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# CANADIAN THRESHERMAN & FARMER



CANADA'S FARM MACHINERY MAGAZINE

WINNIPEG

CANADA

MARCH, 1913



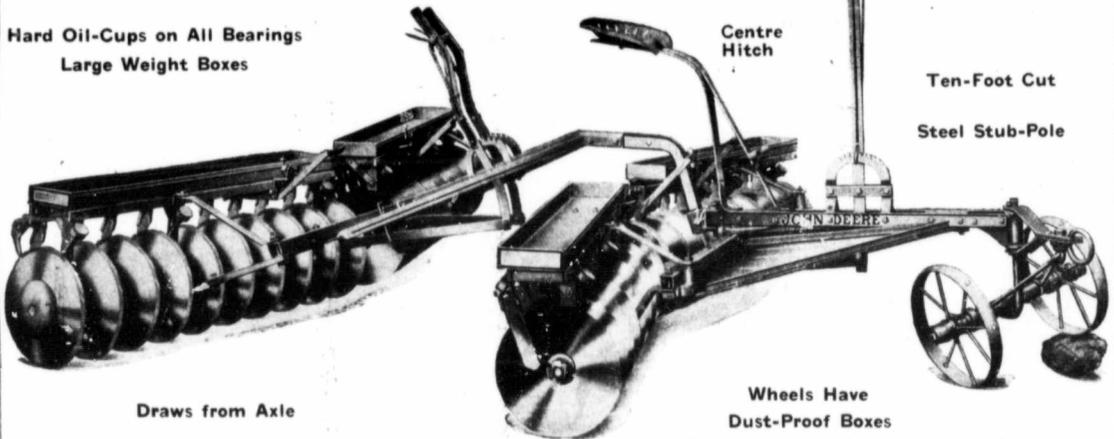
EASTER

E.H. Heath COMPANY Publishers  
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ELEVENTH YEAR

# JOHN DEERE IMPLEMENTS

## JOHN DEERE DOUBLE-ACTION DISC HARROW

Hard Oil-Cups on All Bearings  
Large Weight Boxes



Centre Hitch

Ten-Foot Cut

Steel Stub-Pole

Draws from Axle

Wheels Have  
Dust-Proof Boxes

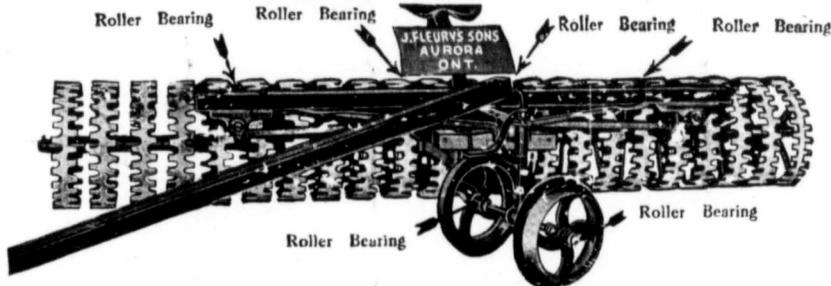
### Powerful Construction

is necessary in any implement that is operated by engine power. A breakdown not only causes delay, but may prove costly in wasting valuable time at an important season of the year. On the John Deere Double Action Engine Disc Harrows the hitch, frames and bearings are large and heavy and will stand the hardest usage. Special attention has been given to these parts which are subject to hard wear, and they have been made doubly strong.

### The Success of the Seed Bed LIES IN DOUBLE DISCING

One trip does twice the amount of stirring and pulverizing that a single disc harrow will do. The ground is worked both ways and leaves it level for planting. Furrow slices are broken up and pressed down. The moisture is thus conserved. The land is prepared in half the time and the wear and tear on the engine is reduced to one half. This is an implement every big farmer should have and can use with profit.

## FLEURY ROLLER BEARING PULVERIZER



### Makes a Good Seed Bed

It is a well known fact that if the seed bed is to retain sufficient moisture to aid in the proper growth of the plant, the soil must be finely pulverized and packed around the seed.

The Fleury pulverizer is especially designed for this work. Every farmer should have one.

The sections are so constructed that they will pulverize all large lumps and pack the soil, making a perfect seed bed.

Equipped with a two-piece axle, it is entirely flexible and conforms to uneven ground. It will work in a dead furrow or over a ridge, as well as level land.

### Roller Bearings Save Money and Labor

To do the work a pulverizer is designed to do, it must necessarily be a very heavy implement. The Fleury is heavy enough for all conditions of soil.

HEAVY, YET LIGHT IN DRAFT. Six sets of dust-proof roller bearings explain this. The draft and wear and tear are reduced by one-half.

Equipping a pulverizer with a roller-bearing tongue truck is one of the greatest improvements ever brought out on any implement.

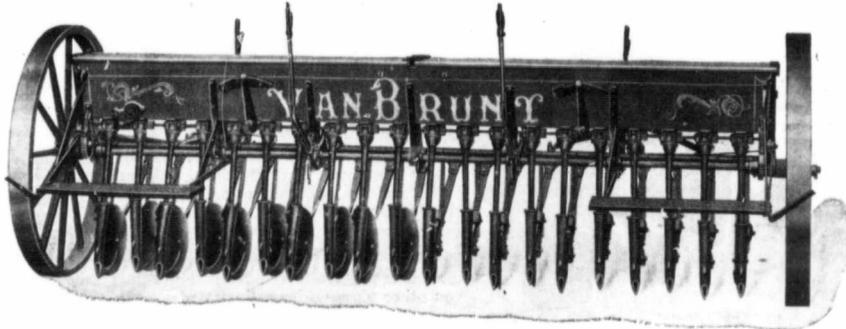
The jolting, which occurs from going over uneven ground, and the dead weight falls on the truck. On any other type of pulverizer it falls on the horses' necks. This will chafe your pocket book just as it does the necks of your horses. GET A "FLEURY." IT WILL SAVE YOUR MONEY AND YOUR TEAM.

## John Deere Plow Company, Limited

WINNIPEG REGINA CALGARY SASKATOON EDMONTON LETHBRIDGE

# JOHN DEERE IMPLEMENTS

## VAN BRUNT



**The Drills that have made their way by the way they are made**

The highest grade farm tools are the most profitable to buy. The purchaser of any farm tool wants satisfactory service above everything else. Only the highest grade implements give that service.

The **Van Brunt** line of grain drills has been added to the John Deere line, because the name "**Van Brunt**" stands for highest quality in the grain drill world, just as the name "**John Deere**" stands for highest quality in plows.

The farmer who buys a **Van Brunt** grain drill has the assurance that he is getting the latest and highest class of drill, which will give a long and satisfactory service.

**Van Brunt** drills are the result of years of experience in manufacture and field work. They are built from the best material, strong, light draft and do the highest grade of work.

Call at the store of your nearest John Deere dealer. Look the **Van Brunt** drill over. Its many points of superiority will quickly appeal to you.

Made in 12, 14, 16, 18, 20, 22 and 24 sizes. Single, Double Discs or Shoes interchangeable.

### Lighter Yet Stronger

The strong, light weight, light draft drill. Two to four hundred pounds lighter than any other type of drill. Why have your team haul around all day three or four hundred pounds unnecessary dead weight? It costs money to do this. Improved construction has done away with all unnecessary weight. Axles are strong and run from one wheel to the other—no sagging in the centre—Wheels stand up straight and do not lap over.

### FORWARD DELIVERY

Seed is delivered near the centre of the disc where the furrow is wide open. Closed disc boots convey the seed down into the furrow without being deflected by coming in contact with the upward turn of the discs.

### Van Brunt Drills

Will do first class work in soil that can be seeded, and will not clog or choke in mud, gumbo, sticky or trashy ground.  
All Disc Bearings that wear out will be replaced free.

### Adjustable Force Feed

The feeds are uniform. Each one deposits the same quantity at all times.

There is no leaking. The seed case is cast in one solid piece. All other parts are fitted into place accurately at the factory and made seed tight.

Feed can be regulated without changing the gears.

### OTHER SUPERIOR FEATURES

Tilting levers provide for adjustment to suit different size of horses.

Double feed device. Each feed drives half the machine.

Gear drive—no chains to work loose or wear out.

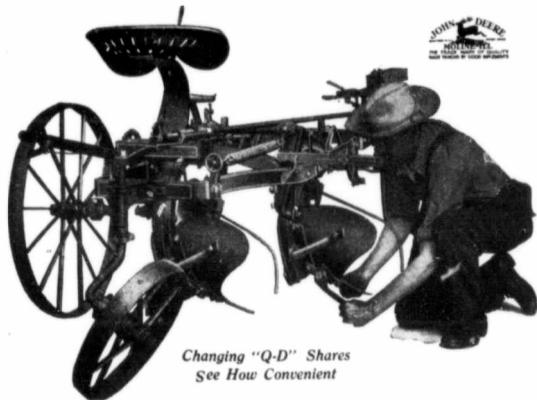
*Get Quality and Service. John Deere Dealers Give Both.*

# John Deere Plow Company Limited

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# JOHN DEERE IMPLEMENTS

## Look At These Pictures



Changing "Q-D" Shares  
See How Convenient

### Each One Tells Its Own Story

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

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

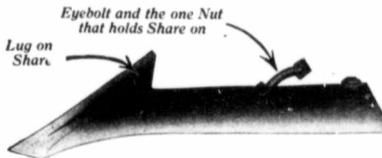
It is a demonstration of the high development of John Deere Plow Bottoms. Features that give Quality and Service are built into these plows, that mean Time, Money and Convenience to every owner.

### Now Look At Bottom Picture

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

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

Far in the Lead  
and  
Still Achieving



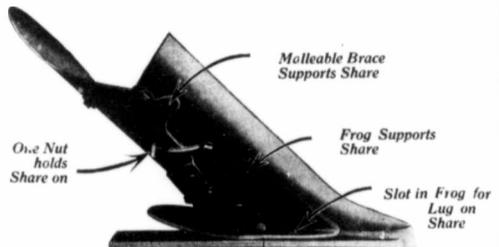
### Always Ahead

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

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

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

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



### Consider Your Own Comfort

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



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

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**Seeds**

**1913 Catalogue Now Ready**

80 pages brim full of good things. Contains valuable information for the farmer, market gardener and private planter. 12 pages of the latest and best, world-wide introductions. Valuable premiums. Your choice of 6 new varieties still unnamed (not for sale until 1914) absolutely free with every order, large or small. Don't delay writing. Mail this with your name and address. Your request will receive special attention. State if you grow vegetables or flowers for market, as we have a special price list. Write to-day while it's fresh in your mind.

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also furs, positively made to measure. Fully illustrated catalogue free. Prices absolutely below any house in Canada. Medium priced goods, quality and fit are our strong points. We will give 15% discount to all new customers on their first order.

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**In Answering Advertisements** in this Magazine be sure and mention where you saw the advt. Remember we guarantee the reliability of all our advertisers.

**About Ourselves**

**W**E are going to let you into a little secret that we have had on our mind for some considerable time. We had the matter all ready to spring on our readers some three or four months ago, but conditions prevented our doing so. We feel now, however, that we can at least let you into a portion of this secret. It is this: We are going to change the name of the Canadian Thresherman and Farmer.

We are by no means ashamed of our present title. As a matter of fact we are proud of it. It has stood for much in Western Canadian farm journalism. It has established precedent after precedent that our competitors, or rather contemporaries, have been pleased to follow.

Take, for example, the matter of excluding advertising from the front cover. We felt that the readers of our farm journals get sufficient advertising on the inside pages, and that it was not necessary but rather distasteful to them to have it served up before they even got a chance to look on the inside.

Again, take the matter of colored covers. We feel, in fact we know, that the farmer appreciates a good thing just as much as does anyone else. Consequently, why not dress his farm magazine in attractive clothes.

The average farm home is lighted by a kerosene lamp and with the grade of oil on the market today it is by no means a pleasing light to read by. We have endeavored to give our readers a broad clear face of type in the reading matter of our magazine. We want our readers to be with us for years and not such as fall by the wayside on account of disabled eyes.

Our guarantee is another matter of which we are proud. No other farm magazine in Canada, so far as we know, has ever dared to go the length that we have in this respect. This guarantee has cost us thousands of dollars in advertising, but it has saved our readers many times these same thousands by their not getting into touch with all sorts of fake schemes.

And thus we might go on. We have always tried to stand for good, clean, instructive, agricultural journalism, and if at any time we have erred it has been through lack of knowledge and not voluntarily.

Now as to the change of name. We are not as yet prepared to say just what we shall call it, but you can rest assured that it will be an improvement upon that under which we at present circulate.

We are not going to change our present policy or in any way alter the character of the magazine, only in so far as we can improve it. Better farming and a more intelligent use of farm power will be our main theme. Better farming is, of course, a broad subject, and includes such subjects as Soils, Seed, Tillage, Harvesting, Threshing and Marketing the Crops. It includes Good Roads, Farm Buildings, Farm Economics, etc., etc. Better Farming is nothing more than Farming Better, and it is our desire to scatter the latest and best farm knowledge among our readers in so far as it is possible for us to do so. We do not want you to feel that in changing the name of this magazine we are in any way going to change its usefulness to you. In fact, it is our desire to broaden its scope, which means a bigger and a better magazine. Next month we hope to be able to announce our new name. Watch these columns in our April issue.



**In the Kitchen**

- THE SINK  
Spigots  
Drain Pipe
- UTENSILS  
Enamel  
Tin, Iron
- FLOORS  
Tile  
Linoleum  
Wood
- CUTLERY  
Steel-Knives  
Forks  
Spoons

**All Cleaned Scoured AND Polished**  
Quickly and Easily with—



**Old Dutch Cleanser**  
Chases Dirt

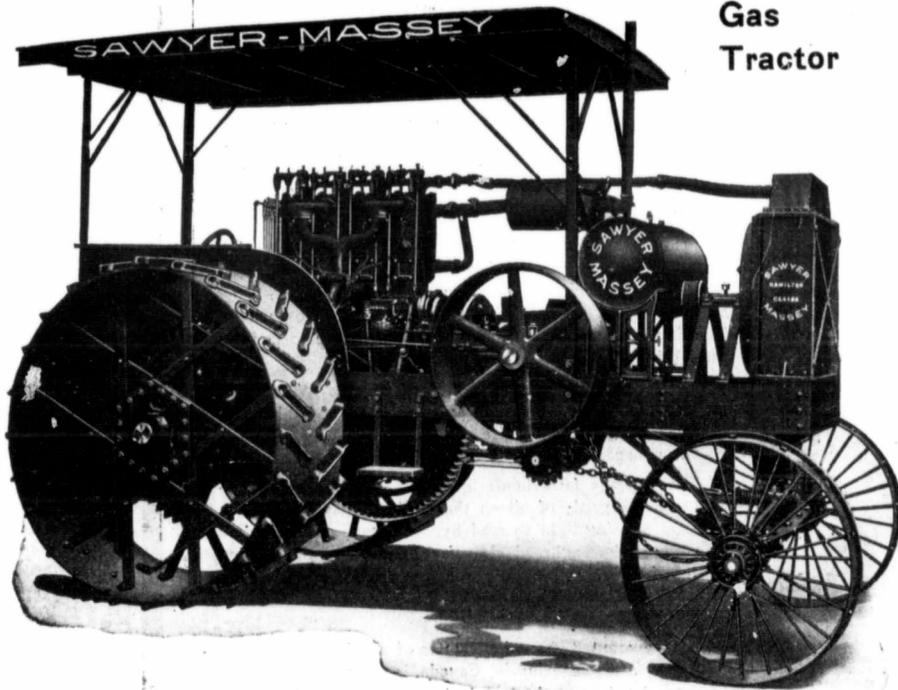
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Dependable - Economical - Safe

For years Threshermen have been familiar with the Steam Tractor—while the Gas Tractor has been looked on as more or less of a mystery.

Today the general use of the automobile and the growing popularity of the stationary gas engine for farm use, have convinced the public that the Gas Tractor is a dependable, economical and safe form of

POWER FOR PLOWING AND THRESHING

The SAWYER-MASSEY Gas tractor is the best type of this class of engine. It is designed by competent engineers to meet the requirements of the Canadian farmer for plowing and threshing. It is built by skilled workmen from the best material. Although rated at 25 nominal horse power and 45 brake horse power, the SAWYER-MASSEY Gas Tractor developed 52 horse power in the brake test at Winnipeg. Our Gas Tractor Catalogue will give you full details. It will be sent on request.

Our representative will be pleased to call on you and discuss the question of power for your farm. We build a complete line of steam engines, threshers and road-making machinery.

Further specifications given in our new Illustrated 1913 Catalog which we will send to you for the asking

SAWYER-MASSEY COMPANY, Limited

Builders of Canadian Farm Power Machinery, including Steam and Gasoline Traction Engines, Threshers, and Road-Making Machinery

Head Office and Factory:

HAMILTON, ONTARIO

BRANCHES-WINNIPEG MAN. AND REGINA SASK.



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

THE modern grain drill has largely replaced the other methods of putting in the seed. It has many advantages over the broadcast method, as the seed is placed at a uniform depth, is given a good covering; and, instead of following with a disc and harrow, the work is completed by going over the field but once. Then too by using any of the different furrow openers and presswheel attachments, the seed bed may be prepared and left in the most favorable condition. This machine is one of the most useful of all implements of the farm and, at the same time, very easily operated; yet upon its successful operation depends, to a large extent, the uniformity of the crop.

The requisites of a grain drill may be summed up under four heads:

- (1) Furrow openers that will make a proper seed bed, and deposit all the seed at any desired depth in any kind of soil, mud, gumbo; or in soil containing cornstalks, roots or rubbish.
- (2) An adjustable force feed that will discharge all kinds of seed evenly, and the same quantity in every drill.
- (3) Light draft and light weight throughout, without sacrifice of strength sufficient to provide against any excessive strain it might have to withstand at times.
- (4) Long wear with few repairs.

In the study of the drill each part will be considered separately, paying special attention to the different styles of construction, material used, and a comparison of the different types.

**Frame.**—The frame should be strong, but as light as possible, especially should the strength be considered if the drill be over ten feet in width. Angle bars, rectangular iron or round or square

## The Grain Drill

By PROFESSORS C. A. GILMORE and H. MILNE

pipes are used to make the main frame. Sometimes a combination of them is used to make up a frame. The bars are often bent at the corners and supported by

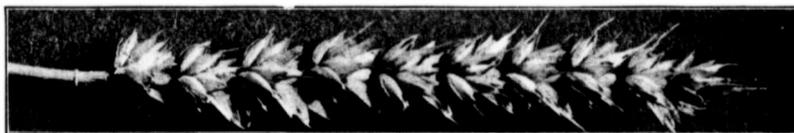
be reinforced by rivetting a cast corner on the bent bars. This last method makes a secure corner. The back part of the frame may have a light I beam its entire



"Three heads are better than one."

a short brace, with a run of about one foot across the corners. Sometimes the bars are cut at the corners, and a cast iron corner rivetted to the bars to hold them in position. The bent corners can

width to support it as shown in Fig. 1, or the entire strain may be allowed to come on a well trussed box, and the axle, which is usually a continuous axle under such conditions as are shown by Fig. 2.



A combination of the I beam and truss rods may also be used, thus decreasing the size of the I beam. It is an advantage to have all joints in the frame, brackets or reinforcements rivetted securely, as it is sometimes difficult to keep nuts tight where two thin plates are bolted together. Whatever style of frame is used it should be well trussed, making it impossible for the machine to sag in the middle, which will cause the wheels to incline, and often rub against the grain box, thereby increasing the draft and making it difficult for the driver to gage an even width between the two outside drills. Tongue trucks are often used on drills and take weight off of the horses' necks and balance the drills. If trucks are not used the drill should be well balanced to be as easy as possible on the horses. Of course in travelling over hilly land the drill will not be well balanced, as the load will be thrown to the front or rear of the axle.

**Seed Box.**—The seed box should be of good material, and well put together with iron ends. Wood is more generally used for the seed box, and besides being light is durable, if of good wood and protected from the weather. The box should be of good capacity, and well braced or trussed to prevent sagging; also with sufficient clearance between the wheels and box, especially is this important when working in muddy, trashy ground. The bottom is generally made of angled steel so that it can be easily cleaned of all seed.

**Feeding Device.**—Upon the reliability of the feeding device depends the uniformity and accuracy of drilling. It is the heart of the grain drill, and must assure even distribution of the grain; therefore it should be adjustable, positive and accurate. Two

types are in use—fluted seed cell, and the internal feed. The most common type is the former, which consists of small fluted wheels

the centre of the drill and carry braces which strengthen the front of the frame. In this construction the axles on which the

lowering or raising the furrow openers. Having the seed shell shaft in two sections, necessitates having both wheels drive, and

**Furrow Openers.**—Drills differ mainly in the types of furrow openers, which in most cases are made interchangeable by the manufacturer so that the user may use the type best suited to the conditions of the soil. The types used on drills are the hoe, shoe, single disc, and the double disc.

**Hoe Drill.**—The hoe drill consists of a cast pipe or spout with a steel point securely riveted to it. This steel point is sharp with a little curve ahead; thus giving it good penetrations, and also long wearing qualities. The hoe is usually provided with breaking pins, or trip springs, which allow the hoe to straighten back when it catches on something solid, such as a stone or a stump, and allows the machine to pass over without breaking the hoe. (Fig. 6). The hoe drill has good penetrating qualities, long life—as there are no bearings to wear—and medium weight; but its great drawback is the tendency for rubbish to gather around the point and stop up the seed opening which is directly behind the steel point.

**Shoe Drill.**—The shoe drill consists of a bar sharpened on the bottom edge. At the end the sharp edge is slightly rounding, which drags over the soil, and by applying pressure is forced into the ground, making a very narrow opening. The seed is conveyed down through a cast boot, attached to the bar, and drops close behind, before the banks of the opening have time to close in.

