boiler, and in limiting to a dangerous degree the space between the crown sheet and opening of the steam exit pipe in vertical boilers. Defective construction of this character imposes upon the engineer a great amount of extra labor and care.

Fortunately, inspection authorities, boiler manufacturers of liberal views and enlightened public sentiment among engineers, have done much to abolish the defects spoken of, and thereby also eliminating the abomina-

tion of a slanting row of gauge cocks and inclined water column, so often seen some thirty years ago.

It would have been better to have placed the gauge cocks the regular distance apart from center to center in a perpendicular line, and to have the boiler a few inches higher to accomplish this end. In many horizontal tubular boilers the elimination of the top row of tubes and the dropping of the gauge column to an amount equal to the space gained would do much to prevent priming. The loss in heating surface will be made up at other points.

The fifth cause, the boiler being too small for the engine, cannot be remedied except by installing a larger boiler or smaller engine. This should not be undertaken without consulting a competent engineer or, at least, without insisting that not less than 15 square feet of heating surface be provided per horse power.

A most singular case of priming came under the writer's notice a few years ago in which the conditions of cause and effect were so thoroughly investigated experimentally, that the results herewith given are of more than passing interest.

An old engine being too small was supplanted by a new one, the capacity of the old to the new being as 25 to 64. In order to increase the distance between the center of the engine shaft and that of the main receiving shaft, in order to obtain a large belt, the engine was set about three feet lower than the old one had been, which brought the cylinder below the base of the boiler.

The new engine had scarcely been started, with water in the boiler at third gauge, when the pounding commenced and continued at frequent intervals during several days, when it was determined if possible to find a remedy. Two causes were active in starting: Priming an engine too large for the boiler and siphoning on account of the engine setting nearly nine feet below the water level in the boiler.

The engine had a 2-in. steam connection. And in the top flue sheet of the boiler there was a 1½ in. shoulder nipple. It being suspected that the small steam outlet was the cause of the trouble, it was concluded to replace it by one larger than the steam pipe to the engine, and a 2½ in. was considered ample to accomplish the result. This would reduce the velocity of the steam at its exit from the boiler in the proportion as 25 to 9, or nearly one-third. Accordingly the pipe connections were dismantled until the steamfitters came to the 1½ in. shoulder nipple in the boiler. The flue sheet was about 5-16 in. thick, but the

thread on the nipple was about 5 in. long and as it had been screwed up tight against the shoulder it must have projected into the steam space of the boiler at least 4½ inches.

That any sane person would introduce such a fault, inviting the very thing we were anxious to avoid, was almost beyond belief. It was decided to cut enough off the nipple to bring it flush with the inner surface of the flue sheet, when the shoulder was screwed up tight against the sheet. That the projection of this nipple into the steam space and toward the water level was the cause of the priming seemed so obvious that the introduction of the larger nipple was regarded unnecessary.

After the shortened nipple had been introduced and connections to the engine made precisely as before, a decided improvement was noticed.

Previously it had been impossible to maintain the water level higher than midway between the first and second gauge. When, however, the water showed slightly above the second gauge, the trouble commenced and the engineer had to perform one of his old-time sprinting stunts to save the engine from being wrecked.

It was now decided to quit the vacillating policy and to remedy the trouble permanently by the introduction of a 2½ in. nipple which would be flush with the inside of the flue sheet.

A solid iron plug with a 1½ in. pipe thread on the outside and a half-inch hole in the center, was prepared with the intention of screwing it into the sheet after the removal of the nipple the center hole of which was to act as a guide for the tit on the two-tool cutter head for making the hole for the larger nipple. The job completed, everything was ready to make another start.

Cautiously the water level was raised above the second gauge, while the engine was running and with the bib cocks on the cylinder partly open; from the bib cocks comparatively dry steam issued. So the water level was raised to the third gauge, with the bib cocks on the cylinder partly open, with everything apparently going fine when, without warning, the worst deluge ever was experienced. Fortunately the engineer had been kept near the engine and shut the throttle before much water entered the steam chest.

The proprietor now determined to secure the full benefit of the space between the first and third gauge, and determined to experiment with that in view.

Perhaps the men who had just put the original long nipple into the top of the boiler did not intend to play a serious practical joke,

Continued on page 94

# Every Year We Add New Stripes

To The

# Gaar-Scott Tigers

And Touch Up The Old Ones

They are the Marks of  
**75-YEAR QUALITY**

and put dollar marks on the thresherman's bank book. One big 75th Anniversary Catalog shows them all from teeth to tail. Write for it and our

## New Tiger Truths

containing the proofs from the field, that every one of these stripes is as good as it looks.



## A Few Big Stripes

A newly designed and greatly strengthened frame from best select hardwood throughout—nothing stronger nor more lasting.

Narrow matched and beaded siding that will not warp nor split.

Double-trussed steel axles and steel wheels

A faultless, breakless swivel-rocker bearing on front bolster, giving unhampered motion.

Large 16 double-bar cylinder that gets all the grain and gets it whole.

Our own patent double-bladed, reversible Tiger Teeth.

97 per cent. of grain separated on large concave and grate surface, with perfect front and rear adjustment.

3-way-crank separation—the crankiest of all about getting the last grain from the straw.

Independent mounting and motion of end-shake chaffer and side shake shoe, producing the cleanest possible cleaning.

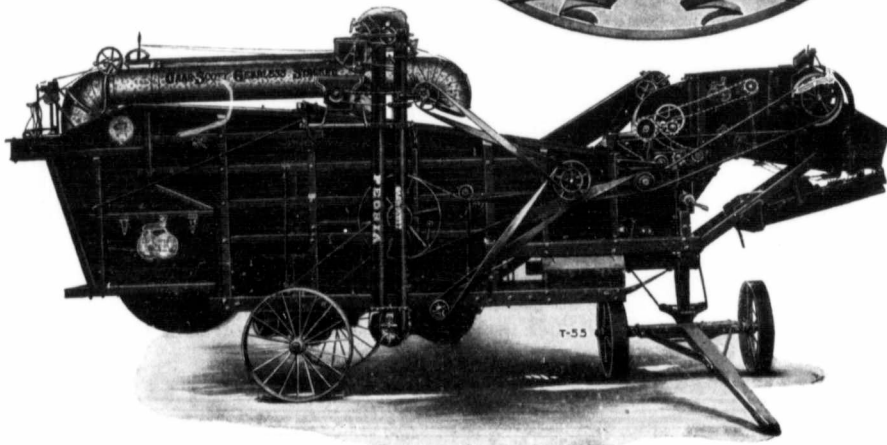
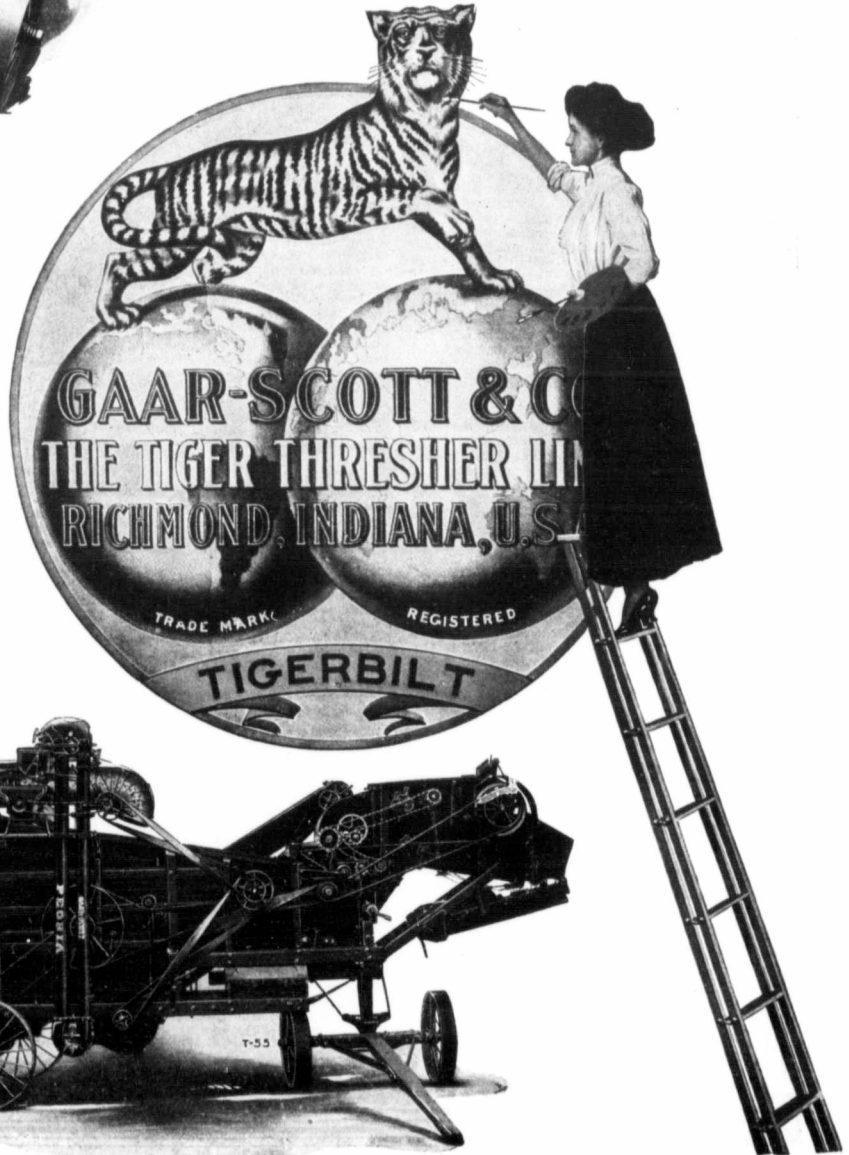
The only self-feeder that is on the job every minute.

A gearless straw stacker that will not choke.

Write to-day (not to-morrow) for our 75th Anniversary Catalogue and Plowing Circular

**Gaar-Scott & Co.**

Winnipeg, Regina, Calgary,  
Man., Sask. Alta.



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# THE FUNNY WORLD

The matter on this page lays no claim whatever to originality. The one idea is to amuse, to provoke a smile. If it fulfills this mission we shall feel amply repaid for the time and labor expended in its preparation. Have you read or heard something that has made you laugh? Has it chased dull care away for a time? Then pass it along for publication in our Funny World. Such contributions will be greatly appreciated.

It was at a small school in Kilkenny, and the village pedagogue was doing his best to elicit the meaning of the word "conscience" from his attentive but somewhat dull-headed pupils. "Now boys," said the genial old master, "suppose one of you stole a piece of sugar from the basin and popped it in your mouth, and mother came in, what would happen?" Small boy "Get a lickin', sorr." "Yes I suppose so, but your face would become red, wouldn't it?" Chorus, "Yes, sorr." "And what is it that makes your face turn red?" queried the master, thinking he had gained the point. But the small boy answered with a solemn look: "Troivin' to shwal-low the sugar quick, sorr."

Some time ago, while on a holiday, cycling in Ireland, a young man saw a curious sight. Turning a bend in the road, he saw a collection of household furniture scattered in every direction outside of a small cabin. In the midst of this scene of disorder sat an old woman. It led him to believe that an eviction had taken place. Full of sympathy he dismounted, and, placing a few silver coins in her hand asked why she was evicted. "Ah, shure sir," said she, after pocketing the money, "Pat is white-washin' to-day!"

Pat had come over from the "old counthry" to make his fortune, as so many of his compatriots had done before him. He had read all about Dick Whittington, Carnegie, P. Morgan, and others, who had climbed the ladders to fame and wealth from the bottom rung, and had set his heart on doing likewise. Still, he was not too ambitious. Two thousand pounds was the sum fixed upon as the summit of his aspirations. Therefore, after having been told that he could "start" on a job the following Monday morning as a hodman, he mused somewhat as follows: "There's two ways of doin' it if I'd loike to see me two thousand pounds. I must lay by two hundred pounds a year for ten years, or I must put away twenty pounds a year for hundred years! Now which shall I do?"

An Irishman wanted to sell a dog, but the prospective buyer was suspicious, and finally decided not to buy. The man then told him why he was so anxious to sell. "You see," he said, "I bought the dog and thrained him myself. I got him so he'd bark all the time if a person stepped inside the gate, and thought I was safe from the burglars. Then me woife wanted to thrain him to carry bundles—and I did. If you put anything in his mouth the spalpeen'd keep it there till someone took it away. Well, one night I woke up an' grabbed me gun. They was there, three of the blaygards and the dog." "Didn't he bark?" interrupted the man. "Sorra a bark, he was too busy." "Busy! What doing?" "Carryin' the lantern for the burglars."

"Well, my man," said the visiting physician of a Dublin Infirmary to a patient, "how do you feel this morning?" "Purty well, sur," was the reply. "That's right. I hope you like the place?" "Indeed and I do sur!" said the man. "There's only wan thing wrong in this establishment, and that is I only get as much mate as wud feed a sparrow." "Oh, you are getting your appetite, are you?" said the doctor. "Then I'll order an egg to be sent up to you." "Arrah, doctor," rejoined the patient, "would you be so kind as to tell them at the same time to send me up the hin that laid it?"

"And how is Moike, Mrs. Herlihy?" inquired one of the lady's neighbors. "Pore'ly, phwat does the doctor say to his loongs?" "He says there's niver a thing the matter with Moike's loongs now," replied Mrs. Herlihy, "but he ain't denyin' they've got the laste mite of a tindiney." "Wurra, wurra, an' is that so?" exclaimed the neighbor, dolefully; and then after a short pause, she asked deferentially, "An' phwat is a 'tindiney' Mrs. Herlihy, dear?" "A 'tindiney' responded Mrs. Herlihy with solemnity, "is a thing that aint to be spoke av loightly. It's where there aint so alridly is loikely to come on ye unbewownst at any minit!" "Poor Moike, pore b'ye!" ejaculated the visitor, with a dubious shake of the head, and she departed to spread the news of Mike's mysterious ailment.

A London physician tells about his servant which reminds one in a vague way of the "skinny-side-out and the woolly-side-in" rime. He had just hired a servant who had some of the "ould dart" still clinging to her boots. One morning he noticed his office windows were rather dirty, and calling Bridget, he instructed her to clean them before he returned. At the same time he told her that he would stop and purchase a new chamois skin and send it home, and with this she was to clean the windows. After he had gone his rounds he returned to his office. Glancing at the windows, he found them thickly streaked with grease. He called Bridget and the following colloquy took place—"Bridget, didn't I tell you to clean the windows?" "Yes, sor." "And didn't I tell you to use the new chamois?" "Yes, sor." "Well, did you use it?" "Sure, I did, sor." "Let me see the chamois," said the doctor, and Bridget promptly brought it. Then for the first time he learned that his wife had left the house a half-hour before him, and had sent home some tripe.

An Irishman, who got a situation from a funeral undertaker, was sent with a coffin to a house where one of the family had died. Not getting right instructions from his master what door to go, he asked in true Hibernian fashion—"Is this where the man lives that's dead?"

"I intend to pray that you may forgive Casey for having thrown that brick at you," said the parson when he called to see a man who had been wosted in a melee. "Mebbe yer rivrence 'ud be saving toime if ye'd just wait till Oi get well, an' then pray for Casey," replied the patient.

"Come home an' teck super wid me, Flannigan," said Mr. Brannigan to his companion. "Shure replied the companion," it's past yer supper time, now; yer woife'll be mad as a hatter!" "That's jist it!" replied Brannigan; "she can't lick the two of us."

An enterprising insurance agent induced an Irishman to take out an accident policy for his wife. A few days later, while conversing with a friend in his office, he was startled to see the Irishman rush in, brandishing fiercely a stout stick. "You rascal!" he yelled, springing towards the agent, "you want to cheat me!" Fortunately the enraged man was disarmed and held fast by the agent's friend, who was a powerfully-built man. "Let me git at the spalpeen!" shouted the Irishman. "Think of it—chargin' me a pound for insuring me ole woman agin accidents, an she jist broke her leg a-fallin' down-stairs. What's the good of the ticket, anyhow?"

An Irishwoman was looking at refrigerators in a house-furnishing establishment. After inquiring into the merits and qualities of a number of them, she purchased the one that the salesman assured her would keep food the best. Some days afterwards the woman called, and requested them to take the refrigerator back, as it would not keep anything better than in the old-fashioned meat safe in the larder. The salesman mildly suggested that possibly she had not put enough ice in it to keep the things cold. "Enough ice in it? Shure anything will keep owd if you put ice in it. I bought the refrigerator so as I wouldn't need the ice."

Andrew Carnegie tells a good story: "I canna' leave ye thus, Nancy, a good old Scotchman wailed. 'Ye're too auld to work, an' ye couldna' live in the almshouse. Gin I die, ye manna marry anither man, wha'll keep ye in comfort in yer auld age.' " "Nay, nay, Andy," answered the good spouse; "I couldna' wed anither man, for what wad I do w' two husbands in Heaven?"

"Andy pondered over this, but suddenly his face brightened. "I ha'e it, Nancy!" he cried. "Ye ken auld John Clemmens? He's a kind man, but he is na' a member of the kirk. He likes ye, Nancy, an' gin ye'll marry him, 'twill be all the same in Heaven. John's na Christian, and he's na likely to get there."

# IMPORTANT

To all Persons Buying and Using

## WIND STACKERS



THIS

### TRADE-MARK

Is For Your Protection as Well as Ours

See that it is on the Wind Stacker You Buy, and then no one Can Cause You Trouble

**The Indiana Manufacturing Co.**  
 Indianapolis, Indiana, U. S. A.

### The Why of a Motor Contest

Continued from page 26

order to make the results of such a contest apply to his own particular condition. What the motor contest does develop is fuel and water consumption per horse power hour. It therefore simply remains for the farmer to figure out the cost of getting that fuel and water on his own particular grounds for use in his own particular engine. I doubt if the average farmer can tell you just exactly what it costs him to run his engine per day. No system of cost sheets have been worked out. The average engine owner has so many acres to plow. He takes his engine, secures the necessary equipment of men, coal, etc., and starts to work. It is a question of getting the job done, rather than a question of costs and here-in lies another practical point in the motor contest, in that it gives the engine owner a basis upon which to figure these costs.

It is true that in a motor contest the engines are working under somewhat ideal conditions. They are handled by the best men that the manufacturer can secure and when the farmer comes to figure his own costs, using the results of the motor contest as a basis, it is only fair that he should discount them somewhat, perhaps 5 per cent or even 10 per cent. We will say that a particular engine in a motor contest goes out and plows 28 acres in a ten hour day. The average farmer will probably only get about 18 acres out of that engine per day. The engines that go into the motor contest are new. Every part is in the best possible shape and so far as results are concerned, the life of that engine is only ten hours, but nevertheless, all the engines in the contest are working under the same conditions, so that as a basis of comparison between different engines, the results are accurate.

The farmer may think he has no real interest in a motor contest, but the fact is that sooner or later practically every farmer in Western Canada is going to own a traction engine of some kind. These traction engines are going to cost all the way from two to four thousand dollars. Now look at it from a real business standpoint. Supposing you as a farmer had in mind the buying of a quarter section of land, maybe not to-day, nor to-morrow, but sometime in the future. You have your eye on a particular piece. Wouldn't you consider it a wise thing for you to go and look that piece of land over and see what there was in it for you? Now isn't it all the more reason that you, as a prospective buyer of a traction engine, should come to a motor contest and see the engine which you are in the future going to buy, shown up from the standpoint of detail much more thoroughly and completely than

you could ever hope to have a piece of land shown up.

Supposing you are an engine owner at the present time, the skill and thoroughness with which the engines are operated in the contest should be to you a lesson in engine management and operation that should be worth far more than the expense of coming to Winnipeg at the time of the contest.

There is one point that is brought out in a motor contest that the average farmer is not in a position to bring out and that is the draw bar pull as registered by the dynamometer which is attached between the engine and the plow. Few engine operators know just how many pounds of pull it requires to draw an engine gang through good tough gumbo. If such were generally known, we would very doubtless see less plows pulled per engine than is being pulled at the present time. One of the greatest drawbacks to the owners of traction plowing outfits has been the overloading of the engine through a desire to get the work done in a hurry, irrespective of cost or of wear and tear on the machine. It does not hurt the plows any, but it does hurt the engine and what is more it does injure the quality of the plowing that is done, for the traction plowman will often sacrifice an inch or two in depth in order to cover a little more ground through pulling a greater number of plows.

The plowing contest in 1910 will have more in it of real practical value than either of the two contests that have been held heretofore in 1908 and 1909. The Exhibition Association have secured a tract of 320 acres a few miles north of Winnipeg. This gives them a tract of ground one mile long and half a mile wide and under the contract which the Exhibition Association have with the owner of the land, this 320 acres must all be plowed up. I believe this will be a record in so far as plowing is concerned. I do not believe that ever before in the history of the world have 320 acres of land been turned over in two days time on one field. The plowing will also be of a quality that should serve as a standard to the traction plowman of Western Canada.

Each manufacturer has a right to choose his own plows from among the numerous engine gangs that are now upon the market, and there will doubtless be several makes in use in the contest. This fact develops a sort of a side contest between the plow manufacturers, for each and every one is desirous that his plow shall turn the best furrows.

We, therefore, not only have an engine plowing contest, but we have what is really a plowing contest as well, with the result that

## Message of Warning to all Farmers

### Telegram

Minneapolis, Minn., June 1st, 1910

Mr. Farmer: The gophers and Squirrels are eating up your crops! Go and see for yourself the serious damage that is being done by these grain destroyers.

MICKELSON KILL-EM-QUICK CO.

## Young Gophers Now Coming Out

Reports are in circulation and are being received daily from parties who have travelled over certain agricultural territories that this season's crop is threatened and that thousands of bushels of grain will be destroyed if the farmers do not look after their growing grain and take some means at once to protect their crop.

This condition is confined largely to that section which is infested by the gopher and squirrel pest. Not in years have there been so many young gophers and squirrels than are now invading the fields and causing endless damage to the tender shoots of grain.

## Use Mickelson's Kill-Em-Quick Gopher Poison

Thousands of farmers have cleared their fields of these grain destroyers by using this patent gopher and squirrel exterminator. "KILL-EM-QUICK" WILL DO AS MUCH FOR YOU. Why tolerate the presence of these pests any longer when you can get rid of them at a very small expense? A \$1.25 size package of "KILL-EM-QUICK" will save many an acre of grain.

## Kills the Gophers or Your Money Back

The faith that this company has in its gopher and squirrel exterminator is substantiated by the hundreds of voluntary testimonials that have been received from satisfied users and is also evidenced by the CASH REFUND GUARANTEE that is printed on every package. "KILL-EM-QUICK" comes in two sizes—75 cents and \$1.25 per package. Guaranteed to kill the flicker tail, striped and pocket gophers, field mice, rats, mice, ground hogs, badgers, wolves and coyotes. TRY IT! and if you are dissatisfied after you have used same in accordance with printed directions, we will refund direct to you the purchase price. "KILL-EM-QUICK" ALWAYS KILLS.

You can buy "MICKELSON'S KILL-EM-QUICK" Gopher Poison from your Drug Store. Write us for complete information, folders testimonials, etc.

Department M.  
Mickelson Kill-Em-Quick Co., Minneapolis, Minn.

## Brantford Roofing has two trade-marks





You cannot always judge a roofing by its price. Lower-grade roofings are often sold at about the same price as Brantford Roofing. So please be careful.

You can only make sure of lasting service by first making sure that you are getting the GENUINE Brantford Roofing. Remember that each roll of the genuine bears two trade-marks. One trade-mark is "a roof with a big letter B in the gable." The other is a "rooster" in the act of crowing.

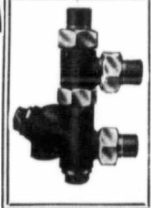
Send right now for our big roofing book. It tells our reasons for making Brantford Roofing higher in quality than any other ready roofing. We believe you'll appreciate these reasons. It also tells why we make Brantford Roofing in THREE finishes—Asphalt, Rubber and Crystal.

BRANTFORD ROOFING COMPANY, LIMITED,  
Brantford, Canada.

Winnipeg Agents: GENERAL SUPPLY CO. OF CANADA Ltd.,  
Woods Western Bldg., Market St. East.  
Vancouver Agents: FLECK BROS. Ltd., Imperial Bldg., Seymour St.



## Have that New Engine equipped with a New Desmond Model "U" and at the same time don't forget to order one for your old one



The secret of the New Desmond Model "U" lies in the construction.


It is made with a two piece body with the parts connected by a Union Nut.

When loosened the upper part with suction connection can be turned in any direction desired.

When the connection is made to the boiler, the nut is tightened and the injector is ready for work.

The New Desmond Model "U" will fit any space, can be put in any position, or adapted to any conditions peculiar to your needs.

The New Desmond Model "U" starts low, at from 20 to 25 lbs. It works high, from 175 to 190 lbs., lifts water 25 feet, handles water at 130 degrees, and delivers it to the boiler at almost 212 degrees. It is absolutely automatic. It will not "buck" or "break" under the most severe and continued jars.

This means that the Injector can be connected with either side of the boiler. 

It is "flexible." On new Desmond Model "U" Injector will answer your Injector needs in every way, shape and manner.

The piping and valves can be arranged to suit your needs, and your convenience; not to fit the Injector.

All the tubes screw into the body and cannot fall out, be lost or damaged when the cap is removed. Neither can they get out of alignment.

We rigidly test every Injector and guarantee it fully to work under all conditions.

Now is the time to get busy. Give our new Desmond Model "U" a trial. If your dealer cannot supply you, write us direct.

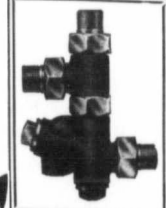
Remember there is no trouble to attach a Model "U" it attaches itself.

Any Model "U" Fits Any Old Connection.

One Injector That Fits all Conditions.

## Desmond-Stephan Manufacturing Co. Urbana, Ohio

Sales Agents for Canada: CRANE AND ORDWAY CO., Winnipeg



the farmer who attends the motor contest at Winnipeg in 1910 will see some of the straightest and best furrows that it has ever been his lot to witness.

I do not care whether you are a thresherman or farmer. There is a great deal in this motor contest for you. There is a great deal more to it than simply coming to Winnipeg for a few days' amusement, witnessing some of the best make of traction engines on the market to-day competing with each other for first place on the contest field. There is in it for you that which will give you an idea of the machinery that is best suited to your needs, and there is also in it for you that which will make the manufacturer revise his ideas of traction engine building and construct machines that will give you, a prospective purchaser, more horse power for your money.

There is one thing of course that a motor contest cannot bring out and that is design and construction. Even a ten hour plowing contest will not determine with any degree of accuracy the possible life of an engine. There is a possibility in such a contest of a veritable scrap heap going in and winning the medal, but it is not probable. This, however, is a point about which the farmer need worry but little. Every manufacturer who intends to stay in the business, (and they all do) knows that the future success of his business depends largely upon the quality of the machines that

he builds. There is no manufacturer that is going to put in cast iron where steel will best serve the purpose. There is no manufacturer that is going to put out a clumsily built, poorly constructed machine and hope to win trade that will be lasting and profitable. Manufacturers make mistakes; we all do, and it would seem to the writer that the one thing that the man who attends the motor contest wants to bear in mind, is results.

Now, do not misunderstand me when I say results, and confuse them with gold medals. Gold medals do not always mean the best machine. It is true that the machine that wins a gold medal is the machine that scored the highest number of points, but when applied to your conditions and your requirements as a farmer, there may be some things in which it will fall short. Take for instance, the results as between the brake contest and the plowing contest. The work for which you require your engine may be largely that of belt power. You may not care a great deal about the plowing end of it. Now the gold medal engine may be particularly strong in plowing, but at the same time show up poorly in the belt; consequently it would not be the engine for you to jump at at once. The reverse might be the case.

The motor contest says to you as a farmer and an engine owner, either real or prospective, "Here are the results of several different machines shown in detail. Take

them home with you, take your pencil and paper and sit down and figure, always keeping in mind your own requirements, and if you do not get more out of the contest than what it has cost you to attend, then you have failed to get at the spirit of the motor contest, and you have missed its real purpose."

### Side by Side.

"One of the curious sights in the Egyptian harvest season is a modern threshing machine noisily working in a field adjoining that in which a native thresher is treading out the grain," said a Chicagoan, who has made a tour of the world in the interests of American farming implements, as reported by an Ohio paper.

The brown-skinned tiller of the soil, clad in his flowing robes of white or the favored dull blue and yellow combination sitting on the high seat of the crude thresher, which is dragged over the fields by a yoke of patient camels or perhaps a camel and a donkey or a couple of buffalo cows, appears to the stranger who sees this for the first time like the principal actor in a scene worked out by an ingenious mind for stage effect.

"The native plow in Egypt is simply the forked portion of a tree or two pieces joined together and smoothed off, a primitive contrivance which may still be seen in use by Cuban farmers. The thresher is a sledge-like affair fitted with round crushers of wood or iron and weighted

down from the top. The grain is crushed into the ground and when gathered up it is mixed with lumps of mud, but it is said that never a kernel of it is lost or wasted.

"American farming machinery may be found in the remotest parts of the world and where least expected. In what manner it gets there I could not ascertain. The natives could not enlighten me."

What an uplift we get from the man who says nothing about his own achievements but finds real pleasure in speaking of the good work of others and in giving them cheering words. We go away feeling that we are really doing something after all and that life is well worth living.

The servants were abed, and the doctor answered the bell himself. A colored man stood on the steps holding a large package.

"Is Miss Matildah, the cook, at home, sah?" asked the man.

"Yes, but she has retired," returned the doctor.

"Can I leab dis fo her, sah?"

"Certainly," said the doctor.