**Double Disc.**—The double disc consists of two flat discs about 14 inches in diameter, which revolve on an axle of such a shape that they close at the front, and about 1 1/4 inches apart at the rear. These discs cut and crowd the soil to each side forming a seed bed with a small peaked ridge in the centre and bottom of the opening. This ridge tends to spread the seed, not crowding

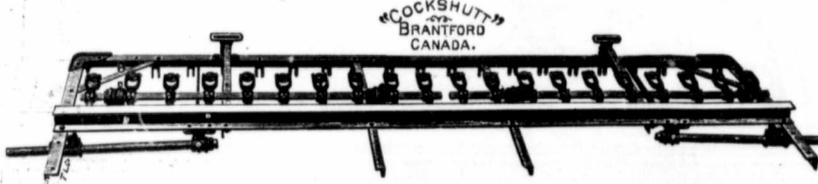


Fig. 1. Frame of Cockshutt Drill.

attached to a seed shaft and runs in seed shells in the bottom of the grain box. A clearer understanding of this type of force feed may be had by referring to Fig. 3. The

wheels revolve are supported by a well trussed seed box. This style of mounting is hard on the wheel hubs, especially if the drill is wide and heavy.

makes it easier on the operator, as he can raise half of the gangs at a time. One half of the furrow openers can be left in to finish a narrow strip, or permits drilling

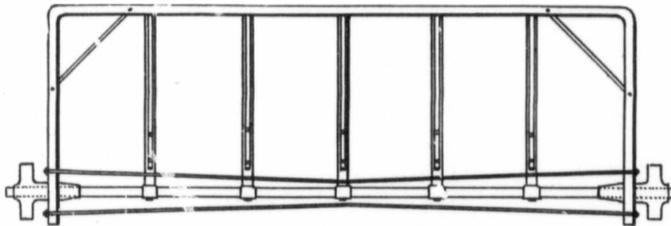


Fig. 2. Frame of Van Brunt Drill.

feed is varied by exposing more or less of the fluted feed shell. The delivery is very uniform, but gives some trouble in cracking the grain. Some drills have a means of regulating the size of the seed outlet. By this device seeds of any size can be sown in an even, continuous stream, without bunching or breaking the kernel. This regulating device is shown by Fig. 3.

Fig. 4 shows the internal feed device, which consists of internal cells, which are uniform in size, attached to a revolving wheel, which receives its motion from the main axle. The amount of seed is regulated by varying the speed of the shaft carrying the seed shell.

In order to handle successfully seeds of different size the seed shell is made with two flanges with seed cells of different sizes in each, as is seen by referring to Fig. 4; one side being adapted to the seeding of large seed such as corn, peas and beans; while the other for such seeds as rye, flax and alfalfa: A hinged cover in the seed box permits the seed to pass out through the passage which is uncovered.

Axles are either stub or continuous. The stub axle consists of an axle of about thirty inches long, which revolves in self-aligning bearings fastened by brackets, securely rivetted to the frame. On these axles the wheels are securely keyed, as is shown by Fig. 5.

Sometimes on drills that have not the I beam, to support the back part of the frame these stub axles are long enough to meet in

The continuous axle is used on both styles of frames. Sometimes one wheel is fastened securely to the axle, thus causing the axle to revolve while the other wheel is

deeper with one half, should there be occasion.

**Seed Tubes.**—The common methods of conveying the seed from the seed box to the boot of

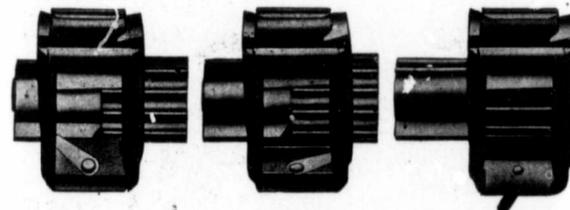


Fig. 3. The Van Brunt Adjustable Force Feed.

**Regular Position.** Fasten all Gates with Latches on left side to sow all kinds of small grain and seed.  
**For Coarse Seed.** Fasten all Latches on right side to sow Peas, Beans, Corn or Bearded Oats.  
**To Clean Feeds.** Loosen the Latches, drop the Gates and raise the Drill Pole to clean out Feeds.

left loose on the other end, doing away with any dogs or differential gearing.

Other drills have a set of ratchet dogs in each wheel, which act as differentials, thus allowing both wheels to drive the feed. As the feed shells are not very hard to drive, one wheel will do the work easily, and by leaving the other loose gives much simpler construction. On other drills the wheels revolve on the axles. In drills where the axle revolves, the feed shells are driven from the axle by means of a train of gears, or by sprocket wheels and a chain. When wheels revolve on the axle, the gear wheel is usually fastened on the hub of the wheel. In most cases if the width is greater than seven feet, the feed shell shaft is in two pieces and has two sets of gears, which are thrown in and out of gear by

the drill is through rubber, steel ribbon, or coiled wire tubes. Rubber tubes are quite satisfactory and are largely used, but if exposed to the wet and sun are not so durable. An advantage is that they are not subjected to dents. Steel coiled wire is very satisfactory until once stretched, for it cannot be satisfactorily repaired, and causes the grain to spill. The flexible steel ribbon tubes are very serviceable, and are perhaps the most extensively used. On raising and lowering drills with double discs, seed tubes often become "jammed," denting or cutting them. In all cases the seed tubes should adjust themselves to any position of the boot, and be so constructed as not to hinder the passage of the grain from the box to the boot, which would cause a strip to be left with no seed.

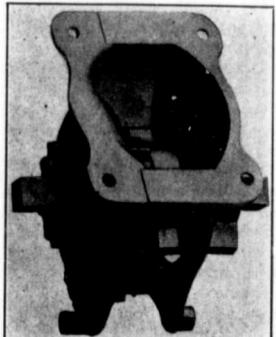


Fig. 4. Showing Internal Feed of Deering Drill.

it into a narrow shaped opening as the shoe does.

**Single Disc.**—As the name applies the single disc, consists of

one straight disc which revolves on an axle at an angle which gives it a little suction. The seed is carried down a metal spout and

types will pass quickly back into the earth if raised by an obstacle on account of such a small bearing surface on the ground.

but one. On many drills, however, the single disc bearing is so easily oiled. Fig. 8 shows a method of oiling the bearings

wet to seed if a good crop is expected.

**Covering Devices.**—Covering devices are often used in the shape of trailing chains, or press wheels. The object being to cover the grain and to leave the surface of the field in the best of condition.

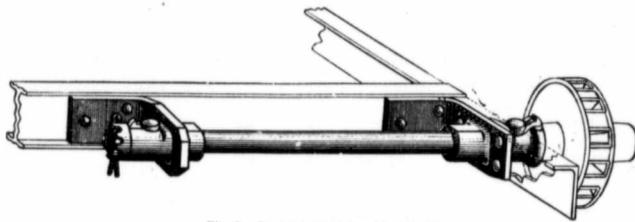


Fig. 5. Steel Axle on Massey Harris Drill.

dropped directly under the axle of the disc.

In both types of discs it is essential that they have large bearings, which can be greased or oiled readily. Also that there be some means of excluding sand and dust (Fig. 7). A very little wear

The single disc leaves a very loose surface, making it necessary—if the soil is light—to follow it with some kind of packer. The double disc leaves a seed bed almost as compact as the shoe, and is usually acknowledged to be the better type for light land. The

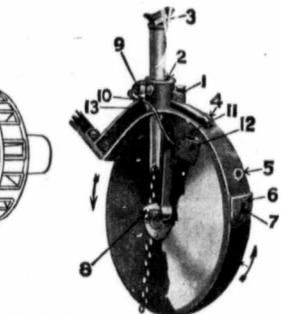


Fig. 11. Double Disc on a Monitor Drill Showing how Seed is Deposited

with provisions to exclude sand and dust.

In selecting a drill the conditions under which they are go-

Table Showing Distance Travelled and Number of Turns of Wheels of Drill and Acre

Width of Drill	Distance travelled in rods to drill an acre	Diameter of wheel in inches	Number of turns of wheel to drill an acre
7	377	40	593
		44	541
		48	500
8	333	40	518
		44	473
		48	433
9	293	40	415
		44	420
		48	386
10	264	40	400
		44	378
		48	347
12	220	40	345
		44	315
		48	290



Fig. 7. Van Brunt Single Disc.

on the bearings makes a considerable difference to the set of the disc, and as the quality of the work depends on the set of the discs it is important that they remain in a good position on the shaft. Either style of disc will

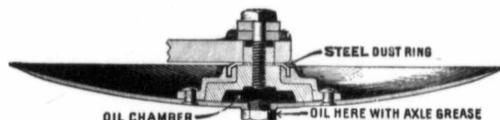


Fig. 8. Massey Harris Single Disc Showing Method of Oiling.

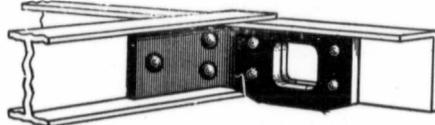


Fig. 9. Showing Method of Bracing Force on Massey Harris Drill.

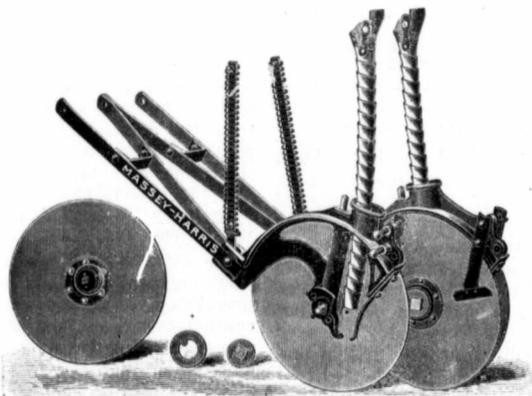


Fig. 10. Massey Harris Drill Showing Flexible Steel Ribbon Tubes.

cultivating effect of the single disc is good, making it a popular type for the farmer, if he has not prepared the land before putting in the seed. The penetration is good, in fact almost to a fault on thoroughly prepared land, as the depth is liable to be too great when the gears are in mesh. One half of the single discs must be turned in the opposite direction from the others to avoid side draft, thus leaving slight ridges at the centre necessitating harrowing to leave a smooth surface. The double disc has two bearings to oil, while the single disc has

ing to work must be taken into consideration. The disc drills are used extensively in the West, but

Trailing chains are used almost universally, as they cause little extra draft. In certain sections, as semi-arid regions, or in loose soil, press wheels are used, as pressing the soil causes the seed to germinate more rapidly, and with greater certainty; and, at the same time enabling the plant to withstand droughts better than where the soil is not pressed. The press wheel attachment should be made detachable as is the case with most drills, permitting removal when it is not desirable to use it. In some cases most of the weight of the drill is required to force the openers in the ground, and in this case the press wheel attachment is of little use. The press wheels are almost unheard of in some parts of America, as the condition of the soil, and the climatic conditions, do not warrant the inconvenience and extra draft caused by this attachment. Conditions determine the kind of trailing devices, as all that is required is that the seed be well covered and the surface left in a condition to avoid too great evaporation and hinder water running in the opening made by



Fig. 6. Shoe of Cockshutt Hoe Drill.

cut rubbish better, and deposit the seed at a more uniform depth than the other kinds mentioned. Unlike the shoe drill the disc

they sometimes give trouble in very wet, sticky land. In the majority of cases, when the disc drill will not clean, the land is too

the furrow opener, thus washing out or uncovering the seed, as might be done in rolling land after a heavy rain.

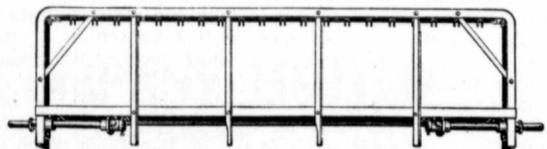


Fig. 13. Frame of Massey Harris Drill.



Everything Begins and Ends with the Soil

# The CANADIAN THRESHERMAN & FARMER

CANADA'S LEADING AGRICULTURAL MAGAZINE

PUBLISHED MONTHLY BY

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J. D. DUTHIE, EDITOR      C. B. FULLER, FIELD REPRESENTATIVE

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MARCH, 1913

## UNEXPLORED SOIL CONTENTS

### SUBSCRIPTION RATES

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Advertising rates furnished on application

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

**F**IELD TRIALS OF ALFALFA have been conducted for some time in Western Canada with varying results, but the very poorest of these demonstrate beyond all doubt that, with decent attention, this priceless legume can be raised and is being grown in the three provinces of Manitoba, Saskatchewan and Alberta with no less satisfactory returns on the average than it is yielding in most of the states across the line. We cannot in one platiful hand out all the returns that have reached us, but in this issue a few of these will be found; we invite the most searching inquiry and will continue to publish details as space permits.

**NO FAULT CAN BE FOUND** with local conditions except where (as in the most prolific alfalfa country to the South) there will occur patches which were never intended for this crop; where it might be grown, how-

ever, were the absentee soil constituents made good, but no one will care to speculate in artificial methods while the natural plant-feeding properties are to be found almost everywhere in abundance, only awaiting a common-sense application of the very modest requirements of nature.

**MUCH WILL DEPEND ON THE SEED.** At a recent conference in Eastern Canada a very able paper on the alfalfa crop was read by one who had experimented successfully, and who had made an exhaustive inquiry among his neighbors who had been using their land and their brains to the same end. One important conclusion was that where acclimatised or home grown seed of good quality had been employed in the experiments, there had been an all but uniform success. Disappointment had invariably followed the use of imported seed, especially from the middle and distant south, but this is only what is to be expected, not only from alfalfa, but from any experiment in which an exotic is suddenly dragged from its warm bed and dumped without ceremony or apology into any old soil.

**BUT THIS IS OLD NEWS** to many of our readers. For years quite a number of farmers and Canadian seedsmen have been quietly but steadily working with alfalfa, not in small experimental plots, but in bulk and with astonishing results in many cases; so much so that we venture to say that any one desiring seed upon which he may reasonably bank in producing the most gratifying results can now obtain it in fair quantity and at a reasonable figure. What he has got to do on his part is to ascertain that the land which he purposes to set aside for it is not an impossible patch of swamp or for other reasons unsuitable for alfalfa.

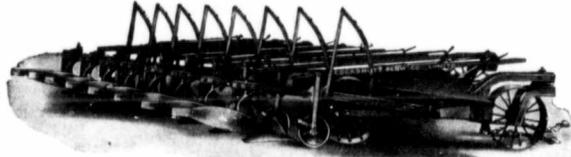
**THERE ARE NOT MANY FARMS** if there is one in Western Canada some considerable portion of which is not perfectly adapted for alfalfa. The weakness is not in the soil or even the climate. So far it has been on the part of

the farmers. Wheat, everlasting wheat, has engaged so much of their attention that they simply have not bothered, not only with alfalfa but with other things of no less import to first rate agriculture—corn to wit. With all our research in these parts there are still "unexplored remainders" in the soil content of our very back yards that hold (in solution, figuratively speaking) a wealth of productive energy representing "riches beyond the dreams of avarice."

**SOMETHING NEW TURNS UP EVERY SEASON** to give the assurance that the soil and climate of Western Canada imposes no limitations that are not to be expected at practically any point within the temperate zone. Quite a pleasant confirmation of this was given at the annual conference of the Horticultural Association held in Winnipeg last month, by A. P. Stevenson of Dunston, Manitoba, who is entitled to no less of the public homage of that province at all events than is the plant-wizard Burbank to that of the world at large. He has successfully grown cherries as large and as luscious as any that reach our northern markets from the South, and will continue to produce and to multiply his products till they are as common on the market as the indigenous blueberry is today in its season.

**THE END IS NOT IN SIGHT** and no one can set a limit to what may be done in the near future in the Canadian West. Experiments unfortunately have been conducted in many cases in such a slovenly and indifferent fashion that they practically amount to nothing. There is need for a deep-seated seriousness on the part of the individuals who consent to "assist" the efforts of the government or of any one else setting out to do the thing thoroughly, but a man who undertakes the responsibility of establishing data in alfalfa or corn or whatever it is has no right to the privilege if he has not the gift of continuance. Eternal vigilance is here if anywhere the price of success.

**IT IS NOT GENERALLY KNOWN** that in certain portions of northern Manitoba there exists in many sheltered spots a wealth of indigenous plant life that we are not supposed to find outside of a sub-tropical belt. This fact has been known for a long time to a few men who ride a scientific hobby, as well as the infallible indications of insect life that accompanies it. But to the people who are working on the economic end of the business, the matter has offered no more information than they find on a dead wall. They are blind to it but the knowledge is free and at first hand and we can supply it to any one who cares to make use of it. Experts can be fooled and are more often than they care to admit bamboozled in their own particular domain. But you can't fool those diminutive creatures of the forest and plain. The instinct that leads them to their food-plant rarely mis-carries, and they point the moral



# Just One Idea

There is just one idea back of the success of Cockshutt Engine Gangs, but that is an all comprehensive idea, and it is Service. You are, of course, interested in the details of the design and construction of engine gangs—you desire to know why—but in looking into these matters, always keep before you the one big idea—Service. Below we wish to call your attention to a few points regarding Cockshutt Engine Gangs that are of supreme importance if you are interested in getting the utmost in service out of the engine gang you buy; but bear in mind that this end is not attained by means of a few good features. It is gained through the proper combination of many good features and through long experience with Western Canadian conditions, but at the bottom of all these is the one big idea—Service.

## Cockshutt Engine Gangs

### The Cockshutt Standard Mouldboard Engine Gang

A few of the reasons why this plow is worthy of your serious consideration, but which are only part of the reasons why there are more Cockshutt Engine Gangs in use in Western Canada than all other makes combined, are:

**Strength**—Strength is the greatest essential of an engine gang. It is an easy matter to claim that an engine gang is strong enough to stand up under the severe strains encountered when pulled through the tough Western sod by heavy engines, but claims are not enough. The best way we can demonstrate to you the superior strength of the Cockshutt is to ask you to compare it with any other engine gang; and especially, to compare a Cockshutt that has been in use a few years with any other engine gang that has been in use an equal length of time. You will then fully appreciate the strength of the Cockshutt.

**High Wheels**—The Cockshutt has the highest wheels used on any engine gang. This makes light draft and the plow runs level without jarring or jolting. It also keeps the line of draft practically the same at all times. The wheels are set outside of the frame—not under it as on other engine gangs—this means more clearance than is secured on any other plow.

**Straight Double Beams**—There are two straight beams to each bottom and these cannot be twisted out of alignment by the toughest sod or by the pull of the heaviest engines. The extra wide jaw formed by the two beams absolutely prevents winging down.

**Independent Bottoms**—The independent bottoms of the Cockshutt make for better plowing and easier handling. All the bottoms of this plow work at an even depth; rough land and tractor ruts make no difference. Raising or lowering one bottom does not in any way affect the other bottoms.

There are many other reasons back of the efficient and lasting service this plow gives and it will pay you to learn about them. The Cockshutt dealer will be glad to let you examine one.

### The Cockshutt Traction Disc Plow

This engine gang is built for use in soils in which, because of their hard or tenacious quality, a mouldboard plow will not scour properly. This plow is built along the same substantial lines that have made all Cockshutt Engine Gangs the most serviceable in the West. A few of its distinctive features are:

**Great Clearance**—There is more clearance between the discs of this plow than there is between the discs of any other disc plow. Examine one and see. This feature is the result of the angle of the frame and the arrangement of the ball-bearings of the discs in two rows, one within the other. These bearings have no projecting cones or other devices which reduce clearance between the discs of other disc plows.

**Straight Disc Cleaners**—Straight disc cleaners are used on this plow. These cannot fill up with mud; and they insure a thorough cleaning of the disc and a proper moulding of the furrow. They can be adjusted to any angle and a test will prove to you that they are a decided improvement over curved cleaners.

**Easy Adjustments**—The rear wheels of each section are coupled together with an adjustable rod which makes it an easy matter to adjust the plow to different soil conditions. Even furrows can always be secured regardless of how hard the soil is. There is no lever on the front land wheel to interfere with the man on the plow; instead, a simple hand screw leveller is provided.

**Light Draft**—This plow is hitched close to the engine reducing draft; and as it is hitched in the centre of the engine, there is no side-draft. Four wheels are used so that the weight of the plow is much more evenly distributed than it can be by any other arrangement. The hubs of the discs are fitted with dust-proof ball-bearings and hard oil cups. This makes the discs turn easily and reduces draft.

**Front Wheels**—The front wheels steer with the hitch automatically following every turn of the engine.

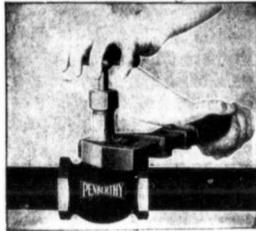
Let the Cockshutt dealer show you one of these plows and write us to send you our book on "Horseless Plowing."

## COCKSHUTT PLOW COMPANY LIMITED

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

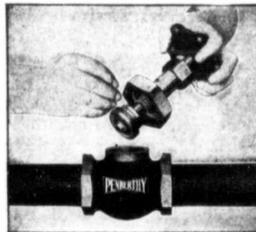
## Regrinding Valves

THE ever-increasing demand today by power plant owners and steam users in general is for valves that will give absolute reliable service and dependability under high pressures and severe conditions, and that



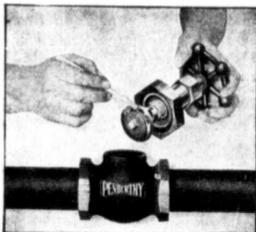
Removing Union Ring

are free from unnecessary renewal of discs and repair parts. To meet this demand the Penberthy regrinding valve has been designed. It is the result of many years of practical experience in the manufacture of high-grade brass goods,



Inserting Pin

and embodies the latest mechanical constructional ideas. It is claimed to be the heaviest regrinding valve manufactured, and the distribution of metal is such that parts subjected to the greatest strain and wear have propor-



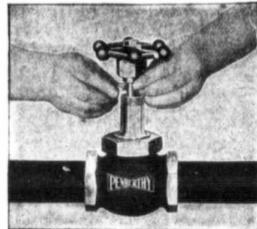
Applying Oil and Emery

tionately heavier walls. For the present there is only illustrated the medium pattern type, which is guaranteed to stand a constant working pressure of 200 pounds.