He took the bundle, from which flowers and buds were protruding, and, after bidding the man good night, carefully carried it to the kitchen, where he deposited it, paper and all, in a pan of water.

The doctor thought nothing more of the affair until he heard Matildah's angry voice raised in conversation with the maid.

"Ef I had de pusson heah," cried the cook, dat put mah new spring hat in dis yer dish-pan, I'd scald 'im for sno!"

## Increase the Fertility of Your Farm by Using the Manure Spreader

Every farmer knows, or ought to know, that if barnyard manure had no value other than that due to nitrogen, phosphoric acid and potash which it contains, it would scarcely pay for the trouble of handling it, hauling it to the field, and spreading. Just think, a chemist could find in a ton of fresh barnyard manure but the value of \$1.39, the nitrogen being worth 45 cents, the phosphoric acid 42 cents, and the potash 52 cents. At this rate it would be cheaper and easier to get the plant-food in a commercial fertilizer because you would then know exactly what you were getting and the plant-food would become immediately available, whereas when barnyard manure is applied to the soil it must decay before the plants can utilize its constituents. In this decay no small share of the nitrogen at least might be lost.

The great value of barnyard manure consists in the physical effect it has upon the soil. Over three-quarters of the weight of the crop when harvested is made up of water and besides, when the crop is growing, it dissipates through its leaves many and many times as much water as it holds in its substance. In fact, experiments have shown that the soil must furnish three hundred tons of water to the crop for every ton of dry matter removed in the harvest. Water, therefore, is the material most needed by the crop. This water must be all absorbed through the roots, taken from the water in the soil. The water-holding contents of the soil is therefore of prime importance. Now the water holding contents of the soil depends on two factors at least; one the size of the soil particles, the other the quantity of humus and decaying organic matter present. Dr. Kedzie showed that the addition to sand of one-twentieth of its bulk of dry, finely pulverized muck nearly doubled the amount of water which the sand would hold against gravity. Where barn-manure is applied to a soil, therefore, it makes the latter spongy and able to hold more water. Where to one-half of a certain field but eight tons of fresh barnyard manure was applied per acre, while to the other half nothing was applied except an equal amount of plant-food in the form of commercial fertilizers, the first half of the field withstood a drouth and produced a full crop of potatoes. On the second half the crop was but little more than half of a full yield because of the limitation brought about by the lack of water in part of the growing season. You see that it was not a question of the supply of plant-food but of plant-drink, and that the plant-drink was kept ready for the potato-roots by the decaying manure in the soil. This

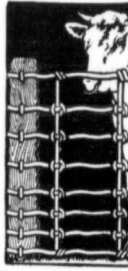
leads to certain obvious conclusions.

In the first place the sooner the manure can be gotten into the soil the better, because of the more organic matter it will contain. The rotting of manure means a waste of organic matter. The chemist will say that the loss falls chiefly upon the carbon. Granted, but the carbon in its compounds are needed in the soil for the production of humus, for that slow decay which has to do with the water-holding content of the soil and makes profitable crops possible. Next the very act of decay in the soil is useful in ways that we cannot understand, much less describe. The decay of organic matter is the work of bacteria, and the presence of these organisms in the soil seems to favor the growth of crops if the carbonic acid set free by them is not directly helpful to the plant in securing its food.

Besides this, remember, that manure loses a good deal of plant-food when allowed to decay outside of the soil. The venerable Dr. Roberts while at the Cornell University found that 4,000 pounds of manure had decreased in weight to 1,730 pounds. 60 per cent. of the nitrogen had escaped into the air, three-quarters of the potash had been washed away by the rain, and practically half of the phosphoric acid had gone the same way. The corpse remained, while the spirit had taken its flight. So when five tons of cow manure were similarly exposed, but in a compact pile narrow at the top and wide at the bottom and well packed with 300 pounds of gypsum mixed with it to save the nitrogen, 41 per cent. of that valuable constituent had gone into the air, and one-fifth of the phosphoric acid was washed out by the rains, notwithstanding the compactness and pyramidal shape of the pile. The gross weight had decreased from 10,000 pounds to 5,125 pounds. Some one says that he had saved the hauling of the 5,000 pounds of useless matter to the fields. Not so. This loss in weight meant the disappearance of the very organic matter needed to maintain the water-holding capacity of the soil. Every consideration points to the application of the manure as soon as pitched out of the stable.

No dairyman finds the proximity of the manure-pile a help to the quality of the milk. As far as the cows are concerned the sooner the manure is removed and the farther, the better.

No one claims that manure can be hauled to the field at all times of the year and under all conditions of the weather. The effort should be made to have the proper place for the manure in readiness for it during the winter when the bulk of manure is made



### The fence that's strong all through

Every wire in our heavy farm fence is No. 9 hard steel, with uniform strength and lasting qualities in each strand. A fence with any small or soft wire in it is short lived. A chain is no stronger than the weakest link. The PEERLESS Fence made from specially galvanized wire is rust-proof—that withstands more than double the endurance of other makes.

### Peerless the fence that saves expense

The PEERLESS does not cost anything to keep—there are no repair bills—it is not affected by changes of temperature. The horizontal wires being crimped makes ample provision for all contraction and expansion. PEERLESS Fence, once well stretched, is always tight—no shocks affects it. We are manufacturers of high grade farm, poultry, ornamental fencing and gates. Write for Free Book, a sample of PEERLESS Fence and a simple method of testing any make of fence.

THE BARWELL HOXIE WIRE FENCE CO., LTD., DEPT. F, HAMILTON, ONT., WINNIPEG, MAN.

## Buy Your Wagon On An Investment Basis— Choose From The IHC Line



**Y**OUR wagon must pay you dividends. It should not be a source of trouble and expense. So we say—buy your wagon on an investment basis. It's the most profitable way in the end.

An IHC wagon is a government bond wagon investment. It will last longer—and do better service while it lasts—than any other make of wagon. It pays the biggest dividends.

A cheap wagon is constructed in a cheap way, of cheap materials with cheap machinery, by cheap workmen. Such a wagon is expensive at any price—when you figure up its total cost.

Thousands of business farmers have chosen from the IHC line. It's the surest way of getting the most wagon-service and satisfaction. You will do well to choose one of these wagons.

### Hamilton or Old Dominion

The greatest wagon value in the Dominion. Each is a quality wagon—built up to the high IHC standard—not down to any price. Don't be misled by looks—or first price. For paint covers a multitude of wagon sins—and price is too often the only argument used to sell a cheap, inferior wagon.

The best materials are used in the IHC line of wagons. The wood stock is the finest—air-dried, seasoned and inspected at every step—even after the paint goes on. Spokes, hubs, skeins, box, axles, seat and in fact every part of an IHC wagon is as good as the widest experience, the best materials, the most skillful workmen and the latest improved machinery can make them. Every part is equally good and equally strong. There are no "weak spots" in the IHC line.

Hamilton Wagons have a long record for satisfactory service in Canada. They have oak stand boards and A-grade oak or hickory spokes and bolsters. One of these wagons is an investment that pays big dividends in a lifetime service. Old Dominion Wagons are also especially constructed for Canadian service. Hamilton and Old Dominion boxes have special reinforced bottoms and selected air-dried poplar sides that seldom warp.

Be sure to call on the local International dealer. Get a pamphlet and let him show you one of these wagons. You will note the vast difference between wagons of the IHC line and all other wagons. If you prefer, write for a booklet or any other information you want to the International Harvester Company of America at nearest branch house.

WESTERN CANADIAN BRANCHES:—International Harvester Company of America at  
Brandon, Calgary, Edmonton, Regina, Saskatoon, Winnipeg, Yorkton.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA**  
(Incorporated) CHICAGO U.S.A.



**WHEN YOU want to buy Something  
AND YOU don't know where to Get It**

Write to  
**THE BUYERS**

Builders Exchange Building

P.O. Box 114, Winnipeg, Canada

They will tell you where to get it and how much it will cost.

in the stable. The fall and spring supplies may have to be housed in some suitable place protected from the rain, there to await the proper opportunity for hauling to the field. It is aside from the purpose of this article to discuss the characteristics of such receptacles.

A clover sod to be planted to corn in the spring is an ideal place for spreading manure. A timothy sod or indeed a field in any condition to be planted to such gross feeders as corn or potatoes, is the proper place for spreading the manure during the winter, the earlier in the winter the better. Some experiments conducted at the Michigan Station, a good many years ago, demonstrated that there was little loss of plant-food from manure spread on snow a foot deep on both level and hilly ground, the hills, of course not too steep. Where the manure was put on an icy side hill there was considerable loss, the yellowing brown water flowing over the surface from this rather heavily manured field indicated a somewhat serious loss, but the chemist found that this loss was more apparent than real. So great is the avidity of the land for plant-food that where water containing it flows over a hand's breadth of exposed soil, this plant food seems to be absorbed. Just how far this absorption takes place has not been fully demonstrated.

In agriculture "new occasions bring new duties, time makes ancient good uncouth." The requirement to spread the manure thinly implies something impossible a generation ago; namely, that it shall be spread evenly. Experiments to-day are wanting to exhibit the losses accruing from throwing the manure at the land in chunks. If manure is hauled out in the dead of winter and scattered from a sleigh box, it is sure to be left in large fork-fuls scattered unevenly. It is impossible to get manure, so applied, properly worked into the ground to insure the mixing of the decaying organic matter with the soil. A man of experience is tempted to say that one load of manure spread with perfect evenness is about as valuable as two loads on the same area spread in chunks and heaps. This phase of the question can not easily be exaggerated. Until the manure becomes an unrecognizable constituent of the soil itself, it has not accomplished its mission. It must be digested into the soil, and this is possible only when it is evenly and uniformly spread.

The laws of nature are fixed. It seems to be nature's round that the function of the soil shall be to produce plants to be fed to animals to return the manure to the soil. Farmers sometimes think that they can evade this law by making the soil produce plants to sell as plants. A farm kept with this idea dominant for one generation becomes a problem for the next. The plant-food is not exhausted, the small crops are due, not to a lack of nitrogen possibly or phosphoric acid or potash, but



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"The Better Kind" "The Better Kind"

Made of the best materials by skilled operatives in an up-to-date factory. Every GARMENT IS GUARANTEED to give complete satisfaction, and with "K. of the R." goods there are no **No Rips No Tears No Button Troubles**

Ask your dealer for the King of the Road brand, and if you cannot get it through him write to

**R. J. Whitla & Co. Limited**  
Wholesale Distributors - - - - Winnipeg

What one man out of many says of "Dominion Special" Field Fence:

## "It is the best got in this locality yet."

The above is extract from a letter just received from a customer, referring to a recent shipment of our fencing.

**"Quality First" is our Maxim**

MANUFACTURED BY  
**Dominion Wire Manufacturing Co., Ltd., Montreal**  
J. A. McEwan, Western representative,  
603 Union Bank Bldg., Winnipeg, Man.

to a lack of physical condition brought about by the absence of manure. For this reason every wise teacher urges the keeping of more and more live stock, the making of more and more manure, that future generations may find Canada not an almost barren desert like some parts of Spain where live stock has not been kept, but may find it like England, Holland, or Belgium where the ubiquitous cow or sheep has made the country more and more fertile as generations of wise farmers have succeeded each other.

The woman that tells you not to foolishly worry nearly has a fit when she discovers that her hat isn't on straight.

Don't think that every woman with an automobile veil is the owner of a motor-car.

# HARNESS LIFE

THE OIL FOR LEATHER  
Goes Right Through and Dares the Weather.

**Blackens The Harness But Not The Hands**

For sale at most first stores or sent direct f.o.b. Winnipeg for **\$2.00** per gallon. Sample size from your dealer at **25c.**

Dept. A.  
**Carbon Oil Works Ltd., Winnipeg**  
Manufacturers of Cow Brand Stock Drips, Vermin Death, the bed bug annihilator, Barn Spray for disinfecting stables, etc. Cow Brand Mange and Ringworm Cure, etc., etc.  
Write for full particulars.



Continued from page 33  
 nection until the spark is seen on the carbon. As soon as it sparks the trouble is between that battery and the one next to it which would not spark.

Should the batteries appear to be in perfect condition and in case the engine should fail to start, if the equipment is made and break system of ignition, remove the wire from the insulated electrode or plug and wipe it across any bright or polished part of the engine after closing the switch. If a spark occurs following the wire each time, turn over the fly wheel until contact is made by the movable and stationary electrode inside of the cylinder. This point occurs just before the device on the outside of the cylinder trips or snaps, which parts the electrodes.

Now wipe the wire across the insulated plug electrodes and if a spark occurs, turn the fly wheel still further until the device snaps which divides the electrodes and try the same thing again. If no flame is perceptible, the spark is occurring inside the cylinder. The trip separating the electrode should occur barely before the piston reaches its top point. This point is usually marked by a cut in the fly wheel rim in order to aid matters.

One of the most misleading and unaccountable faults may happen and which all of us are liable to encounter, is that due to using the battery which is almost exhausted. Such a battery will give just sufficient current to enable the motor to be started readily and will run it without misfiring, but immediately the engine is put to work, it slows down and stops. On putting in a new battery the trouble is at once remedied. The cause of stoppage very much resembles that caused by the failure, temporary or otherwise, of the gasoline supply to the carburetor. Only in this latter case some popping in the carburetor will be heard before the engine finally stops. When a battery or accumulator runs down to such an extent as to refuse to produce a spark an ignition spark of sufficient power may often be obtained by vibrating the trembler with the fingers.

When a dry battery becomes exhausted it is far more economical to discard it than to try to revive or recharge. Dry batteries are used more extensively in connection with the internal combustion on the farm than wet batteries owing to the fact that they are more easily handled and are not so liable to breakage. In the case of the traction internal combustion engine or even the portable, the wet battery is hardly practical, owing to the carrying around of a certain amount of liquid, which is very liable to slop over.

It is a good proposition to always have some spare batteries on hand and what is more, to know that they are fully charged. It is also a good practice to keep two sets of batteries connected up to a two-way switch marked Nos. 1 and 2 respectively, so that

an engine operator may always know which set he is using. The spare set should be switched in from time to time just to encourage them, but no batteries should be allowed to stand more than a fortnight without having allowed current to go from it. It is also a good policy when leaving a battery standing for any length of time to smear the terminals with a little vaseline which will prevent any difficulty in getting terminal screws undone when the battery is required.

Secondary batteries do not concern us much in a discussion of the farm engine, but occasionally the operator has to deal with them and for that reason we will just slightly touch upon the matter.

A storage cell, like a primary cell, consists of two electrodes dipped in an electrolyte, but contrary to the primary cell, it cannot give off a current in its original state when the current is closed. It is necessary to charge the storage cell before it can return electrical energy on a discharge. The charging action causes chemical changes in the electrodes and in the electrolytes. The energies so rendered latent are nearly all restored when after the charging current is disconnected the outside circuit is closed.

Chemical changes produce a current in the reverse direction than take place in the cell, which return both the electrodes and the electrolyte to their original condition.

The possibility of a nearly complete regeneration of a storage cell is the chief difference between it and the primary cell. There are a number of materials which can be used as electrodes and electrolytes, but the usual type of storage cell to-day is that using some lead compound for the former and sulphuric acid and water for the latter.

Next month we shall take up a discussion of dynamos and magnets.

**Winter Wheat.**


The following is a statement of the area of winter wheat sown in the fall of 1909, based on official information received from the International Agricultural Institute. For most of the countries mentioned, information as to weather conditions, improvement and deterioration is given.

**Denmark**—8,315,502 acres sown in fall of 1909. This area is 130.3 per cent. of that harvested in 1909. Condition on April 1st, 110 per cent. compared with ten years' average. Damage caused by insects 5-6 per cent.

**Bulgaria**—Conditions on April 1st, 118 per cent. compared with ten years' average. In a few districts damage has been caused by field mice, rotting and "zabrus gibus."

**Luxemburg**—27,862 acres sown in fall of 1909. This area is 105 per cent. of that harvested in 1909. Condition on April 1st, compared with ten years' average 90 per cent. The cold weather

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**Mr. Thresherman and Engine Owner!** You are throwing money to the birds every day you run your Slide Valve. Let us stop the leak for you and make your engine run better than when new. Write for Catalog telling "How we do it."

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**THE PEER OF ALL FUEL OILS**

Manufactured under a secret process and guaranteed to do more work than any other fuel oil on the market. We carry this oil in stock at several western points and can ship promptly.

Try Our **Royal Gas Engine Valve Oil**  
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**The MANITOBA ASSURANCE CO.**  
 (Re-Organized)

All Policies Guaranteed by  
 THE LONDON AND LIVERPOOL AND GLOBE INSURANCE COMPANY

Northwest Branch - WINNIPEG, Canada  
 Agents wanted in unrepresented districts. FRED. W. PACE, Superintendent

# IMPERIAL BANK OF CANADA

## PROCEEDINGS OF THE THIRTY-FIFTH ANNUAL GENERAL MEETING OF THE SHAREHOLDERS

Held at the Banking House of the Institution, in Toronto on  
Wednesday, the 25th May, 1910

### Profit and Loss Account, 30th April, 1910

Dividends Nos. 76, 77, 78 and 79, paid quarterly, for year ended 30th April, 1910, at 11 per cent. per annum.....	\$ 550,000.00	Balance at credit of account 30th April, 1909 brought forward.....	\$ 509,978.20
Annual Contribution to Employees' Pension and Guarantee Funds.....	7,500.00	Profit for the twelve months ended 30th April, 1910, after deducting charges of management and interest due depositors, and after making full provision for all bad and doubtful debts and for rebate on bills under discount.....	702,508.61
Written off Bank Premises and Furniture Account.....	48,851.67		
Balance of Account carried forward.....	696,135.20		
	\$1,302,486.87		\$1,302,486.87

### RESERVE FUND

Balance at Credit of Account, 30th April, 1909.....	\$5,000,000.00
	\$5,000,000.00

D. R. WILKIE, General Manager

E. HAY, Assistant General Manager

W. MOFFAT, Chief Inspector

The customary motions were presented and carried unanimously. The Scrutinizers appointed at the meeting reported the following Shareholders duly elected Directors for the ensuing year: Messrs. D. R. Wilkie, Hon. Robert Jaffray, William Ramsay, of Bowland, Stow, Scotland; Elias Rodgers, J. Kerr, Osborne, Pegleg Howland, Wm. Whyte, (Winnipeg), Cavethra Mulock, Hon. Richard Turner, (Quebec), Wm. Hamilton Merritt, M. D. (St. Catharines), W. J. Gage. At a subsequent meeting, of the Directors, Mr. D. R. Wilkie was re-elected President, and the Hon. Robert Jaffray, Vice-President for the ensuing year.

### Thirty-Fifth Annual Balance Sheet, April 30, 1910

LIABILITIES	
Notes of the Bank in circulation.....	\$ 3,772,494.00
Deposits not bearing interest.....	\$ 6,998,194.28
Deposits bearing interest (including interest accrued to date).....	34,401,695.03
Deposits by other Banks in Canada.....	41,299,889.30
Total Liabilities to the public.....	\$45,392,617.96
Capital Stock (paid up).....	5,000,000.00
Reserve Fund.....	85,000,000.00
Dividend No. 79 (payable 1st May, 1910), for three months, at the rate of 11 per cent. per annum.....	137,500.00
Rebate on Bills discounted.....	102,747.48
Balance of Profit and Loss Account carried forward.....	696,135.20
	5,936,382.68
ASSETS	
Gold and Silver Coin.....	\$1,243,435.18
Dominion Government Notes.....	7,040,412.00
Deposit with Dominion Government for security of Note Circulation.....	201,152.34
Notes and Cheques on other Banks.....	2,168,097.38
Loans to other banks in Canada secured.....	359,430.88
Loans due from other Banks in Canada.....	796,867.33
Balance due from Agents in the United Kingdom.....	474,321.17
Balance due from Agents in Foreign Countries.....	1,567,485.69
	\$13,851,231.17
Dominion and Provincial Government Securities.....	\$1,758,687.85
Canadian Municipal Securities and British or Foreign or Colonial Public Securities other than Canadian.....	2,903,299.79
Railway and other Bonds, Debentures and Stocks.....	724,369.51
	4,486,357.06
Call and Short Loans on Stocks and Bonds in Canada.....	2,514,091.91
Call Loans on Stocks and Bonds elsewhere than in Canada.....	2,404,417.11
	\$23,256,097.25
Other Current Loans, Discounts and Advances.....	31,368,498.64
Overdue Debts (loss provided for).....	43,161.17
Real Estate (other than Bank Premises).....	31,116.77
Mortgages on Real Estate sold by the Bank.....	104,736.05
Bank Premises, including Safes, Vaults and Office Furniture at Head Offices and Branches.....	1,400,000.00
Other Assets, not included under foregoing heads.....	35,390.79
	\$56,239,000.67

at the end of March has considerably damaged the crops and delayed their development.

**Netherlands.**—Condition on April 1st compared with ten years' average 110 per cent.

**Roumania.**—4,765,682 acres sown in fall of 1909. This area 115.9 per cent. of that sown in fall of 1908. Condition April 1st, compared with ten years' average 105 per cent. The growth of the crops is excellent.

**Sweden.**—223,300 acres sown in fall of 1909. This area is 107 per cent. of that harvested in 1909. Condition on April 1st compared with ten years' average 100 per cent. On account of an early spring followed by hard night frosts, the crop, which was well developed, has, in some districts, begun to depreciate; this refers especially to the northern and western parts of the country.

**Switzerland.**—94,344 acres wheat, 58,539 acres spelt sown in fall of 1909. Condition April 1st, wheat 96 per cent.—spelt, 103 per cent.—compared with ten years' average. Generally speaking, the crops have wintered well, though wheat has suffered slightly.

**Canada.**—749,707 acres sown in fall of 1909. This area is 113 per cent. of that harvested in 1909. Condition April 1st, 92 per cent. 100 denoting a standard crop. In Ontario, winter wheat is in excellent condition. Insignificant damage in Alberta. Good rains in March.

**United States.**—33,469,908 acres sown in fall of 1909. This area is 107.9 per cent. of that harvested in 1909. Conditions April 1st, 92.9 per cent. compared with ten years' average. Low conditions of wheat in Central Western States due largely to smothering from ice covering.

**British India.**—27,699,766 acres sown in fall of 1909. This area is 107.1 per cent. of that sown in fall of 1908. Weather conditions, in general, favorable. Condition of wheat, good.

**Japan.**—1,106,560 acres sown in fall of 1909. This area is the same as that harvested in 1909. Condition April 1st 98 per cent. compared with ten years average.

**GERMANY.**—Weather conditions have been extremely favorable during the winter months for the crops which had already commenced to develop last autumn, and also for crops sown at the end of October and in November. The condition of wheat is in most cases satisfactory, and in several districts even very good.

### Charles T. McIntosh

Death has claimed another of the big men in the threshing trade in the person of Charles T. McIntosh, who answered the final summons at Naples, Italy, April nineteenth.

Charles T. McIntosh was born in Connecticut sixty years ago and grew up in the east, graduating at Concord, N.H. He went to Hartford, where for a number of years he was engaged in business, going from there to Denver, Colorado, where he became manager of a railway owned principally by Governor Jewell of Connecticut, who was head of the Jewell Belting Company with which Mr. McIntosh was interested when in Hartford. After the death of Governor Jewell the railway changed hands and Mr. McIntosh carried on a very successful real estate business, finally founding a private bank which later became the National Bank of Commerce of Denver, of which Mr. McIntosh was cashier. About twelve years ago he resigned and went to Milwaukee, where he became interested in the business of the J. I. Case Threshing Machine Company, with his late associates taking it over and building it up to its present large proportions, remaining its treasurer until his death.

Mr. McIntosh was also president of the Pierce Motor Co., director in the First National Bank of Milwaukee, and a prominent club man.

Early in the year, accompanied by his wife and daughter, with Mr. and Mrs. Frederick Robinson and their daughter and Miss Jeanette Bull, Mr. McIntosh started for a tour of Egypt. Later

they returned to Naples, Italy, where he was stricken with the brief illness that brought the end.

Mr. McIntosh was a thorough business man and an organizer of rare ability; a man whose strict integrity and amiability made him a host of friends who learn with deepest regret and sorrow of his passing away. Particularly will his associates in the great industry he was so instrumental in building up miss his genial companionship and the sound judgment that has been so potent a factor in all its affairs.

## METALLIC CEILINGS

are everything that plaster, wood and wall paper are not.

Metallic Ceilings are fire-proof, absolutely.

Metallic Ceilings don't crack or crumble—don't get damp or mouldy—don't need repairs.

Metallic Ceilings are far-and-away the most economical building material you can put in a house.

You don't believe it? We can prove it. Write us for the facts.

### The Metallic Roofing Co. Limited

MANUFACTURERS  
TORONTO AND WINNIPEG

Western Canada Factory:  
797 Notre Dame Ave., Winnipeg

**Lightning and Lightning Conductors**

Continued from page 23

to be applied to the former in order to overcome the induction effects.

The application of this principle to lightning conductors lies in the fact that a stroke of lightning falling on the lightning rod is liable to set up side flashes in the metal work of the building that may be near to the lightning conductor.

Franklin was the first to point out that an electrical field exists in the atmosphere during thunderstorms. Later investigations have shown that an electrical field is present in the lower atmosphere, even in fair weather, such that a positively charged body would be attracted toward the surface of the earth. We are also told that the surface of the earth is always negatively charged and further that the charges on these two bodies, viz., the lower atmosphere and the earth's surface, though opposite in character, do not permanently neutralize each other, as might be expected. On the contrary there is a tendency in the electrical condition of the air and earth to depart from what might be called normal conditions of fair weather and pass into conditions of great strain in the air which separates one cloud from another or from the earth. This condition causes charges from cloud to cloud and from cloud to earth. Once equilibrium is established there is a period of quiet, and then another period more severe than before of increasing electrification followed by thunder bolts.

**Electricity in Thunderstorms.**

This problem has been freely discussed for several centuries; it has been attacked from many view points and much laboratory work has been done in order to produce a discharge that, in a small way, may be comparable to those observed in nature. Still, it cannot be said that the precise mechanism of a thunderstorm is known. The most recent theory is one put forth by Dr. Geo. C. Simpson. Dr. Simpson has proven by laboratory experiments that when a large drop of water is broken up into smaller drops in the air the water becomes positively and the air negatively charged. In other words, when each drop of water is broken up a certain number of units of free negative ions and a less number of free positive ions are leased. (An ion is understood to be any extremely small material particle which carries a charge of electricity.)

It is further understood that every time a drop breaks a separation of electricity takes place, the water receiving a positive charge and the air a corresponding negative charge. The charge which passes to the air is rapidly absorbed by the cloud particles, and in time the cloud itself may become highly charged with negative electricity. The relation

of these facts to the development of thunderstorms will now be pointed out. The latter, it may be remembered, occur for the most part on warm, sultry days; the usual preliminary is the formation of a cloud with a flat base whose summits—for it generally has several—are rounded and towered far into the sky. Those rounded summits are the tops of ascending currents condensed by the cold of elevation and form the white dome-like structure of the cloud. The existence of an ascending current is beyond question; just what velocity the ascending air has is yet somewhat conjectural. A velocity of 18 miles an hour, however, is required by the theory under discussion. Lenard has shown that drops having a diameter greater than two-tenths of an inch are unstable when falling through the air and rapidly break into smaller drops; also that all drops having a diameter less than two-tenths of an inch have a final velocity when falling through the air of less than 18 miles an hour. Thus it will be seen that in the ascending air currents of a thunderstorm no water can fall provided the ascensional velocity is 18 miles an hour or greater; for all drops less than two-tenths of an inch in diameter are carried upward, and all drops having a larger diameter quickly break into smaller drops.

Whatever may be the origin of the electricity of the air, its effects upon the various terrestrial objects upon which it falls are well known. From its effects we are able to infer that the intensity of the charge in the lightning flash varies between very wide limits. Not every discharge is heavy enough to take life or badly splinter a tree, so that we can at once distinguish between light flashes generally harmless and heavy flashes which splinter trees or kill live stock and human beings. A third class may also be recognized, as the violent disruptive discharges, which, as so recently pointed out, is the result of a discharge initiated elsewhere; such, for example, as when one cloud discharges to another cloud between it and the earth. When this happens the free charge on the earth side of the lower cloud will be suddenly relieved and fall upon the earth through previously unstrained air as a discharge of the most violent and explosive type.

When a thunderstorm develops and moves over the land the air between the under surface of the cloud and the earth's surface is able at first to resist the passage of a discharge between cloud and earth, but as the electrification increases the strain in the air becomes too great and a discharge follows. The zone of danger in a thunderstorm is, therefore, generally equal to the area of the cloud itself, sometimes extending a little to the front of the cloud. The heaviest discharges nearly always occur simultaneously with the passage of the storm front. The reason for this can be very easily

**A Pointer on Profits**

A Nest of 20, 30 and 50 lb. White Spruce Butter Tubs weighs 24 lbs  
A Nest any other kind parafined and unsoakable weighs 18 lbs.

**A Difference of 6 lbs.**

**Six lbs. Butter at 25c. lb. \$1.50 or more than the cost of your tubs**

**BUY ONLY THE WHITE SPRUCE**

Remember that your merchant will dock you so much for the weight of your tub regardless of what it actually weighs. Spruce tubs weigh heavier than any other kind, which prevents your paying for dockage with high priced butter.

**Insist on being supplied with White Spruce Butter Tubs**

You can easily tell them because they have no parafine on the inside.