### Constructional Detail

A sectional view of the regrinding valve is illustrated herewith, which will give the reader an in-

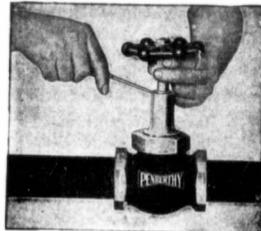
telligent idea of the design, construction and general features. It will be noticed that the restrictive areas are largely in excess of the area of the pipe. The long sweep of the body permits easy flow of steam or liquids, thereby reducing friction to a minimum and giving long life to the body. The pipe threads are long and have the full standard depth, while the hexagon ends of the



Repacking

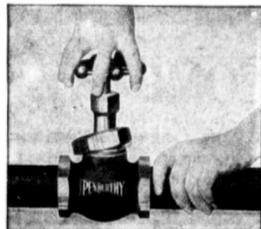
body have large and heavy faces. This heavy construction with the increased thickness of metal in the wall year the hexagon insures against the severest of strains.

The union hub ring is extra heavy, and secures hub to body, making a steam-tight and rigid connection. The threads on the hub end of the body being on the outside make the above connection absolutely non-corrosive and



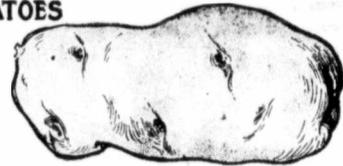
Removing Packing Gland

permit free accessibility to the valve at any time without strain or injury to same. The method used in securing the stem to the disc is novel, for in order to remove the disc from the stem it is only necessary to place the small square on the bottom of the



Regrinding

## MONEY IN POTATOES



**\$128<sup>00</sup> an acre Clear**

Yes Sir! We can show you how to make it in potatoes, over and above the cost of seed, fertilizer, labor, marketing and your own time.

With the market price \$1.00 a bag—and better, it's worth while going in strong for potatoes and getting every last bushel the ground will yield.

We can show you how to grow 240 bushels to the acre: how to get a double crop from the same outlay of labor and seed.

A lot of potato-growing experience is boiled down and plainly told in "Money in Potatoes." We have culled out the frills that a practical farmer has no time to read. The book is complete, but brief and to the point. See the list of subjects it covers. From this book you can see how other men have got the best results. You can grow and handle bumper crops of potatoes and take the long price.

### List of Subjects Covered by this Book.

Best Soil for Potatoes; Potatoes Help the Land; Preparing Soil; Fertilizing; Time to Plant; Selecting Seed; Cutting Seed; Depth to Plant; distance between hills; crop cultivation; Fighting bugs & blight; Spraying mixture; Harvesting; Storing. Secure your free copy to-day.



Clip the Big Crop Coupon to-day.

15



## BIG CROP COUPON

I am using the following machines for potato raising:

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As a Potato Grower I would like a free copy of your book, "Money in Potatoes."

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**PREPARE** Your Wheat Ground and Summer Fallow WITH THE "ACME"

## For Irrigated or "Dry" Farms

Our catalog tells you the Acme thoroughly compacts the soil and leaves the top soil mulched for the attraction and conservation of moisture.

WRITE NOW!

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with the least strain on your horses. It is the lowest priced riding Harrow made. Practically unbreakable. There is a size for your needs. Write for our catalog now.  
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John Deere Harrow Co., Ltd., Calgary, Alta., Regina, Sask., Winnipeg, Man., Saskatoon, Sask., Edmonton, Alta.

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## Acetylene Headlights for Traction Engines

Complete in one apparatus. The best on the market. Indispensable for plowing at night or moving over rough fields, and bad roads. Attachments for all makes of engines. Projects a light 400 feet. Will not jar out. Runs ten hours with one charge. Write for catalog. Agents wanted.



AMERICAN ACETYLENE STOVE CO.  
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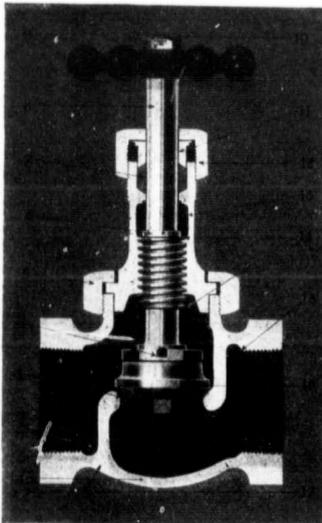
Remember to Renew Your Subscription

disc in a vise or wrench and unscrow same by means of a wrench.

Attention is called to the threaded part of the stem, which also is a feature of the Penberthy regrinding valve. All threads are of full depth, clean-cut and true to standard. They are so designed that every thread is utilized when opening and closing valves, thereby overcoming all dangers from "stripping" threads.

**Method of Regrinding**

The method of regrinding, as illustrated herewith, is a simple operation, and can be accomplished by first removing the union ring or nut which fastens the trimmings to the body of the valve. This is easily done, as the threads which hold the ring to the body are outside of the latter, and



Inch Sectional Valve

are immune from corrosive action of scale or lime. When this is done, insert pin through the slot in the disc lock nut and hole in the stem, which firmly secures the disc to the stem. By applying a little oil and fine emery, or if this is not available, a little soap and fine sand to this disc, and returning the trimmings to the body, the valve is ready for regrinding. To regrind, allow the bottom of the hub to work in the neck of the valve body, slightly elevated from the top, so as to cause the disc and seat to come in contact with each other, and by rotating the trimmings back and forth the regrinding operation is accomplished. Care should be taken that all abrasive or foreign materials are removed from seat and disc before and after regrinding, also that small inserting pin is removed before putting trimmings back in place. When reground, the valve is as good as new, at practically no additional cost.



1847

In those early years when the actual productiveness of the soil of Western Canada was practically unknown, we were already producing farm machinery of perfect quality.

1913

We were the first to come to Western Canada, coming before the railway. With the advantage of our previous experience, we supplied the best machinery from the first and today we lead in quality.

# PROVEN BEST

**Evidence—Proof—**of the most conclusive kind—the actual use by thousands of farmers, in every part of Western Canada, in all kinds of soils, and under all conditions—shows beyond question that there is one particular make of seeder particularly suited to western conditions, one drill which has been built with the convenience, comfort and needs of the western farmer in view of all times—**one** which YOU should buy---



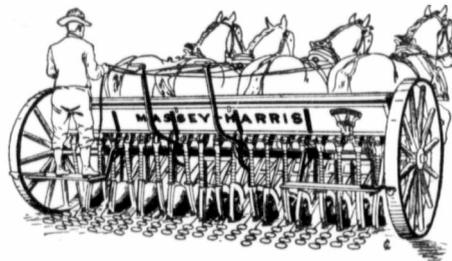
## MASSEY-HARRIS

NEW

### No. 11 DRILL



Very strong frame---Largest grain box---Even pressure on all bottoms---Interchangeable Bottoms

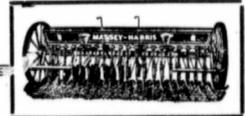
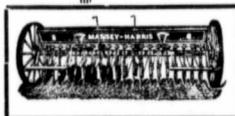


14-16-20-22-24 Double Disc, Single Disc and Shoe.

## MASSEY-HARRIS COMPANY

LIMITED

See our Local Agent at any point throughout Western Canada



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

# Good Seed as a Factor in Grain Production

HE who would reap the greatest crop returns possible within the soil and climatic limitations imposed by nature, the greatest net profit from his capital, and the greatest rewards for a summer and toil and responsibility in the field, cannot afford to neglect seed as an important factor in crop production. True it is that a full crop is the result of combining many essential factors of crop production, some of which like temperatures and rainfall are beyond the control of the farmer, while other factors like abundant soil fertility can only be provided sometimes after several years of careful planning and field management. The full crop, however, is not entirely a result of favorable climatic conditions, but only partly so, for the preparation of the seed-bed in which the crop is to grow and the seed from which the crop will arise are factors of crop production entirely under the control of the farmer. Of these two factors controllable by the farmer, the character of the seed-bed is undoubtedly the most important; but a good seed-bed in which poor seed has been sown cannot yield the full crop. The seed is an important item in growing the full crop, and worthy of far more care and consideration than is ordinarily given it.

### What is Good Seed

Good seed is a very comprehensive term and in the broadest sense means (1st) seed of the variety best adapted to your local soil and climatic conditions; (2nd) seed that is pure and true to type; (3rd) seed that is free from foul weed seeds; (4th) seed that will germinate quickly and evenly and give the crop a vigorous start in its life, and (5th) seed that is free from such crop diseases as smut and flax wilt.

Seed that can stand all these tests can surely be called "good seed" and such seed will make a wide difference in crop yields as compared to seed that cannot stand all these tests.

Let us follow out these various points about "good seed" to briefly illustrate their revelations to crop yields, and also show how the grain grower can secure seed good enough to stand all these tests for "good seed."

### Varieties

Careful plant breeders who know their business are nowadays breeding and improving field crops successfully. Varieties that represent years of careful, patient breeding and selection are

slowly being originated and the seed increased and distributed to grain growers. These varieties will produce more than common varieties because of the productive qualities fixed in the variety through the long continued process of breeding and selection, just as improved breeds of live stock will grow more vigorously on the given amount of feed, than will wild cattle. No longer can the grain grower afford to use scrub varieties of grain, for the improved varieties may mean a gain of 10 per cent. to 20 per cent. in crop with no additional cost for production.

grade and select the seed in future years as to prevent the variety from "running out" as it will if comes from the separator, but aptly the seed is not annually graded and selected.

### Pure Seed Desirable

Any man who has ever raised and sold grain knows the value of a pure, uniform crop, if he will only stop to think about it. A crop from pure seed ripens evenly, and will grade and sell as a smoother product than a crop from mixed and impure seed. We will admit for the sake of argument that the grain buyer can also

of "Everybody's doing it." Grain intended for seed may appear perfectly clean of weed seeds as it comes from the separator, but appearances are usually deceptive, and the fanning mill will take out a surprisingly large amount of weed seeds that pass unnoticed in the original sample. It pays big to watch the weeds and to use every effort to keep them out, for they are competitors with our crops for food, water and sunshine and all they get is a debit on our books.

### The Value of Plump, Heavy Seed

How familiar to the farmer are the runt pigs that appear every year in the pig crop. They start like with a handicap and they never seem to catch up. In the beginning the mother wasn't strong enough to give the full gift of life to the runt, then she fails to supply food enough for him as well as his strenuous brothers, and when weaning time came with the days of troughs the husky brothers again gave him the short end of the feed ration, and so he could never overcome his early handicap, but went to the butcher an unprofitable animal for his owner. A commonplace observation, a platitude, you will say, and what relation have runt pigs got to good seed? Runt pig observations are commonplace and yet sometimes we need commonplace ideas along familiar lines to start us thinking along other lines. The same conditions that produce our unprofitable runt pig may produce thousands of unprofitable runt grain plants in our grain fields. A light weight shrivelled seed is like the wheat sow, that started the runt pig, only in this case the runt is a wheat or an oat plant. Then for many days after germination or birth, the baby plant is dependent for food on the stored-up starch food in the seed. If the seed is plump and heavy the baby plant gets a quick, strong start, and soon develops strong roots so that it can wean itself and rustle for its own food. On the other hand if the baby grain plant comes from a light weight shrivelled seed, its food supply during infancy is limited, its roots develop slowly and growth is not quick and vigorous, and the runt plant so produced never does catch up to the plant that had a vigorous start in life, or produce as much grain.

When heavy, plump seed is sown and even, uniform germination is insured, the crop starts



An apostle of Good Seed—"Caught" along the track of the G.T.P. Railway.

The desire to get new and better seed on the farm often leads farmers into the mistake of buying and importing seed from localities where climate and soil conditions are radically different from their own use. In a great majority of cases this practice will not increase yields even though the variety imported be an improved and productive variety. The bag of seed at the end of the rainbow may look very luring, but it may not contain as much gold as the bag that is closer home. Improved varieties are desirable, but if the seed comes from a different climatic zone it is highly probable that the crop yields will suffer while the variety is getting acclimatized. The safest policy is to get the seed of a new and improved variety as close to home as possible and then to so

find an excuse to levy dockage, but even so the smooth, uniform crop from pure seed will reduce somewhat the chances for fault-finding and dockage. Not only this, but when grain crops are kept pure and free from admixtures the opportunity is always at hand to sell seed grain at a premium on the market price.

### Seed and Weeds

With a few exceptions the noxious weeds of our Western Canadian farms are annuals, and also with a few exceptions the weed seeds are gathered with the grain crops. Thus most weeds can be kept under control when the fanning mill is correctly used to clean the seed that is to be sown. Practically every farmer knows this, but it is a case where "Everybody isn't doing it" instead



Ever on the Alert, Procuring and Proving  
 New Varieties in Careful Field Tests--Enlist-  
 ing the Hardest and Best. This Policy has  
 made Steele, Briggs' Seeds Invincible

**LEADERS in the MARCH of PROGRESS**

STEELE, BRIGGS were the first Seed House in the West to offer the following Varieties to the West:

- NORTHWESTERN DENT CORN**--The best seller today. A great fodder corn.
- PREMOST FLAX**--Earlier than common, heavy yielder, making its mark in the West.
- NEW WHITE "VICTORY" OAT**--Great yield, unequalled straw, fine appearance, destined to be a Western leader.
- MONTANA ALFALFA**--A hardy strain, in good demand.
- SIBERIAN MILLETT**--Early, hardy, very leafy. Rapidly growing in favor.
- MALAKOFF CORN**--Very early and sweet. A Market Garden favorite.
- GLORY OF ENKHUIZEN CABBAGE**--Early, sure, solid, fine quality. The leader today in the West.
- REGISTERED SEED GRAIN**--None purer. Increasing in favor. N.B. We could add to this list,

When it is considered that the above varieties (adding Marquis Wheat and Abundance Oats) constitute practically all the new introductions of note of recent years in the West, it will be seen that for Advanced Methods STEELE, BRIGGS stand alone. ALL BUT TWO INTRODUCED BY STEELE, BRIGGS--the work of SEED EXPERTS, which means more than Seed Dealer. This APPLIED KNOWLEDGE permeates through all our seeds.

CATALOGUE FREE TO ALL ON REQUEST. Booklets on Planting (Copyrighted) FREE TO CUSTOMERS..

**Steele, Briggs Seed Co. Limited, Winnipeg, Canada**  
 CANADA'S GREATEST SEED HOUSE

# 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.)

### Not the Machine but the Man Behind it

Is tractor farming a failure? Yes and No might both answer this question.

There are about thirteen tractors as well as several steam engines in this district, but the trouble seems to lie in the men who handle the outfits.

It has been my experience that where men understand their business (that is, understand the engine) I must say tractor farming is a success.

I bought a 22-45 Hart-Parr tractor in October, 1911, and knowing nothing whatever about a tractor, determined to learn. I had an expert furnished by the company for three days. After that I had to depend upon myself to run this engine.

I had trouble, and lots of it, namely, getting engine started, regulating fuel and water, and keeping engine in running order.

Now this was my great mistake. Had I hired an engineer who understood his business as I do now, I would have had far better success.

I use from 40 to 50 gallons of oil per day, and from two to three gallons of gasoline, and about two gallons of cylinder oil. This is counting a day as 12 hours, and working the engine to its capacity. I use 20 to 40 gallons of water per day, the amount depending on the temperature and the kind of load I am pulling.

While seeding in the spring time I use ten horses and four men. I keep eight horses drilling all the time, while I prepare the ground for seeding with the engine.

It costs me about \$1.25 per acre for plowing sod, pulling six plows, and about 75c to 90c for stubble plowing, pulling eight plows. When discing, I pull six discs, two drags or floats, then a harrow behind the drags. Thus working the ground four times, costing from 20c to 30c per acre. Now from the above costs you can see that tractor farming pays when this work is done at the above figures. I charge \$4.00 per acre for plowing sod, \$2.75 for stubble, and \$1.00 for discing when doing work for other people.

My seeding costs me about 25c

per acre to do it with horses and men. Were it not for having to use the horse to thresh with in the fall, and to haul off grain, I would sell them, and do my seeding with the engine, pulling five drills, costing about 10c per acre to seed my ground. But the way I am fixed I need these horses, and would have to have another engine if I did not have them because of cropping about 750 acres of land each year, and summer fallowing a third.

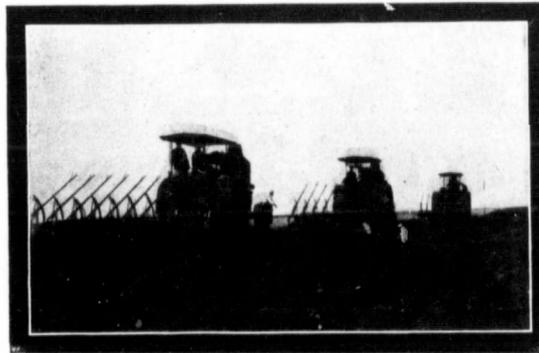
I do not consider a tractor detrimental to plowed land, be-

We started it on August 1st, plowing timothy sod. As I had never had any experience with gasoline engines of any kind, most of the time was spent in studying the machine, but we got the field of sixty-five acres done in less than a week. One half day in which we kept tally of the oil, we plowed eleven acres, using 2 1/4 gallons of kerosene, three gallons of water, and about one-sixth gallon of oil per acre. Our kerosene costs us 15 1/2c, and our oil 42c, making our fuel and oil expense 42c per acre.

fall, using an average of 50 gallons of kerosene, 50 gallons of water, and 10 gallons of gasoline per day. Under favorable circumstances we could thresh 1,400 to 1,500 bushels of wheat per day. The large quantity of gasoline used was on account of running the engine idle while jacking her or the separator out of mud-holes. The extremely wet weather—our land was practically flooded—prevented us from doing any fall work.

Although we fell through a bridge, our total repair account was limited to soldering a connection in the gasoline pipe, a 3/8 inch carriage bolt, and two section screws, 40c altogether. We do not expect to do much traction work besides plowing and cultivating and seeding behind the plow. I am sorry I cannot give any more valuable information, but I will write again when I learn more.

Elliot & Muir,  
Roland, Man.



Line Ahead on Stiff Gumbo

cause it is not near so heavy as a steam engine, and does not pack the ground so hard. Then my engine has the wage lug on the wheels, and does not mesh into the plowed land so hard in one place. You cannot tell where the engine has run after discing or plowing is done. It has been my experience that farming can be done cheaper with a tractor than with either horses or steam. But the one drawback to all tractors where experienced men are used is that they are not built strong enough to stand the hard usage.

Edgar F. Thurston,  
Aberdeen, Sask.

### They Will Succeed

Although we bought our engine primarily for threshing, we decided to get one that would be useful and convenient for traction work also. After about four months' investigation, we started on a Hart-Parr 40-60 oil tractor.

We prefer having two men which saves stopping the machine, and leaves one man free to operate it. At the rate we paid this summer two men cost us \$3.50 per day, or 10c per acre. Our total cost, then, was 58c. Good water was so close to the engine that we carried it in 10 gallon cans.

More expert operation will probably reduce the amount of fuel and water used, and use has already reduced the amount of lubricating oil needed.

We also plowed 50 acres of summer fallow the second time. We would have been unable to cultivate our summer fallow at all without the engine on account of the wet weather. The work was just as expensive as in the sod on account of the very soft footing. The engine did not pack the soil to an injurious extent. We have three-foot drivers and the engine is light, weighing 9 1/2 tons. The dirt blowing was hard on the moving parts of the engine.

We drove a 36-54 Avery in the

### Gasoline Engine "No Failure"

Dear Sirs:  
Your letter received, and will try to give you my experience in handling a gasoline outfit.

I am using a 25 h.p. International engine and Cockshutt gang plow, and like it fine. Last summer I broke 180 acres in eight days. I used about 45 gallons of gasoline per day, and about 35 gallons of water.

We ran about fifteen hours per day, and the cost per acre for breaking was \$2.75.

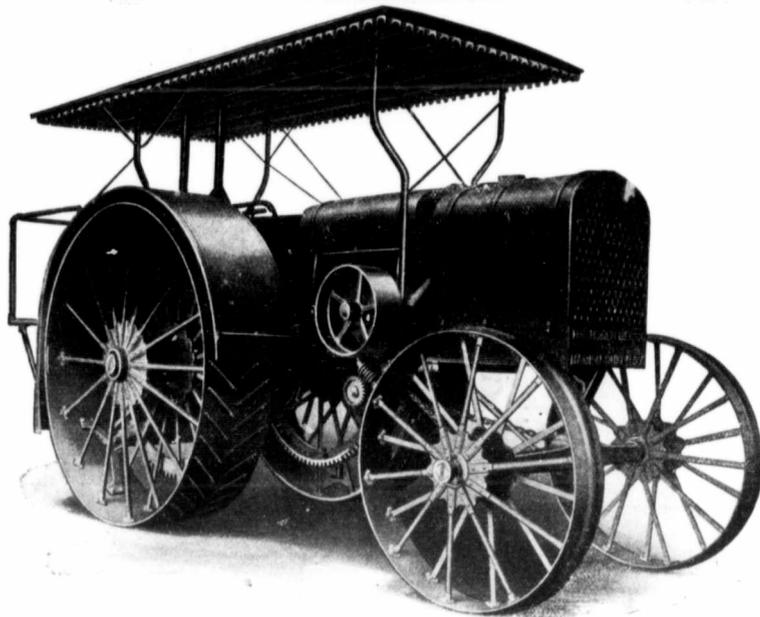
I keep one man and team with myself to run the outfit. I have never had any experience in seeding or discing with engine. I do not consider a tractor harmful to plowed land.