**Five  
Roses  
and  
Use  
Harvest  
Queen  
Flour**

Lake of the Woods Milling Co.

shown in the laboratory; thus it is well known that if the two poles of a charged electric machine are brought near to each other a spark will pass from one to the other. Now, in order to get the first spark, the pole of the electric machine must be brought nearer together than is necessary after several sparks have passed. The passage of several sparks through the air separating the poles evidently electrifies it, and thus it becomes a better conductor, after the machine is used.

The area within the storm cloud is what may be called a "danger zone." Within this zone almost any upright object, especially a tree, is a better conductor than the air itself, and is consequently liable to lightning stroke. For this reason to take refuge under a tree is a dangerous proceeding. Other places to avoid are near chimneys or fireplaces and in close proximity to wire fences.

**Of Interest to Farmers**

Mr. D. D. Campbell, Dominion Shippers' Agent, Grain Exchange, Winnipeg, wishes to announce to the farmers of Western Canada, that he is ready at all times to address farmers' meetings of any sort regarding the grain situation



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and to give all advice possible upon the handling and shipping of grain.

Those desiring Mr. Campbell's services should write him sometime in advance in order that dates may be arranged.

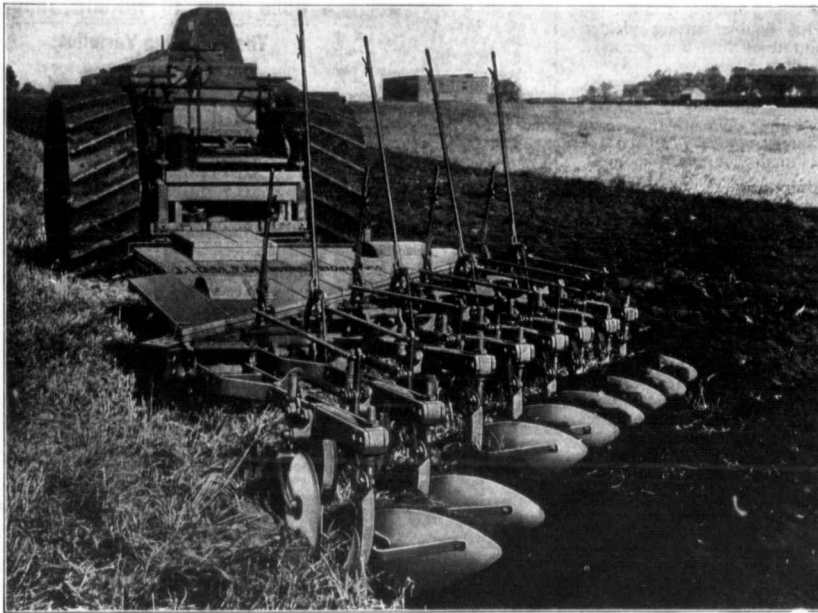
The loafer is always willing to work—a loan.

The skeptic is one who loses faith in himself.

The best way to keep friends is to not use them too often.

It does not always require a broom to make sweeping assertions.

L'il'e Ephra'm says—De man what makes explanashuns allus has explanashuns t' make.



J. I. Case Engine Gang, made with 4, 6, 8, 10, 12 or 14 plows of 14 inch cut, either breaker or old ground shape.

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**Harmer Implement Co.,**  
Canadian Sales Agents  
**Winnipeg, Man.**

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

**WHEN YOU BUY AN ENGINE GANG, CONSIDER THESE POINTS**

**Durability.**  
**Adaptability.**  
**Ease of Handling.**

**Durability.** J. I. Case Engine Gang frames are made of heavy bridge steel, securely riveted and carried on four wide tire wheels. Beams are of heavy double bars, with heavy connections to frame. Standards are of heavy curved channel steel.

**Adaptability.** J. I. Case Engine Gangs are built in single plow units, i.e. EACH plow is free to raise or fall independently of the plow next to it, and EACH plow may be set for depth independently of the others. But the plows are raised and lowered IN PAIRS.

EACH plow is fitted with a gauge wheel to help carry it over obstructions and regulating depth. Plows are adjustable to line of draft by screw bolt connections to frame. Curved plow standards give ample clearance for trash and stubble.

**Ease of Handling.** Platform is large and roomy. Two plows are raised with one lever, aided by powerful lift springs, so that all plows may be quickly raised at end of field.

**Hoofs and Horns**

Don't yank or whip the horse, but find the cause. It may be a sharp tooth or the harness may be ill-fitting.

Horses are often whipped for things purely imaginary in the mind of the driver, and it is too cruel for words.

Some men whip their horses because they are in a bad frame of mind themselves.

Handle the colts carefully and intelligently.

The difference in the handling of two colts may make several hundreds of dollars difference when they are offered for sale.

The calves that are to be raised to reinforce the dairy, should be fed from a pail.

They should be taught to drink when two or three days old.

They should be fed the warm milk from the mother, and fed at least three times a day. When the calf is about two weeks old, sweet milk from the separator can be added to the whole milk, about half and half.

Care should be taken to have the milk always fed warm, and at the same temperature at every feed. Never feed cold milk.

**A New Four Cylinder Portable**

The Burrige-Cooper Co. Limited wish to announce through the columns of The Canadian Thresherman and Farmer that the new Geiser, four cylinder, portable gasoline engine is meeting with a popular demand.

The engine is built on the same lines as the new Geiser Gas Tractor with all the latest improvements. The motor itself is a four-cylinder vertical, the cylinders being set cross-wise to the frame. It has mechanically operated valves and the crank shaft, connecting rods and pistons are enclosed and dust proof. All joints on the engine are ground to a perfect fit, doing away with all packing. The engine is lubricated by the splash system and uses the throttle system of governor. The jump spark system of ignition is used, a high grade magneto supplying the current, with a dry battery for starting. Transmission is through a friction clutch. The engine is mounted on a good steel truck, and while it is light in weight and easy to draw from place to place, it is powerful enough to drive a medium sized separator in all kinds of grain.

For further information write the Burrige-Cooper Company Limited.

It was once supposed that radium was an inexhaustible mine of energy, a kind of machine-gun which bombarded everything around it with an endless hail of minute

particles. The studies of such men as Sir William Ramsay, Professor Rutherford and Mr. Frederick Soddy have shown that, instead of emitting energy for millions of years, the activity of radium is limited. Moreover, they have shown that there is a whole family of radiums, all the progeny of a single parent. Radium A lives for a quarter of an hour and then changes into radium B, which in turn lives for three-quarters of an hour. Radium D, a leadlike substance with a metallic luster, is fairly long-lived, yet it is half gone in forty years. Besides all these, there are Radium E, and Radium E<sub>2</sub> and Radium F, which last is probably identical with polonium, discovered by Madame Curie.

Three kinds of rays are shot forth by radium and are designated by the Greek letters alpha, beta and gamma. The alpha rays are emitted by a gas released by radium and are material particles; the beta rays are also particles, which are exceedingly small and are ejected with a velocity of thousands of miles a second; the gamma rays are not particles at all, but mere vibrations of the ether and, therefore, akin to sunlight.

Switzerland is the only country in the world where the goat is placed ahead of all other animals. If a boy plagues a goat, he can be fined and sent to jail. If a person meets a goat on a path and drives him aside, he can be arrested. If a goat enters the yard of a person, not his owner, and is hit with a club or stone, the person guilty of the offence must pay thirty cents. If the engineer of a railroad train sees

**Salesmen Wanted**

Traveling Salesmen - earn from \$1,000 to \$10,000 a year and expenses. Over 50,000 employed in the United States and Canada. The demand for good Salesmen always exceeds the supply. We will teach you to be an expert Salesman by mail in eight weeks and our FREE EMPLOYMENT OFFER will assist you to secure a good position. We pay you only for Salesmen from over 3,000 firms last year and could not fill our orders. Hundreds of our graduates who formerly earned \$25 to \$75 a month have since earned \$100 to \$500 a month and expenses. Hundreds of good positions open for the spring rush. If you want to secure one of these or increase your earnings, our FREE BOOK, "A King of the Grip," will show you how. Write or call for it today. Ad dress the nearest office.

Dept. 568, National Salesmen's Training Association.  
Chicago, New York, Kansas City, Minneapolis, St. Paul, St. Louis, San Francisco, Atlanta

**Well Drilling Machines**



Over 70 sizes and styles for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on a single or double track. Simple, durable, and powerful. Strong, simple, durable. Any mechanic can operate them. Send for catalog.

**WILLIAMS BROS.,**  
ITHACA, N. Y.

A one-armed man entered a restaurant at noon and seated himself next a dapper, little other-people's-business man. The latter at once noticed his neighbor's right sleeve hanging loose and kept eyeing it in a how-did-it-happen sort of way, but the one-armed man paid no attention to him. Finally the inquisitive one could stand it no longer. He changed his position, cleared his throat, and said, "I beg your pardon, sir, but I see you have lost an arm."

The one-armed man picked up his sleeve with his left hand and peered anxiously into it. "Bless my soul!" he exclaimed, looking up with great surprise, "I do believe you're right."

### The Growing of Tame in Western Canada

Continued from page 16

Winnipeg and St. Boniface and around, I do not know of anything so good as alsike clover to disintegrate the heavy clay.

Hoping that this will give you my personal experience in tame grasses, I remain, Yours truly,

P. S. Gendron, La Salle, Man.

### Clover Will Grow in Man.

I had about 2½ acres of heavy clay land at the lower end of my field, which was always too wet in the spring to seed with grain. I plowed it every fall with the rest of the field for five years; but never put a crop in it. Last spring was very dry so I thought I would try some clover on it. I got 20 pounds of Red Clover, which I think is plenty of good seed, and sowed it by hand in the latter part of May, and covered it with the drag harrows.

In about two weeks it was up and looking fine, but after that the weeds got ahead of it and it quit growing and looked yellow. I took the mower and cut the weeds just before they bloomed in the first week of August and raked them off. In a week or two it began to look better and by the end of September there were patches with blossoms on and a foot high.

To my estimation it was a failure last year, but it might do better this coming summer. I might say that both red and alsike clover grows fine on old trails, where the seed was spilled out of the hay freighters used when the C. N. Railway was being built, and by the settlers when they first went into the Swan River Valley. In fact a neighbor of mine cut two or three loads of alsike clover every year off the old government trail which runs past his place. I will let you know next fall how I came out with my red clover.

Yours truly, F. Nash,  
Pine River, Man.

### Tame Grasses in B. C.

With regard to the growing of clover and grasses in British Columbia, I will gladly give you what little information I can. In the first place, I think it is safer to sow all tame grasses in the spring as early as possible as the fall is not so favorable to growth as a rule as the spring season, and it is also liable to be winter killed.

I have also had experience with alfalfa seed, though in a small way. At present I have a plot 5 feet x 20 feet, sown the first week of May last. As early in the spring as possible I manured the ground heavily, dug it under and smoothed it over and waited for the weeds to germinate; worked it over again at intervals of a few days and sowed my seed. As soon as the first flowers were out I cut it rather high. In a few weeks it was ready to cut again. After the second cutting it grew to a height of four or five inches, (young alfalfa should never be

allowed to ripen as it has a tendency to weaken and in some cases kill it outright). I should say the double cutting yielded at the rate of three tons per acre. The soil is a clay loam.

I have had much the same experience with alfalfa in the Kootenay country under the same treatment and also on sandy soil, where there was plenty of moisture and manure. In the spring of 1909 I manured half an acre of sod heavily, turned it over and planted it to potatoes. The potatoes were harvested during August. I sowed it to alfalfa about the middle of September and a few days later we had a good warm rain. The seed came up quickly and for a short time while the weather was favorable, it did well. But I fear the exposure to the frosts of this winter have ruined it entirely. I also had some red clover and alsike sown at the same time at one end of the piece, which has fared as bad. I have had a good catch of alfalfa destroyed the first season in the fall after it had been eaten by horses. They would pull it up by the roots and eat the roots and all, and I have had it smothered out by a heavy grain crop, and also by weeds. A good catch may be saved if the weeds are not too thick by being clipped off occasionally. I think no one should sow alfalfa extensively without first experimenting with it on a small scale. Where conditions are favorable I believe it is the best fodder crop we have for British Columbia. I have seen large fields of it in the Okanagan country cut twice every year, and a heavy swath for the cattle after that.

As to red clover, I tried some last spring with oats and vetch, some with annual crimson clover and some with millet. The oats and vetch seemed rather heavy for it, but it improved considerably after they were out in July. Part of the field that was left to ripen the clover did very poorly. That which was sown with the crimson clover did very well. But I shall not sow the crimson clover again as it was a failure. The millet was also a failure, but weeds took its place (several kinds) in abundance. I cut them while they were green along with the clover and fed them to the calves. The clover soon sprang up again, the most of it coming out in head. When I cut it again I believe about the latter end of July, it made a good calf pasture for a little. I expect it will do well next season.

I sowed red top and English blue grass with the clover, but it did not catch well. I have an old meadow, timothy and clover, with a few other grasses that I do not know the names of. I believe the average yield is about 1½ tons to the acre, but the field requires breaking up badly.

My land is all rich clay loam with plenty of moisture. Hoping this bit of information will be of some benefit to you I remain,

Yours sincerely, H. E. Pettman,  
East Wellington, P.C.



## Seed Now to Middle June

### The Following Varieties:

#### ALFALFA

Produces from 3 to 7 tons hay to the acre. The nearest to a balanced ration of any crop grown. Montana grown seed, \$26.00 per 100 pounds.

#### SILVER KING BARLEY

The great six-rowed. Well named. Heavy yielder and early.

#### ORLOFF

Hardy Russian Oat—thinnest-skinned and earliest of all—the only oat for the pioneer, succeeding on "breaking" when all others fail. May be sown up to middle of June and still mature a crop.

**TIMOTHY, BROME, Western Rye, Red Clover, Alsike, Millets, Fodder Corn.** Strains specially suited to the Canadian West.

Catalogue free

**Steele, Briggs Seed Co**  
WINNIPEG, CANADA Limited.

## Proper Lubrication

On your plows, harrows and drills use

# Granite Harvester Oil



Insures better work from the new machine and lengthens the life of the old. Wherever bearings are loose or boxes worn it takes up the play and acts like a cushion.

Changes of weather do not affect it.

Gasolene and Kerosene Engines

### Standard Gas Engine Oil

is the only oil you need. It provides perfect lubrication under high temperatures without appreciable carbon deposits on rings or cylinders, and is equally good for the external bearings.

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### Capitol Cylinder Oil

delivers more power, and makes the engine run better and longer with less wear and tear, because its friction-reducing properties are exactly fitted to the requirements of steam traction engines and steam plants.

Traction Engines, Wagons, Etc.

### Mica Axle Grease

makes the wheel as nearly frictionless as possible and reduces the wear on axle and box. It ends axle troubles, saves energy in the horse, and when used on axles of traction engine economizes fuel and power.

Every dealer everywhere. If not at yours, write for descriptive circulars to

**The Imperial Oil Company, Limited**

## The Buffalo Pitts Money Makers

We actually thresh faster, separate better, and clean better than any other machine.

The Niagara Second Steel Frame Thresher is the only thresher having front of solid steel forming the cylinder side and corner support of frame.

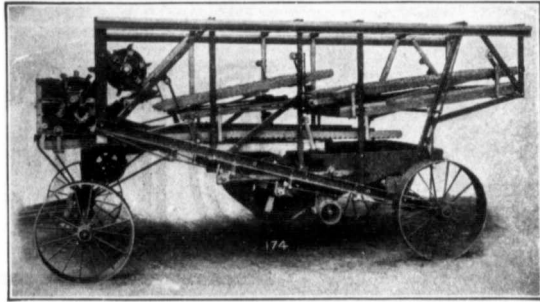
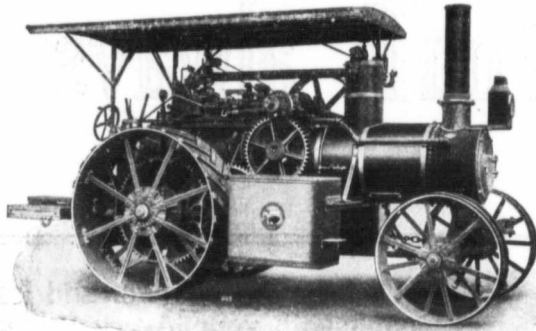
It is the only thresher having all the bearings bolted solid to a steel frame.

It is the only thresher which separates 95 per cent of the grain at the cylinder.

It is the only thresher having a separating cylinder which deflects the threshed grain through the grates, separating it from the straw as soon as threshed.

The Niagara Separator is not a one feature separator but handles every part of grain separation in first-class shape.

It is the only thresher having auxiliary fans throwing a blast of wind through the lower bolting rack, separating the threshed grain from the chaff and rough cleaning it before it reaches the shoe.



Sectional View of Niagara Steel Frame Separator

**Steam plowing is cheaper than team plowing.** The Buffalo Pitts Special Plow Engines are noted for their strength and durability. With proper management the Buffalo Pitts 25 horse power double cylinder engine will plow from 25 to 35 acres per day. The 35 horse power double cylinder engine will plow from 35 to 50 acres per day. The 25 horse power engine will pull from 12 to 15 mouldboard plows, or from 15 to 18 disc plows; the 35 horse power engine from 14 to 20 mouldboard plows, or from 18 to 28 disc plows. The speed for plowing is from 2½ to 2 miles per hour. The fuel used is coal, wood or straw. Buffalo Pitts Engines are built in all sizes and for any purpose.

The NEW BUFFALO PITTS GAS TRACTOR is a 3 Cylinder 70 h.p. machine with 7 foot drivers. It is built heavy and strong and is a plowing engine in every particular. Write us for further information.

Write for Catalog and Other Information.

Manfd. by BUFFALO PITTS CO., Buffalo, N.Y.

WINNIPEG THRESHING MACHINE CO. 774 Dufferin Ave., Winnipeg.  
General Agents for Canada

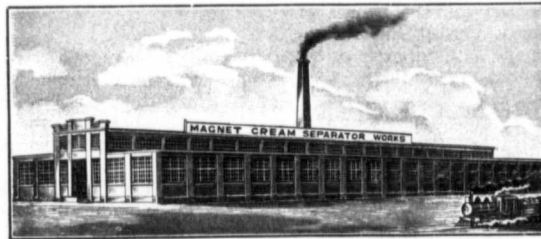
## The Home of the "Magnet"

It is with pleasure we call the attention of our readers to the advertisement of this justly celebrated Cream Separator. The Petrie Mfg. Co., Limited, in building this cream separator trusted to the intelligence of the dairy farmer, and built it on different mechanical lines from that of any other cream separator in existence, with the belief that when the farmers realized the great improvement made in the construction that they would not hesitate to buy the good machine.

This different construction consists in a strong rigid frame heavy square gears cut out of solid blanks; a large steel bowl supported at both ends; a one piece skimmer, that takes all the dirt and foreign matter out of the cream, at the same time separating all the butter-fat, making for the farmer more and better butter than by any other process; easy to operate, something unknown until the "MAGNET" was introduced, children and women can and do operate thousands every day in Canadian homes with pleasure; they no longer hate the jog of running the milk through the separator, but all say it is so easy, and then less than five minutes is required to clean every part.

The great success has come to the Company through the sup-

port of the thoughtful farmer. This success has followed the "MAGNET" since its invention by four Canadian boys twelve years ago, each year the sales increasing over the previous year, and for this year the sales are nearly double that of the same months of any previous year. In that time four factories have been built, owing to the increased demand for machines. The pres-



Factory of Petrie Manufacturing Co., Hamilton, Ontario. Capacity over 50 machines per day

ent factories have a capacity of over fifty a day. The Petrie Mfg. Co., Limited, own property and branches in each great province in Canada.

A fine warehouse is just completed for the "MAGNET" in Regina. Mr. A. B. Petrie, the President has contracted for the construction of a large warehouse

to be completed October 1st in Winnipeg, and next year will see the company in their own warehouse in Alberta. The sales manager, Mr. T. S. Petrie resides in Winnipeg.

We are pleased to note that this large company is the first to recognize that Winnipeg is no longer a Western Province, but a centre point of the Dominion, and therefore the best from which to manage this department. The guarantee of this Company is backed by nearly three quarters of a million dollars.

A travelling man who stutters spent all afternoon in trying to sell a grouchy business man a bill of goods, and was not very successful.

As the salesman was locking up his grip the grouchy was impolite enough to observe, in the presence of his clerks: "You must find that impediment in your speech very inconvenient at times." "Oh, n-no," replied the salesman. "Everyone has his p-peculiarity. S-stammering is mine. What's y-yours?"

"I'm not aware that I have any," replied the merchant.

"D-do you stir y-your coffee with your r-right hand?" asked the salesman.

"Why, yes, of course," replied the merchant, a bit puzzled.

"W-well," went on the salesman, "t-that's your p-peculiarity. Most people use a t-teaspoon."

The wise man makes proverbs. The foolish man misquotes them.

It's easier taking a day off than putting it back.

## CORRUGATED PORTABLE GRANARIES

Fire, Lightning and Storm Proof.

Protects the grain—absolutely vermin proof.

Write for particulars—

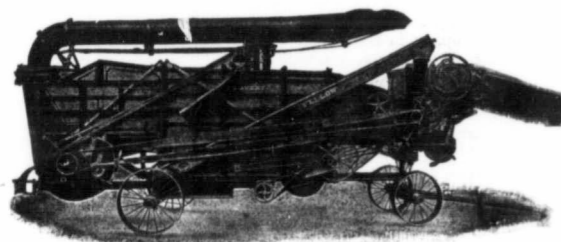
THE  
**Metallic Roofing Co.**  
LIMITED  
MANUFACTURERS  
TORONTO and WINNIPEG

Western Canada Factory:  
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# DECIDE to get an AVERY

You'll always be glad you did it

Your Customers will be Pleased with the Work your AVERY SEPARATOR does for them



The "Yellow Fellow"

### IT SAVES THE GRAIN BETTER

Twelve field tests made last fall show an average saving of 99-94/100%, an Almost Perfect Record. No other make of Separator manufactured ever produced evidence to show such a small wastage as this.

### It CLEANS the Grain CLEANER

Elevator men say so—and they know. And Farmers say it too. They write us that the "Yellow Fellow" cleaned their grain to perfection.

### It Will GET You the JOBS

Because it will do the kind of work that the Farmers want. You must please the Farmers to get the jobs and with a "Yellow Fellow" you can do it.

### IT WILL MAKE YOU GOOD PROFITS

It's Built to last. Doesn't wear out in a few years. And doesn't cost but little for repairs.

Decide to get an Avery "Yellow Fellow" Separator. It will be a Job Taker and Money Maker for you.

You'll have more Power and less Trouble with your Avery Under-mounted Engine



Patented—It's Undermounted

Most men who buy Engines now-a-days expect to use them for some kind of traction work, such as Plowing, Road Grading and Hauling, as well as for belt work.

That's why we designed the Avery Undermounted Engine, and why many more are buying them every year.

They are designed from the ground up for both Traction and Belt Work, and are not a built-over style of Topmounted Engine originally designed for Belt Work only.

Get the Engine that is built for the work. Not a built-over kind. **No Pulling Strains on the Boiler.** Longer Life. **Steel and Semi-Steel Gears.** Best combination of gearing ever made. **Pulls Harder** Because straight line from cylinders to load.

Decide to get an Avery Undermounted Engine and you'll have the best Engine for all-round work and the best Money Maker on the market to-day.

You can have more Water at one time and do it easier with your Avery Steel Tank



Avery Full Water Front Steel Tank, Mounted on an Avery Wagon Gear

We can furnish our Steel Water Tank, either with coal bunker front or full length for carrying water only. Can also furnish it unmounted or mounted and with either our regular steel tank trucks or an Avery wagon gear. The coal bunker tank has a water capacity of 12 barrels, and the full length tank a capacity of 15 barrels.

In comparison with the old style Wooden Tanks which require soaking up, which allow a great deal of water to leak out, are heavy to haul and soon rot out. The Avery Steel Water Tank overcomes all these disadvantages, since it is always ready for use, has no leaks whatever, is light in weight, and will last for a much longer time.

DECIDE to get an AVERY

FIGURE IT ALL OUT

**THE FIRST COST.** Be sure you remember this—that it's not what you pay but what you get for your money that determines which is the cheapest. There are good reasons for saying that you will get the most for your money when you get an AVERY. They are Built to Last.

**THE REPAIR COST.** With an Avery it's almost nothing. 66% of the Avery Undermounted Engines sold in one territory, where a record has been kept, have required no repairs whatever. The total average repair cost per engine per year has only been \$1.63. These figures are from our records, and show an extraordinary small repair cost. There are Avery Separators in use that have not had a single cent's worth of repairs in five years. We put good material into Avery Machines. That's why the repair bills are light.

**THE PROFITS.** That's what we are all looking for, and that's what you make with an Avery. Not Debts, but Profits. They are Building Homes, paying for Land and helping to make their Owners Independent. And the reason is they do good work, and stand up under the knocks.

DECIDE to get an AVERY. You won't miss it. You'll always be glad you did it.

If you haven't a catalog, write us a letter or a postal at once for one.

AVERY COMPANY, 675 Iowa St., Peoria, Ill., U.S.A.

Haug Brothers and Nellerroe Co. Ltd.  
Canadian Jobbers, Winnipeg, Canada

## CHAPTER I.

SIBBLEY Junction is in the sub-tropic zone of Colorado. It lies in a hot, dry but immensely productive valley at an altitude of some four thousand feet above the sea, a village laced with irrigating ditches shaded by big cottonwood trees and beat upon by a genial, generous-minded sun. The boarders at the Golden Eagle Hotel can sit on the front stoop and see the snow-filled ravines of the mountains to the south and almost hear the thunder crashing round old Uncompahgre, even when the broad leaves above their heads are pulseless and the heat of the midday light is like a cataract of white-hot metal.

It is, as I have said, a productive land, for upon this ashen, cactus-spotted repellent flat, men have directed the cool, sweet water of the upper world, and wherever this life-saving fluid touches the soil, grass and grain spring up like magic.

For all its wild and beautiful setting, Sibley is now a town of farmers and traders, rather than of miners. The wagons entering the gates are laden with wheat and melons and peaches rather than with ore and giant powder, and the Eagle Hotel is frequented by farmers of prosaic aspect, by passing drummers for shoes and sugars, and by the barbers and clerks of shops near by. It is, in fact, a bit of slow-going village life, dropped between the diabolism of Cripple Creek and the decay of Creede.

Nevertheless, now and then a genuine trailer from the heights, or a cow-man from the plains, does drop into town on some transient business and, with his peculiar speech and stride, remind the lazy town-loafers of the vigorous life going on far above them. These men nearly always stop at the Eagle Hotel, which is a boarding-house advanced to the sidewalk of the main street and possessing a register.

At the time of this story they went to this hotel for two good reasons. Mrs. Gilman was both landlady and cook, and an excellent cook, and, what was still more unusual, Bertha, her pretty seventeen-year-old daughter, was day-clerk and general manager. Customers of this type are as loyal to their hotels as to their horses and amazingly sensitive to female charm—and Bertha would have been called an attractive girl anywhere. She was small and straight, with brown hair and big, candid, serious eyes—wistful when in repose, boyishly frank and direct when she stood behind her desk attending to business, or smiling as she sped her parting guests at the door.

At first sight a sensitive man would say: "How charming to have such a landlady!"—but on second thought the situation developed a certain pathos. The girl was so young and so unprotected. She was hardly more than a child in years and physique, and Mrs. Gilman, "widow

## Mart Haney's Mate

The Girl and the Gambler

By HAMLIN GARLAND

by act of God," as Mart Haney put it, though of good stock, was forced to toil in the kitchen half dead with fatigue and heat and rheumatism, while Bertha took charge of the office with efficiency in quaint contrast to her slight figure and childish glance.

To see her seated on the sidewalk, surrounded by men, was to be troubled as to her future.

"I know Bertie ought to go to school," Mrs. Gilman often said to protesting guests. "But what can I do? We got to live. I came out here for my health, and goodness knows I never expected to

my son's ranch paid for. You see—"

She did not finish this, but her friend saw what nearly every one saw, that Bertha's time for schooling was nearly past. She had already entered upon the maiden's land of dream—of romance. The men who had hitherto courted her, half-laughingly, half-guiltily, knowing that she was a child, had dropped all subterfuge. To them she was a "girl," with all that this word means to males not too scrupulous of the rights of women.

"I oughtn't to quit now when



"I want you, my girl."

slave away in a hot kitchen in this way. If Mr. Gilman had lived—"

It was her habit to leave her demonstrations—even her sentences—unfinished, a peculiarity arising partly from her need of hastening to prevent some pot from boiling over and partly from her failing powers. She had been a handsome woman once—but the heat of the stove, the steam of the washtub, and the vexation and prolonged effort of her daily life had warped and faded and battered her into a mere wreck of her bright self.

"I'm going to quit this thing," she often said, "as soon as I get

business is so good," Mrs. Gilman returned to the dining-room to say to her guest. "I'm full all the time now. More and more of the boys come down the line on purpose to stay over Sunday. If I could—"

The listener knew why "the boys came down the line to stay over Sunday," but he said nothing. Bertha at the moment was talking with the barber who took his meals at the Eagle.

Her speech was quite unlike the bird-like chatter with which girls of her age entertain a lover. She spoke rather slowly and with the gravity of a man of business—

and her blunt words made her smile the more bewitching, and her big brown eyes the more girlish. The slang which she used, with a certain dignity and sweetness, and her replies to the barber, were in no sense commonplace. She did not giggle or flush—she only looked past his smirking face out into the street where the sun's rays lay like flame. And yet she was profoundly moved by the man, for he was a handsome fellow—in his sleek way. He was colorless and rather fat, but well-dressed and cleanly-shaven—save a carefully-tended brown mustache which drooped below the corners of his mouth. His was not a city type of beauty; rather was it that of a farmer's son, blanched and oiled and perfumed by the exigencies of his trade.