For plowing stubble, I find that it takes about 1 1/2 gallons of gasoline and one gallon of water per acre.

I use a Buffalo Pitts separator for threshing. This also does good work.

The gasoline engine on a farm is no failure, of that I am sure.

R. S. Reid,  
Roland, Man.



# HUBER GASOLINE TRACTOR

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

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

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

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

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

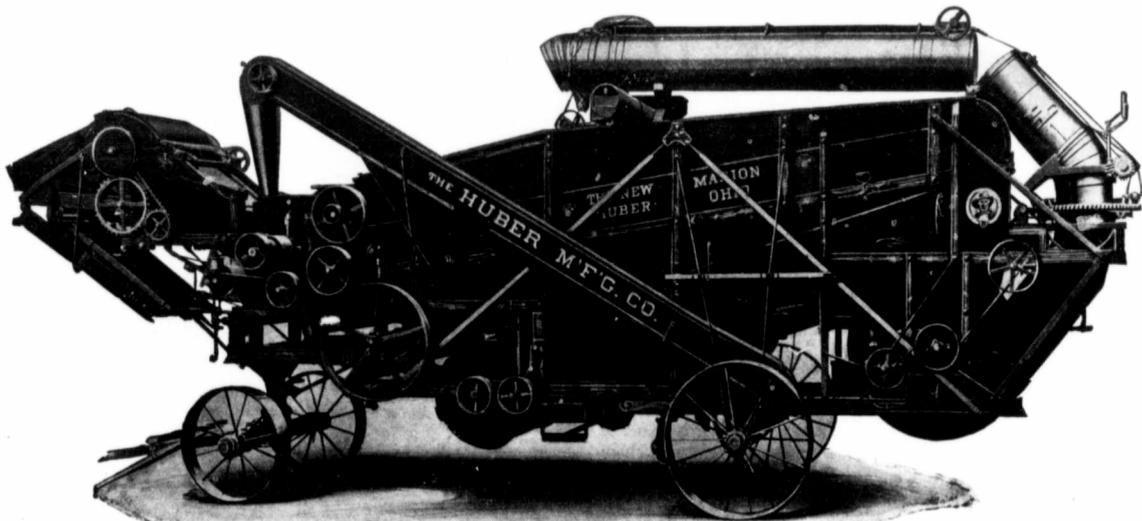
supplied with oil. The gravity feed will do the rest and relieve you of all care of cylinder boxes.

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

## The Huber Manufacturing Co.

MARION, OHIO, U.S.A.

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



HUBER COMPLETE THRESHER

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

# THE CUDDY PATENT STEERING DEVICE



## Read This

A Letter to the Designer of the Cuddy Patent Steering Device

Mr. T. H. CUDDY,  
Sanford, Man.

Dear Sir,— . . . . In plowing with engine gang plows . . . . I find that it is very necessary in guiding an engine, to do good plowing, to have a steering device. As far as I have seen, the one you have is the best.

Yours truly,  
(Signed) GEO. A. LITZENBERGER,  
Field Man Parlin-Orendorf Plow Co., Canton Ill., U.S.A.

**THE WESTERN STEEL AND IRON CO. LTD. Sole Manufacturers**  
WINNIPEG WRITE US FOR PRICES CANADA

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

### Experience on Rolling Territory

Regarding my experience in traction work, I may say that it is rather limited so far as traction work is concerned.

We bought our first outfit in the fall of 1908, which consisted of a 25-42 Great West Separator and a Fairbanks-Morse engine, 20 h.p. This was a well-built substantial outfit, but owing to inexperience in the gasoline line, we had some trouble starting in the cold weather.

With this outfit we used four stook teams, each man building his own load pitching to one side of the machine. Our average was about seven to eight hundred bushels of wheat per day. With this machine a man must keep his engine in good shape, and have proper sized pulleys in order to have power enough.

This outfit used about thirty gallons of gasoline, and two barrels of water per day. On account of buying more land, and growing larger crops, this outfit seemed rather small. It left no time for fall work, and it is also very heavy on horses drawing the machine over all kinds of land.

After looking over different makes of engines, and writing to men who had different makes and styles of machines, we ordered a 25-45 gas traction engine manufactured by the Gas Traction Co., of Minneapolis and Winnipeg, or better known as the "Big 4." They now go under the name of the Emerson-Brantingham Company. We also bought a J. I. Case 32-54 separator which has large capacity, is easy running, and is a grain saver. We have just used this outfit through the one threshing season of 1912. With this outfit we used four stook teams and a Stewart Sheaf Loader, as far as our average goes

with this machine it all depended on how much the loader could give us.

Our land in this district is quite rolling, and cut up with poplar bluffs. There is only an odd place where a man can get a half mile strip, and unless you have the stooks in perfect order, and do not try to draw them too far, the loader could not keep us going. The engine seems to have plenty of power and runs without vibration. As to the amount of fuel used, it is about thirty or thirty-

double purpose of catching the loose grain as well as holding the belt when moving. In threshing stacks, we take the belt off the separator end.

Nearly every man in this neighborhood has his own portable gasoline outfit. The tractor is just beginning to come in.

Our tractor is the only four cylinder one in this neighborhood.

There are several things that a man wants around a machine, and they are a gasoline torch, speed indicator, gasoline pump, extra

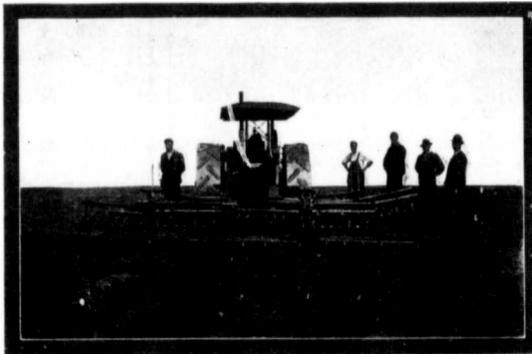
equal to that of 22 horses over the prairie, and to drive in the belt equal to 45 horse power. This is what power I fully believe my engine lived up to. In fact it pulled loads for us that most farmers would use 24 horses to pull.

I did not operate my engine myself, as I had had no experience with gas engines, so I engaged the most competent man I could secure in our district, and my son who was just 16 years old worked with him, as he wanted to learn gas engineering. They started to plow stubble on my place with an eight-furrow 14-inch John Deere engine gang. As our engine would burn kerosene, we used it all we could, only using the gasoline when we were starting it or if we had to do much stopping at our work, the kerosene would not work well.

They used about five gallons of fuel every hour they ran, and of course it depended on the kind of land they were plowing as to the amount of the fuel used. If it was a loamy soil, or a heavy clay, especially if it had a gumbo bottom, they could plow for ten or eleven hours on 40 gallons of fuel, but when they were plowing on heavy soil it would take from 50 to 60 gallons of fuel in the same time.

I always tried to plow from five to six inches deep, but in very heavy land it was difficult to get down more than three to four inches, but this depended a great deal on the temper of the subsoil, as if it was dry and crumbly the plows penetrated it much easier than if it was of a tough or doughy nature.

The man and boy used to plow in stubble from 18 to 20 acres in a ten to eleven hour day, and at breaking or backsetting they would only average from twelve



The Guarantee of a Good Seed Bed

five gallons of gasoline, which makes a good day's run. It has the enclosed radiator and only used about two or three pails of water per week.

Our repairs were broken valves, which the Company supplies free of charge with heavier ones, which will give no trouble. This engine has the belt pulley on the rear of the engine. I put an Avery belt guide on the engine, and had no trouble in lining up. We never take the belt off when moving. We have a small platform on the separator tongue which acts the

bolts, and a good supply of tools.

Hoping to be able to give you a successful account of next year's work, I remain,

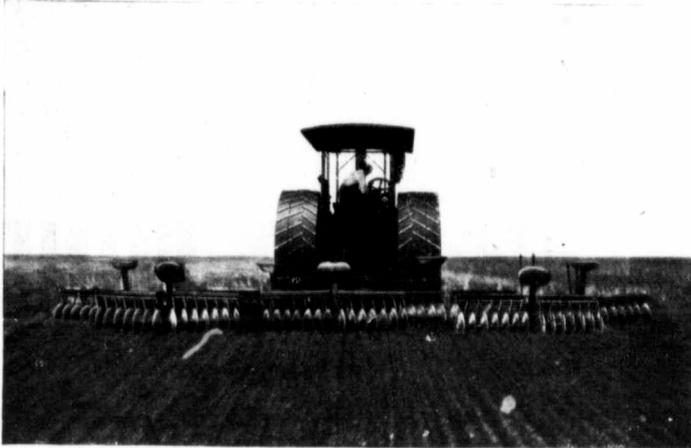
A. Dickey,  
Crandall, Man.



### The Folly of Overloading

I bought a gas tractor from the Hart-Parr Co., in the spring of 1911, and it was delivered to me on the 20th April. The size was what they call a 22-45 h.p., that is, it was guaranteed to pull a load

# Twenty Per Cent. More Acres



Can be successfully plowed in the same length of time with an AULTMAN-TAYLOR 30-60 GAS TRACTOR than with any other the market affords. Proof of this statement can be found in the Winnipeg records as well as from results produced on thousands of farms.

But the superiority of the AULTMAN-TAYLOR 30-60 does not stop here. It displays a like degree of efficiency in harvesting, seeding, road building, threshing and countless other power jobs about the farm.

Spring is here. You must act quickly. Are you going to farm with slow, costly and uncertain animal power, or are you going to farm with the labor-saving and money-making

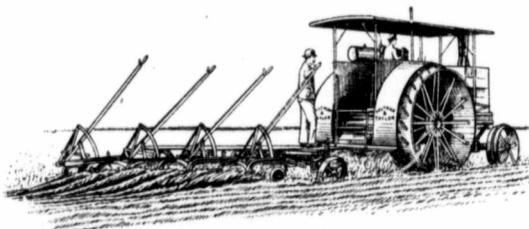
## AULTMAN - TAYLOR 30-60 GAS TRACTOR?

Horses can work only ten hours per day. The AULTMAN-TAYLOR 30-60 can be used twenty-four. Horses have to be fed every day in the year. The AULTMAN-TAYLOR 30-60 costs you nothing when not at work. Saves twenty-five per cent. to fifty per cent. over animal power. Think what this saving means to you!

### Built To Last

The AULTMAN-TAYLOR 30-60 is built for hard, continuous service—built out of the highest grade of material the market affords and by men really expert in their line. It has proven in actual field service to be the **most reliable, most economical, most advantageous and most durable tractor** ever placed on the market.

Let us prove to you right on your own farm that the AULTMAN-TAYLOR 30-60 will do more and better work at less expense than any other tractor built.



### New Gas Tractor Booklet Just off the Press

WRITE TODAY for this Booklet. It tells all about the Tractor of Tractors—the famous AULTMAN-TAYLOR 30-60. It fully describes and illustrates the construction of the AULTMAN-TAYLOR 30-60. We want you to read this booklet, and then compare this tractor with any other the market affords. It is far superior in every factor of mechanical design and construction. Drop us a postal today—it's free.

# The Aultman & Taylor Machinery Co.

Lock Box No. 64. MANSFIELD, OHIO.

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



ON A BIG FOUR FARM



HANDLING A 40" SEPARATOR WITH EASE



HARVESTING 500 ACRES PER DAY IN CANADA



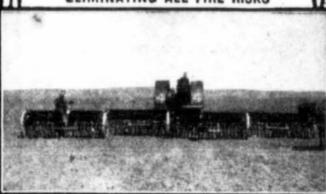
BIG FOURS SUPREME ON A HORSELESS FARM



A ONE MAN OUTFIT



ELIMINATING ALL FIRE RISKS



DRILLING IN MONTANA



HAULING WOOL IN KANSAS



# Why the BIG FOUR

Good Material—Careful Study—Fine Workmanship—has made possible our

Below are a few 1912 records that we are proud to have ever performed by a farm tractor.

The selection of a farm tractor calls for the exercise of sound judgment. The investment involved suggests the wisdom of taking plenty of time for investigation and comparisons. Here is ONE thought—If possible we wish it could stick with you, after you have read these words, even if you remember nothing else! *The more you compare the BIG FOUR "30" with other tractors the better you will like it.* Investigate the BIG FOUR and you will find these prominent points of superiority—and many others.

**Four Cylinders**—Continuous, steady, enormous power. The BIG FOUR is the first four-cylinder tractor. Requires less fuel per developed horse power than one and two-cylinder engines.

### Some Big 4 Records

Frank Woods, Bowbells, N. D., during 1912, plowed an equivalent of 3335 acres of stubble plowing. Of this work, 2300 acres was plowing and 1300 acres light traction work, and he had a threshing run of 35½ days.

Murle Perry, Frankport, S. D., broke 500 acres, plowed 1500, disced 3200 and harvested 1000 acres. Besides this he was on the road with his engine for 13 days hauling wheat, and for 21 days hauling a road grader. This work is equivalent to stubble plowing 3790 acres.

C. S. Dunbar & Son, Kremlin, Mont., in 1912, broke 1900 acres.

R. E. Shepard & Co., Billings, Mont., has broken 2200 acres and plowed 800.

Pazandak Bros., Fullerton, N. D., have plowed 4000 acres and have done 2230 of light traction work.

Lyman & Gould, Arnaud, Man., broke 2000 acres, plowed 300 and disced 2000. This with the light traction work that they have done amounted to an equivalent of 3450 acres of stubble plowing for their two engines.

**Frame**—Simple in design, of great strength—it has withstood the test of time. Guaranteed for five years.

**Large Drive Wheels**—96 inches in diameter. The BIG FOUR on soft ground where other engines are helpless. Power is applied to 2 in. of drive wheels—less waste. Patented features make the BIG FOUR Drive Wheels different and better than others.

**Light Weight**—Simplicity of design, few working parts, steel construction, make the BIG FOUR lighter—yet stronger—than other tractors of equal power. Requires less power to move the engine, leaving more power for the load.

**Weight Distribution**—The "hang" of the "balance" of the BIG FOUR is largely responsible for its exceptional power. The engine is not a made-over roadster over the drive wheels, giving them exceptional active power.

**Perfect Cooling System**—Absolutely necessary under days.

**Hardened and Differential**—Hardened cut bevel gears, very other part of the BIG FOUR for 1 year against defect in material and workmanship.

# BIG FOUR "30" Farm Tractor

The BIG FOUR is strictly up-to-date. It has more recent improvements than all other tractors put together.

If you will bear in mind the above facts in deciding your choice of tractor, you cannot go wrong. It will save you time, grief and money in the end. Thousands of BIG FOUR owners will tell you the same thing.

But you do not have to take our word for it or theirs. The BIG FOUR is

### Sold Absolutely On Approval

It was the first tractor sold this way. It is the only way to buy a tractor. We will send it to your farm at our risk! You can try it out there under your own conditions. We say it will do certain things. We guarantee it. You will be the judge as to whether it does or not. It must make good!

Every BIG FOUR now in use has been sold on approval. Only manufacturers who know what they are putting out can afford to do this.

**Emerson-Brantingham Implements**  
The Largest Line of Farm Machinery in the World  
**TUDHOPE, ANDERSON CO., 1191 Prince**  
BRANCHES: Winnipeg, Man., Brandon, Man., Calgary, Alta., Edmonton, Alta., Lethbridge, Alta., Regina, Sask., Saskatoon, Sask., Swift Current, Sask., Yorktown, Sask.

# is Sold On Approval

one aim—to build a farm tractor so good that it could be sold on approval!

because they represent the most remarkable work of their kind. The fact that they sell on approval like these sell BIG FOURS

**Self-Steering Device**—The BIG FOUR self-steering device easily adds \$1,000 to the engine's worth, yet does not cost you one cent extra. In breaking or plowing it automatically guides the engine in a course absolutely parallel with the last (furrow turned, so that one man can operate both engine and plow.

**Fuel Consumption**—The BIG FOUR uses less kerosene or gasoline than any other tractor. One BIG FOUR user claims he can now do more work than he formerly could with his steam engine and at one-fifth the operating expense. Another claims he can do twice as much with the BIG FOUR "30" and at one-half the operating expense as his neighbor does with a two-cylinder oil burner.

**Uses Kerosene**—A strong feature of the BIG FOUR is that it is perfectly adapted for kerosene, as well as gasoline. This gives it a distinct advantage over other tractors which are designed either for gasoline or kerosene only. BIG FOUR users can therefore use the kind of fuel that is most economical or convenient for them.

**First Tractor Success**—The BIG FOUR was the first successful farm tractor, because it was originally designed as such. It is not an ordinary traction engine made over for farm work. BIG FOUR imitations are numerous, but the BIG FOUR'S supremacy is established.

### olds Record

more acres per engine than any other tractor today—past performance

in all the way from two to ten acres per day, before half your crop is lost on the ground through delay. You can furnish your own power for threshing, at a big saving. You can run all the machinery on your farm at least cost.

**Increases Profits**—The BIG FOUR makes your work easier, reduces your profits.

You can plow, pack, drill and harrow the work of 30 horses in right behind the plow, and it does it TODAY. Address

**Emerson-Brantingham Implements Co., (Incorporated) Rockford, Ill.**  
The Largest Line of Farm Machinery in the World  
1191 Prince St., Canadian Sales Agents, WINNIPEG  
Winnipeg, Man., Brandon, Man., Calgary, Alta., Edmonton, Alta., Lethbridge, Alta., Regina, Sask., Saskatoon, Sask., Swift Current, Sask., Yorktown, Sask.

### "Runs Like New"

Levi Mackin, Terry, Mont., during the past three years, has broken 2640 acres, plowed 1540, double disced and drilled 4000 and has threshed 20 days. Besides this he has been on the road hauling 20 days and has done 120 days of other miscellaneous work. This engine has done as much work during the season of 1912 which is its third year, as it did the first year, and this fall Mr. Mackin reported the general condition of his engine as "good." The engine has been kept in repair and runs like new.

Nels. Olgard, Walcott, N. D., during 1912, plowed 2000 acres and threshed 40 days running a 30 x 60 Separator.

J. A. Kyle, Monument, Kans., has in the last three years broken 3000 acres, plowed 1800, besides doing light traction work to a total of 4000 acres.

Geo. Oldis, Sentinel Butte, N. D., plowed 1600 acres, broke 100, harvested 900 and threshed 12 days.

Henry F. Molkanbur, Timmer, N. D., broke 1010 acres of sod, besides doing an equivalent of 1300 acres of stubble plowing in 1912.

Kruekeberg Bros., Moccasin, Mont., during 1912 broke 300 acres, plowed 500, disced and drilled 3200 and harvested 1200 acres with a 16-foot combine.



MAKING GOOD ON AN 8,000 ACRE FARM



PULLING 14-BOTTOM PLOW IN INDIANA



HARVESTING ON A 19 SQUARE MILE FARM IN CANADA



DISCING AND DRILLING DAY AND NIGHT SHIFTS



BREAKING, PACKING AND SEEDING FLAX



UP A STEEP GRADE IN MONTANA



BREAKING 100 ACRES A DAY



BIG FOUR STEERS ITSELF

Mail This TODAY  
Name.....  
Address.....  
You may send me Big 4 Tractor details.  
Write name of any other catalog you want on above line.  
C.T.



Delivering 74 Miles of IDEAL FENCE  
to the Government Buffalo Park, Wainwright,  
Alta.

## The Service that goes with IDEAL Fence

The above photograph shows a few of the teams used in delivering IDEAL Fence for the Canadian Government Buffalo Enclosure at Wainwright, Alta. The contract called for 23,000 fence posts each 15 feet long, and 74 miles of wire fencing, weighing fifteen hundred tons. The whole had to be hauled across the prairie by teams, the average distance being about 15 miles. On this contract we had 96 horses and 50 men, and undertook to pay a penalty of \$50 a day for every day over the time allowed. With our splendid equipment and organization, however, the work was finished on time and no penalty was imposed.

All this occurred some five years ago, and the same IDEAL Fence is still standing in first class shape, exactly as we had said it would. During the whole period since its erection, not a buffalo has ever broken through that IDEAL Fence enclosure. This is what we mean when we talk of IDEAL Fence service.

What IDEAL Fence has done for the Government, it will do for any individual farmer. We make this fence for the farmer, and are anxious that all farmers shall avail themselves of the superiority of IDEAL Fence. Send for the IDEAL Fence booklet to-day.



Testing IDEAL FENCE

Dealers Wanted in Unoccupied Territory

**Ideal Fence Co. Ltd.**

WINNIPEG :: :: MANITOBA

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

to fifteen acres in the same time.

There is another item in connection with the tractor plowing either with gas or steam tractors, which is of a great deal more importance to the owner of a traction plowing outfit than getting the most acres plowed in a day, and that is the loading or rather overloading of your engine. If your soil is firm enough so that your engine can keep up its road speed without having to increase its fly wheel above the normal speed, in order to keep the same rate of speed over the field with the load that is allotted to it by the tractor company or their agents, then your load is not considered too heavy, but if your engine is losing time on the field either on account of the looseness of the soil or the weight of the load, it is much better to take off part of the load.

To illustrate this, I would say that suppose you were pulling eight plows, and it took you two hours to make three rounds on the half mile, it would be better to take off two of these plows, and then your engine would be almost sure to make four rounds in two hours, so you would have the same amount of work done in the same time with no extra strain as well as considerably less wear on the gears of your engine.

My experience has been that to overload your engine is a very costly thing to do. I think this is where so many owners of engines make a serious and costly mistake, that is to compel their operators to always pull the load allotted to their engine by the company who sell the machine.

When your engine is overloaded either on account of actual weight or the looseness of the soil in which it is travelling, then its

load is holding it down so slow that the gears are keeping up a continual grind on one another, which is very detrimental to them, but on the other hand if your engine is travelling at its normal speed the gears are always flying freely on one another which lessens the wear on gears, and obviates the danger of breaching any parts of your machine from 80 to 90 per cent. I would recommend you to always load your engine a little under her capacity, as this will add several years to its usefulness and it is less expensive.

All the extra help we required on our outfit was a man and team to haul the fuel from town about one trip every seven or nine days.

In regard to the cost of plowing per acre, I must say that this last year was not a fair year to estimate by, as there was so much wet weather, and the land was in such inferior shape owing to the wet that those who had plowing outfits in this district met with a loss rather than a profit, but my estimate of the cost of plowing stubble a year ago, was from 80c to \$1.00 per acre, and for breaking and backsetting from \$1.25 to \$1.40 per acre. Of course this was only for oils and labor. The amount of wear and tear on the machine besides the capital invested would have to be added to that yet.

I have had quite a few discussions as to whether the tractor is detrimental to the land. I know it was detrimental on several pieces of land last summer, but it depended altogether on what condition the land was in when we put our engine over it. If you are intending to seed your land, it is better not to allow it to be plowed by a tractor, when it is so soft that the land turned up is left in

a compressed state. You cannot get any machine that will leave the land with that mulch on the top which is so desirable for a good seed bed, and the crop result depends so much on a proper seed bed to give it a healthy start that is sure to increase the yield more than double that of a delicate plant and much of the seed will not come at all.

J. A. Russell,  
Barnsley, Man.



### Tractor Not Detrimental to Plowed Land

I duly received your circular letter addressed to me at Bladworth, Sask., and I take pleasure in answering your questions, as I am operating a gasoline tractor on my farm at Bladworth.

Mine is a 30-60 Aultman & Taylor gas tractor, and was purchased in the spring of 1912.

On a ten-hour day run I think we used about 25 gallons of gasoline, and about 50 gallons of water each day.

I have a large number of men and horses on the farm, but use two men in field work, one on the engine, and the other on the plows. I did not use the tractor except for plowing and threshing. I kept busy with this work and did all my other field work with horses.

I estimate that I pay out about 75c per acre of plowing for gasoline. Considering the investment and the expense of the men I roughly estimate an expense of about \$3.00 per acre for plowing.

I have not yet done any other work than plowing and threshing with my engine. I expect to get another engine in 1914, and will then do other farm work.

I do not consider that the

tractor is in any respect detrimental to plowed land, but rather an advantage.

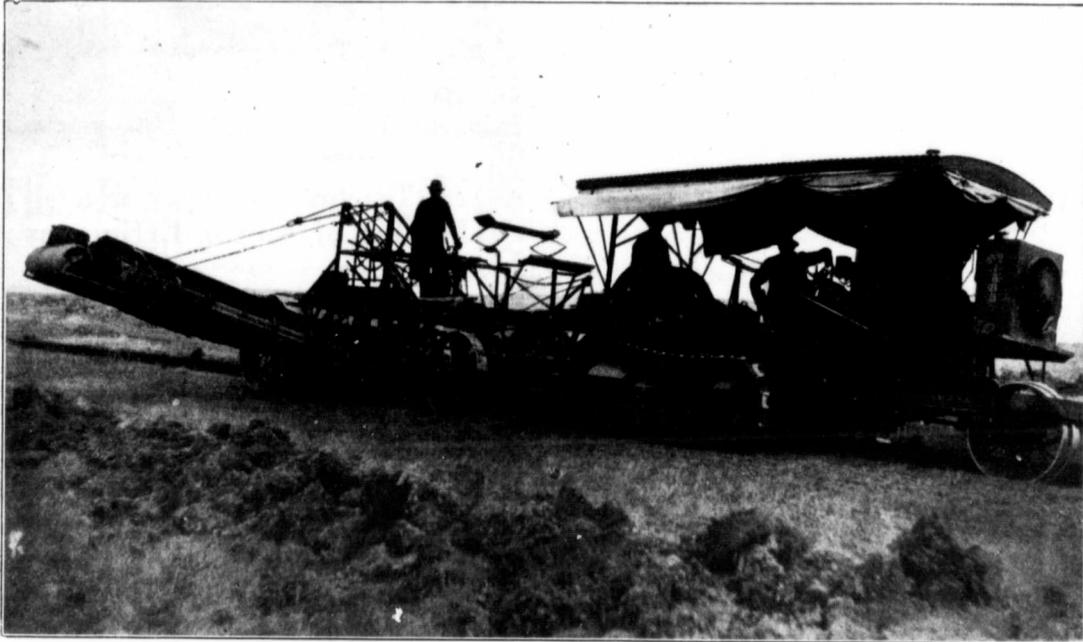
I am very much pleased with the work done with the tractor, and am planning to work the engine double shift this year, using one night and one day crew. I did a great deal of breaking last year, and did most of my plowing for summer fallowing, and during the fall I used the tractor in backsetting spring breaking. I expect to keep the engine and plows busy this year in breaking sod, plowing for summer fallow, and later in backsetting, and if I have time I will put it to work with tractor discs.

William DeBord.



### To Ease the Financial Difficulty

We are glad to notice a very satisfactory feature of the Mooney Seed Company's arrangements for the disposal of their seed-grain this year. Realizing as every one does at the present moment some echo of the "financial stringency," and that ready money would be difficult for a little while, they are prepared to deliver on a payment of one-third of the cash value and to take the balance next fall, presumably when their friends have had every reasonable chance to market the crop. Their offer of a discount of 10 per cent. on cash payments (or if paid in full July 1913) is a very liberal one, while they state that no higher price is being asked than they are receiving from distinctly cash customers. This is a timely move, and while it is not put forward with any philanthropic pretensions it cannot fail to help a great many men who want a little business assistance of the kind which they can't get from the banks.



Caterpillar pulling largest size of Elevating Grader on C.P.R. Irrigation Project at Tilley, Alberta. Outfit owned by D. Tredway

# HOLT CATERPILLAR TRACTOR

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

WASHINGTON ALBERTA LAND COMPANY LIMITED  
 CANADIAN HOLT COMPANY,  
 Calgary, Alta. Crossfield, Alta., Dec. 14, 1912.

Gentlemen:  
 Enclosed please find cheque for \$1.65 to cover bill for gaskets, etc.  
 Our outfit was pulled into the shed yesterday after a most satisfactory threshing run for selves and neighbors. The engine has more than filled any expectation had, as to its suitability to running a 36-60 Avery machine. Have threshed two crops since last February with it, and a connecting rod bolt is the only breakage have had, or cause of delay during over ten weeks threshing. Possibly though, should say the boys were hindered two hours when moving over very rough ground on a very cold day, they let the water freeze in the radiator through going slow, but there was no damage done, and that was no fault of the engine. We never have had any delay in starting promptly. A year ago figured on getting a steam engine for threshing purposes, but would not trade for any steam engine made for threshing alone, after experience last spring and this fall with the Caterpillar. Do not think there has been any engine around Crossfield that has given so little trouble and delay as the one we have. This was remarked to us by a Crossfield man a few days ago, and am satisfied investigation would prove the truth of what he said.  
 Respectfully yours, (SGD.) Geo. F. STOOKE.

## Durability

Best of material and workmanship, all guaranteed, coupled with correct design, make it particularly long lived.

## Adaptability

It is easily handled, gives operator a clear view, and will turn around in its own length.

## Accessibility

Notice how easy it is to get at all parts, especially the motor.

## Power

More power at the drawbar than a wheel engine of equal size.

Canadian Holt Co. Limited  
 609 Eighth Avenue W.  
 Calgary, Alberta

CANADIAN HOLT CO. LTD.  
 609 Eighth Ave., Calgary, Alta.  
 Please send me a Caterpillar Catalogue.  
 Name: .....  
 Post Office: .....  
 C.T.F. 3-5-13 Province: .....

SELL YOUR HORSES  
 AND BUY



A CATERPILLAR



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





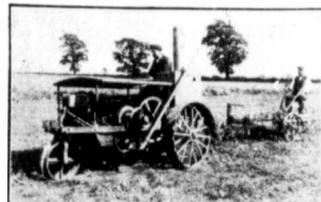
## The BRITISH MADE **IVEL** Agricultural Motor

For all Agricultural Work

Plowing  
Cultivating

Reaping  
Mowing

Threshing  
Chaff-cutting



## The IVEL is the PIONEER AGRICULTURAL MOTOR

Awarded 31 Gold and Silver Medals including R.A.S.E. Medal

WEIGHT OF 24 H.P. TRACTOR, 38 CWT. PRICE £367 10s. 0d.

### Does not damage your Land as Nine-Ton Tractors do

IVELS are at work in all parts of the world

The IVEL runs on Paraffin, Petrol, or Alcohol

#### A few extracts from letters:

Great Waltham, 10th October, 1912  
With regard to the work of the Ivel Agricultural Motor, there is nothing too high to be said in its praise; at the present it is plowing one of the stiffest fields in this district, and if it can do that it can do anything.

London, 5th September, 1912

You will be pleased to hear that our West Australian House (Machinery Department) report that the IVEL TRACTOR, furnished to our order No. 1778, is giving the purchaser satisfaction.

Vienna, 17th September, 1912

We beg to inform you that we are getting on very well with the one IVEL MOTOR supplied by you on the 31st May.



Catalogues sent Post Free on Application

**IVEL** Agricultural Motors Ltd. **IVEL MEDOW WORKS**  
Biggleswade, Beds., England



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

In case the engine has been run without any circulation of the cooling water until the pistons have become overheated and have stuck in the cylinders, it is best to fill the cylinders with cylinder oil and turn the crank shaft over by hand until the pistons are working normally again. In case it is impossible to turn the crank after pouring in the cylinder oil, pour in some kerosene oil. This will loosen the pistons if they have not been seriously injured.



It is a good habit to feel in the crank case occasionally for any pieces of metal that might cause damage. It often happens that nuts and pieces of metal mysteriously appear in the oil under the connecting rods. This is usually due to the fact that they have been carelessly dropped in when the inspection plates were not in place. The crank case must be kept perfectly clean.



The love of money, in its wild state, is the root of all evil, but cultivation will do wonders for any sort of noxious growth. Some of our most beautiful and useful plants were weeds to begin with.

#### Stacy B. Hart

The well known manufacturer of Peoria, Stacy B. Hart, is president of the Hart Grain Weigher Company, and the Hart Foundry Company. These firms have the distinction of employing more men and disbursing a greater amount of money in wages than any other firm in the city of Peoria. Mr. Hart was born in Beavertown, Morgan County, Ohio, in 1847, and passed his early youth in Ohio receiving his education in the schools of that state. In 1863 he came to Peoria and here the subject of this notice continued his educational pursuits for a time, after which he began working for James Selby & Company, manufacturers of corn-planting machinery. He remained with that firm for fourteen years, attaining great proficiency in the work and showing such skill that by the time he was twenty years old he had charge of practically the entire factory. He has shown great executive ability in the handling of business and men, and today is at the head of the largest factory in the city.

The inventive genius of Mr. Hart has been one of his most valuable assets. In the fall of

1878 he invented a grain drill which he named the Union drill, and forming a partnership with Frank Hitchcock, embarked in the business of manufacturing the machinery which he had invented.



Stacy B. Hart

This association was continued until 1886, when, on account of a fire which destroyed the plant and embarrassed the manufacturers, the concern was sold to Selby Starr & Company, which firm was later succeeded by the Peoria Drill & Seeder Company. His next hit was the invention of a

grain weigher for threshing machinery and upon perfecting his invention he was successful in organizing a company for its manufacture, he being the president of the concern. The business has grown rapidly, three hundred men being now employed in the works which occupy practically an entire block of land. In order to meet the constantly increasing demand for the plant's output, plans are now being matured for a material increase in the producing capacity of the works.

Although his name is a household word in Peoria and Peoria county, Mr. Hart's acquaintance and reputation are not confined by county lines, but extend to all parts of the grain-producing sections of the United States and Canada.



#### Taking Precautions

"You admit then," inquired the magistrate severely, "that you stole the pig?"

"I has to, your worship," said the prisoner.

"Very well," returned the magistrate, with decision; "there has been a lot of pig stealing goings on around here lately and I am going to make an example of you, or none of us will be safe."

# Questions and Answers For Gas Engine Operators

This is a department for gas engine operators similar to that which we have so successfully carried on for the past few years for those interested in steam. We invite your questions and will give them our best attention. Just tell us your troubles or ask us about any point upon which you desire information. We have secured the services of a competent expert who can handle gas engine queries intelligently and to the complete satisfaction of all concerned.

**Ques.** What are the two kinds of oil tests?

**Ans.** Chemical and mechanical.

The former are usually made in laboratories, but there are a number of simple tests which anyone can make.

**Ques.** What is meant by the cold point of an oil?

**Ans.** The cold point is the temperature at which any given grade of oil will freeze, or become cloudy.

**Ques.** What is the flash point?

**Ans.** The temperature at which an oil gives off inflammable vapors.

**Ques.** What is the burning point?

**Ans.** The temperature at which an oil takes fire.

**Ques.** Describe a test for clearness.

**Ans.** A sample of the oil is taken from a barrel that has been well rolled and shaken. The glass containing the sample should be transparent, and the oil, if very cold, should be warmed. The oil then, if of good quality, will be clear.

The amount of suspended matter is, with a light oil, determined by mixing and shaking with a relatively larger quantity of gasoline.

**Ques.** How is the purity of an oil indicated?

**Ans.** By shaking a small quantity in a bottle with a quick, jerking motion, so as to produce air bubbles. If the oil is pure, the bubbles will soon burst and disappear, but if mixed with other oils, they will rise to the surface, and collect.

**Ques.** How may animal matter be detected in oil?

**Ans.** About one ounce of oil is placed in a 4-ounce bottle, and two teaspoonfuls of powdered borax. If, on shaking, a soapy deposit should form, the oil contains animal matter.

**Ques.** Describe the acid test.

**Ans.** A small quantity of oil is mixed with warm water or alcohol, and tested with blue litmus paper, which will turn red if any free acid is present.

**Ques.** What is test for rancid oil?

**Ans.** Rancid oil is indicated by its odor when a few drops are rubbed between the hands.

**Ques.** Name several methods of engine lubrication in general use.

**Ans.** The gravity, splash, pressure and positive systems.

**Ques.** Explain briefly the working principle of each system.

**Ans.** 1, in the Gravity System, the lubricator is placed at a sufficiently high elevation to permit the oil to flow to the bearings; 2, in the Splash System, a quantity of oil is placed in the crank case and maintained at such a level that the ends of the connecting rods come in contact with the oil at the lower part of their revolution, and splash it upon the working parts; 3, in the Pressure System, the oil is contained in a reservoir and forced to the various bearing under pressure acquired by connecting the reservoir to the exhaust by a small pipe, or by utilizing the pressure from an enclosed crank case; in the Positive System, a pump geared to the engine forces a certain amount of oil through the feed at each stroke of the plunger.

**Ques.** How is a gas engine cylinder lubricated?

**Ans.** In some engines the splash system is used, while in others the oil is fed from a lubricator.

**Ques.** What determines the choice of a lubricant?

**Ans.** The principal things to be considered are: 1, rubbing pressure; 2, rubbing velocity, and 3, temperature.

**Ques.** How should oil be selected for cylinder lubrication?

**Ans.** It is desirable to select an oil that will deposit as little carbon as possible.

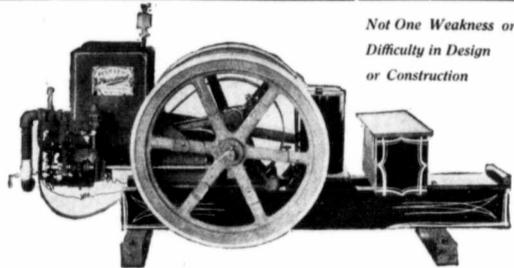
**Ques.** Are animal oils suitable for engine lubrication?

**Ans.** Animal oils, such as sperm, whale, fish, lard and neat's foot oils are sometimes used on outside bearings of heavier machines, but for high-speed machinery, especially gas engines, with the accompanying high temperature, they should not be used.

THE BEST, CHEAPEST AND MOST  
SIMPLE GASOLINE ENGINE YOU CAN BUY  
FOR THE FARM TODAY IS THE

## RENFREW STANDARD

Not One Weakness or  
Difficulty in Design  
or Construction



### Peerless in Simplicity, Fuel Economy and Uniform Power

This is the very last word in Gasoline Power Machinery. Experts have pronounced it the most perfect bit of engineering yet produced, and novices can understand and handle as easily as you can wind a watch.

### It Starts Without Cranking

and without a kick in the coldest weather. No need for any expensive and long winded "Course in engineering" to comprehend and run this engine. The average farmer or his boy can handle it perfectly with the slightest explanation of its few and simple parts.

### Compacted Strength and Durability

is secured with minimum weight by using a fine quality of semi-steel in the frame and cylinder, which are cast in one. This also assures perfect alignment, a smoothness and regularity in operation that cannot be obtained by any other design.

Five Years Guarantee with this Machine

Write for full information to

The RENFREW MACHINERY CO. Ltd.  
SASKATOON SASK.

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

## Ontario Wind Engine & Pump Company's LINES ARE SUPREME



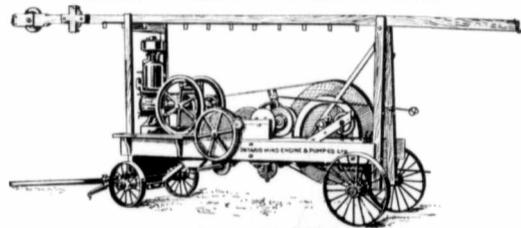
"Go Deeper  
Than The Surface"

Instinct and experience have told the wise old hen to scratch below the surface and carefully examine everything she eats. Intelligence and necessity have convinced the progressive farmer in need of an engine, well drill, feed mill, wind-mill, pump, tank or water supply goods to buy the Ontario Wind Engine & Pump Co.'s lines, because he has gone deeper than the crate, has looked them over and tried them out.

Buy what experience has proven supreme, because you are backing your judgment with your money.

If your Dealer does not handle our lines, write the

ONTARIO WIND ENGINE & PUMP COMPANY Limited, at  
MONTREAL TORONTO WINNIPEG OR CALGARY



"Chapman Well Drill"

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Ques. What kind of oil is generally used for engine lubrication?

Ans. Mineral oil of considerable body yet of high fluidity and cold point.

Ques. What qualifications must a cylinder oil possess?

Ans. It should have a "flash" point of not less than 360 degrees Fahr., and a fire test of at least 420 degrees, together with a specific gravity of 25.8, and viscosity of 175.

Ques. Why must the oil have a high flash point?

Ans. As the piston rises in the cylinder, the oil is deposited on the walls; when the piston moves outward the oil is exposed to the heat of the burning gases. The length of time during which it will continue to lubricate under this condition will determine the value of the oil.

Ques. Are vegetable oils suitable for lubrication?

Ans. They are used on outside bearing to some extent.

Ques. Is it customary to use any other mineral oil on the bearings?

Ans. As most gas engines are oiled from a common lubricator, only one grade of oil is used, and this is selected to suit the cylinders. Oils that are suitable for gas engine cylinders are suitable for the other bearings.

Ques. How should a lubricant be selected to suit the rubbing pressure?

Ans. For heavy pressures, it should have a good deal of body, while for lighter pressures there should be less body.

Ques. What quality is desirable, with respect to rubbing velocity?

Ans. For high-speed bearings, a lubricant should possess good fluidity, while for low speed, less fluidity is desirable to prevent waste.

**Helpful Agricultural Publications, Free**

More than \$2,500,000 is expended annually by the Dominion Department of Agriculture in carrying on work in the interest of the farming community. This large amount of money is divided among several branches to carry on the special duties with which they are entrusted. The Experimental Farms seek to solve problems in all phases of agriculture, including grain growing, live stock husbandry, horticulture, apiculture, etc.; the Seed Branch works to encourage the use of only good seed; the Live Stock

Branch endeavors to increase the profits of the stock raiser; the Health of Animals Branch aims to protect our herds and flocks from diseases; the Dairy and Cold Storage Branch does much to help the dairyman and fruit growers, while the Tobacco Division endeavors to find out and teach which are the best kinds of tobacco and the best ways of treating the crop in Canada.

While all of us, unconsciously perhaps, reap benefits from this work, much of it, more especially that of an investigational nature, is useful only to those who learn for themselves the lessons from investigations that are carried on. By the use of reports and bulletins the several branches of the

Department give out the results of their work so that all who wish to do so may profit by it. The publications are sent out to all persons who apply for them or to be put on the mailing list. In each case surplus copies are printed to meet the popular demand so as not to deprive any who desire to receive them. During the life of the Department these surpluses have been accumulating until there are available for distribution a greater or less number of copies of a large number of these including the latest bulletins has been compiled and printed in pamphlet form, copies of which are available to those who apply for them to the Publi-

cations Branch of the Department of Agriculture at Ottawa.



**Identified**

"That was the spirit of your uncle that made that table stand, turn over, and do such queer stunts."

"I am not surprised; he never did have good table manners."

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

## FLOUR CITY TRACTORS

**1913**

**Experience — Concentration — Perseverance**

**1913**

In these three words lies the key to the success of the "Flour City" Tractors. The result of fourteen years specialization, continually concentrating on improvements of mechanical design, has made the "Flour City" what it is today.