He was saying to the girl:

"I wish I could get out of my business. Judas, but I get tired of it! When I left the farm I never s'posed I'd find myself nailed down to the floor of a barber-shop. How'd you like to go on a ranch?" he asked meaningly.

"I don't believe I'd like it. Too lonesome," she replied, without any attempt to coquette with the hidden meaning of his question. "I kind o' like it here. I like to have new people sifting along every day. Seems like I couldn't bear to step out into private life again, I got so used to this public thing. I only wish mother did not have to work so hard—that's all that troubles me at the present time."

"Just the same, you oughtn't to be clerk," said the barber. "It's too public. It's no place for a girl, anyway."

"Oh! I don't know! We have a mighty nice run of custom and I don't see any bad about it. I've met a lot of good fellows by being here."


The barber was silent for a moment, then pulled out his watch. "Well, I've got to get back." He dropped his voice. "Don't let 'em get gay with you. But I've got a mortgage on you. If any of 'em gets fresh you let me know—they won't repeat it."

"Don't you worry," she said with a confident smile. "I can take care of myself. I grew up in Colorado. I'm no tenderfoot."

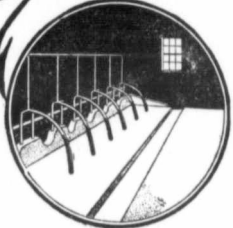
This boast, so childish, so full of pathetic self-assertion, was still on her lips when a couple of men came out of the dining-room and paused to buy some cigars at the counter. One of them was at first sight a very handsome man of the bold Western sort. He wore a long, gray frock-coat without vest, and a dark blue, stiffly-starched shirt, over which a red necktie fluttered. His carriage was erect and large of motion and his profile very fine in its big lines. He was plainly a masterful personality, a man of varied experience—only upon closer view did the darker side of his nature come out. His eyes were gray and cold, his nose a little flat and the corners of his mouth bitter. He could not be called young and yet he was not even middle-aged. His voice was deep, and rather grave in accent, and as he



# Write to Alfred Rogers for free facts about cement's value to you




No special timbering is necessary when cement is used to modernize the interior of a dairy-barn.




You can be sure of a better price for your milk if your cows are housed in a cleanly interior like this one here.

HERE is your opportunity to get, for nothing, the inside truths about cement—how little it costs compared with lumber—how to use it so you will be satisfied with the result—where to buy it—what kind to buy. I will tell you all you want to know about cement, and I will not charge you one cent for telling you. Learn all about cement free. Write now.



All silos are good; but a stave silo is something to bother over from the first day you use it.



Concrete-silos may seem hard to build; but they are easier to construct than any other kind whatever.

## Cement Is Easily Handled

There is nothing intricate nor difficult about handling cement. Write me, and I will show you just how to mix and use concrete (which means a mixture of cement, sand and broken stone). If you are 'handy' at all, you can quickly learn how to build almost anything with cement—from a fence-post to a cattle-barn. I will tell you how to go about renovating your house, wagon-shed, barn—any building on your place. And I will save you money, too. Yet you need pay me nothing at all for my helpful advice.



It 'takes it out' of hens to have to live in frame houses through our bitter winters. House them right.



You can get bigger returns for the outlay from a cement-concrete poultry-house than you perhaps now imagine.

## Cement Cheaper Than Lumber

Even in first cost, a concrete house, barn, henhouse, shed—or any other structure—is actually cheaper than a cheap lumber construction. In the long run cement is ever so much cheaper—because it needs no repairs—you don't have to paint it—it just lasts and lasts, and does not deteriorate from age or from any other cause. You will be mighty well satisfied with anything you build of cement, whether it's a mansion or a watering-trough for the cattle.

## Fireproof and Decay-Proof

Fire cannot destroy a concreted surface. Decay does not affect it. Structures exist to-day, in Great Britain, Italy and elsewhere, that were built of cement more than two thousand years ago. Dampness cannot penetrate a concrete wall. It is an armor against heat and against cold—so a building even thinly overcoated with the right kind of cement is warmer in winter and much cooler in summer than even a solid stone building can be. Yet its cost is trifling.

## Skilled Labor Rarely Needed

Moreover, it is seldom necessary to hire high-paid mechanics to do any cement work you want done. The probability is that I can quickly teach you how to do the work yourself, with no outlay for skilled labor. Get the right cement—I will tell you about that, too. Use common sense and follow my plain-English instructions, and I can almost guarantee a satisfactory job on anything you want to use cement-concrete for. Just write me and get the facts.

### My Knowledge Freely At Your Service

This advertisement is intended simply to educate you about cement, to tell you a few facts about the building material every farm ought to use for almost any purpose lumber is used for now. I offer you my expert advice and instruction entirely free of cost or obligation to you. You are welcome to it.

Won't you write me before you build?

## FREE Instruction On How To Build Any Of These Farm Necessities:—

- Silos
- Corn Cribs
- Cow Sheds
- Stables
- Watering Troughs
- Cesspools
- Slop Tanks
- Ice Houses
- Box Stalls
- Cisterns
- Barn Floors
- Feeding Yards
- Dairy Barns
- Poultry-Houses

And Many Other Farm Structures

### Inform Yourself Upon Cement — Do It Now

Simply tell me your name and address, and give me an idea of what you might possibly use cement for. I will do all the rest—inform you fully upon this important money-saving, satisfaction-giving building material. You can have all the facts freely. Don't hesitate to write me because you are not quite ready to build. You will be ready some day.

Ask me now for the facts you ought to know.

Just Write And Ask Me

**ALFRED ROGERS THE CEMENT MAN 322 Stair Building TORONTO, ONT.**

spoke to the girl a certain sweetness came into it.

"Well, Babe, here I am again. Couldn't get along without coming down to spend Sunday—seems like I must go to church on Sunday or lose my chance o' grace."

His companion, a short man, with a black mustache that almost made a circle about his mouth, grinned in silence.

The girl replied: "I think I'll take a forenoon off to-morrow and see that you do go to church for once in your life."

The big man looked at her with sudden intensity. "If you'll take me—I'll go." There was something in his voice and eyes that startled the girl. She drew back a little, but she smiled.

"I'll call you on that, Captain. Unless you take water, you go to church to-morrow."

The big man shoved his companion away and leaning across the counter said:

"There ain't a thing in this world that you can't do with Mart Haney—not a thing—that's what I came down here to tell you—"

The girl was visibly alarmed, but as she still stood fascinated by his eyes and voice, struggling to recover her serenity, another group of diners came noisily past and the big man, with a parting look, went out and took a seat on one of the chairs which stood in a row upon the walk. The hand which held the cigar trembled and his companion said:

"Be careful, Mart—"

Haney silenced him with a look. "You're on the outside here, partner."

"I did not mean to butt in—"

"I understand, but this is a matter between that little girl and me," replied the big man in a tone that, while friendly, ended all further remark on the part of his companion, who got up after a little pause and walked away.

Haney sat there till all the loafers were in accustomed places in the row of chairs, under the awning. Then he rose and sauntered back into the office.

The girl having left the room, he took up a paper and pretended to read, amazed at the excitement his avowal had roused in himself.

It was true that he had been coming down every Saturday for weeks—leaving his big saloon on the best evening in the week for a chance to see this child—this boyish school-girl. In a big, savage, selfish and unrestrained way he loved her and had determined to possess her—to buy her if necessary. He knew something of the toil through which the weary mother plodded, and he watched her bend and fade with a certainty that she would one day be on his side.

Neither mother nor daughter knew how rich he was. They knew that he was a saloon-keeper up in Cripple Creek, but that he was a half-owner in two big mines only a few people knew. He perceived that the time had come to bring this pressure to bear.

When at home and afar from her, he felt capable of seizing her—of carrying her back with him

as the old-time savage won his bride; but when he looked into her clear, calm, hazel eyes, his villainy, his resolution, fell away from him. He found himself not merely a man of the nearer time, but a Catholic—in training at least—and the words he had planned to say fell away from his lips. Libertine though he was, there were lines where his lawlessness was bound. In her presence he was strangely weak.

He was a desperate man—a man of violence and none too delicate in his life among men, but away back in his boyhood his good Irish mother had taught him to fight fair and to protect the younger and weaker children and this training led to the most curious and unexpected acts in his business as a gambler.

"I will not have boys at my lay-out," he angrily said to Williams, his partner, "and I will not have women there. I've sins enough to answer for without these. Cut 'em out!" And it was done. He was oddly generous now and then, too, and returned a greenhorn money enough to get home on. "Stay on the farm, me lad—'tis better to milk a cow with a mosquito on the back of your neck than to fill a cell at Canon City."

In other ways he was inexorable. He took the hazards of the game with his visitors and raked in their money with cold eyes and a steady hand. He collected their notes remorselessly—and it was in this way that he had acquired his interests in The Bottom Dollar and The Flora mines—"prospects" at the time, but immensely valuable at the present. It was indeed this new and measurably respectable wealth which had determined him upon pressing his suit with the girl.

He presented the matter first to the mother, not with any intention of doing the right thing, but merely because she happened into the room before the girl returned, and because he was overflowing with his new-found interest.

She came in wiping her face on her apron—as his mother used to do, and this touched him almost like a caress. He rose and offered her a chair, which she took, highly flattered, for she knew he was a prosperous man and could go to the best hotel in town. The fact that he came regularly to her table when he could go to the Allament was an almost overpowering honor.

"It must seem warm to you down here, Captain," she said, taking a seat beside him.

"It does. I wouldn't need to come if you were doing business in Cripple. I can't miss your Johnny-cake and pie; 'tis the kind that mother didn't make—for she was Irish."

"I've thought of going up there," she replied matter-of-factly, "but I can't stand the altitude, I'm afraid—and then down here we have my son's little ranch to furnish us eggs and vegetables."

"That's an advantage," he admitted, "but up there no one expects vegetables—it's still a mat-

## The Northwest Threshing Machine

has grown up on the great wheat prairies of Minnesota and the Dakotas. The improvements that have been made yearly have grown out of the practical tests made in the fields of these great grain states. One reason why the Northwest stands as the superior thrasher of to-day is that it is manufactured right in the midst of the grain fields.

Our factory Superintendent and workmen have always watched the Northwest Threshing Machinery doing work in the field, and it is natural that being so near home they have been in close touch with it. Not so with factories located perhaps 1500 miles away—near the mountains of the East—and being out of touch with their factories their machines have lagged behind in development.

In other words the Northwest has had the best possible test, that of practical work in the field under field conditions, instead of being tested under cover in artificial conditions, or in the East under eastern conditions.

So you see why the result of building threshing machinery here in the wheat belt for 35 years is the best Threshing Machine now made—The Northwest. We went into the fields where machines were doing actual work and there—

We saw the stationary grate clog and let the grain slide over it and we invented and perfected the Vibrating Grate, patented, which by rapid up and down motion pounds from beneath the threshed straw as it passes over and thus separates the grain from the straw—90 per cent of it right at the grate.

We saw the single straw rack carrying grain over into the straw pile, and we invented, perfected and patented the Double Separating Racks, doubling the separating capacity of the Northwest over the others.

We saw crank shaft boxes wear and get loose and pound and jar the machine to pieces, and we invented and perfected an eccentric driven machine that runs smoothly without jars and knocks. The Northwest Separator *Has no Cranks*.

We saw engines steam hard and lack power, and we invented, perfected and patented the Northwest, *The Easiest Steamer Made*; the engine that has more power according to its rating than any other traction engine made—barring none.

Furthermore, we saw threshing machinery selling for big prices on long time and uncertain payments, and we decided on *lower prices* for cash or sure pay notes. Prices so low that we stand in a class by ourselves, because we cut out the losses from poor sales

Send for our Catalog and *Get Our Prices*.

## Northwest Thresher Company

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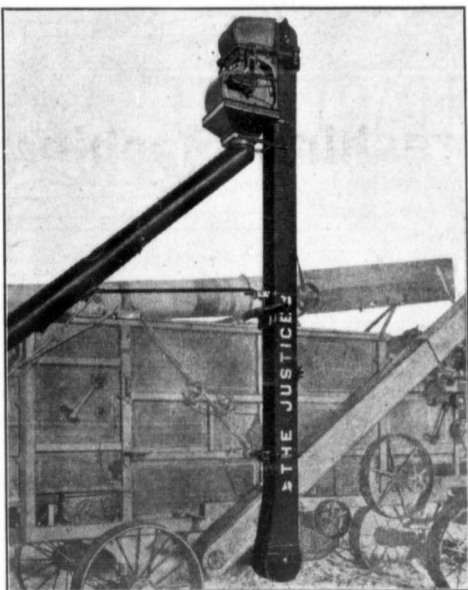
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An absolutely perfect appliance—a god-send to every engineer and thresherman. It cannot get out of order and is so simple in every part that a novice can handle it easily and without risk by following the simple instructions accompanying it.

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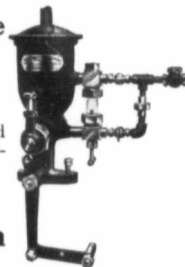
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## Every Bushel Accounted for by the **WHITEFORD Justice Measure**

A machine that cannot lie, cheat or steal. A servant whose fidelity is never in doubt. A detective that no species of dishonesty can tamper with. An accountant whose accuracy can never be questioned, whose statements never mislead.

The only Government Standard for this purpose having the sanction of the Department, made and sold by us at a price within the reach of every farmer.

Would You Forget All Your Engine  
WORRIES? Then Get a  
**"McCULLOUGH" Oil Pump**



ter of ham and eggs."

"Is that so?" she asked concernedly.

"'Tis indeed. I live at the Palace Hotel and I know. However, 'tis not of that I intended to speak, Mrs. Gilman. I'm distressed to see you working so hard this warm weather. You need a rest—a vacation."

"You're mighty neighborly, Captain, to say so—but I don't see any way of taking it."

"Furthermore, your daughter is too fine to be clerkin' here day by day. She should be in a home of her own, sure."

"She ought to be in school," sighed the mother, "but I don't see my way to hiring anybody to fill her place—it would take a man to do her work."

"It would so. She's a rare little business woman. Let me see, how old is she?"

"Eighteen next November."

"She seems like a woman of twenty."

"I couldn't run for a week without her," answered the mother, rolling down her sleeves in acknowledgment that they had entered upon a real conversation.

"She's a little queen," said Haney.

It was very hot and the flies were buzzing about, but the big gambler had no mind to these discomforts, so intent was he upon bringing his proposal before the mother. He straightened up in his chair and, fixing a keen glance upon her face, began his attack. "'Tis folly to allow anything to trouble you, my dear woman—if

any debt presses, let me know, and I'll lift it for you."

The weary woman felt the sincerity of his offer and replied with much feeling. "You're mighty good, Captain Haney, but we're more than holding our own and another year will see the ranch clear I'm just as much obliged to you, though; you're a real friend."

"But I don't like to think of you here for another year—and sure Bertie should not stand here another day with every Tom, Dick and Harry passin' their blarney upon her. She's fitter to be mistress of a big house of her own—an 'tis that I've the mind to give her, and I can for I own two of the best mines on the hill."

The mother, worn out as she was, was still quick where her daughter's welfare was concerned, and she looked at the big man with wonder and inquiry, and a certain accusation in her glance.

"What do you mean, Captain?"

The big gambler was at last faced to face with his decision, and without a moment's hesitation he replied: "As my wife—I mean."

Mrs. Gilman sank back in her chair and looked at him with eyes of consternation. "Why, Captain Haney! Do you mean it?"

"I do!" He had a feeling at the moment that he had always been honorable.

"But, but—you're so old—I mean so much older—"

"I know I am, and I'm tough. I don't deny that. I'm forty, but then I'm what they call well preserved." He smiled winningly, "and I have an income of wan-

hundred thousand dollars a year."

This turned the current of her emotion—she gasped. "One hundred thousand dollars!"

He held up a warning hand. "Sh! that's between us. There are those younger than I, you see, but there is some virtue in money. I can take you all out of this like winkin'—all you need to do is say the word and we'll have a house in Colorado Springs, or Deaver—or we'll go to Paris. For what business on he busiest day of did you think I left my business on the busiest day of every week? It was to see your sweet daughter, and I came this time to speak to her—"

"What did she say?"

"She has not said. We had no time to talk. What I propose now is that we take a drive to the ranch tomorrow and talk it over. Williams will take her place here. In fact, the place is mine. I bought the hotel this morning."

The poor woman sat like one in a stupor, comprehending little of what he said. The room and all the trees outside seemed to be revolving. The earth had given way beneath her feet and the heavens were opening. Her first sensation was one of terror. She feared a man of such wealth—a man who could in a single morning, by a move of his hand, upset her whole world. His enormous wealth dazzled her even while she doubted it. How could it be true while he sat there talking to her—and she in her apron and her hair in disorder? She

rose hurriedly with a desire to make herself presentable enough to carry on this conversation. As she stood weakly she said:

"Captain, I appreciate your kindness—you've always been a good customer—one I liked to do for—but I'm all upset—I can't get my wits—"

"No hurry, madam," he said, with a wave of his hand. "Tomorrow is coming."

She hurried out, leaving him alone—with the clock, the cat, and the hostler who was spraying the sidewalk under the cottonwood trees. The gambler, stern, fierce and inexorable, was amazed to find himself reduced to this amazing docility and weakness. He had come to demand, he was remaining to sue. More than this, he was actually quivering with fear of the girl's refusal, and in this fear he rose and went out into the sunlit streets.

### CHAPTER II.

Life was no longer simple for mother or daughter. It was filled with a wind of terror. To the work-weary mother the promise of relief was very sweet, yet disturbingly empty like the joy of dreams. Haney's power took her breath, clouded her judgment, befogged her insight, and her lease of the hotel was in his hands!

She went back to the dining-room, where her daughter sat eating dinner, in outward calm, but with a numbness in her limbs and a sense of dizziness in her brain. Dropping into a chair

Continued on page 94



### The Calloused Hand.

Whatever thy hand findeth to do,  
do it with thy might. Ecclesiastes ix.  
10.

Now some write books of empty words,  
And some weave fancies into song—  
But he who toils among the sheaves,  
Barehanded, brown of face, and strong,  
And clears the place where shall arise  
The structure that shall long endure,  
Though he be counted far from wise  
His portion of reward is sure.

Some, with the brush and many hues,  
Make pictures that men rush to see—  
Yet there are no more worthy views  
Than those where many workmen be.  
Where chisel rings against the stone,  
And hammer clanks against the steel,  
For peasant's hut or monarch's throne,  
The finger marks of toil reveal.

Words writ in ink grow dim and fade,  
The canvass turns to dust in time,  
But structures which bare hands have  
made

Last through, the centuries sublime;  
The bridge, the temple and the street,  
The castle wall and city gate  
Tell of men braving cold and heat.

Of hands that builded high and great  
Clear in the harmony of life

There is one chord that rings alone  
And which with surging strength is  
rife—

The hum of toil is in its tone,  
The sounds of tools that blend and  
blur

In harmony from all the lands,  
The hymn of the artificer—  
The world owes much to calloused  
hands.

### "From the Frying Pan into the Fire."

By Pearl Richmond Hamilton.

"Remember, Hattie, you won't have  
mother and me to look after you now,  
Things will not always be sunshine and  
flowers when you're alone."

The old farmer stroked his beard  
thoughtfully as he tied a rope about  
the little trunk that contained Hattie's  
clothes and keepsakes.

Meanwhile from the bedroom near the  
kitchen the jerky throbs of heavy sobs,  
added pathos to the picture of a daughter's  
"good-bye" to the old home.

Hattie stood before the tiny mirror  
over the family wash bench pinning on  
a faded straw hat that was in its last  
days of usefulness.

It took her a long time to pin the  
hat on and to smooth her hair back as  
she could not just then face her father  
and the sobs from the little bedroom  
brought great lumps to her throat that  
were hard to choke down. The father  
pulled the rope once more around the  
trunk and with his strong calloused  
hands tied another hard knot.

At last Hattie turned around but an  
overwhelming paralysis seemed to prevent  
her from speaking a word.

The old farm was not so easy to  
leave after all, when it came time to  
go.

Hattie had for two years longed for  
the change to city life.

She had known nothing but drudgery  
since childhood. There were cows to  
milk and calves to feed and errands to  
do besides the hundred and one things  
to do for mother.

There was no pleasure at home—just  
the steady work and grind all the time—  
father always cold and gruff and mother  
forever tired.

The poor little heart was hungry for  
a word of parental love and a few little  
girlish comforts.

Her tiny bare room upstairs that she  
had cleaned so carefully needed just a  
little furniture to brighten it. All she  
had asked for was some new wall paper  
and it had been months for her to muster  
up courage to ask her father for it  
just before house-cleaning time. "Non-  
sense—all nonsense!" he exclaimed,  
pitching a fork of hay into the man-  
ger as he continued. "You're getting  
all you can eat—what more do you  
need?" Hattie had hard work to walk  
to the house after this refusal. Of  
course it was nothing new but she had  
set her heart on this and had rehearsed  
her request so often that every night  
she imagined herself in a room papered  
with beautiful paper covered with flow-  
ers just like the paper on Rose Smith's  
room. But then—it was always so.  
Father never gave her a thing without  
first growling over it and after every  
begging act she had left him with a  
heavy heart and renewed yearning to  
leave home.

Of course "mother" was overworked  
and never could get a cent from father,  
so the little daughter of the house had  
to go without the little things that  
gladden the hearts of our girls. Is it  
any wonder then, that in her  
eighteenth year Hattie scanned the em-  
ployment column of every newspaper  
she could find? At last one morning  
these words sent a thrill through every  
nerve fibre of her body. "Wanted—  
an office girl for a good position in an  
office. Need have no experience but  
must be under twenty years of age.  
Good pay. Write to Box 6873, City."

Hattie cut the advertisement out and  
wrote that very night. A reply came  
and after all arrangements were made  
she informed her father and mother of  
her intended departure. The effect was  
like a bolt of thunder.

For the first time in fifteen years  
they sat down to think seriously of the  
welfare of Hattie. She certainly was a  
help on the farm and they could not  
get along without her. No one knows  
what "father and mother" said that  
evening but after that "father" was  
more considerate and "mother" more  
tender of Hattie.

The next day he went to town and  
when he came home he carried in a  
large bundle and put it in Hattie's room.  
When she went to bed she opened the  
bundle and rolls of wall paper rolled  
out onto the floor.

It was beautiful nectar and the roses  
were all that could be desired. When  
Hattie looked at the paper a sense of  
regret quickened her heart throbs but  
as she took down her hair she said to her-  
self: "It came too late. Father did  
not appreciate me when he had me.  
It is too late now." Then she took  
from a box a crumpled piece of paper  
and a letter and sat down on the bed  
to read them over for the one-hun-  
dredth time; after which she carefully  
placed the advertisement and letter in-  
to the box. Then she thought of her  
sweet heart who lived on an adjoining  
farm and wrote this letter:  
Dear Jim:—

I'm going away to the city. I can't  
stand it here any longer—you know  
father and mother will never let me  
have any young men company at home  
and I am tired of meeting on the sly,  
of course, I hate to leave you, Jim,  
but the city will be full of life for me.  
I'm tired of this old farm and every-  
thing on it because from morning till  
night I see nothing but drudgery and  
hard times. I hope you'll come to the  
city soon, Jim, and then we'll be

friends again. Until then "good bye."  
Sincerely, Hattie.

There was not much preparation.  
Hattie carried the tiny old-fashioned trunk  
down from the garret and pack-  
ed it.

Some broken toys—just three of  
them—treasures of early childhood—  
were put in the very bottom. Then  
two boxes of memory tokens came next  
and a very meagre wardrobe left the  
trunk half full.

The morning of her departure found  
her wakeful and nervous, and she rose  
and walked out into the great outdoors  
of God's good land. It was warm and  
already above the endless plain floated  
waves of quivering heat. The unbroken  
blue of Heaven's sky sheltered a sea of  
growing wheat. Hattie's eyes, blind  
to the beauty above her, saw only the  
fruit of daily struggle. She had not  
learned the wonderful lessons of nature  
about her. The grass-blade was a com-  
mon thing to her. It simply grew.  
She did not realize that "All the  
dwarfs and giants tall, working till  
Doomsday shalows fall, can't make a  
blade of grass." To her the seed was  
a simple thing. Ah! Hattie—do you  
know that all earth's workmen labor-  
ing, with all the help that wealth could  
bring, never could make a seed? The  
birds sang but Hattie did not hear  
them. "Isn't it wonderful when you  
think, how the wild bird sings his song,  
weaving melodies, link by link, the  
whole sweet summer long." Hattie  
paused. The meaning of this poem had  
never before come to her. She had  
learned it when a child at school but  
the lesson the words conveyed had never  
been explained to her. She was re-  
peating the words unconsciously to  
herself that morning in attempting to  
forget her sadness at leaving. Their  
meaning came to her like a shock, while  
the beauty of the land in all its wonder  
suddenly revealed itself to her, as if by  
magic.

For a while she drank in the full  
beauty and repeated in a tone of mean-  
ing.

"Commonplace is a bird, always,  
Everywhere seen and heard—  
But, all the engines of earth, I say,  
Working on till Judgment Day,  
Never could make a bird."

Then she turned sadly away. For  
the first time she appreciated her home  
environment. But again the lesson  
came too late. She was intoxicated by  
visions of city life—visions that had  
slipped into the great whirl of farm  
drudgery. Her soul was sensitively  
leaping to visions of music and lights  
and gaiety. Thoughtfully she came in-  
to the house and watched her father  
unroll the rope for her trunk.

They who sat around the plain  
breakfast table that morning were sad  
and silent. Important lessons had been  
learned and the recital was too pain-  
ful to repeat. But after the trunk had  
been tied and lifted into the wagon  
and Hattie had said her last "good  
bye" and her brother by her side  
started off for the station, the father  
and mother talked seriously as they  
watched the rig slowly vanish in the  
long distance of a prairie road.

Then anxious days lengthened into  
more anxious weeks and the weeks  
lengthened into months, but no word  
came from Hattie—for Hattie had an-  
swered the advertisement and she had  
been met at the station by a membe-  
r of that profession that meets many  
other country girls who answers sim-  
ilar advertisements.

When Hattie closed the gate of the  
old farm home she closed the gate of  
youth and happiness and joined the  
long human line of pure tender woman-  
hood that ends behind bars stronger  
than prison and suffers tortures more  
cruel than burning at the stake. One  
night, a year later as the farmer sat  
with bowed head that had aged during  
the year he said to his wife: "Mother,  
I am afraid our girl leaped from the  
frying pan into the fire." Yes, Hattie  
had leaped into the fire.

### Correspondence Corner

Dear Editor:—

Since there is so much talk about  
meats just at present, I presume a  
little advice on the selection of meat  
might help young housekeepers. Good  
meat should be neither of a pale, rose,  
or pink color, nor of a deep purple.  
The first denotes the diseased condition  
the last proves the animal died a  
natural death. Good meat has more of  
a marble look. The fat is firm and  
sweaty and never moist, while the fat  
from diseased cattle is flabby and  
watery, and more often resembles jelly.  
Wholesome meat will always show firm  
and elastic to the touch, and will not  
be damp. Bad meat will appear soft  
and moist and the liquid substance runs  
out of the blood when pressed hard.  
Good meat has very little smell. Bad  
meat shrinks in the boiling. Whole-  
some meat does not shrink in cooking.

In roasting meat I make a stiff coat  
of flour and water. I sprinkle dry  
flour over the dough and work the coat  
carefully over the roast. This makes  
the toughest roast or fowl tender.  
Butter the roast all over before putting  
the coat on so the dough will not stick  
to the meat. It takes a little longer  
to roast the meat in this way but the  
meat is cooked in its own juice and is  
tender and tasty. When the coat is  
brown and burned take the meat out,  
crack the coat with a hammer and it  
will come off with out any trouble.  
If you try this you will never roast  
beef or fowls in any other way.

In frying steak, do not grease the  
pan, put the steak in the hot pan and  
watch it carefully, turning it over every  
time the blood comes to the top. Your  
steak will be tender if cooked in this  
way. I am afraid I have written too  
much about meats but I like cooking  
meats better than any other food and  
my friends always ask me how I pre-  
pare them.

Yours truly,

An Old Housekeeper.

London, Ont.  
I am so glad to have this letter. I,  
too, have roasted meats as you describe  
and have found it a splendid way.—P.  
R. H.

Dear Editor:—

Since you have asked me to write to  
your department I will give you some  
ideas that have helped me in my house-  
work and home-work.

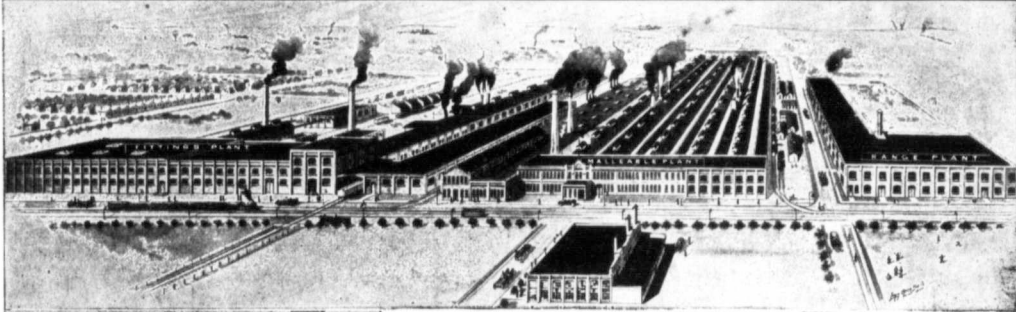
In the first place we women on the  
farm need to know the uses that can  
be made of things we have in the house.  
The other day I read in an English  
magazine of several uses of salt. I  
have tried them before and I think they  
may help someone else.

Wringing out a cloth in strong salt  
and water and binding it round the  
throat when going to bed is an excellent  
remedy for sore throats.

If the hair is falling out, make a  
strong solution of salt and water and  
apply it to the head regularly.

A teaspoonful of salt dissolved in a

**DIRECT from FACTORY to KITCHEN**



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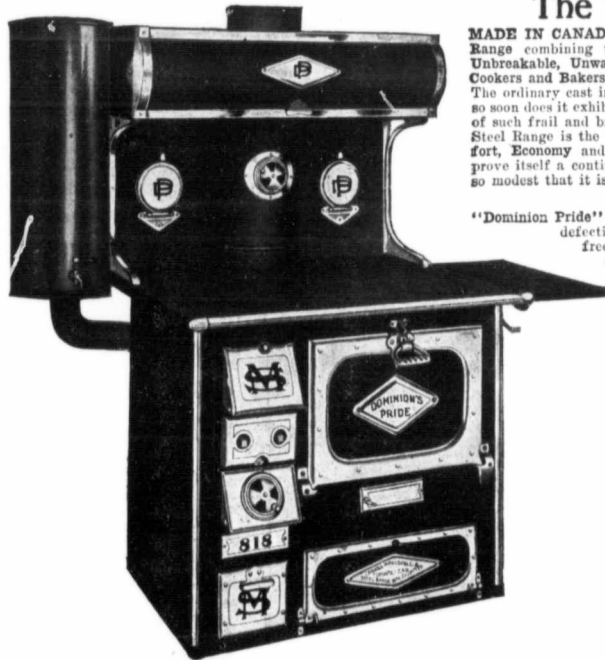
"Dominion Pride" Ranges are sold on the following Guarantee: If any casting proves defective in twelve months from date of purchase, we will furnish same free of charge. The above Guarantee is very broad, no if's or and's, and any casting that would have a flaw in it that we failed to see in the course of construction, such flaw would show long before the twelve months have transpired when fire is put in range.

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Manufactured and Sold only by the

**Canada Malleable & Steel Range Mfg. Co Limited, OSHAWA, ONTARIO**

(IN WRITING PLEASE MENTION THIS PAPER)

tumbler of water is a safe emetic. Salt is a useful dentifrice. It preserves the teeth, keeping them white, the gums healthy, and the breath sweet.

For Neuralgia.—Put some salt in an old iron shovel, place it over the fire stir it with a stick, and when quite hot pour into a thin bag. Apply to any part affected with neuralgia or intense pain. Salt will relieve the pain caused by the stings or bites of insects if damped with water, and applied to the affected part, and bound tightly round with a bandage.

Sometimes I save work in ironing by folding the sheets, napkins and towels carefully and running them through the wringer. I iron the backs of shirt waists, where there are buttons by spreading the shirt waist on a bath towel, buttons down, and iron the whole strip. This prevents any slow drying to iron between buttons and the effect is smooth.

When making starch I add a little coal oil. This whitens the clothes and prevents them from sticking.

If farmers' wives plant the "collars" or tops of horse radish in the back yard they will have a fine lot of horse radish in about two years. It will not be large enough for use the first year.

I am afraid my letter is too long. I hope some others will write telling us about some helps they have used in their house work.

Sincerely  
A Farmer's Wife.  
Weyburn, Sask.

I am glad to print this letter. It contains helpful suggestions.—P. R. H.

To the Editor:—  
The account you give from the Free Press is an extreme one indeed. It is anonymous, a second hand hear say case.

To get such a law farmers are given a bad name that they will not provide for wife and children unless made to do so by law. It is not right to saddle on farmers the injustice of a dower law for the sake of an extreme case. If the case given were true, it was an easy matter to have successfully opposed the farm sale on the ground of fraud, and making a man drunk for the purpose.

This law will affect all farmers and few men outside farmers own land besides an odd town lot.

Why should a dower law only affect men with land, and not touch the townsman, the tradesman, and professional man? Is the farmer a sinner above else? I trow not! He is as generous to his wife as any class of men one could name. One writer wrote once: "A dower law occasions bother and delay when a wife has to go to town to sign papers. Then, too, women are often very ignorant regarding law; and it is an all day task to explain anything to them; many will not give up a notion no matter how unreasonable it is and no matter how much you explain.

"Many men know this and hesitate to place themselves in a position where they must do so much explaining and have such doubtful results."

These are sane words, but they are not the worst that affects a man under a dower law. Such a law actually and really makes the wife master of the farm and the farmer's destiny. They tell us the law does not give the wife control of the farm during the husband's life. But this is precisely what the dower law does. A farmer's wife writes: "I want the dower law, that my man must come home and get my consent before he gets a loan to buy the horse he wants, or to get a threshing rig. He will then find he can do without it."

We may infer she would not consent to a loan or sign his papers. A man is at the mercy and whim of his wife. Women write that few of them would sign for a loan, or run any risk of losing what the dower law gives them.

A wife becomes as the House of Lords to the man and she can over-ride and over-ride his wishes and stop them.

Who brings the farm, the home, the living for two? Not the wife. Gener-

ally she brings little or nothing with her, and often little knowledge of business, law or farming, but she will have "the last say," the final decisive word.

Few men, but feel the need of a loan at some time to buy horses and develop the farm, but the wife can say, "No, you shall not."

We would not object to the law giving the wife half the home at once on her marriage although she brings nothing, as is the case in the Province of Quebec. It is good too, to have a law that if the man cuts his wife out of his will, the law shall set the will aside and give the wife the same rights as is the case where a man leaves no will—she should have a third if there be children, and should have half at least if none. This law should apply to all men alike (not farmers only) the townsman and tradesman and would affect any man who had property or money of any kind, stocks, shares, or business.

I know a case—the wife consented to sign the paper for the sale of the farm and the man was going to buy a better. At the last, the wife refused to leave the old farm—the man was compelled by her to stick on his old worn out farm and lost the deposit he had paid, by his wife's change of mind.

The dower law will bring discord and strife into houses now happy. It does nothing for the wife in the husband's life time, gives her not a cent of income but hampers the farmer. It does not make the bad man good for he will force his wife into doing his will, while it will better the man who is trying to do right. All will depend on what sort of wife a man has. If she is ignorant, selfish, obstinate, or shrewd, then the dower law puts the man in her power all round. A dower law brings in more injustice than it knocks out. Drink is the worst thing for a man, but a dower law does nothing against it—let's vote it out and help the women that way.

I write as a member of The Farmer's Anti-Dower Law Association.  
Yours truly,  
Mr. Farmer.

What a Seattle Woman Has Found Out.  
Your helps are real ones, and I want to help a little too. I have found out that sore or weak eyes can be greatly improved by the sufferer getting plenty of sleep and as much rest for the eyes as possible, then anointing the lids with coconut oil, taking care not to get any of it into the eyes as it will cause them to smart. For a tonic instead of wine or beer try hop tea, making it by steeping and straining two ounces of compressed hops in a pint of water which thicken to a syrup by boiling with it two cupfuls of sugar and a tablespoonful of black molasses. This is also good for coughs and colds and children like it almost as well as candy. More molasses makes it more laxative. Now a final word to sisters who use many sacks of flour and have to shake them after the flour is all gone. Try pinning them to the clothesline then going a good distance away from them and shaking the line they are pinned to. This shakes the bags and saves the eyes, hair and clothes of yourself and your friends.

—Mrs. U. O. French, of Seattle.  
A Suggestion for a Bag Party.  
Once upon a time I belonged to a sewing club to which many of the girls used to bring their work in the most disreputable looking paper packages. They made fun of me and called me old-maidish because I carried a bag, and I made fun of them for not being more particular. At the end of the season I surprised them, inviting in some men and having a real party. I presented each girl with a dainty little sewing bag, fitted up with emery bags, needle cases, thimbles, etc. When the refreshments were served everything possible was handed round in bags. I got the kind of paper sacks groceries come in, and made some colored papers; then each one received her portion of cakes, sandwiches, peanuts, candies. The girls certainly had bags, and there was much fun occasioned by the manner of serving not knowing what they were getting, and each having her share proportioned out to her like little children at some

Experience Extracts  
Pretty Window Plant.

Start a carrot, from a root, in a deep crook with plenty of rich soil and place it in a sunny window and keep well watered. This will grow and almost fill a window with foliage and white flowers.

To Save Ice Cream.  
After the cream is frozen, instead of using more ice for packing, tear newspapers into medium sized pieces and stuff firmly into the freezer. It can be wedged closely together, keeping out every bit of air. The ice cream will be found to be firm when unwaxed and in this way will keep for several hours.

Air Your Hair.  
If you want to keep your hair healthy and in good condition, air it occasionally.

Half an hour spent in front of a sunny window, with your hair hanging down your back, or out of doors with the wind blowing through it, is by no means time wasted. Hair needs air and light just as much as a plant does.

Disinfecting the House.

If you move into a strange house use a plentiful supply of chloride of lime in the closets and cupboards. While it can be used dry it is a very good idea to pour boiling water over a can of it and allow the fumes to fill a room. It is a splendid disinfectant and disposes of unpleasant odors.

A Cure for Insomnia.—An excellent remedy for insomnia, I found, is to bathe the feet in cold water every night before retiring.

If one awakens during the night, and begins to think, get up and plunge the feet in cold water, dry them, go back to bed, and one will go to sleep like a baby. That was my experience after weeks of insomnia.—G. N. McC.

If linens which are not in constant use are put away in dark blue tissue paper to prevent the light from reaching them, they will not grow yellow, and much time will be saved by not having to bleach them each time they are used.—L. B. Clarion, Pa.

To whiten hands and arms take one quarter of a pound of mutton tallow, cut in small pieces, and render it. Then take an old pair of kid gloves, the longer the better, turn them wrong side out and cover thoroughly with the tallow, using a small brush for the work. Turn the wrong side in again and they are ready for use. At night, before retiring, scrub the hands and arms gently with a soft brush, using plenty of warm water and castile soap, then splash warm, clear water on and wipe them dry. Now cut a lemon in two and rub it over the hands and arms, especially where there are stains, draw on the gloves and leave them on all night. Do this three nights in succession and watch the results. Gloves can be used several weeks before putting on more tallow.

Should Hide Their Heads.

Unscrupulous agents pretend that complicated cream separators can be washed by "sousing 40 to 60 disks as one piece." The April 13th issue of a leading dairy and creamery paper contains statements from prominent creamerymen who condemn "sousing." The following extracts from these statements should make unscrupulous agents hide their heads:

"Wash machines every time they are used and not use the 'sousing' method which by agents of complicated machines—this method being very injurious to cream." David W. Hodges.

"I have seen cheap separators fit was an impossibility to clean. The greatest trouble is caused by misrepresentation, regarding work necessary to keep machine clean, by agents whose sole purpose is a sale." Geo. Overton.

"A dirty and unsanitary farm separator is the start of bacteria it is hard to overcome." J. M. Telf.

"It has been demonstrated by tests that it does not pay to have the separator partly clogged with fat." L. C. Shepard.

These statements should decide you to get the only simple, sanitary, easy to clean cream separator—the

SHARPLES DAIRY TUBULAR

The World's Best. The manufacture of Tubulars is one of Canada's leading industries. Sales exceed most, if not all, others combined. Probably replace more common separators than any one maker of such machines sells.

Write for Catalogue No. 530  
30 yrs  
THE SHARPLES SEPARATOR CO.  
TORONTO, ONT. WINNIPEG, MAN.

Just Six Minutes to Wash a Tubful!

This is the greatest washer the world has ever known. So easy to run that it's almost fun to work it. Makes clothes spot-

less clean in double quick time. Six minutes finishes a tubful.

Any man can have a 1900 GRAVITY WASHER On 30 days' free trial.

Don't send money. If you are responsible, you can try it first. Let us pay the freight. See the wonders it performs. Thousands being used. Every user delighted. They write us bushels of letters telling how it saves work and worry. Let the 1900 Washer pay for itself. Just send us 50 cents each week out of the money it saves you. Write to-day for our Free Washer Book. It explains the easy payment plan. Tell us your nearest freight station. Address me personally for this offer.

C. T. D. BACH, Manager  
The 1900 Washer Co., 357 Yonge Street  
TORONTO, CANADA  
The above offer is not good in Toronto or Montreal and suburbs. Special arrangements for these districts.

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USE A CANCHESTER BURNER  
The only perfect burner made.  
The only burner that saves you coal oil because it does not burn off the wick.

Call and see practical demonstration. If interested or if unable—  
Send for Descriptive Catalogue Free  
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THE INCANDESCENT KEROSENE LIGHT CO  
50 PRINCESS ST., WINNIPEG.

Please Mention The Canadian Thresherman and Farmer.

sort of treat. Such a bag affair could be made very dainty, and the idea is capable of much elaboration and fun; it could be made the basis of a guessing contest.

**Repairing Old Blinds.**

If you cannot afford new blinds as a part of the housecleaning remove the old ones from the rollers, being careful to save the short tacks. Make a hem on the unworn end of the curtain and insert the stick, straighten the worn end and tack it to the roller. Always cut curtains with a knife, using a straight edge as a guide for the knife. This makes a clean, smooth cut.

**A Kitchen Calendar**—It is a great convenience to have a calendar with very large figures hanging in the kitchen, not so much for learning days of the month as for remembering dates. If I buy a supply of anything and wish to note just how long it lasts I make a record of when bought on that date on the calendar. Also with other things I wish to remember, such as when eggs were given to a setting hen, the date when Mary's wages or some bill is due, etc. When a month is passed I tear off that sheet—unless it is a calendar with leaves that turn over—and pin it to the back for future reference.—Mrs. S. F. K.

**Waffles**—Sift three cups of flour twice with a heaping teaspoonful of baking powder. Beat two eggs very light; stir into them a pint of milk and beat all into the prepared flour. Add a saltspoonful of salt, a tablespoon of melted butter, and beat very hard for a minute. Have the waffle-irons heated and greased, and try a little batter; if too stiff pour in a little more milk.

**The Cowboy Skirt.**

The summer girl who goes to the mountains or intends to cultivate the walking habit anywhere will need a cowboy skirt, which is merely a plain skirt of yellowish serge crash or linen with a wide belt trimmed with brass. The skirt is worn with a white waist and a large white Panama hat with black chip facing and plain flat bow.

**Double Chiffon Waist.**

Double chiffon in two distinct colors, is made into fancy waists. A navy blue chiffon over a pale green destroys much of the sharp tone of the under material, yet borrows enough brilliancy to tone the blue. It is a waist that closes down the back and the plastron front and collar are piped with black braid ornaments. It is best worn with a navy blue jacket suit and rough green straw hat with deep blue trimmings.

**Spring Wedding Outfit.**

The spring bride should select gray, blue or brown, whichever color best suits for her tailored suit. Gray in its palest tint is very stylish and it has the faculty of combining with almost any color one may wish to wear with it. As a complete outfit the dress should be trimmed with silver and lace on the bodice, and the long jacket should be extremely plain with gray satin collar and cuffs. With it may be worn a gray-blue hat, trimmed with roses and clouded with white chiffon. One prospective bride of the season has chosen a large leghorn hat, trimmed with pink plumes and pink roses, a very good combination to wear with pale gray.

**Recipes**

**Delicate Bacon.**

Dip thin slices of bacon into sweet milk, then dip into flour and fry in a little hot grease.

**A Practical Way to Make Cookies.**—So many recipes that sound "just right" fall far short of our expectations. In making cookies my experience has been that there is more in the method of mixing than in any other recipe, and this is my way of making them:

Cream well together one cupful of butter and two of sugar. Add two or three eggs—according to season and scarcity—then very carefully stir in

one cupful of sweet milk and any desired flavoring extract. Double the quantity is required for cookies than for cake. Sift three teaspoons of baking powder with at least a quart of flour and make a well in the middle—exactly as for biscuit or light bread—and into this pour the mixture. With the hand, work it into a smooth loaf, roll thin, cut out and bake quickly.—Mrs. P. M.

Will any one in the Woman's Department or Boys and Girls Department who has been awarded a prize and has not received it, kindly let me know? The prizes up to date have all been sent out. I wish every recipient would let me know as soon as the prize is received.

Don't complain too loudly when kicked by adversity. Perhaps, when you recover from the shock, you will find that you have been kicked upstairs.

For the cough of croupy children use burnt alum, powdered, and mixed with sugar, about one-fourth alum and three-fourths sugar. Cough will cease almost at once.

Ordinary buttermilk is a better tonic and a better food than ever was bottled or boxed up by the chemist or doctor.

Many good flavors are impaired by careless dishwashing.

An egg cooked in low temperature of long duration is better than high temperature for a short time.

All green vegetables should be salted while cooking; those that grow underground should not be salted until after they are cooked. Both kinds should be put over the fire in boiling water, instead of cold.

**Graham Bread**—This is an old and very excellent recipe. Mix together three pints of luke-warm water, a tea-cupful each of Indian meal and wheat flour, three tablespoonfuls of molasses or a tea-cupful of brown sugar, a tea-spoonful of salt and a tea-spoonful of saleratus dissolved in a little hot water. After these ingredients are thoroughly mixed stir in enough Graham flour to make a dough stiff enough to mould into loaves. Knead thoroughly then set to rise. When light make into loaves and let rise again for three-quarters of an hour. Bake in a moderate oven for an hour and a half, covering the top with brown paper if it bakes too quickly.

An angel food cake can be made pink and white by mixing a little red sugar with a part of the dough. It should be used sparingly and threaded through the cake. When the cake is cut the pale pink lines look like pink veins through the cake. Melted chocolate or dry cocoa is often used with pink and white in making a cake in three colors.

**Old-Fashioned Codfish Balls**—Have a pound of salt cod cut from the thick part of the fish and soak it over night. In the morning drain and pick into shreds with a fork, being careful to remove all bits of bone and skin. To every cupful of the shredded fish allow two cupfuls of freshly boiled mashed potato and mix the two together in a warm bowl while the potatoes are hot, adding to every cupful of cod and two of potatoes, one tablespoon of butter. Beat very light with a fork and season with white pepper. When perfectly smooth make into cakes with the floured hands or two tablespoons, flour the cakes slightly, then fry very slowly in half butter and half lard. The cooking should be so slow that a brown crust forms over the cakes. Garnish with parsley. Some cooks boil the freshened cod with the potatoes, then shred afterwards, but this usually makes the cakes too salt for the average taste.

**Delicate Ham.**

Take a thick slice of raw ham. Blend a teaspoonful of sugar and a teaspoonful of mustard and rub into the ham. Cover with a cupful of milk and bake one hour. This is delicious.

**SPECIAL OFFER**  
**For Blue Ribbon Cook Book**

It is a clearly printed book of handy size, telling briefly and simply just what to do, and what to avoid, to obtain best results; how to get most nourishment from foods; how to combine and serve them attractively. Everything is so conveniently arranged and indexed that any information desired may be easily found. The parts telling about Cooking for Invalids and Home made Candies would alone make this book a necessity in every home, and all other parts are equally good.



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### Mothers' Corner

The Love for Children.

By Eva J De Marsh

The sweetest, truest thing in God's universe is the love of a pure woman for a little child. God pity her whose pulses never quicken with a sense of responsibility at the touch of baby fingers and the sound of childish voices, into whose eyes no loving soul looks for counsel and guidance.

Perchance you and I must walk life's path alone, but none the less we can love and be loved. By the thought of the little dream children which alone can be ours shall we give our love and sympathy to each child we meet, and most of all to those children to whom mother-love is denied.

Alas for the woman who, having paid the price of her soul for love, dare not wear the crowning glory of motherhood who must abandon her child to unknown care. Let us gather to our hearts and mold aright these little out-cast ones. Bright and sweet and loving are many such children. Hereditarily, though strong, is not so potent a factor in our lives as many suppose. Right training can do much to overcome or modify undesirable qualities. Begin early, very early, and the child-soul will expand and develop much as you will.

One of the sweetest, brightest children I ever knew was a homeless waif reared from infancy in a good, Christian household. Her clear eyes, depths held no shadow of sin; no taint of weakness or lawlessness was in her manner, and to every one she was a constant source of joy.

One of our greatest moulders of public sentiment during the past century was but a doorstep foundling. God had a work for him to do and not by chance did he lie at a good man's door. For, given other environments, and who shall say that this man might not have been as potent a factor for evil as he has been for good?

Not for a moment would I sanction unbridled yielded to passion, but I cannot find it in my heart to crush one of God's creatures nor to allow any of His lambs to wander unloved and uncared for. Human souls are too precious.

We owe the world all the beauty of face and form and soul that we can encompass. Not to ourselves alone do we live; only as we give do we receive, what nobler task than to turn deformity into perfection, out of the slime of sin to bring forth the beautiful lily of grace? Not by loud rantings or the applause of multitudes are our highest laurels won. The un fading crown is hers who, hour by hour, day by day, year by year, walks hand in hand with God, whose gentle influence falls softly though none the less surely, on husband and children and who is satisfied that earth holds no fairer gift than to be the mother of brave sons and pure daughters. It is to women such as these that the world owes its saints and heroes. The wide-spread influence of good mothers—who dares say how far they reach, through how many vistas of years?

The demand for equal rights and privileges, the decrying of manhood, the belittling of wifehood and motherhood, the seeking for public applause, are in most cases but the outward manifestation of a vague unrest whose source is not understood or, being understood, is ignored. Because wifehood and motherhood have been denied her, or because in some way she has been disappointed, many a woman seeks surcease through recounting these things of little worth. Because her own heart aches, she seeks to crush all hearts as well. Intellectual and spiritual gifts are to be cultivated. All honor to the women who by voice and pen stir the world. We need them—but the sweet, loving, motherly woman, how we should miss her. Men can be good and kind, but there is nothing quite like the touch of a woman's hand, the smile that comes from her heart, then tenred voice that soothes a baby's woes, or the loving fingers that bind up bruises.

Many mothers from the old country do not seem to realize that this is a different climat. I have seen well-dressed mothers go down street with their children who wore low socks

and their little bare legs were purple with cold.

Most of our summer evenings here are too cool for socks. It will create stomach trouble later. Their little legs should not be subjected to the cold.

Never frighten children into obedience. The mother who holds up the "bogy man," "big dog," etc., as objects of terror to her children cannot be too harshly dealt with, for they may be destroying a fine mind. More than one child has been made a nervous wreck through fear.

A certain physician was noted for his brusque manner and old-fashioned methods. A lady called him in to treat her baby, which was slightly ailing. The doctor prescribed castor-oil. "But, doctor," protested the mother, "castor-oil is such an old-fashioned remedy." "Madam," replied the doctor, "babies are old-fashioned things."

#### Two Sewing Hints for Mothers.

A baby outgrows the sleeves of its dresses before any other part and, therefore, the sleeves are made too long at first and then pinned up or held by elastic bands both of which ways are unsatisfactory. Here is a better plan: Make the ordinary one seam sleeve, closed with a "French" seam, take No. 8 thread, fasten by a couple of stitches to the inside of the wrist band at seam, then using the head of your needle as a bodkin run thread up through seam and fasten to armhole. You can draw in the seam to make any length sleeve. The gathering is not noticeable when worn and the sleeve can be lengthened by a minute's work.—Mrs. R. J. P., of Wisconsin.

In making children's skirts run a tuck around the waist instead of the skirt for lengthening, also in making gathered sleeves in dresses or aprons, run two or three short tucks, about one to one-half inch long, across the seam of the sleeve, then when it needs lengthening it is a small matter to rip out a tuck or so.—Mrs. J. H. E., of Pennsylvania.

**Codfish Soup**—This is quite as nice in the estimation of many as clam or oyster soup. To make it, freshen half a pound of salt cod, cut in small pieces and add two pared and diced potatoes, covering with hot water and cooking until the potatoes are beginning to soften, then pour off the water and turn in a quart of milk which bring to the boiling point. Season with a tablespoonful of butter, white pepper and a very little salt, then pound two Boston crackers fine and stir in. Serve very hot with small toasted crackers as an accompaniment.

Pond lilies may be simulated nicely with eggs on a table mirror for a centerpiece. The lilies should not be crowded. Hard-boil as many eggs as are required and divide them into sections—six lengthwise. Remove the yolk when dividing the egg in half, mince it up and press together with a little mayonnaise. To make the lilies, spread out the sections, curved side up, in lily shape, and place a little of the yolk molded round for the centre of the flower.

**Cake Without Shortening**—Take a coffee cup quite full of unsifted flour, same cup three-quarters full of granulated sugar, two even teaspoonfuls of good baking powder. Stir these ingredients while dry in a dish, take same cup, break into it two eggs, beat well with teaspoon, pour sweet, thin cream over beaten eggs until cup is full, pour over the dry mixture in dish, beat rapidly until smooth, flavor with lemon or vanilla. After pouring into a baking pan sprinkle top with sugar, bake quickly.

There is one good thing about football, you don't have to play it.

Blessed is the chaperon, who, never wants to take up all the room.



The entire ground floor of this magnificent 12 storey building the highest in Western Canada, situated at the corner of Main & Portage, will be occupied by D. R. Dingwall Ltd. diamond merchants, jewelers and silversmiths, about June 1st.

Mr. D. R. Dingwall and Mr. D. W. Dingwall have just returned from Europe where they purchased an enormous stock for the opening. The fittings of the store are imported and very handsome and the firm extends a cordial invitation to visitors to inspect their new premises.

We are now busy on our 1910 Catalogue which will be larger and finer than any previous issue. We would be very pleased to have your name on our mailing list as also that of any of your friends who would appreciate a copy. Send us a post card with names and addresses.

### About Women

Backed by the New Era Club, which includes all the most influential women in New Orleans, Miss Jean Gordon, factory inspector, is fighting the employment by first-class theatres of children.

and quicker to buy such things. In the second place, woman's sphere is greater than formerly. When a woman finally achieves the ballot, it will be her influence that will reduce living expenses and cut down the abnormal tariff."

Lethbridge, April 2, 1910

Dear Editor.—We have taken the Canadian Thresherman and Farmer these three years and I would like very much to have your cook book. I am sending you a few of my ideas I have tried and know to be good.

As it is spring I will give you my way of planting potato onions. I cut them in four pieces and they grow better and bigger.

Place tea grounds around the roots of ferns and you will be rewarded with a rich growth of leaves; frequently change the leaves.

I hope some of the housewives will try these things. I will send you some more again. Yours truly, Mrs Frank Budd.

Please write again, Mrs. Budd, your ideas are helpful. P. R.

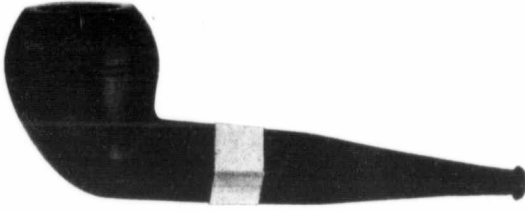
When Prof. Fredericks Deiber, of the department of economics of Northwestern University, declared in speaking before the Evanston Woman's Club that "one of the main reasons for the high cost of living is the fact that women's work is no longer conducted along productive lines," he started a controversy that promises to be long-lived. No sooner had the statement been made than Mrs. C. H. Zimmerman, one of the members, arose in the interests of maligned womanhood, and fixing the speaker with a piercing glance, remarked:

"Women certainly do not knit the stockings of the family any more, nor bake the bread, nor do lots of other things. The reason is quite plain and practical. In the first place it is cheaper



# Free Awards for Securing Subscriptions Free

## The Canadian Thresherman and Farmer



The pipe shown herewith is made from very fine clean briar, and it is fitted with a black vulcanite mouthpiece. The bowl and mouthpiece are well proportioned and highly polished. Pipe smokes very easily, and the bowl is of sufficient thickness so as to always keep cool. The above illustration is about three-fourths actual size.

Given with one year's subscription for The Canadian Thresherman and Farmer at \$1.25 a year or given for two, one year subscriptions at \$1.00 a year.



**MYERS**  
Famous Lock Stitch  
SEWING AWL

**Sews Leather Quick**

Above is shown the famous Myers Hand Sewing Awl. For repairing harness, etc.

Given with one year's subscription for The Canadian Thresherman and Farmer at \$1.50 a year or given for two, one year subscriptions at \$1.00 a year.

### Thresherman's Settlement Book

This combination, settlement book and account book is so arranged that it provides a full statement of the Threshing account, a receipt which can be given to the farmer, also a lien note which can be signed by the Farmer in acknowledgement of the account, thus not only protecting the Thresherman, but the farmer as well. The book also contains simple easily kept tabulated forms, to assist you in keeping account of expenses.

The book is of such size as to be conveniently carried in the pocket, and is durably bound in stiff board covers.

Single copies 50c., six copies \$2.50.

Given with a year's subscription for The Canadian Thresherman at \$1.25 a year or given for two, one year subscriptions at \$1.00 a year.

#### Any of These Books

Given for one year's subscription for The Canadian Thresherman and Farmer at \$1.25 a year or given for two, one year subscriptions at \$1.00 a year.

- Rough and Tumble Engineering (cloth cover)
- Farm Engines and How to Run Them (cloth cover)
- Gas and Oil Engine Hand Book (cloth cover)

#### Any of These Books

Given for one year's subscription for The Canadian Thresherman and Farmer at \$1.10 a year.

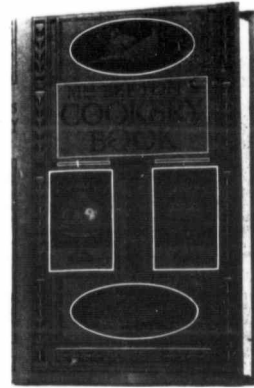
- Photography Self Taught (paper cover)
- Modern Steam Boilers (paper cover)
- Plain Gas Engine Sense (board cover)



**This Strong Single Bladed Jack Knife, is six inches long, and has a good strong, wide blade of "IXL" Steel.**

The knife is very heavily built throughout, and yet when closed is not too large for convenient carrying.