The 1913 "Flour City" surpasses all previous models in mechanical efficiency. It embodies all the desirable features that enter into the construction of a successful farm tractor. Its development has been guided by the requirements outlined by the progressive farmer along the most conservative lines. Its reputation is of the character that comes through actual work in the field. It stands for QUALITY, EFFICIENCY and SERVICE.

The "Flour City" is equipped with the four cylinder vertical motor and high drive wheels, admitting of maximum power and minimum weight. It has been simplified in all details, is controlled by one lever, consequently is easy to handle. It is equipped with our own carbureting system for gasoline, kerosene or distillate, and was awarded the Gold Medal in all the above points in the various Winnipeg Contests. It is built in three sizes—20, 30 and 40 H.P.

If you are going to buy a tractor, look up the records of the "Flour City" before placing an order. It is the best buy on the market today.

828 44th Avenue North

**KINNARD-HAINES CO. MINNEAPOLIS-MINN**

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

# You can make Keep your Eyes

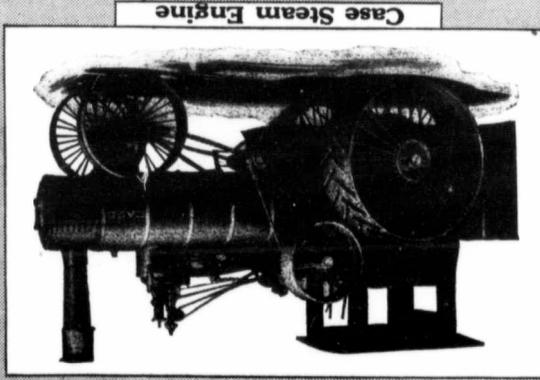
Case—the only Company awarded Gold Medals in

Facts and Figures prove that plowing Case Steam and

It is a fact that the Case Steam Engines have Best every time they entered the Winnipeg Motor the Case 110-H. P. Plowing Engine scored 457.85 this Engine was awarded the Grand Sweepstake Steam, Gas or Oil competitors at Winnipeg. It is a fact that the Case Engine also led its competitors in the Economy Brake Test and the Maximum Brake Test, while in Design and Working Parts and Ease of Manipulation, the points out of a possible 30. It is a fact that in the Brake Tests, Plowing Test, Design and Construction

You can't do better as your guide when

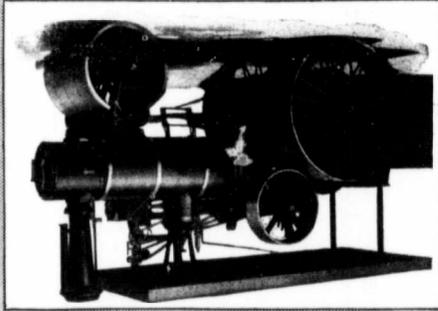
## You save Worry Time Trouble and When you Buy Road Mac



Case Steam Engine

You'll save a lot of worry, time and trouble—and get Better Value for your money—if you buy Road Machinery with the "Case" name on it. We'll tell you why:  
It's because we have investigated the various kinds of Road-Building Machinery far more thoroughly than you could do it yourself—and we have spent more time and money and effort in finding out good points of the various classes of Road-Building Machinery for Various Road-Building Operations. You can buy a complete equipment from our Catalog without investigation on your part and know that you are getting all the latest improvements and the Best and Most Practical and Reliable Equipment that money can buy. - You know when you see the name "Case" on Road Machinery, that the Seventy Year Reputation of the Case Company is back of it. That's all you need to know.

Every Municipality, Contractor—Every one interested in Road-Building Machinery is urged to write for the 1918 Case Road Machinery Catalog in which Equipment is described. It's free.



Case Ten-Ton Road Roller

# J.I. CASE THRESHING

741-791 STATE ST.

CANADIAN  
TORONTO, WINNIPEG,

RANCHES,  
SASKATOON, REGINA & CALGARY

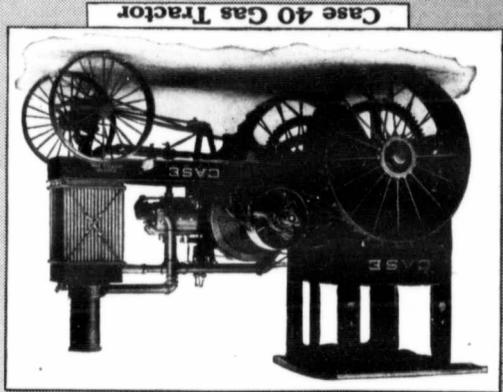
# e more Money! and Ears open

both Steam and Gas Tractor Tests at Winnipeg

can be done best and cheapest with Gasoline Engines.

completely out-classed the pick of the World's Contest. It is a fact that in the 1912 Contest, points out of a possible 500. It is a fact that Honors for winning the highest number of points in a fact that the nearest competitor scored only 449.75 its competitors in the Economy Brake Test and Construction, figured on Accessibility, Protection of Case 110 H. P. Plowing Engine scored a total of 28 whole contest, that is: The Economy and Maximum—the Case scored 457.85 points out of a possible 500.

than take these facts you buy—Buy a Case.



Case 40 Gas Tractor

## d get Better Value for Your Money hinery with the Name Case

The facts in the Gasoline Engine Competition established just as conclusively the Superiority of the Case 40 Gas Tractor in the Gasoline Class. In the Plowing Test it led all competitors with a total 411.7 points out of a possible 500. A notable fact in this connection was that the Case Gas Tractor not only led the total points but also in the Average Draw-Bar Pull and Average Draw-Bar H. P. In the Economy Brake Test for Gasoline Engines, the Case led all competitors. A fact emphasizing the Ease of handling the Case Tractor is that it scored 4.75 points out of a possible 5, leading all competitors in its class in this respect. But the GREAT BIG FACT—the one standing out above all others—is that the Case 40 Gas Tractor plowed at a Fuel Cost of only 45.8 cents per acre, not only leading all competitors, but establishing a new Low Fuel Record in Gasoline Plowing. It not only plowed cheaper but it plowed more acres per hour than tractors burning more fuel.  
If you want the most for your money in Economy, Service, Durability and Profits—don't shut your eyes to these facts.  
Our General Machinery Catalog should be in the hands of everyone interested in Economy Power Plowing. Write for them today.



Case Perfection Reversible Road Grader

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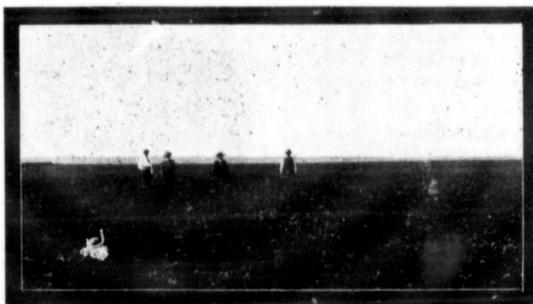


**T**HE seeding of grain naturally follows the preparation of the seed bed, and with regard to the time at which seeding should be done, it is well to bear in mind the statement which so practical and successful a farmer as the Hon. W. R. Motherwell, Minister of Agriculture for Saskatchewan, made at the banquet given to Seager Wheeler at the time of his winning the world's championship for wheat. Mr. Motherwell said "The man who, in the Canadian West, particularly in the northern sections, seeds wheat after the 15th day of May, deserves all he gets, and he is likely to get all he deserves." Very much of the late crop which suffers from frost is due to late seeding. In 1911, when so very large a percentage of the crop, especially in the northern sections of Saskatchewan and Alberta, was so seriously damaged by frost, there were thousands of acres which had been put in after the 20th day of May, and some of it as late as the 25th and 27th. It is no excuse to say that a man cannot get his seed in earlier. If he cannot, he should seed something other than wheat. There is considerable dispute as to how early it is wise to seed once the frost is out of the ground, but the evidence of many excellent farmers in the West points from April 20th to May 10th as being the period when seeding may be done with the best prospect of success. There is a tendency, especially in the matter of summer fallow, to shove wheat into the ground the moment there is sufficient frost out of the ground to permit of the seeders working. Better results would be obtained by harrowing the summer fallow and letting it warm up. This method has been very successfully demonstrated on the college farm of the University of Saskatchewan. Wheat which was not seeded until after the grain of surrounding farmers was above the ground, but which was put in on well harrowed summer fallow between the 1st and 5th of May was ripe and ready to cut from three to four days in advance of wheat that was put in before the 20th day of April. There is a psychological moment for the planting of wheat as there is for many other things, and it is worth while to spend both time and labor on

getting the wheat in at the psychological moment. Seager Wheeler, in his "Talk on the preparation of the seed bed," recommends also that fall plowing should not be seeded too early. He thinks that it should be harrowed, and his order of planting is—breaking first, summer following second, spring plowing

The discussion was on early maturing wheat and there was much enthusiasm by those who were beginning to grow Marquis, and who had been growing Preston. A gentleman, whose name I have forgotten, rose to make a plea for Red Fife as an early maturing wheat of the highest quality, and made the statement

nificant sample of wheat, which afterwards threshed 35 bushels to the acre, was being cut on the 6th and 7th days of August. Up to date, no wheat which has been grown in the West has given absolutely as good and uniform milling results as Red Fife. This is the wheat which has made the name of the Canadian West famous as a wheat producing country. The fact that it has fallen somewhat in disrepute in the more northern sections which have during the more recent years, been opened for settlement, is due in a far larger measure to the carelessness of the farmers in the selection of their seed, the preparation of their seed bed, and the time of sowing, than to any inherent lateness in the variety. There are undoubtedly districts where it is safer to sow such wheats as Preston, Marquis and Prelude; but with proper attention given to the preparation of the seed bed, and having the wheat put in in the proper season, Red Fife can be grown successfully and profitably over the main portion of the wheat belt of the Canadian West. Marquis, without doubt, comes next to Red Fife as a desirable wheat for seeding in the Prairie provinces. Of all the hybrids, it gives the best promise of fixity of type and milling quality, but it has not even yet been long enough in use to absolutely ensure the type being fixed. It was thought for a very considerable number of years that the type of Preston, which is a hybrid of Red Fife and Ladoga, was fixed, but latterly this has proved untrue, and there has been a tendency on the part of much of the Preston wheat, to revert to the type of the inferior parent, and it is just possible that the same may occur with Marquis, although in the case of Marquis, the No. 2 Calcutta Red, which is used for a cross with Red Fife, is a superior wheat to Ladoga. The best claim which Marquis has on the consideration of the Western farmer, is the largeness of its yield, some of the records from the experimental farm at Indian Head for the year 1912 showing yields as high as 60 bushels to the acre, but 45 and 50 bushels of Red Fife are by no means impossible. At the recent convention of the Grain Growers of Saskatchewan a resolution was passed asking to



A Good Crop for Anywhere, Alfalfa Field in Alberta.

third, and fall plowing last, as fall plowing matures the crop faster than any of the other forms of cultivation. Some will say, that if all this harrowing is to be done in the spring, they will not get in their crop, but this is just one more argument in favor of smaller areas, better cultivation, and consequently better yields. Assuming that between the 20th April and 10th May is the proper time to seed wheat, the next ques-

tion in 27 years of farming in Saskatchewan he had never had a crop of Red Fife seriously injured by frost.

"Where do you live?" was the query, and the answer was: "8 miles north-west of Prince Albert." This man went on to state that he had from the beginning of his wheat growing, made a practice of going through his wheat fields and selecting the earliest ripened heads. A little work



45,000 pounds of Seed taken from this field of 40 acres in Alberta.

tion which arises is what kind of wheat shall be seeded. There has been rather too strong a tendency to change the varieties of seed and to run after new varieties that promise early maturity. A very interesting thing happened along this line at a convention of agricultural society representatives in Regina, two years ago.

of this kind had been rewarded by a strain of early Red Fife, which planted between May 1st and 10th, was frequently ready for the binders between the 6th and 9th of August. From this conversation, the writer discovered that this was a farm which had been visited in the course of a tour of inspection in 1905, when a mag-

have the inspection act amended, so as to make it read "Hard wheat" instead of "Hard Red Fife" as at present, in order to ensure Marquis wheat being able to obtain the Grade of No. 1 Hard. It is a question whether this would be a desirable amendment or not. The still newer hybrid, Prelude, is not suitable for all the Western provinces. There seems to be a good deal of misunderstanding about this wheat, and Mr. Charles Saunders, the Dominion cerealist, has been credited with stating that it was earlier and better than Marquis wheat, which is not correct. Prelude is a short strawed, bearded wheat. It has given very good milling returns, but it is really only suited for the northern sections, where the soil is very rich and moist. It is not a specially heavy yielder, and where the soil is at all light or dry, the planting of this wheat is likely to prove very disappointing.

**Testing Seed**

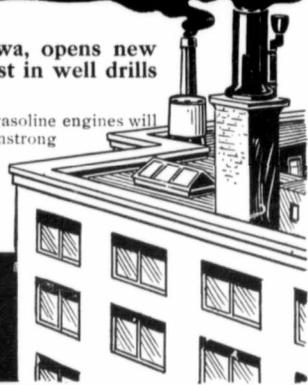
In this present year more than ever the testing of the seed is an absolute necessity. A man who has the slightest doubt as to the germinating qualities of the seed, should not lose a moment in sending to one or other of the test laboratories which are to be found in connection with the Agricultural College at Winnipeg, the University at Saskatoon, and the Dominion Seed Grain Branch at Calgary. It is possible, of course by the method of a moist piece of blanket, to make a test of seed at home, but it is safer to send it to these officials, who have the time and the proper equipment. It should be borne in mind, however, that there is not a moment to lose in sending in samples. It takes time to test them, and by the time this article is in print, we will be within a month of the beginning of seeding time. Much seed has already been tested by the Government experts, and this is proving to have a very low percentage of germination.

To revert again to the Grain Growers Convention at Saskatoon, —the statement was made there that a very large number of farmers, especially in northern Saskatchewan, while they have plenty of grain, have practically no good seed wheat. While there may possibly be some exaggeration in this statement, the fact remains that much of the grain, in the northern sections especially, was affected by both rain and frost. It is folly for a man to waste his time in preparing the land and then seeding grain which he has no surety will germinate sufficiently to make a profitable crop. The question of seed grain is acute at the present time. It is not that there is a lack of good seed grain in the West, but unfor-

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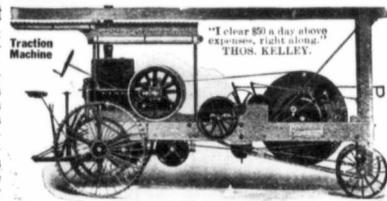
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GOOD FARMING IN MANITOBA

Success with Alfalfa

IN the spring of 1911, Hon. George Lawrence, M.P.P., Minister of Agriculture, decided that it would be an excellent plan to conduct a thorough test of alfalfa growing in all portions of the province. In accordance with the idea he instructed Prof. S. A. Bedford and Mr. Harrison, B.S.A., to select and sow with alfalfa ten plots, containing approximately half an acre each.

The following is a list of the co-operators and the points at which their farms are located:

- William Hamilton, Manitou. James Daly, Killarney. J. A. Ross, Melita. James Connon, Cypress River. James Clark, Carman. H. W. Dayton, Virden. Fred Houck, Hamiota. M. J. Stanbridge, Stonewall. Home for Incurables, Portage la Prairie. S. J. Holland, Morris.

The above selections were made with the idea of representing a fairly large district in which soil and climate were similar.

Of the ten plots sown, eight have proved successful. The two failures were due largely to the land being wet and not in good tilth when sown. The yield for the year was from two to five tons per acre.

Inoculation of seed or soil is necessary as plots adjacent to the demonstration plots have failed because of the absence of the nitrogen-fixing bacteria. "A great difference can be seen" writes Mr. Ross from Melita, "between the plot that was inoculated and the crop alongside which was not. The inoculation, however, is spreading, running out on the uninoculated in dark green streaks. The remainder made a poor growth and is a light green color."

Nearly all the demonstrators state that they are well pleased with the results obtained and in a number of instances the acreage will be increased. Within a few years a number of excellent fields of alfalfa will be scattered undoubtedly here and there throughout Manitoba.

When questioned as to the seed used, Professor Bedford said he would have preferred to use Grimm's seed for these plots, but a clean sample of high germinating power had not been obtainable. Nearly all the seed used in the tests was a high quality of Turkestan. Half of the plot at Hamiota, however, was sown with the best obtainable sample of

Grimm's and it has done remarkably well. It would appear, Mr. Bedford said, as if this variety had some qualities to recommend it for this province; but before the Department would advocate the general use of this seed it would have to be free from weed seeds and of high germinating power.

Professor Bedford suggested that there was a good opening in Manitoba for the growing of Grimm's alfalfa seed; any farmer with clean land who took the matter up would find no difficulty whatever in selling an unlimited quantity of seed.

"For this purpose" continued Mr. Bedford, "it should be sown in rows about eighteen inches or two feet apart and cultivated to

and summer fallowed. Seed was sown on May 19th at the rate of 20 lbs. per acre. The plot was badly washed by heavy rain-storm the first summer. It was cut twice this season, the first cutting being 2,700 lbs. and the second 3,000 lbs. or a total of 5,700 lbs; as there was only 7/8 of an acre, this would be at the rate of 3 1/4 tons per acre.

Mr. Ross says that there should be more of it sown in his district, and he intends to sow more himself. He also states that it is very necessary to inoculate.

Cypress River Plot—Is a sandy loam and was in potatoes the previous year. Was cut twice. July 4th cutting gave 2,690 lbs. per acre and August 29th gave

a rich sandy loam with a little gravel and clay subsoil. Plot was in potatoes and roots the previous year and was in the best tilth of any of the plots sown.

The test of varieties was conducted on this plot, one acre being sown with Grimm's and a smaller portion with Turkestan. The seed was sown on May 24th at the rate of 20 lbs. per acre. When this plot was inspected last June a difference could be seen in the two varieties. The Grimm's was much taller and thrifty looking. This seems to indicate that the Grimm's may be more suitable than Turkestan for the Hamiota district.

The plot was cut twice during the summer; June 29th gave 1 1/2 tons per acre and August 9th, two tons, a total of 3 1/2 tons per acre.

Mr. Houck writes: Although I did not get it cured well, due to the excessive rains which bleached it badly, the stock are very fond of it. I think it is a first class fodder and will sow more of it next year."

Stonewall Plot—Soil a clay loam with gravel and stones and gravelly subsoil. This land was summer fallowed the year previous and sown to alfalfa on June 5th, about 20 lbs. of seed per acre.

Mr. Stanbridge cut the plot twice, but had no scales in which to weigh the fodder. He got 1 1/2 loads from the first cutting and 1 1/4 loads from the second, a total of 2 3/4 loads. He reports that great interest is being taken in alfalfa in his district.

Portage la Prairie Plot—Is a sandy loam soil with sand subsoil. Produced a cross of wheat previous to being sown with alfalfa. Plot was cut twice during summer, giving one ton at each cutting, a total of 2 tons.

Morris Plot—The soil was a very heavy clay with clay subsoil. It was summer fallowed the year before but in the spring was very wet, being under water part of the time, so that it was June 17th before it was dry enough to sow. Land was in very bad condition, being in large hard lumps. Only a few small patches came up, so Mr. Holland considered it of no use and plowed it up. He tried some on a knoll and it seemed to be proving successful.

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"To be glad of life because it gives us the chance to love and to work and to play and to look up at the stars."—Selected.



A Crop of Manitoba Alfalfa, Professor Mitchell, M.A.C., Exhibiting Plant.

keep down the noxious weeds. This seed is worth \$1.00 a pound today, which is four times the price of Turkestan."

The results of the various plots follow in detail:

Manitou Plot—Sandy loam soil. Was in potatoes previous to being sown in alfalfa. Seed was sown on May 17th at the rate of 18 lbs. per acre. The plot was cut twice this year. The first cutting gave 1 1/2 tons per acre. The second cutting was spoiled by excessive rains after being cut.

Killarney Plot—This plot is a sandy loam and was in potatoes two years previous to being sown in alfalfa. It was sown on May 18th at the rate of 23 lbs. per acre. Poultry have done some damage to the plot near the barn. The plot was cut twice, giving three tons per acre the first cutting and 2 tons second cutting, or a total of 5 tons per acre.

Mr. Daly states that he thinks the acreage of alfalfa should be increased in his district.

Melita Plot—Soil a very light, sandy loam. Was manured previous year (8 to 10 tons per acre)

1,360 lbs., or a total of 4,050 lbs.—slightly over two tons per acre. This plot was damaged by a hail storm in July.

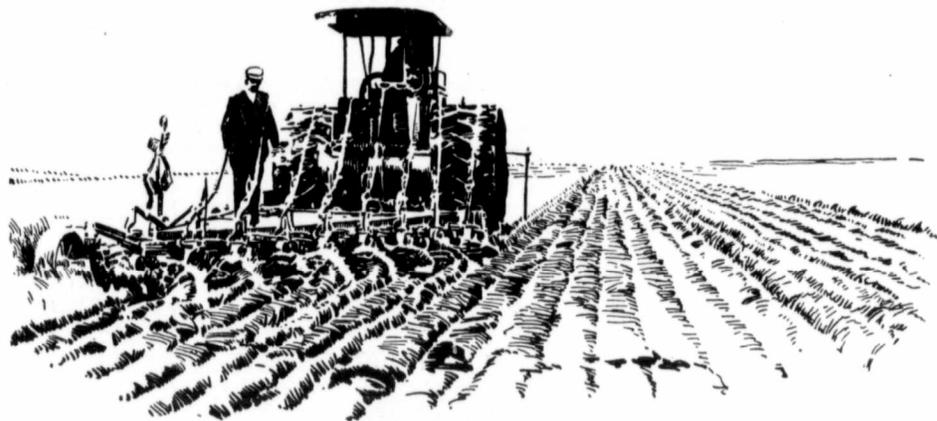
Carman Plot—Is a sandy loam with clay subsoil and produced a crop of corn and potatoes the year previous. It was sown, 20 lbs. of seed per acre, on May 22nd. This plot was cut three times during the summer—on July 1st, August 3rd and Sept 16th. The three cuttings gave a yield of 4 tons per acre.