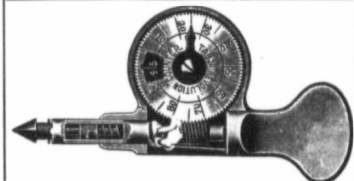
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**Mrs. Beeton's Cookery Book**

New 1909 edition. Containing nearly 400 pages and with over thirty full page illustrations.

This Standard Cook Book, nicely bound in cloth, given along with one year's subscription for The Canadian Thresherman and Farmer at \$1.25 a year or given for two one year subscriptions at \$1.00 a year.



**Tabor Stop Motion Speed Indicator and Revolution Counter**

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**Coleman Adjustable Knife Gauge and Lace Leather Cutter**

This is an attachment which fits an ordinary jack knife, and forms an automatic gauge for cutting belt lacing, etc., from 1/4 to 1/2 inches wide. Each gauge is fully warranted by the manufacturer.

While they last, we will furnish a Coleman Adjustable Knife Gauge and Lace Leather Cutter with a year's subscription for The Canadian Thresherman and Farmer at \$1.10 a year.

Send all Subscriptions to

**E. H. Heath Company Limited, Winnipeg, Canada**

Remember all Canadian Thresherman and Farmer subscriptions are positively discontinued when they expire



### THE Girls' Cozy Corner

#### Little Johnie-Jump-Up.

By Julia Grace Gilbert.  
When little Johnie-Jump-Up poked his head above the ground,  
He winked his saucy yellow eyes and then he looked around,  
And saw the sunshine all about and blue sky overhead  
"I'm glad I bl-somed out in such a pretty world!" he said.  
"I'm glad the grass is all so green, the earth so warm and brown!  
I'm glad I have a yellow hat and such a pretty gown!  
And I shall stand here all day long and say to everything  
That looks into my happy face  
It's spring, you know! It's spring!"

Dear Girls:—I am pleased with your letters. Let every one write a letter for our department. Next month a new serial story for girls will begin. I think you will enjoy it.

With very best wishes to everyone of my girls in the Cozy Corner, I am,  
Sincerely,  
Cousin Doris.

#### GIRLS' PRIZE LETTER.

Glenavon, Sask., April 15th, 1910.

Dear Cousin Doris:—I have been a constant reader of your valuable magazine for some time so I thought I would write and tell you of one of my games. This one is a very amusing game; it is called "Fox and Goose." As many people as would like can play it. First a whole lot of people sit down on the ground so as to form a circle. Then there are two people chosen to be the "Fox and Goose." The Goose sits in the centre of the circle and the Fox is outside. Then the Fox says to the Goose: "What are you doing in there?" The Goose says, "Eating my dinner." Then the Fox says: "Well get out of there or I will chase you." So the goose starts to run around the circle and the Fox chases her. The Goose has to run through among the players and the Fox has to do whatever the Goose does, and try to catch the Goose too. The game can be played as long as liked.

I am very fond of baking. I can bake large cakes, pies, biscuits and my mamma taught me how to bake bread. I go to school every day. We live within a mile of Glenavon so I have not far to walk to school. The country around here is rolling land with very few trees except a few bushes around the sloughs. I will close hoping to see my letter in print and wishing your magazine every success. I will remain, you cousin,  
Jean Barber.

This is a very nice letter, Jean. Will you write us a letter telling the girls in our Cozy Corner how you bake some of the cakes, pies, biscuits and bread? We all want to be good cooks.—C. D.

Dear Cousin Doris:—I received your most welcome book which I thank you ever so much for. It is very cold. We have dug a new well. In the night

they were digging and they left the spades and things down the well and in the morning there was 15 feet of water. I am now going to school. Well, I wish I could get some more books as I am very interested in reading. I like books from your club as they are very good. I bring them to school and let the teacher see them, she says that the Editor is very kind. I hope to receive another book. Yours truly,  
Miss Olga Setrude, Box 31,  
Young, Sask.

Dear Cousin Doris:—This is my first letter to your interesting club and I hope to see it in print, we all like it very much. I am fourteen years old; I have a brother younger than me and seven sisters and two brothers older. We came here from Ontario eight years ago.

We have about fifty head of cattle. They nearly all stay out in the bluff where they are fed in winter. I have a little black kitty, he is very playful, his name is Darcy I had another black cat but something happened him. I think the wolves have eaten him. I would like very much if some girls would correspond with me. Well I guess I will close my letter now, wishing the club every success, your cousin,  
Thirza Gillies, Gillies P. O., Sask.

Lyleton, Manitoba.

Dear Cousin Doris:—Seeing so many nice letters from girls from all parts of the Dominion and not seeing any from this part, I thought I would write a short letter to you. I came out from the mother country just three years ago and now I live on a farm and help mother with the work. I like housework very much and also farming. It's so nice to be able to get out to the barn after a hot day's work in the kitchen. I can cook quite a number of cakes and different things. I prefer housework to cooking, but a girl must do some work she does not care a great lot for.

I must say I think you have picked a sweet name for the girls' department, and we girls must make it as cozy as we can. I love music and singing, and think it a lovely pastime. I wonder how many of the C. C. girls like singing? Do you, Cousin Doris? We generally plant quite a number of flower seeds. I think there is nothing so nice as flowers. Now, I must not take up too much room in your valuable paper. I like the Canadian West fine. I now conclude, hoping all the C. C. girls are well. I sign myself, "Prairie Lass."

This is a lovely letter. Yes, I like singing very much. Will you tell us how you make some of your cakes?—C. D.

Wadena, Sask., April 6th, 1910.

Dear Cousin Doris:—I am going to describe my favorite game, which is "Round Ball." First of all two people are chosen from among the crowd to be captains. The two captains then stand opposite each other about three feet apart, one holding the bat in his hand. The person holding the bat in his hand throws it to the other person, who catches it. They then each put one hand turn about on the bat and the one who gets his hand on the end two out of three times chooses the first person. When the sides are chosen the captains

again throw up the bat to see which side will be in first.

Four bases are then placed on the field at an equal distance apart so as to form a square. The side that is in have the bat. They each take a strike turn about standing at home base. They get three balls and they have to run the third whether they strike or not. There is a pitcher's box in front of the home base in which the pitcher stands and behind the base the catcher stands. The other men spread out in the field to get the ball. If the person that is striking strikes the ball and it is caught before it touches the ground they are out. If a person running from one base to another gets hit with the ball he also is out. When only three are in, if the first that strikes goes to second base and waits there until the last one strikes, then runs to third, they get a free base home—the other two also get a base—but if the first striker went ahead to third base they have to come home when the last one strikes. When only two remain in, all are counted out.

This is a very popular game and is played at most schools. I remain, yours sincerely,  
Katie Bennett.

I played this game when I was a girl at school, Katie. You write a beautiful letter.—C. D.

Chaplin, Sask.

Dear Cousin Doris:—I am eleven years of age. I saw in the Canadian Thresherman that I could get a prize book for sending you the game that I like best. This is the game I like, Earth and Fire and Water. To play this game, seat yourselves in a circle, take a clean duster or handkerchief and tie it in a big knot so that it may easily be thrown from one player to another; at the same time calling out either of these names, Earth, Air, Fire or Water. If Earth is called the player to whom the ball is thrown has to mention something that lives on the earth, as lion, cat; if Air is called something that lives in the air; if Water something that lives in water, but if Fire is called the player must keep silent! Always remember not to put birds in water or animals or fishes in the air. Be silent when Fire is called and do not answer until ten can be counted. For breaking any of these rules a forfeit must be paid. Hoping my letter will escape the waste paper basket. I remain  
Laura B. Burroughs.

This is a splendid game, Laura.—C. D.

Hope Farm, Rapid City, Man.

Dear Cousin Doris:—This is the first time I have written to your paper. So I am now trying to write to see if I can win a prize. My father takes the "Canadian Thresherman." I like it very much. I am now going to tell you my most interesting game, that is the game of "Billiards." We have a big table which is padded all around and covered with green baize. Then we have three balls—one red, the other pink and another white. Either two or four can play this game. One has the pink ball, the other the white, and the red one is put up in front of the table. We have a long cue which we shoot the balls with. If your own ball hits the red and goes in the pocket it counts three but if it misses it, it is three to the other one. But if we hit the two

balls it will count as two. That shot is called a "canon." Therefore the one who gets a hundred first wins the game.

I will remain yours sincerely,  
Gertrude Meadows.

Your letter is nicely written Gertrude.—C. D.

Dear Cousin Doris:—I wrote to your paper several times while I lived in Manitoba; one of my letters got honorary mention. My brother takes the Canadian Thresherman and we like it very much. I always enjoy reading the letters of the girls and boys that write to your paper.

My favorite game is Poor Pussy. All sit around in a circle and one has to get down on their knees and act like a cat. The one that is pussy goes to one of those in the circle and mews three times. The one who is kneeling has to say poor pussy three times without laughing. If they laugh they have to be pussy.

We take up history, geography, memorization, reading, drawing, and painting; my favorite studies are memorization, reading, and painting.

Well I will close wishing your paper success. I remain, your loving cousin,  
Ruby Mildred Thompson, (age 10 years.)

Your game is interesting Ruby. I think our girls will have fun playing it. C. D.

### THE Canadian Boy's Camp

Mr. Nobody.

I know a funny little man,  
As quiet as a mouse,  
Who does the mischief that is done  
In everybody's house.  
There's no one ever sees his face;  
And yet we all agree  
That every plate we break was cracked  
By Mr. Nobody.

'Tis he who always tears our books,  
Who leaves the door ajar;  
He pulls the buttons from our skirts,  
And scatters pins afar.  
That squeaking door will always squeak  
For, prithee, don't you see,  
We leave the oiling to be done  
By Mr. Nobody.

He puts damp wood upon the fire,  
That kettles can not boil;  
He's are the feet that bring in mud,  
And all the carpets soil.  
The papers always are mislaid:  
Who had them last but he?  
There's no one tosses them about  
But Mr. Nobody.

The finger marks upon the doors  
By none of us are made;  
We never leave the blinds unclosed,  
To let the curtains fade.  
The ink we never spill; the boots  
That lying round you see  
Are not our boots; they all belong  
To Mr. Nobody.

Dear Camp Boys:—We are beginning a serial story this month that you will like. I am pleased with your letters, and hope every boy reader will write

# HAIL HAIL HAIL

Loss Claims Paid Last Year - - - - \$87,854.81  
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## RATES OF INSURANCE FOR 1910:

From 20c. to 40c. per acre, according to number of times crop has been hailed  
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Insurance Written in Manitoba Only

to our camp. Let me know if you enjoy our Canadian Boys' Camp. With very best wishes to you all, I am sincerely, Cousin Doris.

### BOY'S PRIZE LETTER.

Dear Cousin Doris:—I saw my last letter in print but I did not get a prize. I will tell how to play Leap Frog. It is a game for boys only. On a long piece of ground, the boys stoop down about ten feet apart. The hind one runs to the next and puts his hand on the next one's shoulder and pumps over. He goes on till he gets ahead and then the first one he jumps over goes next. The boys follow up like this till they are tired. I have been very sick lately and am better now. It did not turn to any disease. I got hot at night and when I was asleep in the daytime I went out of my head almost. I was talking and thinking I was hurt. Before I was sick I did not drink much water, but now I like a lot of water. I was sick two nights and two days. I have walked to Oakland five times. It is two miles and a quarter. It consists of a church, a manse, a station, two elevators, a general store, a lumberyard, a blacksmith shop, a skating rink, and a few residences.

We have not started our spring work as it is too early. I think we will make up for this sort of weather in April. Do you? I will close now wishing the club every success. Yours affectionately, John Blair, Jr. Oakland, Man.

I am sorry you were sick, John. I hope you are better.—C. D.

### Sunny Side Farm, Hartney, Man.

Dear Cousin Doris:—This is my first letter to you. I have taken the paper for a long time and I think it is just fine and I like to read the letters in the paper. I am going to tell you about the game I like to play. The boys and girls form a circle, then a boy puts on some bells and goes into the circle, then another is blind-folded and given a bag filled with hay and goes into the ring and the one with the bag tries to hit the other. I hope my letter will be in print I am sure it is too poor to win a prize. I remain yours truly, Stirton Aikenhead, Hartney, Man.

Your letter is nicely written, Stirton. You may win a prize next time.—C. D.

### Beaconsfield, Man., April 16, 1910.

Dear Cousin Doris:—I am writing time to write a few lines to the Loys' Camp.

I live on a farm eight miles from town. I go to school. I am thirteen years old, I help the men on the farm, such as harrowing, plowing and packing. I have three brothers; they are regular bums in the winter. I look after the cattle and pigs and sheep. We have twenty cows, five pigs, thirteen sheep. We have a shot gun. My brothers and myself shoot chickens and geese. We have great fun snaring gophers and trapping. There are not many fish in our river but we catch a lot of clams. We do not eat them but we catch them just for fun. My favorite game is baseball, we play it at school. Well I guess I will close hoping the club a good success. Yours truly, Gordon Gorrie.

This is a nice letter for our club, Gordon.—C. D.

### Brokenshell, Sask.

Dear Cousin Doris:—I will write another to you and let you know I got the book you sent me I like it very well. I've got a 22 caliber rifle for selling \$5 worth of picture postcards. One day I shot a wolf and I sold it and got \$1 for it. I have shot a few jack rabbits and chickens. One night a weasel killed six of our chickens and three kittens. Wishing your paper every success. Albin Erickson.

Tell us more about your hunting experiences, Albin. Letters about hunting experiences would be interesting to the boys in our camp.—C. D.

### Lavenham, Man., April 2, 1910.

Dear Cousin Doris:—The game I will describe is called "Sling the Monkey." This is a capital game, and can be played anywhere there are trees. One player is chosen by lot takes the part of the monkey, and is fastened to a tolerably high limb by a strong cord knotted in a bowline loop and passed around the waist. The other players now paste the monkey with knotted handkerchiefs and he armed in like manner endeavors to retaliate. If he succeeds in striking one of them he is at once released and the other takes his place as monkey. He must make haste in doing it or he may be pasted until he is fairly in the loop. With players who don't mind a little buffeting this game becomes exceedingly lively.

An active monkey is very difficult to approach safely and of course gives much more life to the game. The cord should just be long enough to enable the monkey to reach the ground comfortably under the branch. Half the

game lies in the actual slinging of the monkey one of the most effective ruses is to throw himself forward on the rope, pretend to start off in one direction and then come back with a spring in the other. The branch to which the cord is attached should be some considerable height from the ground or there will not be enough play in the rope. As my letter is getting long I will close. I remain, your cousin, Clarence Dobbin.

This is a splendid letter, Clarence. It nearly won the prize. C. D.

### Hillsley, Sask, April 15, 1910.

Dear Cousin Doris:—This is my first letter to your club, and I hope it will escape the W.P.B. I read in your valuable paper that you gave prizes, so I thought I might as well have a little say, and try my luck at writing a letter and telling you about my favorite game which is called "Horse-Shoes." The things needed are a pair of boys, each provided with a pair of horse-shoes and two stakes with sharp ends. You take and drive the stakes in the ground about ten (10) or eight (8) paces apart; now one boy throws his shoes and tries to throw them over the stake, and then the next boy tries his luck at throwing at the stake. The counting comes next.

If one shoe goes over the peg it counts three and if it leans against the peg it counts two but if there are no ringers or leaners they count like this. If one boy's shoes are closer to the peg than the other boy's he gets two and if one is nearer than the other boy's and his own one, he counts (1) one, (25) twenty-five is the game. I remain very truly yours, M. C. Gordon.

### Pies that Mother Never Made

Pies which were considered very annoying in olden times—Harpies.

Pies that schoolboys usually dislike—Copies.

Pies that consider themselves quite swell—Chappies.

Pies that might bite you—Puppies.

Pies that are noisy and michievous—Maggies.

Pies that we might sit under—Canopies.

Pies that prance around the water—Kelpies.

Pies that are placed on the table but never eaten—Nappies.

### The Ariel Scholarship

By Clarence B. Kelland

SINCE he had been a very little fellow Robert Hammond spent his Saturdays, and much of his vacation time, in the machine-shop of the Hammond Steel Castings Company, of which his father was the owner. The love of machinery seemed to have been born in the boy, for even in his babyhood those toys which include some mechanical device had lured him from his drums and blocks and woolly animals, and as soon as he was able to handle a jackknife his chief pleasure was in constructing marvelous contrivances out of spoons from his mother's work-baskets. While these contraptions consisted merely of string belts and spool pulleys, nevertheless Robert never tired of putting them together and taking them apart again. And when his father bought for him a real engine that ran by steam, and which was powerful enough to operate his crude mechanism for him, he was happy indeed.

So it came about that his father regularly entered him as an apprentice in the machine-shop at the mills, and the little fellow began his studies of mechanics at an age when other boys find no pleasure outside of romping games. He was a quiet, earnest lad, and the rough mechanics and mill hands soon became his fast friends. In fact, they were very proud of him and of his promise of future skill. But he had no friend like old Tom Sands, and this man, grown gray at his trade, took Robert under his wing and determined to teach the lad his trade as never apprentice was taught before. It is likely that at no time was there a more enthusiastic apprentice. Robert was tireless at the work; the whirr and hum of the machinery made the finest music he knew, and the one spot on earth that held most pleasure for him was the noisy, smoky maze of the machine-shop.

Rarely did he miss a Saturday at the shop, and when the long summer vacation came, he spent the greater part of it in overalls and jumper at his bench beside Tom Sands. He was but ten years old when he first entered the machine-shop; now he was sixteen, and would complete his high school course in another year. Then it was his intention to attend the best technical school to be found and to make of himself a thorough, competent mechanical engineer. During the seven years he had given to the work he had learned quickly and willingly, and, while he had

spent comparatively little time in the aggregate at the trade, he had brought to it a keen brain and a ready understanding, so that his progress had satisfied even Tom Sands. In fact, the old man said privately that Robert was as good a mechanic as ever stood at a bench in the mill. No praise that could be given the lad would have pleased him so much as those words of Old Tom's, but that worthy was careful never to let the boy know of his good opinion.

Besides his practical work in the shop Robert had mastered no small amount of the theory of mechanics. Greedily he had devoured such works on the subject as were within the range of his understanding, and many times he was able to give Old Tom the reason for that of which the old fellow knew only the process.

Robert's father was very proud of his son, too. One of their chief occupations when together was the discussion of Robert's future. They had at hand catalogues of various colleges and universities, and debated their respective merits exhaustively. After many months of these conferences both agreed that Robert should be sent to the Boston School of Technology. The decision was an event, and Robert felt that it was one of the most important settlements he would have to make in his life.

For several weeks, however, Robert had seen that his father discussed the matter with some lack of enthusiasm. It appeared to the boy that Mr. Hammond was thinking of something else all the time he talked, of something that worried him and which he could not throw from his mind. This vaguely troubled the boy, yet he did not feel that he could ask about it, for he knew that his father would take him into his confidence when he deemed it advisable. None the less the boy could not help worrying simply because he saw his father was disturbed and though he had no idea of the cause, however he was not long kept in entire ignorance.

Saturday when he appeared at the shop Old Tom did not greet him with his accustomed heartiness. The old fellow's smile was somewhat wry, and over the entire room there seemed to hang a sort of gloom. The men went glumly about their work, and there was not the joking and laughter that usually was present at the beginning of the day.

"What's the matter with everybody?" Robert asked of Tom Sands. "You act as though you had just come from a funeral."

"Tain't no funeral, Bobby," said the old fellow slowly. "Tain't no funeral—but it's like to be sadder than a funeral some ways. I was in this shop under your grandfather, Bobby, when 'twas just a little place, and I've seen it grow and grow. Man and boy I've been here over forty year, and in that stretch a man's like to become attached to a place. Sometimes it seems like I couldn't bear to leave it."

"But you aren't going to leave it, are you, Mr. Sands?" Robert queried anxiously. "The mills couldn't get along without you."

"No, Bobby, I never shall leave—not if I can help it. You'll see me here as long as my health holds out or the mills are running."

Robert looked at his old friend keenly to discover if there were any traces of illness in his wrinkled, leathery face. But Old Tom seemed hale and hearty and likely to outlive many men far younger than himself. It made Robert think, and he repeated the old man's words to himself: "You'll see me here as long as my health holds out or the mills are running." At once the boy thought of his father's worries and his heart grew heavy within him.

"What is it, Mr. Sands?" he asked slowly. "Is anything wrong with the mills? Is it possible they are going to shut down?"

Sands glanced at Robert sharply. It was evident that the boy knew nothing of the troubles that had overtaken his father.

"It's not for me to be telling him," thought the old machinist. "He'll find out soon enough without." So he merely grunted in answer to Robert's question and then said sententially: "What'd

the mills be closing for I'd like to know?"

But Robert felt that something was wrong, and the day's tasks lost all their pleasure for him. He longed for the hours to pass so that he might go to his father and ask him all about it. Now that he thought his father's troubles concerned the mills, about which they talked and planned so together, the boy felt that he had a right to know. After a dinner which lacked the usual gaiety and bright conversation, Robert followed his father into the library and remained standing near the table while his father sank into a big chair. It was some time before the lad could muster up courage to broach the subject. At last he stammered out his question.

"Is anything wrong with the mills, father?"

Mr. Hammond looked penetratingly at his son. Then he answered as man to man.

"Yes, Bobby. Something is very much wrong—so wrong, indeed, that I'm afraid we will have to shut down at the end of the month for an indefinite time."

Robert turned away without a word. He went to the window and looked out for a long time at the moonlit street, but his eyes did not see the familiar lawns and houses, nor did they take account of the few straggling passersby. His every thought was of the mills—the mills that he loved and which had become so much a part of his very life. It was not the financial loss that saddened him—of that he had little understanding or appreciation—it was the closing of the mills, the dying of the whirring machines. It was as if he heard the heart of some dear friend would soon cease to beat.

At last he turned and laid his hand on his father's shoulder. "It can't be helped, can it dad? And—and—if they must close we will get to work to open them again as soon as possible."

His father smiled and laid a hand over his son's.

"That's the right spirit, Bobby. We won't quit until we have to, and then we'll start all over again if it's necessary. We'll stick together, you and I, and who knows what we can do?"

There was a long silence, which Mr. Hammond broke at last. "This will mean more to you than it will to the rest of us, Bobby," he said sadly. "It will mean that we will have to do without many things; and that we will have to get along on a very little money. It will mean—" Somehow Mr. Hammond did not have the heart to break it to his son; but Robert divined what he would have said.

"It will mean that I will have to give up college next year," he half whispered. Then he straightened his shoulders manfully. "It won't mean any such thing," he declared. "Other fellows have worked their way through, and I guess I can do the same."

"Good work, Bobby," his father said warmly, and there was real pleasure in his smile for the first time in weeks. "That's the spirit. We'll win out yet—you and I."

At the end of the month, as Mr. Hammond had predicted, the mills were forced to shut down. Robert mourned, but he mourned silently and alone. Never did he allow his father to see by the slightest indication that he had taken the matter so to heart. He was cheerful, and whistled about his work as usual, but on Saturdays he tramped off across the river to his old place in the machine-shop and there spent the day among the silent lathes and inactive tools.

The spring was now advancing, and soon it was June and time for the end of the school semester. For some weeks before this event it had been noised about that a great inventor, of whom the city of Hilford was very proud because it was his birthplace, was coming to address the graduating class of the high school. In the interest of looking forward to seeing and hearing this man, who had long been his personal hero, Robert forgot his sorrow in a measure, and when it was announced officially that the address was to be upon aeronautics, the boy was filled with delight.

Continued next month

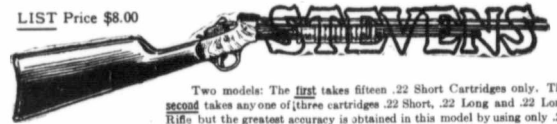
# CROP PROTECTION

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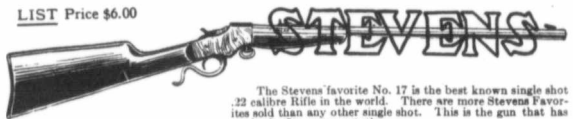
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Crackshot No. 16	4.50	Ideal Rifle No. 44 (man's heavy Single Shot Rifle)	10.00
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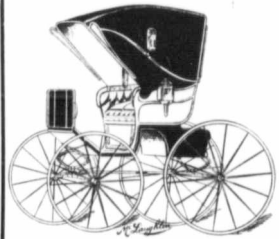
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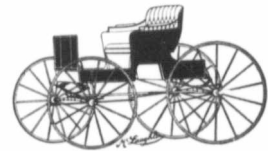
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### Successful Butter Making on the Farm

To be able to produce good butter in large or small quantities there are certain well-developed principles and methods of handling, the knowledge of which is essential.

The purpose of this article is to set these forth in a simple and practical manner, adaptable to every day farm work and management.

**Milking.**—Every dairy farmer can improve the quality of the milk produced on his farm without much labor or expense. Generally speaking, if the milk is not clean-flavored, the butter produced from such milk will also be unclean in flavor. All utensils used in connection with milk must be clean. Scrub them well with a brush and water containing sal soda or a good washing powder. Soap is not to be recommended, as it invariably remains in a thin film on the washed surface. A cloth should not be used for washing utensils. They are rarely, if ever, clean enough for the purpose.

After a thorough application of the brush use scalding water. A good method is to prepare the boiling water in a large enough kettle or boiler, so that each utensil may be dipped in it and left there for a short while. They may then be placed on a rack in the sun and fresh air until used. A rack is always better than the ground or grass, because of the innumerable bacteria which are

found near and at the surface of the earth.

Improvement in cleanliness around the milking stable is always desirable and beneficial. A reference to the many bulletins written by different experiment stations on this subject is recommended.

Briefly, dirt and dust should be avoided first, by having the hands, clothes, utensils, and stables, as clean as possible; second, feed after milking; third, remove the milk as soon as possible after it is drawn, to the milk room.

**Separating milk.**—When a separator is used for skimming, it is always better to begin separating at once after milking is finished or even before, if the herd is a large one.

If the milk is allowed to cool it will not separate as well and will also be constantly deteriorating in quality by being left to cool slowly. When separating is finished the cream should be cooled at once and as rapidly as possible. If necessary the calves and hogs can wait a few minutes for their food till cooling is completed.

A separate room for the purpose of keeping milk, cream, and butter is one of the requisites in successful dairying. Dairy products are valuable and very perishable, and as such will warrant a slight expenditure of time and money, if the quality is improved thereby.

When skimming is accomplished by the settling method, the milk should be cooled immediately after milking to as low a

temperature as possible. Two factors will influence the completeness of skimming or separation of the cream. They are, first, the time taken to complete the cooling process after milking; second, the temperature to which cooling is carried.

Cans 24 to 30 inches high by about 8 to 10 inches in diameter give far better results in skimming than shallow pans. Special attention should be given to the milk strainer. Most strainers are allowed to become broken, and in that state are quite useless. Straining milk through cheese cloth is a poor practice, unless the cloths are boiled thoroughly every time after they are used.

The milk should be cooled after straining. To accomplish this the cans are placed in cold spring water or water previously iced and the milk stirred vigorously until the desired temperature is reached.

Cream is butter fat and skim milk combined. The same combination exists in milk, but the proportion of butter fat to skim milk is greater in cream than in milk. In other words cream is a more concentrated emulsion of butter fat than milk. The advantage and necessity of securing this concentrated fat emulsion called cream is that churning is much more easily accomplished from it than from milk. The higher the per cent. of fat in cream the quicker will it churn, other conditions being equal. Therefore when skimming by the can

method it is desirable to take as heavy a cream as possible.

No dairyman should endeavor to handle milk, cream or butter without a thermometer for registering temperatures. One can be secured from any drug store for the sum of twenty-five cents. Guessing at temperatures is not a good practice where dairy products are concerned.

When cream is churned once or twice a week, each fresh lot should be thoroughly cooled before adding it to the older cream.

The old cream may have become slightly sour. In that case it should be churned separate, and the sweet cream should be kept in another vessel. When sweet and sour cream are mixed and afterward churned there is a large loss of butter fat in the buttermilk.

hours before churning and then raise the temperature to 65 or 70 degrees. This change in temperature will cause the souring or ripening process to take place. Cream is ripened to give flavor to the butter. An acid is formed in the cream by the action of small organisms called bacteria. These organisms will not grow readily in a cold medium. The warmer the medium up to blood heat the more readily will they grow; 65 to 70 degrees is the best temperature at which to grow them in cream.

In winter time it is often very difficult to sour cream. The difficulty may be overcome by the following process. Take a bottle, clean it thoroughly, and then scald it with boiling water. Fill it nearly full with fresh clean milk,

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cork well and set it in a place where it will not get cold. In about 30 to 36 hours the milk will become thick and sour. If 5 to 10 per cent. of this sour milk is placed in the cream there will be no difficulty in ripening. Butter-makers call this a starter, and great care and cleanliness is required to secure the best results with it.

Cream is ready to churn, first, when it has the consistency of good molasses; second, when it has a glossy appearance; third, when its taste is pleasant and mildly acid.

Prepare the churn by using plenty of good boiling water, afterward rinsing with cold water.

In winter time the temperature of the cream should be about 60 to 62 degrees. Lower temperatures are used in summer.

A safe rule to follow is to churn at the temperature which allows the butter to come in 35 to 45 minutes. Should the butter come before this, the temperature of the next churning should be lowered and vice versa.

The factors which influence the time taken in churning or the churnability of cream are:

1. Per cent. of fat in the cream.
2. Temperature of cream.
3. Amount of cream in churn.
4. Size of churn.
5. Speed of churn.
6. Nature of cream in regard to shippers, milk.

The churn should be from one-half to two-thirds full. Gas will be expelled in the first few revolutions. This must be liberated through the faucet or vent in the churn.

The most critical time in churning is when the butter granules begin to separate from the buttermilk. Watchfulness is necessary in order that the butter may not be over churned. The granules should not be allowed to become larger than wheat grains. When they are this size the churn is stopped and the buttermilk drawn off.

For washing butter, use as much water as there was cream in the churn. The temperature of the washing water should be the same as the churning temperature or one degree lower. Revolve the churn rapidly six or eight times, then draw off the water. One washing should be enough. Too much water makes the butter insipid.

The granular butter may now be taken out, weighed and salt added at the rate of three-quarters to one and one-quarter ounce per pound butter.

Some markets require less salt than others, also some salts are stronger than others, therefore the taste of the market and strength of salt must govern the amount of salt used.

Working butter is the next step, and here again care must be exercised. Overworking gives a greasy and undesirable butter. Underworking is preferable to overworking. When a roller worker is used, 25 to 30 rollings will be enough. Greater stress may be placed on the next step

than on any previous one, because it is here where so many fail.

The appearance of the package in which butter is marketed is extremely important. Neat, clean packages and good prices invariably go together.

Pound prints are neater and appear better when in rectangular shape than when they are in rolls.

Butter in mass or bulk sells for one-half to one cent more per pound in clean parchment lined tubs or boxes than in unlined, dirty ones.

**World's Production of Wheat.**

Country	1909	1909
Russia	786,473,363	568,713,494
United States	713,286,523	648,510,328
France	361,950,500	317,692,964
British India	253,592,377	204,065,358
Canada	166,752,540	111,067,833
Italy	155,711,230	154,199,584
Spain	144,511,581	120,316,725
Germany	138,399,277	138,742,214
Argentina	133,581,000	156,915,669
Hungary	125,363,287	156,904,100
Australia	82,328,514	62,774,870
Great Britain and Ireland	64,525,212	54,963,503
Roumania	59,043,045	55,675,349
Austria	58,636,737	62,308,153
Asiatic Turkey	56,256,961	*52,238,608
European Turkey	37,505,378	*37,505,378
Algeria	32,145,835	*28,981,966
Persia	26,119,302	*26,789,025
Japan	23,842,327	*22,500,784
Chile	23,584,000	*12,408,018
Servia	16,073,418	11,528,198
Belgium	15,550,700	18,003,000
Mexico	13,930,295	*8,036,709
Egypt	10,715,612	*9,376,158
Urugav	9,617,850	*8,438,548
New Zealand	9,581,000	8,798,160
Sweden	6,998,552	7,194,443
Tuni	6,529,828	*3,685,000
Greece	5,625,694	*5,826,615
Holland	4,842,116	*5,077,215
Portugal	4,621,108	*5,123,403
Denmark	4,018,336	4,263,947
Cape Colony	3,616,318	*3,482,572
Switzerland	3,578,135	3,500,750
Peru	3,058,550	
Luxemburg	621,549	571,367
Norway	316,987	379,570

World's Production 3,561,914,637 3,107,153,589

\*Figured marked by an asterisk are obtained by taking the average of the estimate published by "Dornbusch's Floating Cargoes Evening List," "Beerbohm's Evening Corn Trade List," "Broomhall's Corn Trade News" and "The Statist." The estimates not marked are from the "Bulletin of Agricultural Statistics" published by the International Institute at Rome.

**Of Interest to Engine Owners.**

Catalogue No. 23 which illustrates a complete line of manufactures of the Penberthy Injector Company is now off the press.

This contains matter of a great deal of interest to all owners or steam or gas engines, or in fact, to anyone who buys or uses brass goods. It also includes a complete description of their new Peerless and King Sight Feed Lubricators.

A sample copy of this catalogue will be gladly sent to anyone on request.

Address the Penberthy Injector Co., of Windsor, Ont. and mention the Canadian Thresherman and Farmer when writing.

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**The Machinery of the Hay Crop**  
Continued from page 9

more than off set the time saved by working the machine up to its full capacity.

One type of over-shot stacker is so arranged that it can be mounted on a wagon gear and can be readily moved from place to place. This type of stacker is very convenient where the hay is light and the stacks are not close together.

**ANOTHER TYPE OF FIELD STACKER.** Another type of field stacker that is in very common use is that known as the cable outfit, of which there are three kinds. The first consists of a single pole made to stand on end and guyed by three long ropes or cables. This is not a very satisfactory outfit excepting where only small stacks are to be built, as it is rather hard to dump the hay in any but one position.

The second type consists of three poles fastened together at the top, a long rope passing through a pulley and attached to a stake in the ground, horses being hitched to the end of the rope. Type No. 3 consists of four pulleys, two on either end of the stock, the same being connected by a long cable with a guy rope on either end. The carrier is so arranged as to run on this cable, a trip being arranged in this carrier to allow the fork to drop to the load and when the fork is again raised to meet the carrier, the carrier is released and is allowed to run along the cable the full length of the stack. The chief advantage of this outfit is that it permits of building a much larger stack and at the same time it permits of the hay being dropped anywhere upon the stack, thus doing away with very little handling.

These cable outfits can also be used with the ordinary sweep rake, although they are more universally used where the hay is loaded upon the wagon by the hay loader and drawn to the stack. This latter cable outfit is practically the same as the ordinary barn stacking outfit with the exception that the track is generally substituted for the cable. Some barns are however, equipped with a cable, the principal disadvantage being that it is hard to keep the cable tight.

With these cable or barn stacking outfits some sort of a hay fork is necessary and of these there are a number of types. The double harpoon fork is, however, the one most generally used. This fork is arranged in such a way that the two prongs are forced into the load and by means of suitable levers prongs are forced out at right angles to the points, these serving to hold the hay on the fork. A rope is attached to these levers which is sufficiently long so that the man at the load may keep hold of it and when the hay is in the proper position on the stack or in the barn the load is tripped. The single harpoon fork operates the same way only that it has one prong instead of two. Slings are

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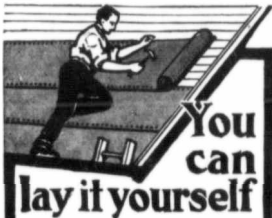
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 Haver de Grace, Md., Dec. 7, 1899.  
 Troy Chemical Co., Binghamton, N. Y.  
 During 1908 I had two horses go wrong, one with a "bone spavin" and a big knee.  
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Please Mention The Canadian Thresherman and Farmer.

sometimes used, but as they are rather cumbersome and require to be carried around the field when the load is being built they are not so generally used. They serve a good purpose where the hay is short and light.

The method employed when using a sling is generally as follows: Three slings are required for a load; one is placed on the bottom of the rack and the hay is built upon it. When about a third of the way up, another one is placed on the load and the last sling is placed about two-thirds of the way from the bottom. The ends of these slings are joined together and attached to a hook on the cable outfit, this hook having a suitable trip so that one end of the sling is detached when it is required to drop the hay.

The sling method is a very quick one for unloading, for with certain kinds of hay it is about impossible to pick it up clean from the rack with the ordinary harpoon fork.

The stacking of hay today with a modern outfit is almost a pleasure. It is a source of great satisfaction to the farmer to see his hay crop put up so rapidly and with so little expenditure of manual labor. The horse is made to do it practically all and the hay is put up in a condition that is impossible by hand. Take for instance, with the hay stacking outfit in the field or barn little or no tramping of the stack or mow is necessary as the dropping fork holds from the cable outfit packs the stack in such a way that if reasonable care is used it will always settle evenly. Where formerly hay was pitched from the wagon unto the stack, that side of the stack to which it was pitched was packed most thoroughly with the result that when the stack came to settle, it did so unevenly.

**Alfalfa Growers' Contest.**  
 Continued from page 47

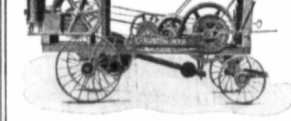
noxious weeds. Turkestan alfalfa is the kind most commonly grown, but home-grown seed, if it can be procured, is likely to be the best.

2. **Where to sow.** Alfalfa thrives best on a well-drained, well-tilled, firm, fertile loamy soil. Potatoes or other hoed crops leave land in good condition for alfalfa. Likewise a summer-fallow, if there is not a danger of drifting, will give good results. Stubble land, plowed in the spring, well harrowed and packed, makes a good seed bed if cultivated until it is of the required firmness. Spring plowed land is not so liable as the summer fallow to drift.

3. **When to sow.** Alfalfa should be sown when there is sufficient warmth and moisture to insure quick germination and rapid growth. This condition is usually found about the last half of May or early in June.

4. **How to sow.** The best way to sow alfalfa is with a wheelbarrow broadcast seeder at the

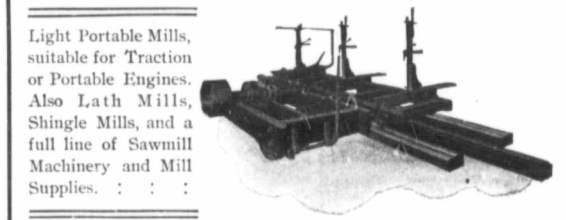
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rate of from 12 to 20 pounds per acre. Harrow with light harrows so as to cover the seed to a depth of from 1 to 1 1/2 or 2 in. The seed should reach moisture but should not be placed too deep in the soil, hence the necessity for careful tillage. Alfalfa may be sown by hand or with an ordinary grain drill if the seed is mixed with chopped wheat or barley so that the quantity per acre may be carefully regulated. By using half the desired quantity of seed and sowing the plot a second time at right angles to the first sowing, better results may be obtained. Apply about 100 pounds per acre of soil from an established alfalfa field so as to introduce the bacteria which are essential to the healthy growth of alfalfa, and are not present naturally in all soils.

**Some Don'ts.**  
Don't sow alfalfa in land that is liable to be flooded.

Don't attempt to grow alfalfa in loose soil.

Don't expect every kind of alfalfa seed to produce equally good results.

Don't cut a hay crop the first season.

Don't allow the weeds to seed in your alfalfa plot but run a mower over them whenever they attain sufficient growth.

Don't clip the alfalfa too low as this is liable to injure the crown.

Don't mow the alfalfa after August but leave a good growth of from 8 to 12 inches to collect the snow and protect the plants during the winter.

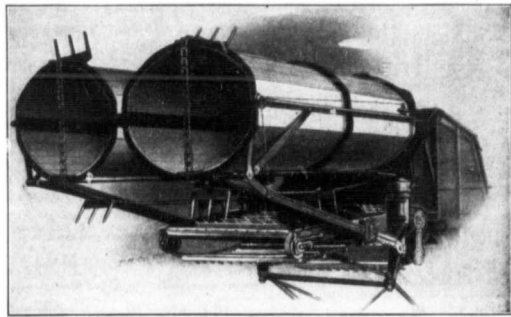
Don't turn your alfalfa patch into a hog pasture. Alfalfa should not be pastured before the second or third year.

**Problems of the Farmer**

Continued from page 49

to the discovery and introduction of the principles of tillage which have been grouped under the general name of "dry farming" these former wildernesses are being made to blossom as the rose. And the central operation of this system of tillage, in so far as Saskatchewan is concerned, is the summer-fallow. This is the king-bolt of Saskatchewan grain-growing. Upon the handling of the summer-fallow, more than upon any other one operation or part of the season's work, will depend the success of the farmer. It will pay to subordinate everything to the claims of the summer-fallow. Let thoroughness be the key-note of its treatment. Plow it deeply and as early in the season after the completion of seeding as possible. Harrow down each day the land that was plowed that day. If a sub-surface packer is available use it on the plowing before the harrows are put on. If the soil is inclined to be light, use a surface packer after the plow if a sub-surface packer is not obtainable. Then harrow and cultivate during the season as occasion requires.

Make a study of the summer-fallow and remember that its two chief functions are the storing and conserving of moisture, and the killing of weeds. Both objects



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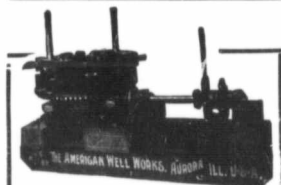
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BOOKLET AND DRAWING SHEET ON  
APPLICATION

are reached by the same means  
and that means is cultivation.  
Aside from these objects the sum-  
mer-fallow is an unjustifiable  
waste of productive land. With-  
out cultivation, and that of the  
right kind, they cannot be attain-  
ed. Therefore let all the season's  
work centre on the summer-fal-  
low and remember that when you  
do this work properly you are pre-  
paring the land for two crops and  
not for one alone.

**Mart Haney's Mate**

Continued from page 79

at the table the mother gasped  
out:

"Do you know—what Captain  
Haney just said to me?"

"Not being a mind-reader, I  
don't," replied the girl, though  
she was deeply moved by her  
mother's white, awed face.

"He wants you!"  
The girl flushed and braced  
both hands against the table, and  
replied: "Well, he can't have  
me!"

With the opposition in her  
daughter's tone Mrs. Gilman  
was suddenly mover to argue.

"Think what it means, Bertie!  
He's rich. Did you know that  
he owns two mines?"

"I know he is a gambler and  
runs two saloons. You see, the  
boys keep me posted. I'm not  
marrying a gambler—not this  
summer," she ended decisively.

"But he's going to give that  
up, he says." He hadn't said  
this, but she was sure he would.  
"His income is a hundred thou-  
sand dollars a year. Think of  
that!"

"I don't want to think of it,"  
the girl answered, frowning  
slightly. "It makes my head  
ache. Nobody has a right to so  
much money. How did he get  
it?"

"Out of his mine—and oh,  
Bertie, he says we needn't do an-  
other day's work in this hot,  
greasy old place! It's his, any-  
way. Did you know that?"

Bertie eyed her mother close-  
ly with cool, bright, accusing  
eyes—for a moment, then she  
softened. "Poor old mammy,  
it's pretty tough lines on you—  
no two ways about that. You've  
got the heavy end of the job.  
I'd marry most anybody to give  
you a rest. But mother—Cap-  
tain Haney is forty if he's a day  
—and he's a hard citizen, he robs  
people; and then there's Ed."

The mothers' face changed. "A  
barber!" she exclaimed scorn-  
fully.

"Yes, he's a barber now, but  
he's going to make a break soon  
and get into something else."

"Don't bank on Ed, Bertie—  
he'll never be anything more  
than he is now. No man ever  
got anywhere who started in as  
a barber."

"Would you rather I married  
a gambler and sure shot? They  
tell me Haney has killed his  
man."

"That may be all talk. Well,  
anyhow, he wants to see you and  
talk it over, and oh, Bertie, it  
does seem a wonderful chance—  
and my heart's so bad to-day it

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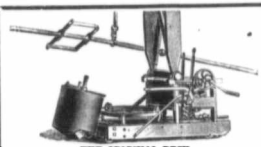


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seems as though I couldn't see to another meal! I don't want you to marry him if you don't want to—I'm not asking you to. You know I'm not—but he is a noble-looking man—”

One of the waiters, half-dead with curiosity, was edging near, under pretense of brushing the table, and so the mistress rose and took up the burdens of his stewardship.

“But we'll talk it over later. Don't be hasty.”

“I won't,” replied the girl.

She was by no means as unmoved as she gave out. She had always admired and liked Captain Haney, though he never moved her in the same way that the young barber did—for Ed. Winchell had youth as well as comeliness, and there is a divine suppleness in youth. A hundred thousand dollars a year! That was enormous—incredible—and he had been coming to their little hotel for a year, this millionaire—“to see me!”

This consideration was the one that moved her most. All the bland words, the jocular phrases of his singular wooing came back to her now, weighed with deep significance. She had called it “joshing,” and had put it all aside, just as she evaded the disagreeable ogling of the commercial travelers and the rude jests of the brakemen of her acquaintance.

She was wise beyond her years, this calm-faced, keen-eyed girl, trained by adversity to take care of herself. She knew instinctively that she lived surrounded by wolves, and, much as she admired the big frame and bold profile of Captain Haney, she had placed him among her enemies. Ed. Winchell she trusted—loved in girl fashion. And now that the choice was “up to her,” as she put it, he became very dear and desirable.

Strange to say, she enjoyed her position there in that battered little hotel. “If it weren't for poor old mother,” she thought and paused there.

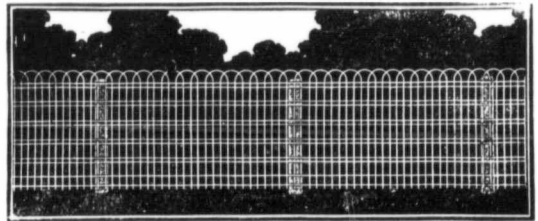
She went back to the counter with a certain timidity—a self-consciousness new to her, fearing to face the gambler, now that she knew his intent.

The room was empty, all the men being on the walk to escape the heat, and she took her seat behind her desk and gave herself up to the consideration of the life to which the possession of so much wealth would introduce her.

Naturally, she had no experience to help her in defining the possibilities of the future. She could have unlimited new gowns, could travel, and she could save her mother from all drudgery and worry. These things she could discern.

As she looked around the dingy room buzzing with flies a feeling of sadness passed over her. She had been happy in this place, and at the moment she experienced a premonitory pang of the pain she would suffer in going out of its doors forever.

Her people had been twelve

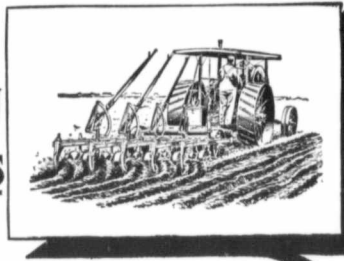


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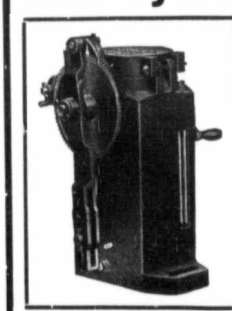
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Manufacturers of the Celebrated **MONITOR WELL AUGERS AND DRILLS**

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**DON'T FAIL TO RENEW YOUR SUBSCRIPTION**  
 Before it is too late.

**CALVES** Raise Them Without MILK.  
 Booklet Free. Steele, Briggs Seed Co. Winnipeg

years in this small town, and she home in the leafy town in Illinois from which they came. Her father, an unsuccessful farmer, had proved an unsuccessful miner, leaving them with only an indifferent house in the junction. Mrs. Gilman took to keeping borders—the refuge of widows—and had grown to the dignity of the Eagle Hotel. This was an achievement both in her eyes and in the estimation of her daughter and son, and the people of the town were democratic enough to draw no social distinctions between one business and another. Mrs. Gilman was well-considered and her daughter was popular with the young people of the church. There were a few, of course — health-seekers — who drew lines against any one not of their way of thinking and doing, but they formed only a small group and were not really a part of the town.

Haney came back an hour later, but read in the cold, serious look she gave him a warning, therefore he spoke but on commonplace subjects, and soon went out and took a seat on the walk.

Some way, this meekness on the part of this powerful man moved the girl, and a little later she went to the doorway and said to the crowd generally: "It's a wonder you fellows wouldn't open a melon or something."

Haney put his finger to his mouth and whistled to the grocer opposite. He came on the run, for he knew Haney.

"Roll up a couple of big melon," said Haney largely. "We're all drying to cinders over here."

The loafers cheered, but the girl said in a lower voice: "I was only joking."  
 "What you say goes," he replied with significance.

She did not stay to see the melons cut, but went back to her desk, and he brought a choice slice to her.

She took it, but she said: "You mustn't think you own me—not yet." Her tone was resentful. "I don't want you to say things like that."

"Like what?" he asked.  
 She did not answer. It was really his tone of intimacy which she disliked. It assumed too much.

He went on: "I don't mean to assume anything, God knows, I'm only waitin' and hopin'. I'll go away if you want me to and let you think it over alone."

"I wish you would," she said, not realizing how much this committed her.

He held out his hand. "Good-by—till next Saturday."

She put her small brown hand in his. He crushed it hard and his bold eyes softened. "I want you, my girl. Sure I do!" And with that he was gone.

Continued next month

Little Ephra'm says—When Mistah Rosyfelt sees Mt. Etna he'll know how sum pepul think he looks.

# Amatite ROOFING

**A Frank Statement**  
 HOW many manufacturers of ready roofing will tell you frankly how their goods are made? Mighty few. They will talk about "secret formulas," "special waterproofing compounds," etc.—all nonsense. They don't tell you what the goods are made of because they don't dare. From the start we have never hesitated to tell the buying public just what Amatite is made of and just what it will do.

**Amatite is Making Good**  
 We are constantly receiving letters from customers telling us how satisfied they are with Amatite—how much better it is than the old-fashioned roofing. Year after year, in all weather, Amatite will give perfect service without any painting or attention of any kind. Surely this is the kind of service that wins and keeps customers.

**How Amatite is Made**  
 Amatite is made of two layers of Cool Tar Pitch—the greatest waterproofing material known. Alternating with these two layers of pitch are two layers of coal-tar-saturated wood felt to give it tensile strength. On top of these four layers is a real mineral surface—five layers of protection. The mineral surface is permanent, fireproof, and absolutely requires no painting.

**Free Sample**  
 Before you go to your dealer and buy a roofing, we should be very glad to send you a sample, so that you can see for yourself just what we are talking about—what a solid, substantial, reliable roofing we are offering to the public.

**It Needs No Painting**  
 Roofings that require painting are a worry and an expense. Every year or two you have to climb up and give them a coating with some special compound sold by the manufacturers, or you are pretty sure to have a leaky roof.

**Something Back of it**  
 Remember, in this connection, that Amatite is made by the largest manufacturers of roofing materials in the world, and that when you buy this roofing there is something behind it. We stand back of every roll. We know we are offering the best and the most economical ready roofing on the market. For the sample and booklet address our nearest office.  
**Paterson Manufacturing Company, Ltd.**  
 Toronto, Montreal, Winnipeg, Vancouver, St. John, N.B., Halifax, N.S.



Amatite on Lumber Sheds of B. F. Harris & Sons, Brantford, N. Y.

*Cheap twine is not good economy*

**WE** want every farmer in this country who uses our twines to go through the entire harvest season without one break in the field. We have set out to make that the standard test of all twines, and we believe that I H C twine comes nearer being such a grade than any other twine.

We have taken this matter the more seriously because we have stood back of the Sisal and Standard Sisal twines and the better grades of Manila ever since twine was made. 85 to 90 per cent of all the twine used is Sisal. It comes in a larger strand than the Manila twine; and as all binders are adjusted to use this twine, the result has been that the bigger, stronger twine has proved more satisfactory in actual mechanical binding. Its only equal is the higher grade, higher priced Manila, which also bears the I H C trade-mark.

These two twines represent the highest point of excellence thus far attained in binder twine. You get the best when you ask your dealer for an

## I H C Brand of Sisal—Standard Sisal—Manila or Pure Manila

You get a twine that has made its record in millions of wheat fields. One that is guaranteed of standard length and standard strength. One that is smooth-running; that works at a steady tension, without kinking or tangling in the twine box, and consequently without any loss. One that has the smallest percentage of breaks and that works well in the binder knottor. Good binder twine is as important to you during harvest as good weather. You cannot regulate the weather, but you can pick your twine. If you want to be positive that you will have no twine delays, choose your twine—Sisal 500-ft.; Standard (which is made from pure Sisal) 500-ft.; Manila 600-ft., or Pure Manila 650-ft.—from any of the following I H C brands:

**Deering McCormick International**  
 These brands mean time-insurance for you during harvest. Let your local dealer know well in advance what your needs will be. The mills are working now. And if you want more interesting facts on binder twine, write the International Harvester Company of America, at nearest branch house for particulars.  
**CANADIAN BRANCHES:** Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.  
**INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, U.S.A.**  
 (Incorporated)





Conducted for the benefit of Dealers, Threshermen and Farmers who have anything to sell or exchange. Three cents a word for each insertion.

WANTED—One good Hart-Parr plowing engine. State price and terms.—Jos. Plant, Somerset, Man.

SOUTH AFRICAN SCRIP FOR SALE—Cash and terms with good acceptable security to farmers in Alberta and Saskatchewan.—Address A. D. Mabry, Saskatoon, Sask.

FOR SALE—South African Scrip. Two years' terms to farmers with acceptable security.—Romer-Fowle & Co., Prince Albert, Sask.

FOR SALE—One Avery Steam Plow, 1000 make, with tin breaker and stubble bottoms and steam lift complete, at Elm Creek, Manitoba. For further information address—Walter M. Grimes, Nokomis, Ill., U. S. A.

WANTED—Second-hand Cockshutt engine gang plow, 8 or 10 furrows. Quoted lowest price. F. B. railway, Jas. W. Mitchell, Arrow River, Man.

WANTED—One reliable man in each locality with rig, or capable of handling horses, on salary or commission, to introduce and advertise our Royal Purple Stock and Poultry Specifics to the trade and direct, post up large bills, 7 feet wide and 9 feet high, tack up tin signs, and generally look after introduction and advertising of our goods. Apply at once. W. J. Jenkins Mfg. Co., London, Ont., Canada. 25-5

FOR SALE—One dozen of our hardy, improved Bush cherries, prepaid to any address in Manitoba, Alberta or Saskatchewan for two dollars. Perfectly hardy. Good canning fruit. Catalogue free. Buchanan Nursery Co., St. Charles, Man. Our ten dollar hardy fruit collection is just the thing for those who wish to plant fruits and do not know what varieties to select. Only the very best varieties for this country supplied. Buchanan Nursery Co., St. Charles, Man.—Catalogue free.

ENGINEER wishes position on a plowing engine or a stationary for the season of 1910. Have had two years' experience; am also a graduate of the Health School of Engineering. Can furnish references. Chas. McMan, Summersby, Sask.

WANTED—Position as assistant engineer on ploughing outfit for the coming season. Am experienced in steam ploughing, can do repair work and also handle blacksmith's tools. Can furnish best of references as a fireman and assistant engineer. When writing please give name of engine. G. A. Webster, Callinout, Sask.

YOUNG MAN used to gasoline engines. State make of engine and wages to Box 3079, Canadian Threshingman and Farmer, Winnipeg.

FOR SALE—One Gould Balance valve for 23 or 25 H. P. Gaar-Scott engine. J. Reynolds, Yellow Grass, Sask.

ENGINEER—Wants position on plowing outfit coming season in Manitoba, Saskatchewan, or Alberta. Saskatchewan certificates. Strictly temperate. Do own repairing. References furnished.—Edward Winchester, Melita, Man.

WANTED—Position as engineer on steam plowing outfit the coming season in Manitoba or Saskatchewan. Will take engine work of any kind. R. H. J. largest, McLean, Sask.

FIREMAN—First Class Fireman wants position on a plowing outfit when plowing begins. I am a graduate of the Health School of Traction Engineering and I know how to fire properly and save coal. Wages, \$2.50 for firing or \$3.50 for firing and handling plows both. Write at once stating make of engine and when plowing begins to E. K. Siemens, Hosenfeld, Man.—Box 63.

EXPERIENCED Practical Engineer, Fireman and Traction Plowman desires position. Licensed for Saskatchewan and Alberta, also Graduated Student of the Health School of Traction Engineering. Apply H. L. Bushell, 448 Elgin Ave., Winnipeg.

CERTIFIED ENGINEER and Machinist with fifteen years' experience wishes position on steam or gasoline plowing engine. Can do own repairing. Apply D. Mark, Manville, Alta.

ACOOK and Caker seeks place on big farm, ranch or other place where good food is appreciated. Wages moderate. State wages. Address F. M. Burns, 295 Thompson St., Winnipeg.

FOR SALE—30 H. P. Flour City gasoline traction engine, price \$2400.00, plowed 400 acres. As good as new. For terms, etc., write to Glennie & Hodger, Macdonald, Man.

Brother, accidentally discovered root will cure both tobacco habit and indigestion. Gladly send particulars. H. Stokes, Mohawk, Florida.

WELL DRILLING OUTFIT FOR SALE A Sparta No. 3 Hydraulic Jetting machine with a 6 horse power Fairbanks-Morse upright gasoline engine attached. All complete and in good working order. Geo. Taylor, Breslay, Sask.

FOR SALE—A 18 horse Advance traction engine (straw burner) and 30x56 New Challenge separator, in fair condition. Very cheap if taken at once. Jacob P. Elias, Hochfeld, Winkler, Man.

THRESHER wants position on a steam plowing outfit for coming season in Alberta or Saskatchewan. References furnished. For information reply to Box 93, Broadview, Sask.

HARDY Ontario Nursery Stock, apples plums, small fruits, hardy roses and ornamentals. Agents wanted immediately on vacant territory. Thos. W. Bowman & Sons Limited, Ridgeville, Ont.

WANTED—Position on steam plowing outfit, firing preferred, experienced. Frank Campbell, Marquette, Man.

WANTED—A job running engine through plowing season. Will take engine on through threshing season if desired. Can do own blacksmithing, flesh work on engine a specialty, graduate of Health School of Traction Engineering; also have papers to operate in Saskatchewan. Address G. Y. Box 3079, Winnipeg.

ENGINE OWNERS write me for terms on re-fueling and stay bolt repairing. I can save you money. I am also open for engagement during the plowing season. Chas. Fenwick, Licensed Engineer, Wapella, Sask.

POSITION WANTED by practical and experienced man as engineer on plowing outfit for the months of May and June. Have had a number of years' practical experience with different makes of traction engines in the States, also in Canada. Anyone in need of a trustworthy and reliable man is invited to call or write, address Jos. H. Polley, Elbow, Sask.