Mr. Clark is quite certain that alfalfa can be grown successfully in the Carman district and has seeded down a large field to it.

Virden Plot—Deep sandy loam with clay subsoil. Was in wheat the previous year; fall-plowed and disced in the spring. Was sown on May 23rd at about 20 lbs. per acre.

The alfalfa grew well the first season, but Mr. Dayton reports that water settled on the land and it "winter killed" very badly. He plowed it up and resowed this spring and the new crop is looking well.

Hamiota Plot—The soil here is



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# GOOD FARMING IN SASKATCHEWAN

Same Observations from Two Years' Experiments on University Farm

By JOHN BRAKEN

(Extract from Address at Convention of Saskatchewan Agricultural Societies, February, 1913)

THE work of the Field Husbandry Department of the College of Agriculture includes, in addition to instruction, investigation work in crop production, and has to do with crops and soils. During the past two years the greater part of the energies of the Department have been expended in laying a foundation for future investigation work that is already mapped out. A portion of our investigation field is now ready to receive the experiments that have been planned for it and the balance will be ready by next year. Time and patience have been necessary in order to lay the foundation for experiments that must be of far-reaching effect on Saskatchewan agriculture.

During these two years, however, some elementary experimental work has been done and in the short time at my disposal I shall outline briefly the most important results that have been secured. The past two seasons have been so different in climatic conditions that our work with wheat is largely neutralised as the following figures show:

Variety	Yield 1911		Yield 1912		Average
	bu.	lb.	bu.	lb.	
Red Fife	39	0	39	40	39 20
Hybrids (Preston, Stanley, Huron, Bishop)	44	45	33	24	39 05
Marquis	44	20	35		39 40
Durums (3 var.)	32	20	44	07	38 14
Red Fife (registered) (4 strains)					40 34

The advantage of the early varieties in 1911 is very apparent. But this advantage is more than offset (except in the case of Marquis) in the season of 1912, due largely to the drought of June which seriously injured all early crops. The yields of the Durum wheats in this dry season are worthy of attention.

The results of our first seeding of some different grades of wheat are rather surprising, and when the climatic conditions are fully appreciated the yields can be quite understood.

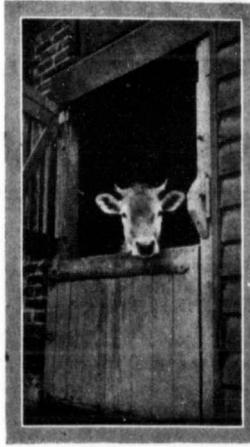
Red Fife—1912

No. of plot	Grade	Germination 4 days	Yield 10 days
		%	bu. lb.
1	No. 2 Northern	85	97 27 56
2	Good "feed"	94	97 31 44
3	"Feed"	93	96 34 28
4	Poor "feed"	93	97 34 30
5	Very poor feed	81	91 38 16

The percentage of viable seed is shown in the third and fourth column, but the vigor of germination which is equally as import-

ant is only suggested by the difference in the per cent. germination between the 4-day and the 10-day count. As a matter of fact, the number of plants that actually appeared above ground was very much less in the "feed" than the germination test showed. The more or less unfavorable soil conditions caused the decay of a larger per cent. of the "very poor feed" than of "poor feed" and more of the "feed" than "2 Northern." The result was, the stand was thickest and earliest in plot 1 and became thinner and later in each succeeding plot. When the drought of June came, those plots which were earliest and thickest had produced the most growth and therefore had used more of the soil moisture. Naturally, they were the first to suffer, and the first to mature. When the rains of the last few days of June came, the earlier plots were so far matured that resumption of normal growth was almost impossible, while with the latter ones it was less difficult. The thinner, later plots withstood the drought better and therefore yielded more. Had the drought come later, the story would probably have been different and had it not come at all the figures would likely have been very different.

It is necessary here to give all the results in earlier maturity, but it may give a weaker straw. It is desirable on heavy soils (especially on fallow) in more humid or northerly regions where early fall frosts are feared; but it should never be practiced in the south-western part of the province and particularly on stubble land. Where the moisture content of the soil is low, thin seeding is best if frosts are not feared.



Good Morning

The six-rowed bearded sorts have shown themselves to be best suited for our conditions on account of their early maturity, relatively strong straw and heavier yield. The two-rowed hulled sorts are weaker in the straw, later in maturing and except in dry seasons of late fall frost, are lighter in yield. The hullless and hooded sorts are very early, but yield much less than the others.

There are many good varieties of the six-rowed bearded class. Among the best are Manchurian, O.A.C. No. 21, Mensury, Odessa and Yale. Of the two-rowed, Haunchen, a pedigree variety, easily leads. Duckbill and Danish Chevalier have also given good results and Brewer, fair.

Victory is a new importation from Sweden. White Giant, Improved American and Banner are very similar varieties. Gold Rain

Of nearly 30 varieties of oats tested the six best are:

Variety	Aver. yield for 2 years
Victory (yield for 1912 only)	128 08
White Giant	122 32
Imp. American	122 22
Banner	120
Abundance	112 32
Gold Rain	112 22

The types of barley that have been under observation include:

Six-rowed	bearded
Six-rowed	beardless
Six-rowed	hooded
Six-rowed	hulled
Two-rowed	bearded
Two-rowed	hulled

The North Dakota and Minnesota pedigree strains of the small brown-seeded flax have given us better yields than any of the common, unimproved varieties that are locally used. Minnesota No. 25 has proven the heaviest yielder, with N.D. No. 54 and N.D. No. 155 a close second and third respectively. The latter are more wilt resistant than the Minnesota variety. The large seeded varieties have not yielded as well as the small seeded ones, and such as we have tested are later in maturing.

Winter wheat has never yet withstood our winter satisfactorily, and it has been sown at ten different dates from August 1st to October 10th. Seven varieties have been tested. In two years only three sheaves have been harvested.

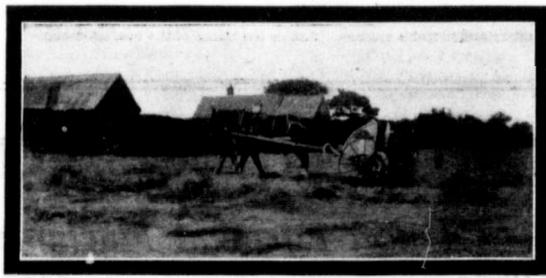
Western strains of winter rye are, however, perfectly hardy, but eastern and southern strains have killed out from 20 to 90 per cent. Our winter rye has yielded 30 and 35 bushels respectively, in the past two seasons.

Canadian field peas have yielded from 36 to 49 bushels per acre. Prussian Blue, Chancellor, McKay and Arthur are among the best. Peas require about as long to mature as Red Fife wheat and in the north are therefore liable to be injured by fall frosts.

Only one year's figures are available for our tests of grasses: Orchard grass, Tall Oat grass, Perennial Rye grass, and Italian Rye grass all completely killed out.

Varieties	Yield
Brome	3 tons 1400 lbs.
Western Rye	3 tons 300 lbs.
Red Top	1 ton 1700 lbs.
Meadow Fescue	1 ton 1660 lbs.
Kentucky Blue	1 ton 1150 lbs.
Timothy (sown too thickly)	1 ton 800 lbs.

White clover is the hardiest of the clover family with Alsike next and Red Clover a tender third. It is gratifying to point out that we have succeeded in harvesting seed from Alsike, White Clover, Red



Turning a Light and Early Crop

the data we have secured in our "rates of seeding" tests with wheat, oats, barley and flax. The general conclusions of two years' work lead us to believe that thick

is an early yellow oat that promises much for the heavy soils of the northern part of the province. It is nearly a week earlier than any of the others mentioned.

# HERE'S THE HISTORY of The Pioneer "30"

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**R. BRUST FARMS.**  
PENKILL, SASK.

Nov. 4, 1912.

Pioneer Tractor Co. Limited,  
Calgary, Alta.

Gentlemen:-

After looking up a good many, or rather most of the different makes of farm tractors, I decided to buy the Pioneer "30" and did so. I have now used my Pioneer "30" since last August and must say I am well satisfied with the results. It does all the Company claimed it would do. The three speeds of the Pioneer "30" are certainly something great and I don't see how people can get along with a traction engine without the three speeds.

I am now still using my Pioneer for threshing - am driving a 36-60 separator with it and must say it does the work just as good as any steam engine could do. I was always in favor of steam for threshing, but I am now convinced that the Pioneer "30" does the work just as good as steam.

I have often read testimonials about engines and always thought the ones that wrote them were well paid for it, but this is not the case with me as I am not getting ten cents for writing this and if anybody wants to know more about the Pioneer "30" I will gladly answer their questions.

Yours very truly,

*R. Brust*

This is Like the History of all Pioneers



Mr. R. BRUST, of Penkill, Sask., formerly a steam railroad engineer, attended the Winnipeg Tests for the express purpose of seeing with his own eyes all the big traction engines put through their gaits, that he might better judge which to buy. He naturally leaned toward steam but the Pioneer "30" weaned him away from his leaning.

He saw all the big engines tested, one after another—he saw the Pioneer "30" put up new records—and then and there, he ordered a "Pioneer" Tractor for immediate delivery.

We shipped him the identical "Pioneer" he saw hang up these records at Winnipeg. He has had it in constant service ever since—

**And Now He Writes—  
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**Here's His Letter**

If you are not already on our mailing list, write now for the new Pioneer Booklet. It's choked full of enthusiastic letters from users and interesting illustrations.

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Mail me free, full particulars concerning THE PIONEER "30."

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CALGARY ALBERTA



**Planning the Farm House**  
By H. W. CHASE

**D**ID you ever stop to think how many people will change their minds because they can save ten cents one day, when it will probably cost them \$10 within the very near future. I have seen this happen in a great many instances, when the carpenters start to build a house. Recently, I saw a woman tell a carpenter that he could build a bedroom 10 feet wide and another bedroom adjoining this one seven feet wide simply because the carpenter found that it would save about one hour's time in the carpentry work. By having this room nine feet wide instead of seven feet, the woman could have gotten around the bed very conveniently, as it is it is almost impossible for her to make the bed in that room.

Such methods as this indicate that the old system of planning homes is still in vogue. It used to be, and still is in practice in a great many communities, to plan a house so that it will be the most convenient for the farmer to come from the barn to the kitchen, no matter how inconvenient it is for the farmer's wife to do the work in the house. In fact the old system of planning houses was simply to make it easy to build a house and save material, regardless of the fact that the house has to be used for thirty, forty, fifty and even more years. I know of one house in which the farmer desired to excel all other farmers in his neighborhood so he built a kitchen for his wife 16 feet square with three sides of it exposed to the weather, then adjoining this he built the dining room 16 feet square again, then adjoining this and farther away from the kitchen he built the living room 16 feet square, and then back of this he built a spare parlor of about the same size. All of this summed up, meant that when the woman left the kitchen stove to go to the spare parlor to get something from the stand she had to travel 44 feet and a few inches.

You will see in a great many farm houses scattered around over the country the house built in a T shape. Many farmers build their houses in this form to avoid inside partitions and plastered walls. By building houses in this

shape it costs several dollars more each year for fuel than it would if the house were square. In fact it probably costs sufficiently more for fuel every two or three years to have built the partitions needed if the house had been on a square or rectangular plan.

Such old methods of planning houses should be passed up. Times have changed now. Houses

the morning in the eastern part of the house and in the afternoon in the western part of the house. While in the southern climate where it is desirable to keep the house as cool as possible, this condition should be reversed.

A wind nearly always blows from some prevailing direction in almost any vicinity. For instance, in some sections of the

isn't well to consider building the house for any one individual unless the individual is so situated that she can build three or four houses during her lifetime. For it is very seldom that one person lives in a house so long that they will wear it out, and when another person comes into the house it is not designed to suit the latter tenant. So consider the needs of women in general. For instance, if it is thought that there will be two women in the house, it is often convenient to put the laundry in the basement. However, in the country where one woman has to both wash and cook at the same time, it is generally far better to have the kitchen sufficiently large so that the washing can be done in the kitchen or on the adjoining back porch.

One other feature to be considered in planning a house is the annoyance of having men in the kitchen at meal time. Probably the time of the day when the woman is more interested in her work than any other is the last fifteen minutes previous to setting the meal on the table. This is just the time when the men folks are coming in from the fields and the barns and cleaning up for the meal. If the house is so arranged that the men have to wash and clean up in the kitchen, it is very annoying to the house wife. They are always standing around the stove, or using the water from her pail or tramping back and forth across the kitchen so that she doesn't know just where to lay her hands on the work which she has planned to do. If possible then there should be in any farm house a room provided for men to wash in and they can in such a room hang up their coats and pass from there on into the dining room. It is a habit of mankind to always take the shortest cut between two points, so in planning this wash room it should be in the shortest line between the barn and the dining room, and the kitchen should be so placed that the men would have to go out of their way to get to the kitchen.

Many farmers say they can't put in a modern heating system because of the cost. They should not look at it in this light, for in building a new house by the proper planning and arrangement

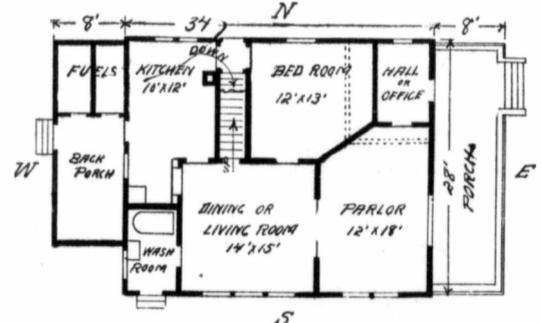
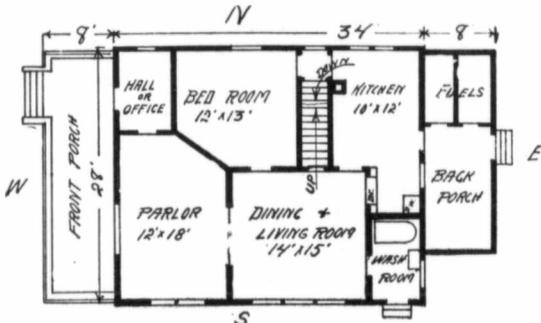
are not built for their exterior appearance necessarily. They should be built to reduce the woman's labor as much as possible, especially on the farms where it is so great. In planning the house, advantage should be taken of the natural elements to assist in making the house comfortable. It should always be borne in mind that the sun rises in the east and sets in the west. This means that the eastern part of the house is the warmest in

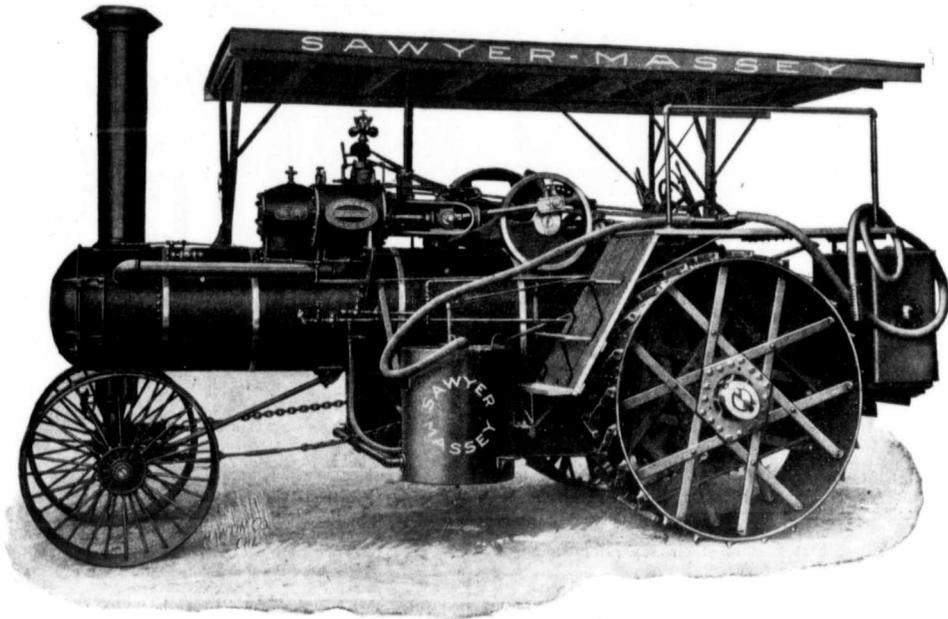
country in the winter time it is from the northwest and in the summer time it is from the south. Southern breezes in the summer time tend to cool the house, while of course northern breezes in the winter time tend to cool it likewise. If it is in a community where it is harder to heat a house than it is to cool it, then it is better to have those rooms which do not require much heat, such as halls, spare bedrooms, kitchen, etc., on the side of the house where

the morning and the western part of the house warmest in the afternoon. If then the home is to be in the far north where it is more desirable to keep the house warm, than it is to keep it cool, no doubt the wife should plan her home so that she will be doing her work in

the cold wind strikes. This will protect the living rooms and the working rooms more from the cold air, so that it does not require as much fuel to keep the house warm.

The needs of the women in general should also be considered. It





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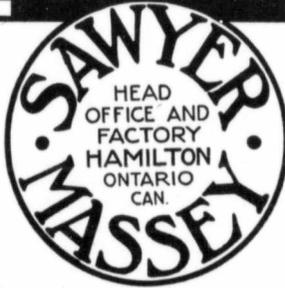
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**FUEL AND WATER SUPPLY.**—Each engine equipped with sufficient capacity to plow two miles or more.

**WHEELS.**—All engines over twenty-two h.p. equipped with standard Rear Wheels, thirty inches wide, and standard Front Wheels, fifteen inches wide, and of a suitable diameter in proportion to size and weight of the engine.

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**QUESTION**—Why is it that there are more RUTH Feeders in use in Western Canada today, than all other kinds combined?

**ANSWER**—Because the RUTH Feeder is warranted to feed any make or size of separator to its full capacity, with any kind of grain in any condition whatsoever, bound, loose, straight, tangled, stack-burned, wet or dry, **PILED ON THE CARRIER IN ANY WAY YOU PLEASE** without slugging the separator cylinder or loosening a spike, and to do a faster, cleaner and better job of feeding and to **WEAR LONGER AND COST LESS** for repairs than any Feeder manufactured by any other company in the world.

**QUESTION**—Why is it that the largest Threshing Machine Companies doing business in both Canada and the United States equip their separators almost entirely with RUTH Feeders?

**ANSWER**—Because they have learned from actual experience that in the first place it is easier to sell the separator, and they also know that the separator does better work and lasts longer, because it is properly fed, than if they used their own Feeder or any that they could buy.

**QUESTION**—Why is it that we have to keep a large force of men at work during the summer months taking off ALL KINDS of other Feeders and replacing

them with RUTHS?

**ANSWER**—Because the Threshermen are realizing that unless it is known that they have a RUTH that it is a hard job to get enough threshing to do to make it pay to start out. At threshing time everyone is in a hurry, and the farmers are insisting on the separator having a RUTH on because there are no delays caused by break-downs.

**QUESTION**—Why is it that at least ninety per cent. of the new rigs that are being sold each year have a RUTH Feeder on?

**ANSWER**—Because ninety per cent. of the buyers know that the RUTH is without any question the best Self Feeder in the world. They know that there is no other feeder that will bear out the warranty that goes with the RUTH. They know that all of their brother threshers have them and are more than satisfied.

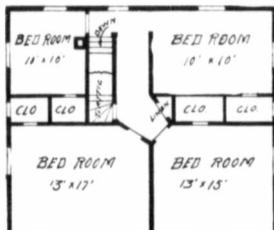
**REMEMBER** that the RUTH has "been on the job" in Canada for years, that you are not buying an experiment, and above all, remember that ANY COMPANY you buy a separator of can supply you with a RUTH, and that we have the proper attachments to put them on with. Write us for RUTH literature, and it will be sent at once. Do not wait until it is time to commence threshing, **DO IT NOW, TODAY.**

**THE MAYTAG COMPANY LIMITED**

::

**Winnipeg, Man.**

of rooms, doors and windows, the cost of a hot air heating system is no more than the cost of stoves with the added number of chimneys, doors and the added space required in the room for an equivalent amount of working room. A



hot air or furnace heating system as it is generally called will require more fuel to keep the house warm than a base burner. However, it requires a sufficiently less amount of care and labor about the house to more than compensate for the added amount of fuel.

Furnace heating systems do not require any more fuel for the amount of space heated than the base burner, in fact not quite as much. But where houses are heated with a furnace, the basement is kept warm which keeps the floors warm and in addition the upstairs and halls have been kept warm. In other words there is a great deal more of the house kept comfortable by the use of

furnace heat than there is by the use of base burners or wood stoves.

It might seem that it could not be possible, to put in a furnace system with money saved from the sale of the stoves, the lack of chimneys, the lack of doors and with the increased amount of available floor space or the decreased size of the house because of the added amount of floor space which the furnace offers. But this, nevertheless, was true in my residence when I built it and it is a small residence at

at. With these general considerations in the planning of a house take up more definite details and endeavor if possible to construct a house which contains all these features. Not knowing the prevailing direction of the wind in the Canadian provinces, and not knowing whether it is more important to keep the house warm in winter than it is to keep it cool in summer, the plans for a house are offered here such as would be offered to a farmer in North Dakota.