ENGINEER wants position on breaking outfit this season. Holds certificate for 50 horse power in Saskatchewan. References given, strictly temperate. Apply Mark Ketteringham, Box 43, Foxwarren, Man.

WANTED—Position as engineer on plowing engine. Can begin work at once. Fully experienced in Western Canada. References furnished. Joseph Richers, 73 Parr St., Winnipeg.

EXPERIENCED Practical Machinist desires position as Threshing Engineer in Manitoba. Apply W. S. O. Canadian Threshingman and Farmer.

WANTED—Position as fireman, two years experience. Can operate engine if necessary. References. Reply stating wages to Russell Algire, 255 Dorothy St., Winnipeg.

WANTED—Position as Engineer, experienced. First class references. Ready to accept once. Saskatchewan or Alberta preferred. Apply Box A, Winnipeg, Man.

Steam Traction Engine wishes a position on a ploughing outfit, for coming season. One season's experience threshing. Am also a pupil of the Health School of Traction Engineering by correspondence. Canadian. Total abstainer. References furnished. Percival Huggard, Winnipeg, Manitoba.

WANTED—Position as engineer on steam plowing outfit, 7 years' experience in Ontario and one in Saskatchewan. Hold a provincial certificate for Saskatchewan. Will take engine through threshing if desired. Address E. F. Sharpe, Maple View, Ontario.

WANTED—Position as Engineer on a steam traction outfit. Fully experienced. Can furnish references. Address J. E. Peatch, Clava, Man.

FOR SALE

One No. 2 Austin Well Drill Outfit with 4 inch cable 350 feet long, weight 5,000. One 6 horse power upright Fairbank and Morse engine, all in first class order. Address Didabury, Box 188.

FOR SALE

20 H. P. J. I. Case Simple Traction Engine run 75 days, J. I. Case 32x54 separator with feeder and blower, weigher bagger, 150 H. L. 8 in. drive belt, steel tank and 1 wood tank and caboose. Easy terms of payment. Reference, Harrison Bros., Holmfeld. Apply to Hendry Blackwell, Jr., Holmfeld, Man.

FOR SALE

At bargains. Second-hand engines and separators or complete outfits. Thoroughly rebuilt and repaired. Good as new. A long list to select from. Write us your wants or come and see us.—AMERICAN-ABELL ENGINE AND THRESHER CO., LTD., WINNIPEG, CANADA.

FOR SALE OR EXCHANGE

FOR LAND Good second-hand Portable Steam Engine, 26 H. P. double cylinder separator and plows Terms and price would be made most interesting to Threshermen. Calvin Young, Mapleton, Minn. Apply to Manitoba Bridge and Iron Works, Winnipeg, Man.

FOR SALE

One American Advance Separator, 36 x 56, with all latest attachments. One 15 inch Vesutt crane; One 2 wheeled Engine Tender; 2 Furrows and Deere Engine Gangs. The above property for sale cheap. F. W. Hunter, Stone-well, Man.

FOR SALE

Two four bottom Moline engine gangs with beaker bottoms and extra shares, price, \$160.—J. Hansford, Fairlight, Sask.

FOR SALE

- 1-12 H. P. Compounded Case portable Engine No. 11374.
1-15 H. P. Compounded Case portable Engine No. 13426.
1-15 H. P. Simple Case portable engine No. 15833.
1-15 H. P. Simple Case portable engine No. 15833.
1-15 H. P. Simple Case traction engine No. 19322.
1-20 H. P. Simple Case traction engine No. 20994.
1-20 H. P. Simple Case traction engine No. 20994.
1-20 H. P. Simple Case traction engine No. 19322.
1-16 H. P. Stevens & Burns portable engine.
1-18 H. P. John Abell engine, portable.
A few rebuilt Case Steel Separators in all sizes.
For prices, terms and condition of any of above write us. Our rebuilt engines are bargains.
J. I. CASE THRESHING MACHINE CO., Winnipeg, Man.

BARGAINS

Give these bargains your attention. Four Case Portable Engines at \$150; two Minneapolis Tractors, \$600, 18 and 20 H. P.; one Advance Traction \$600.
1 Case 20 H. P. Traction Engine \$800.00.
Several good Separators to suit the above engines. See our farmers Pet separator.
All our engines fitted with Gould Balance valves.
Write us about them.
THE GEO. WHITE & SONS CO., LTD. BRANDON, MAN.

FOR SALE

One 15 H. P. Case Traction Engine, with or without 28 x 50 separator. For sale or exchange with a Gasoline Traction Engine.—WILLIAM BRAYSHAW, Kellogg P. O., Man.

FOR SALE

One 16 x 56 Great West Separator, with feeder and wind stack. This separator has been run for 30 days last fall and is practically as good as new. Address: A. FORATH, Raymond, Sask. G.T.P.R.

FOR SALE

SECOND-HAND AND REBUILT MACHINERY.
Two 25 H. P. Simple traction engines.
One 15 H. P. Simple J. I. Case engine.
One 15 H. P. Compound J. I. Case engine.
One 54 Wood Case separator.
One 28 x 50 steel Case separator, with wind stacker, self feeder and weigher.
J. I. CASE THRESHING MACHINE CO., Calgary, Alberta

BARGAINS

1-22 H. P. Rebuilt Cross Compound.
1 Rebuilt American-Abell Advance 30 H. P.
1 Minneapolis Separator 42 x 72. Rebuilt. With all attachments.
1 J. I. Case Steel Separator, complete with all attachments. 42 x 62. Run forty days.
1 Advance 36 x 40 Separator, Battle Creek with Hawkeye Weston Wind stacker.

FOR SALE

Two Rebuilt Threshing Outfits:
2-2 H. P. Port Huron Compound Traction Engine No. 5057, equipped with steel gearing and all plowing attachment.
1-30 x 40 Port Huron Risher Separator No. 6569, with all attachments.
Price F.O.B. Winnipeg, Man., for full outfit \$22,000.
21 H. P. Port Huron Compound Traction Engine No. 3203, steel gearing, all plowing attachments.
30 x 40 Port Huron Risher Separator No. 6680, with all attachments.
Price F.O.B. Winnipeg, Man., for full outfit \$2,300.
These outfits have been thoroughly rebuilt, painted and varnished, and ready for immediate shipment.
We guarantee them the same as we do new machinery. Write
CANADIAN PORT HURON CO., LTD., WINNIPEG, MAN.

FOR SALE

One 30 H. P. Geller Plow Engine. One ten bottom Cockshutt plow. This outfit has been in operation for one season. A snap. Good reasons for selling.—JESSE CROSBY, Warren, Man.

FOR SALE

One 25 h. p. direct flue, Simple, heavy gear traction engine.
One 21 h. p. Compound, return flue, traction engine.
One 18 h. p. Simple, return flue traction engine, and one 25 h. p. Compound, return flue traction engine.
Also several others of our own and other makes.
We also have several rebuilt separators of our own and other makes.
GAAR-SCOTT & CO., WINNIPEG

REBUILT MACHINERY ON HAND AT BRANDON.

1-34 H. P. C. C. Hy Northwest Traction engine.
2-C. C. Hy Northwest Traction engines.
2-25 H. P. Northwest Traction engines.
1-25 H. P. New Giant Traction engine.
2-20 H. P. New Giant Traction engines.
2-18 H. P. New Giant Traction engines.
1-20 H. P. Port Huron Traction Engine.
1-20 H. P. Sawyer & Massey Traction engine.
1-20 H. P. J. I. Case Traction engine.
1-25 H. P. J. I. Case Traction engine.
1-17 H. P. Sawyer & Massey Portable engine.
3-size 74 40x56 Northwest Separators with N. W. Feeder, Windstacker and Dakota Perfection Weigher.
1-size 6 36x56 Northwest separator with Parsons Feeder, N. W. Windstacker, and Dakota Perfection Weigher.

1-size 34 32x52 Northwest Separator with N. W. Windstacker, Parsons feeder and Dakota Perfection Weigher.
1-36x60 Sawyer & Massey Separator with attachments just as it stands. (not rebuilt).
1-36x60 Port Huron Separator with all attachments just as it stands. (Not rebuilt).
1-36x58 Case Separator with all attachments, just as it stands. (Not rebuilt).
All the above engines and separators, except last three mentioned Separators, are or will be thoroughly rebuilt and repaired and warranted to be in first class shape and working order, and will be sold cheap.
Write for particulars.

1-NORTHWEST THRESHER COMPANY BRANDON, MANITOBA.

FOR SALE

Table listing various machinery for sale with prices, including items like American-Abell Sim. Trac., American-Abell, John Abell Sim. Trac., etc.

FOR SALE

Rebuilt Gasoline Engines for sale by 2nd hand Department Canadian Fairbanks Co., Limited. An opportunity to get a good engine at a low price.
2 Horse Power Fairbanks-Morse Vertical
3 Horse Power Fairbanks-Morse Vertical
4 Horse Power Fairbanks-Morse Jack of all Trades
6 Horse Power Fairbanks-Morse Vertical
12 Horse Power Fairbanks-Morse Horizontal
15 Horse Power Fairbanks-Morse Horizontal
5 Horse Power Howe Horizontal engines
15 Horse Power Howe Horizontal engines
15 Horse Power Stationary slide valve steam engine
8 in. Stover Grain Drifter with Bagger
Send for special price on above machines, and full particulars. Quotations made subject to prior sale.

2ND HAND DEPARTMENT THE CANADIAN FAIRBANKS COMPANY, LIMITED, 92-94 Arthur St., Winnipeg, Man.

How Farmer's Can Practice Conservation.

Canada being a nation of farmers has to pay a very large seed bill each year. Last year our crop called for 33,000,000 bushels of seed grain—wheat, oats and barley, and we are constantly increasing our agricultural acreage. This being so, the economy of sowing good clean seed is at once apparent. The advantages to be derived from it are like the proceeds of a sum of money laid out at compound interest—they are cumulative in their effect and grow in ever increasing ratio. Some years ago a competition was carried on in some 450 places in Canada to see just what the actual results of using clean pure seed would be. If we reason from the results obtained from it, we find that our grain yield last year would have been increased by 190,000,000 bushels had clean vigorous seed been sowed on every acre under cultivation. Now, 190,000,000 bushels of grain would fill 1,500 miles of railway grain cars. It is such a large amount that it is hard for the mind to comprehend, but, at any rate, it goes to show that it would pay our farmers to be particular about the kind of seed they sow.

# 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—ALBERTA PORT HURON CO., Calgary, Alta.	61—STEWART & NELSON CO. LTD., Brandon.
1—AMERICAN-ABELL ENGINE & THRESHER CO., Winnipeg, Calgary and Edmonton.	62—STEVENS, JOHN & CO., Winnipeg.
2—AMERICAN SEEDING MACHINE CO., Winnipeg.	2a—STUART, JAMES, ELECTRIC CO., Winnipeg.
3—BAILEY SUPPLY CO., Winnipeg.	62b—SUB-SURFACE PACKER CO., Winnipeg.
4—BEEMAN MFG. CO., Winnipeg.	63—SYLVESTER MFG. CO., Brandon.
4—BELL B. & SONS, Winnipeg.	64—TUDHOPE-ANDERSON CO., Winnipeg, Regina, Calgary.
5—BELL ROBT. ENGINE & THRESHER CO., Winnipeg.	65—VIRDEN MFG. CO., Virden.
6—BRANDON MACHINE WORKS, Brandon.	66—VULCAN IRON WORKS, Winnipeg.
7—BRANDON PUMP & WIND-MILL WORKS, Brandon.	67—WATERLOO MFG. CO., Winnipeg, Regina, Calgary.
8—BRANDON & ROBERTSON, Brandon.	68—WATEROUS ENGINE WORKS, Winnipeg.
9—BURRIDGE-COOPER CO., Winnipeg.	69—WATSON, JNO. MFG. CO., Winnipeg.
10—CANADIAN FAIRBANKS CO., Winnipeg, Vancouver.	70—WHITE, GEO. & SONS, Brandon.
11—CANADIAN MOLINE PLOW CO., Winnipeg.	71—WINNIPEG RUBBER CO., Winnipeg.
12—CANADIAN PORT HURON CO., Winnipeg.	
13—CANADIAN RUBBER CO., Winnipeg, Vancouver.	
14—CANADIAN STOVER CO., Brandon.	
15—CARBERRY IRON & WOOD WORKS, Carberry.	
16—CARBERRY STACKER CO., Carberry.	
17—J. I. CASE T. M. CO., Winnipeg, Regina, Calgary.	
18—CHAPIN CO., Calgary.	
19—COCKSHUTT PLOW CO., Winnipeg, Regina, Calgary, Edmonton.	
20—CRANE & ORDWAY, Winnipeg.	
21—DEERE, JOHN PLOW CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon.	
22—DE LAVAL SEPARATOR CO., Winnipeg.	
23—DURHAM RUBBER CO., Winnipeg.	
24—EMPIRE CREAM SEPARATOR CO., Winnipeg.	
26—GAAR, SCOTT & CO., Winnipeg, Regina, Calgary.	
26a—GAS TRACTION CO., Winnipeg.	
27—GRAY-CAMPBELL CO., Winnipeg, Brandon, Moose Jaw, Calgary.	
27a—HAMILTON PULVERIZER CO., Winnipeg.	
28—HAUG BROS. & NELLERMOE, Winnipeg and Calgary.	
29—HARMER IMPLEMENT CO., Winnipeg.	
30—HART-PARR CO., Portage la Prairie.	
31—HELGESEN, H. T., Winnipeg.	
32—HOWE IMPLEMENT CO., Winnipeg.	
33—INTERNATIONAL HARVEST-ER CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Brandon.	
34—LOUDEM HDWE. & SPECIALTY CO., Winnipeg.	
35—MANITOBA HAYES PUMP CO. LTD., Morden.	
36—MANITOBA IRON WORKS, Winnipeg.	
37—MANITOBA WINDMILL & PUMP CO., Brandon.	
39—MASSEY-HARRIS CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon.	
40—MAW, JOS. & CO. LTD., Winnipeg.	
41—McKENZIE, A. E., Brandon.	
42—McLAUGHLIN CARRIAGE CO., Winnipeg.	
43—MÉRAE, ALEX., Winnipeg.	
44—MELOTTE CREAM SEPARATOR CO., Winnipeg.	
45—NEEPAWA MFG. CO., Neepawa.	
46—NICHOLS & SHEPARD CO., Regina, Winnipeg.	
47—NORTHWEST THRESHER CO., Brandon.	
48—ONTARIO WIND ENGINE & PUMP CO., Winnipeg.	
49—PARIS PLOW CO., Winnipeg.	
51—PARSONS-HAWKEYE MFG. CO., Winnipeg.	
52—PETRIE MFG. CO., Winnipeg, Calgary, Vancouver.	
53—RAYMOND MFG. CO., Winnipeg.	
54—REEVES & CO., Regina.	
54a—REGENT TRACTOR CO., Regina.	
55—RENNIE, WM. SEED CO., Winnipeg.	
56—RESBERRY PUMP CO. LTD., Brandon.	
57—RUMELY, M. CO., Winnipeg, Calgary, Saskatoon, Regina.	
58—SAWYER & MASSEY CO., LTD., Winnipeg.	
59—SHARPLES SEPARATOR CO., Winnipeg.	
60—STEELE-BRIGGS SEED CO., Winnipeg.	

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64—TUDHOPE-ANDERSON CO., Winnipeg, Regina, Calgary.	69
65—VIRDEN MFG. CO., Virden.	33
66—VULCAN IRON WORKS, Winnipeg.	69
67—WATERLOO MFG. CO., Winnipeg, Regina, Calgary.	69
68—WATEROUS ENGINE WORKS, Winnipeg.	61
69—WATSON, JNO. MFG. CO., Winnipeg.	41-55
70—WHITE, GEO. & SONS, Brandon.	7
71—WINNIPEG RUBBER CO., Winnipeg.	6

### BUGGIES AND CUTTERS.

Armstrong Buggies and Cutters	19
Barrie Buggies and Cutters	61
Baynes Carriages	45
Brockville Buggies and Cutters	21
Domestic Carriages Transfer Agents	69
Greer Buggies and Cutters	62
Greer Buggies	62
Henry Buggies	11
Melroth Buggies and Cutters	47
Munro-McIntosh Buggies and Cutters	11
Reinhardt Buggies	47
Tudhope Buggies and Cutters	64

### CREAM SEPARATORS.

Blue Bell	33
Champion	64
Dairy Maid	45
De Laval	22
Empire	24
Magnet	21
Massey-Harris	39
Melotte	44
National	59
Sharple's	59

### CULTIVATORS AND STUMP PULLERS.

Climax Tooth Cultivator	19
Cockshutt Cultivator	21
Deere No. 2 Cultivator	33
Deering Cultivator	33
Elk (2 horse) Cultivator	19
Front & Wood Sufferer	19
Hilborn Stump Puller	64
K. A. (2 horse) Cultivator	21
Massey-Harris Corn Cultivator	39
McCormick Cultivator	33
Reese Steel Boss	49
Sylvester Cultivator	64
Verity Cultivator	39

### DISC AND DRAG HARROWS.

Alax Drag	21
Broad Disc	33
Boss Drag	30-62-69
Canadian Moline Boss Drag	19
Canton Disc	33
Case, J. I. Disc and Drag	29
Cyclone Wheel Disc	21
Cockshutt Disc and Drag	21
Cockshutt Lever and Clip	19
Deere Disc and Drag	21
Deere King Boss Drag	21
Deere Steepest Disc	62
Deering Disc Harrow	33
Defiance Jr. Disc	11
Economy Disc	11
Emerson Disc and Drag	64
Evans Disc	2
Fuller & Johnson	61
Flury's Steel Channel Drag	21
Flury's Clipped Drag	21
Flury's Disc	21
Grand Detour Drag and Disc	69
Hooiser Wheel Disc	33
International Diamond and Lever	33
Massey-Harris Disc and Drag	39
McCormick Disc	33
Moline Flexible Drag and Lever	33
Paris Disc and Drag	49
Scott Diamond Drag	19
Superior Wheel Disc	21
Verity Disc	21
Universal Tongue Trucks for Disc Harrows	21
Watson Drag	69
Wilkinson Drag and Disc	61
Windor Disc	19

### FEED AND ENSLAGE CUTTERS AND PULPERS.

Cockshutt Feed Cutter	19
Cockshutt Pulper	21
Flury's Feed Cutter	19
Geier Feed Cutter and Grinder	9
Paris Feed Cutter	49
Paris Feed Cutter	49
Watson's Feed Cutter	69
Watson's Root Pulper	19
Wilkinson's Feed Cutter	61

### FEED GRINDERS.

Brandon	6
Challenge	69
Cyclone	9-29
Daisy	9
Diamond	21
Flury's	21

Good, Stapley & Muir	19
Manitoba	7
Maple Leaf	44
Ontario	48
Scientific	69
Stover Ideal	15-11
Thoms	49
Vermot	33
Watson's Ideal	69

### GARDEN IMPLEMENTS, INCUBATORS AND POULTRY SUPPLIES.

Chatham Incubator	27
Cyphers Incubator	69
Fountain Air Sprayer	53
Iron Age (Garden Implts), 19-53 and 61	61
Maxwell	64
Planet Jr. Garden Tools	41-55

### GASOLINE ENGINES.

Brandon	6
Fairbanks	6
Fuller & Johnson	10
Gas Traction	261
Geier (Stationary Portable Traction) 9	18-30
Ideal	44
International	33
Iwd (Traction)	62a
Joy McVicker (Traction)	4
Manitoba	37
Master Workman	69
"Old Fall" Ramble (Traction)	9
Reagent (Traction)	54-5
Stickney	48
Stover	18-14
Sylvester	9
Watrous	68
Waterloo Boy	51

### CLEANERS, FANNING MILLS AND PICKLERS.

Aime Pickler	6-21
Deering	11
Chatham Fanning Mill	27
Foston Fanning Mill	21-31
Grand Detour	31
Hero Fanning Mill	31
Hero Pickler	32
Jumbo Grain Cleaner	32
Superior Fanning Mill	29
Webber Grain Cleaner	11
Wonder Fanning Mill	19

### HARVESTING MACHINES.

Champion	33
John Stevens	19
Frost and Wood	19
Massey-Harris	39
Massey-Harris Corn Harvester	39
McCormick	33
Noxon	33

### HAY LOADERS, HAY PRESSES, HAY TOOLS, MOWERS, RAKES, SWEEP RAKES, HAY STACKERS, ETC.

Bradley Hay Press	43
Buffalo Hay Press	51
Case, J. I. Hay Press	33
Champion Hay Rake	33
Champion Mower	33
Champion Side Delivery Rake	33
Dain Hay Loader and Stacker	21
Dain Hay	21
Dain Side Delivery Rake	21
Deering Hay Stackers	33
Deering Sweep and Hay Rake	33
Deering Mower	33
Frost and Wood Mower	19
Frost & Wood Champion Hay Loader	19
International Hay Stackers	33
International Sweep Rake	33
International Hay Press	33
Jenkins Sweep Rake	11
Keystone Side Delivery Rake	33
Louden Hay Tools	34
Massey-Harris Mower	39
Massey-Harris Sweep Rake	39
Massey-Harris Hay Tedder and Mower	2
Massey-Harris Side Delivery Rake	39
McCormick Hay Stackers	33
McCormick Hay Mowers	33
McCormick Sweep and Hay Rake	33
Noxon Mowers and Rakes	33
Rook Island Hay Loader	62
Success Hay Loader	19
Tiger Steel Rake	19

### HORSE POWERS AND JACKS, SAW MILLS, WOOD SAWS AND TREAD POWERS.

Brandon Wood Saws	6
Caters Wood Saws and Jacks	7
Cockshutt Horse Powers and Jacks	6
Enterprise Saw Mills	18
Fairbanks' Wood Saws	7
Flury's Wood Saws and Tread Powers	21
Geier Saw Mills	21
Gaer Saw Mills and Horse Powers	9
Good, Stapley & Muir Wood Saws	19
Horse Powers, Tread Powers, Bevel Jacks	58

### LAND ROLLERS AND PULVERIZERS.

Canton Land Roller	33
Canton Packer	33
Campbell Sub-Surface Packer	33
Cockshutt Land Roller	19
Cockshutt Pulverizer	19
Wilkinson Land Roller	61
Verity Land Roller	39
Deere Land Roller	21
Flury's Pulverizer	21
Edwin Stearns' Packer	33
Hamilton Pulverizer	271
Hilborn Pulverizer	64
Moline Parallel Pulverizer	11
Verity Land Roller	39
Verity Pulverizer	39
Watson's Flexible Pulverizer	69
Watson's Land Roller	69

### MANURE SPREADERS.

Clover-Leaf	33
Corn King	33
Great Western	61
Hawkeye	51
Manly	11
Massey-Harris	9
National	11
Success	21

### GANG PLOWS, ETC.

Canton	33
Case	29
Case, J. I. Engine Gang	29
Canton Mould Engine Gang	33
Cockshutt	19
Cockshutt Engine Gang	19
Deere	21
Deere Engine Gang	21
Emerson	64
Emerson Engine Gang	61
Grand Detour	9
Maw Hancock Disc	61
Moline	11
Moline Engine Gang	11
New Ellipse	61
Paris	49
Railroad Grading and Rooter Plows	58
Rook Island	60
Verity	21
Wilson	27

### PORTABLE GRAIN ELEVATORS.

Aime	51
Carberry	15
Cyclone	29
Grand Detour	29
North Star	29
Taggart	9
Ward	29

### POTATO AND BEET MACHINERY.

Aspinwall Potato Planters and Sprayers	19
Aspinwall Sorters and Cutters	19
Canton Potato Diggers and Beet Tools	33
Deere Potato Diggers and Beet Tools	21
Dowden Potato Harvester	21
Egan Potato Sizer	42
Evans Potato Planter	2
Eureka Potato Planter	21
Hallow Potatoes Digger	19
Hilborn Potato Digger	19
Iron Age Potato Planter	61
Iron Age Potato Digger and Sprayer	61-65
Moline Knecker Potato Digger	11
Splitstower Sprayer	21

### RIDING ATTACHMENTS, HARROW CARTS, WHEELBARROWS AND HAND CARTS.

Cockshutt Wheelbarrow	19
Cockshutt Harrow Cart	19
Deere Harrow Cart	21
Deere Harrow Cart	21
Edipase High Harrow Cart	29
Emerson Harrow Cart	64
Flury's Wheelbarrow	21
Fuller & Johnson Harrow Cart	61
Kramer Rotary Harrow, Man. 21	21
Alta & Sisk	21
Naylor Harrow Attachment	29
Paris Wheelbarrow	49
P. & O. Hand Cart	33
Racine Rotary Harrow	29
Success Harrow Cart	11
Verity Wheelbarrow	39
Watson's Wheelbarrow	69
Wilkinson	61

### ROADS CRAPERS AND ROAD MACHINES.

Cockshutt Scrapers	19
Good Roads Machinery	68
Indiana Road Machines	64
Russell Elevating Grader	32
Standard Reversible Grader	21
Toronto Pressed Steel Scrapers	61
Sawyer & Massey Reversible Grader	58

### SEEDING MACHINES.

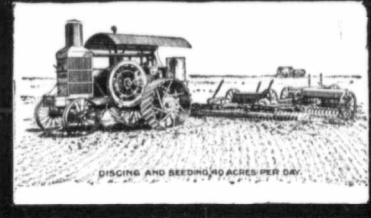
Cockshutt	19
Deering	7
Frost & Wood Champion	19
Hooter	14
Imperial	60
Kentucky	2
Massey-Harris	39
McCormick	33
Monitors	29
Superior	2
Sylvester	63
Tiger	21
Van Brunt	21

### THRESHING MACHINERY, SELF-FEEDERS, WIND STACKERS AND ATTACHMENTS.

Advance	1
American-Abell	1
Aultman & Taylor	38
Belle City Thresher	33
Bell, Robt.	5
Brandon Feeder	8
Brandon Cornell Engine	6
Buffalo	32
Cascade	34
Case, J. I.	17
Dakota Weigher (ask any Thresher Co.)	26
Foston Wind Stackers	31
Gaar-Scott	25
Geier	9
Goodson	33-68
Hawkeye Feeder	18-51
Hartley Weigher	6-58-67
Minneapolis	1
Monarch Feeder	31
Nichols & Shepard	46
Northwest	47
Parsons Feeder	18-51
Peoria Weigher	18
Perfection Weigher (ask any Thresher Co.)	12
Port Huron	12
Ruth Feeder	54
Rumely	66
Rumely	66
Ruth Feeder	18-51
Sawyer & Massey	58
Sylvester Auto-Thresher	31
Waterloo	67
Waterous	68
White, Geo.	



Does It Pay  
To Own



# A Modern Farm Horse?

## HART-PARR GAS TRACTOR ASK THE MAN WHO OWNS ONE

HE IS THE MAN WHO SHOULD KNOW AND DOES KNOW  
WE ARE READY TO STAND BY HIS VERDICT FOR WE  
CAN TELL YOU IN ADVANCE JUST WHAT IT WILL BE

**As a Time Saver** The HART-PARR engine is ready to run the moment you reach it in the morning. The engineer sleeps as long as the rest. There are no flues to clean, no ashes to rake out, no steam to get up and no danger of frozen or bursted pipes. No waiting to run down steam at night, no fires to bank and no boiler to clean. You can do an hour's work and be on the road while a steam engine is getting ready to start.

**As a Money Maker** With a HART-PARR you dispense with a fireman, water boy, fuel boy, water and fuel wagons, water and fuel teams. It is strictly a one-man power. Your fuel bill is cut at least one-third, and in many localities much more. The saving in wages and fuel generally equals the yearly profit of the average steam rig. With a Hart-Parr your expenses stop when the engine stops.

### AS AN ALL PURPOSE ENGINE

The ownership of a HART-PARR TRACTOR makes the large farmer who raises considerable grain, practically independent. He can do all of his heavy work with his engine and do his threshing early, saving all his grain in perfect condition. After threshing comes baling, plowing, seeding, discing, sawing etc., all of which can be done with this all-purpose, general utility engine, cheaper, quicker and better than with any other form of power. Hundreds of Hart-Parr engines are now used as hauling engines and for general construction work. Are you interested? *Catalogue for the asking.*

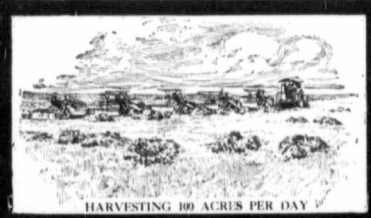
**Don't forget that the Hart-Parr is the best thing you ever saw to pull 3 or more binders.**

**WHAT IT HAS DONE FOR OTHERS IT WILL DO FOR YOU**--Remember that the daily feed of this *Modern Farm Horse* is *Kerosene*--and the cheapest grade of kerosene at that. You can buy low-grade kerosene anywhere for 5c. to 8c. per gallon less than gasoline. One gallon of kerosene produces even more power than a gallon of gasoline. Just consider the daily saving. Remember also that expenses stop when the engine stops. **DON'T DELAY LONGER -- WRITE US TO-DAY**

Made in 3 sizes---30-45 and 80 Brake H.P.

# HART-PARR CO.

30 MAIN ST.  
PORTAGE LA PRAIRIE  
• MAN •



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**T**HE 'JUNE BRIDE AND THE  
"CASE" OWNER ARE BOTH  
TO BE CONGRATULATED

*One has acquired a husband to make  
a home for her--the other has acquired  
the foundation of a business whose  
earnings will in a short time make a  
home to which he also can take a bride.  
"Old Abe" is the power behind many  
a happy home.*



**J. I. CASE THRESHING MACHINE CO.**

INCORPORATED

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