In the first place the kitchen of a home on the farm is the woman's shop, laboratory and possibly her factory. The most strenuous parts of her work take place in this room and probably a larger part of her time is spent there than in any other room, or

in fact all other rooms in the home. Hence the kitchen should be given predominance in the planning of the house. In the average household the woman's time is all put in in the kitchen in the forenoon and often a part of the afternoon is spent there. Because of the fact that the kitchen range throws off a great deal of heat, it will ordinarily keep the kitchen sufficiently warm in the winter time, even if the kitchen is located in the cold part of the house, and in the summer time it keeps the kitchen entirely too warm, hence, put the kitchen on the west part of the house. This arrangement is made, because the sun shines on the east part of the house in the morning and the west part would be the coolest in the morning, then in the afternoon the housewife would be in other parts of the house, hence would not mind the heat if it was thrown into the kitchen in the afternoon. Furthermore, the kitchen has sufficient heat within itself to keep it warm, so place it on the north part of the house and let it receive the northwest blasts and protect the south part of the house which is the living room. Because of the conditions, in arranging or planning a house, it must face the east with the kitchen on the northwest corner.

If one should desire to have a

front hall in the house this should be a room which doesn't need much heat, hence, put it on the north side of the house too. Then some families desire a spare bedroom downstairs. This likewise doesn't need to be heated continually, hence put it on the north side of the house also. With these rooms on the north side of the house, consider the rooms on the other side. Probably this space is occupied with three rooms; the wash room and cloak room combined, the dining room and living room and the parlor. Inasmuch as the wash room should be in the back part of the house place it in the southeast corner. Adjoining this then should be the dining room, this room should also be in connection with the kitchen. The dining room should be a combined dining



and reading room. This should be sufficiently large so that the table can be stretched out to care for the threshers or the ensilage cutters, or the corn shellers, but since this room is not always used for so large a crowd, it should be

utilized for a reading room also. So have it long and narrow, with the dining room table sitting closer to the kitchen and the reading table at the farther end and slightly towards the corner.

The farmer ordinarily is a man who likes to read the weekly, as well as the daily literature, and if this literature is where he can conveniently pick it up while he is waiting a few minutes for his meals, he will invariably pick up a paper and read a few items, while if the literature is kept in a room away from his customary haunts, he will never take the trouble to go and read the paper.

The parlor can be adjoining the dining room and in the front part of the house and have one side of this room to the south.

By having these two important rooms on the south side of the house where the people stay a large part of the time when they are resting, there can be sufficient number of windows to let the sunlight in in the winter time and have the room sufficiently light in the summer time and furthermore, by having an extended amount of windows along this side of the house the southern breezes will blow into the rooms and keep them much cooler than if they were on the north side of the house where the breezes would not enter.

Many people believe that they like an open stairway in the country because they see a great many open stairways in the city. Of course an open stairway is something which is nice and can be made artistic. This, however, is very expensive and requires considerable room and an innumerable amount of time to keep it dusted and waxed. Personally, the writer believes that a closed stairway is far superior for a country home, and he believes that the space required for an open stairway should be occupied by a nice piece of furniture and that the added cost can far better be put into a fireplace or a water system, or towards a heating system, or a lighting plant. In the country the stairway is far more convenient and practicable if it is situated so that it opens out of the living room or the back part of the house.

In planning the upstairs part of the house, the essential feature is to have all rooms open onto a common hallway and if there is a bath room upstairs have it also open onto this hallway. Then have as many windows as possible in the south part of the house and the east part of the house and as few as possible with consistency in lighting the rooms on the north part of the house. By having the windows in the south part and the east part and if the breezes come from the west, have windows on that part, the rooms

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Every ounce of Mickelson's Kill-Em-Quick Gopher Poison contains 154 deadly doses. A 75c box contains 13 ounces, or over 2000 deadly doses. And Kill-Em-Quick means sure death to them all. So, for less than 1 cent per acre, you can rid your fields of the Gopher pest. And that means a saving of \$200 in crops for 75c since each Gopher eats, destroys and stores away about 10c worth of grain every summer and each pair raises from 20 to 36 young ones every year.

I do not claim—I do not promise—I absolutely and legally guarantee that Kill-Em-Quick is the surest, safest and cheapest method in the world, of killing gophers. Let me tell you the reasons why Kill-Em-Quick is so effective and so economical.



## Mickelson's Kill-Em-Quick

My poison is the result of many years experience as a compounder of medicinal ingredients—and ten years study of gophers, their habits, haunts, tastes, etc. As a result of my experience, Kill-Em-Quick is compounded in the only logical way to kill the gophers.

It has a very peculiar odor that attracts the gophers. They *love* your tender shoots alone, to eat Kill-Em-Quick. And Kill-Em-Quick is so deadly that a single dose—a single grain poisoned with it, means instant death to the gopher. Furthermore, gophers eat Kill-Em-Quick and *swallow* it because it tastes good to them.

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If you have ever used old fashioned gopher poisons, you know that they are not effective. They must be applied in a very weak state; they are very *slow* so gophers don't eat enough to kill them; they are hard to prepare for use and extremely dangerous to live around. Besides, they are sold in *bulk* and you are

never sure that you are getting the *real thing*—never sure you are getting pure, unadulterated poison.

### Get Kill-Em-Quick

It is sold only in sealed boxes. Every box is exactly the same. It makes more *real poison*—and *kills* a greater number of gophers *per dollar* than any other poison ever prepared.

It comes to you with a guarantee on every box—*your money back* if it fails. It is easy to use—simply soak grain in water over night, drain water off and mix grain with Kill-Em-Quick. For instant use soak grain in hot water for 10 minutes, then mix with Kill-Em-Quick. It won't sour or lose its strength. Mix with wheat, oats, cut meal, shorts or cracked corn.

Get Kill-Em-Quick from your druggist. If he does not have it on hand, we will ship direct, prepaid, on receipt of price. Made in 75c and \$1.25 sizes. For special advice or booklet, address me personally.

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Wie Skasheim, Terle Lake, N. D., states: "I used three boxes of your Kill-Em-Quick gopher poison on my farm, and a live gopher could not be found on it. I know that it has benefited me to the extent of \$10. It has the old strychnine beat in a hundred ways."  
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O. S. Bekke, Berzema, N. D., writes: "I received a package of your poison yesterday. Pre-

pared it according to directions, and put it out. The result was marvelous. There was dead gophers lying all around and no doubt there was a great many dead in their holes. Please send me some of your advertising matter and I will distribute it among my neighbors. Enclosed find \$3.00 for which send me two packages of Kill-Em-Quick and oblige."

### Coin Purse Free



Three cornered coin purse made of real leather—most attractive coin purse you ever saw. In every package of Kill-Em-Quick you will find a coupon. Save two coupons and send with the one in this advertisement. Send the three coupons to us and we'll mail you free, post-paid, the handy, leather coin purse. Get two boxes of Kill-Em-Quick at once, clip the coupon in "ad" and send us all three.

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This coupon, and two coupons from packages of Mickelson's Kill-Em-Quick, entitle you to one Leather Coin Purse free. Send no money—just this coupon and two coupons from Kill-Em-Quick packages.

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Dept. C Winnipeg, Man.

will be found to be far cooler. The customary practice in well-managed homes in the United States is to pull the shades down in sleeping rooms through the day time, then as soon as the sun goes down to lift the shades and raise the windows and let the evening breezes blow through the rooms. By this means the rooms generally become cool by bed time.

Many people make the mistake in planning and building their houses by not having a basement under the whole house. When if they would stop to figure a few minutes they would see that all the added cost to have a basement under the whole house is the cost of the extra excavation, and this at contract prices is only about 30 cents per cubic yard, hence cannot be very much. So have the basement large with a high ceiling and plenty of light.

With respect to the sizes of the rooms, the customary practice for a well planned kitchen where it is

only used for kitchen purposes is to have it about 8 x 10, while if it is to be used for weekly washing purposes also, it should be 12 feet square. Of course to assist in designing the home, these dimensions can be modified somewhat.

The wash room when used only for a wash room and cloak room can be 6 x 8 feet. This is the usual size also for a bath room. But when the wash room, bath room and cloak room are all combined, they should be larger.

A good width for a dining room is 12 feet. It can be a foot narrower and of course a foot wider, all added space which isn't usable means that much more floor to care for and that much more fuel required to heat the space. The dining room if possible should be about 18 feet long. When this is not possible, often the adjoining room can have double doors so that in an emergency the dining room table can be extended through the doors.

The parlor or living room of course can be any size to suit the convenience of the furniture and the convenience of the people, but should not, however, be less than 12 feet wide or 16 feet long, and preferably should be larger than this.

Bedrooms are more convenient when they are about 12 feet square. However, a bed room 10 x 12 is very good; one 11 x 11 is also very satisfactory and of course they can be made as much larger as desired. There should be closets adjoining every bedroom. There should also be a stair leading from the upstairs hall to the attic. Wherever there is an attic on the farm it should be used for storing purposes, and often it can be used for hanging the clothes in cold weather. If the attic cannot be used for this latter purpose, then the basement should be used by all means.

# GOOD ROADS FOR MANITOBA

BY A. C. EMMETT

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

**E**NTHUSIASM in road improvement is an extremely good feature of municipal activity but it is as well not to let the warmth of the moment run away with the judgment. Before commencing any definite programme for the improvement of roads the municipal councils should first be certain that they know the exact needs of their district so that the good roads will be built where they are the most needed. Some definite plan should be outlined and the roads which carry the largest volume of traffic should be designated as the leading roads of the municipality and should receive special attention.

By following out such a plan the municipality might expect to receive the co-operation of the adjoining municipality thereby laying down the ground work for a good connected highway throughout the entire province.

The style of road to be constructed will depend greatly on the prevailing conditions in the locality. For some time to come the greater part of the roads in Manitoba will be of the ordinary earth variety, but there is no reason why even a road of this nature cannot be kept in good condition for travel if arrangements are made to keep it dragged regularly with a split log drag. That a road will stand quite a large volume of heavy traffic without becoming deeply rutted has been well demonstrated during the past two years by the roads which have been selected by the competitors in the Manitoba Goods Roads Association split log drag competitions. These stretches have been in good condition from the time of the first dragging right through the season and have shown up in wonderful contrast to the stretches on either side of them where the split log drag has not been used.

### Drainage

Drainage of the best possible class is an essential feature in the construction and upkeep of a road, as without good side ditches to carry away the surplus water the moisture will penetrate back under the road with the result that under heavy traffic the road will quickly disintegrate and a bad pitch hole will appear where the water has worked back beneath the surface. With attention to this detail the earth road becomes the forerunner of a better type of

road when the funds of the district are sufficiently large to allow of the construction of a permanent road.

An effort should be made to keep the line of the road as straight as possible and as near the centre of the road allowance as possible, so that when completed it will give a pleasing appearance and not look like a pile of dirt thrown to the side of the road and left to the tender mercies of the elements to beat it down sufficiently smooth to allow its being used for travel.

There are too many of this class of road already existing and it is time that those responsible for the spending of the road funds

shocks or bumps to any vehicle passing over it.

If the expense of rolling cannot be met it is necessary to keep a drag working over the road until such time as the gravel has been evenly packed by the traffic, and the man in charge of the work should be careful to see that no deep depressions are left behind after the passage of the drag. Should depressions occur they should be immediately filled from a pile of gravel kept at the side of the road for the purpose. If this is not done the gravel road is no improvement on a well kept earth road.

An important feature in connection with the use of a roller on

in the concrete bed there is practically no tendency for the concrete to heave or break up as was the case before the expansion plates were found to be the remedy.

Highland Park, Mich., a residential suburb of Detroit, has inaugurated a policy of concrete paving for its streets. These pavements are of reinforced concrete, having two layers of reinforcing consisting of  $\frac{3}{8}$  of an inch and  $\frac{1}{4}$  of an inch round steel bars. The  $\frac{3}{8}$ -inch bars are placed longitudinally and transversely, two feet apart and  $1\frac{1}{2}$  inches from the surface. The  $\frac{1}{4}$  inch bars are placed in both directions 4 feet apart and five inches from the surface.

The concrete is laid in two courses, the base consisting of one part cement, 3 parts sand and 6 parts crushed limestone less than  $1\frac{1}{2}$  inches in size. The base is 5 inches thick. On top of this is placed a two inch wearing surface of 1 part cement, 1 part sand, and 3 parts crushed granite or trap rock, of which 50 per cent is of  $\frac{1}{4}$  inch size, 30 per cent of  $\frac{1}{8}$  inch size and 20 per cent of 1-16 inch size.

Concrete roads are so well thought of in the districts around Toronto and Hamilton, that at the meeting to consider the type of road to be used in the proposed highway connecting Toronto and Hamilton, the committee passed the following resolution:

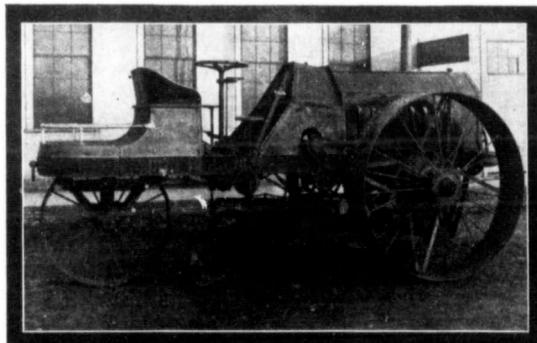
"That this committee recommends that the Hamilton and Toronto Roadway be built of concrete, or with a concrete base, topped with a sectional wearing surface or a bituminous protection, except on such hills where the grade necessitates special treatment. The committee feel that such a pavement would be permanent, and would involve the minimum maintenance cost."

Later at a meeting of the Reeves of the townships through which the road will pass, the following resolution was passed:

"That the counties of Wentworth, Halton, Peel and York offer to contribute one quarter of the cost of the construction of a concrete along the lake shore for as many miles as lie in the separate counties, provided such a road is built through from Hamilton to Toronto."

### Some Reasons Why

The reason for wanting good roads are well set forth in a



A tractor from which the underdrag plows have been removed, making an ideal machine for road grading. The planer blade is operated by the engine and can be placed in any position required for the carrying out of the work.

should endeavor to carry out the work in an intelligent manner looking to the future developments that must take place with the ever growing needs of the district. Whenever possible the road should be gravelled if the funds do not allow of more permanent construction. In placing this gravel on the dirt surface it should be seen that the road is properly graded first and that there is ample drainage to the side ditch. Rolling the earth road before placing the gravel on it, will be found beneficial. As a matter of fact it has been found the most successful way to lay gravel is to spread it on the road when it is bone dry in successive layers of about two inches, rolling each layer in until it has a tightly packed surface, until the depth of the gravel surface is not less than six inches.

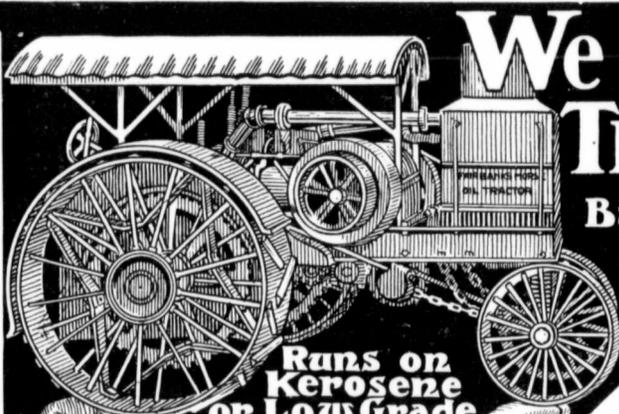
The mere act of laying gravel on the road and trusting to the traffic to work it into place is a big mistake as it is only a very short time until the surface of the road is a succession of short sharp ridges which give a series of

the work is the fact that the road is ready for use as soon as the roller has finished work and the after expense of upkeep is greatly reduced owing to the greatly improved surface which is provided for the traffic.

It is perfectly possible to hire a roller and engineer from some of the big makers of this class of machinery and if there was enough of the work to be done the municipalities would undoubtedly find it cheaper to carry out the entire work by contract, always with the proviso that their own superintendent should watch the progress of the work and see that it was carried out in the best possible manner.

### Concrete Roads

Concrete is fast coming into use for road construction and in the case of Wayne County, U.S.A., its use has been found to be entirely successful. Some of the best possible roads for traffic have been constructed through this state and with the new style expansion plates which are set at intervals



# We offer a Tractor

Built to Last

Work Done  
by the Tractor  
Depends Upon its  
Power Plant

Runs on  
Kerosene  
or Low Grade  
Distillate or  
Gasoline

Just as no chain is stronger than its weakest link, so no tractor is better than the engine that drives it. Drive wheels, canopy, mud guards — these are minor things, but the engine makes or breaks the tractor. The engine in Fairbanks-Morse Oil Tractors is well known to farmers everywhere. It has given satisfaction for over thirty-five years past. Our experience in engine-building gives us a big lead over firms who have only recently entered the field. It makes your purchase a good investment when you buy a Fairbanks-Morse Oil Tractor, 15-30, 20-40 and 30-60 horse power. We build these tractors with simple lever control, giving two speeds forward and one reverse. They will develop full rated horse power and more on cheap fuel oils, as well as on gasoline. Force Feed Lubrication ensures smooth operation of working parts and long life to bearings, etc. Sheet Steel Convertible Radiator gives efficient cooling on a minimum of water or oil. All parts are easily accessible yet properly protected from dust and dirt. Engine is well balanced and will drive the tractor or furnish power at the pulley without undue vibration and racking of frame. With a

# FAIRBANKS-MORSE OIL TRACTOR

Economy in Operation Saves Money

Whether plowing, threshing, hauling or harvesting, a Fairbanks-Morse Oil Tractor will save you fifty per cent of the fuel expense, by using low grade fuel oils in place of expensive gasoline. The money that the saving represents might as well be yours. SEND FOR ILLUSTRATED CATALOGUE. It gives full description, facts, figures and photos, also letters from many satisfied owners.

**WE MANUFACTURE**

Fairbanks-Morse Oil Tractors, 15-30, 20-40 and 30-60 h.p. Gasoline Engines, all types, Portable and Stationary, 1 to 500 h.p. Binder Engines adapted to all makes of Binders. Marine Engines, 2 and 4 Cycle, 1 to 4 Cylinders. Hand and Power Pumps for every purpose. Truck and Pitless Wagon Scales. If interested in engines, write us a postal.

**THE CANADIAN FAIRBANKS-MORSE CO. LTD.**

WINNIPEG	SASKATOON	CALGARY
Montreal	St. John Vancouver	Ottawa Victoria
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**35**  
years  
Engine  
building  
experience  
behind  
this Tractor.

Made in  
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Send this **COUPON** to our nearest office.

**THE CANADIAN FAIRBANKS-MORSE CO. Limited**  
Mail free Catalogue of your

State on what subject

NAME

ADDRESS



**Farm Problems**  
Continued from page 31

tunately many of the farmers who need it the worst are financially unable to purchase it, and under these circumstances it is difficult to make a rule, but where a man cannot buy seed of which he is absolutely sure, it will certainly pay him to clean the seed grain which he has as thoroughly as possible and then have it tested, so that if it is weak in germinating power, he may to some extent overcome that by the quantity sown per acre. It is almost more important to test oats than wheat, for while wheat frosted to a certain extent will germinate, it is absolutely unsafe to seed oats that have been frosted, unless they have been tested. Sometimes it would seem as if the hull of the oats was sufficient to protect the germ from damage from slight frosts. In other cases however, it has been found that oats subjected to even a very few degrees of frost have lost their power to germinate.

With regard to the time of seeding oats, this may be done with safety up to the 25th of May. Barley and flax may be seeded up to the first week in June. There is no manner of doubt that millions of bushels of grain in the Canadian West which are today selling at absurdly low prices, might have been the pick of the market had the seed been planted at the proper time. There is a scripture promise of seed time and harvest, but there is no promise of a harvest if the proper seed time is not duly observed.

**Father's Partners**

It would be well for each farmer to retrospect and note what part of farm life, when a lad, was done willingly and with incentives for success; also what parts were discouraging. It is quite probable that what was discouraging to the father will be discouraging to the boys, and that what was a pleasure to the father will probably be a pleasure to the boys.

I have worked with boys more than a quarter of a century in the capacity of teacher. From my own experience, from what I learned from my playmates and from my association with them for several years, I found that the average boy wishes to be independent in his finances; he will trudge or drudge for hours in order to possess a small coin with which to purchase some desired article, and as the years go by his wants increase. He wishes a sled, a cart, a gun, a camera, a better suit of clothes, a typewriter, a year at the village school, a visit to the city, or what-not. Most boys study and

**FOR FODDER PURPOSES GROW NORTHWESTERN DENT CORN**



**Canada's Quality Seed House**



**RED WETHERSFIELD**



**McKENZIE'S QUALITY SEEDS**  
(Government Standard)

A STRONG ROBUST PLANT FROM EVERY SEED

\$510.00 CASH PRIZES GIVEN AWAY. SEE CATALOG

**McKenzie's Specially Selected Garden Seeds**

PRICES POSTPAID			PRICES POSTPAID		
	Pkts.	Oz. Lb.		Pkts.	Oz. Lb.
BEAN, McKenzie's Golden Wax	5c	30	CUCUMBER, McK's. Long Green	5c	20c 1.40
BEEF, McK's. Extra Early	5c	20c 1.65	LETTUCE, McK's. Prairie Queen	5c	30c
CABBAGE, McK's. Winningstad	5c	30c	ONION, McK's. Yellow Globe	5c	15c 1.85
CARROT, McK's. Oshheart	5c	20c	ONION, McK's. Red Wethersfield	5c	20c 2.00
CAULIFLOWER, McK's. Early Snowcap	25c		PEA, McK's. Manifold	5c	50
CELERY, McK's. White Plume	5c	30c	PEA, McK's. Prosperity	5c	50
CORN, McK's. White Cory	5c	25	RADISH, McK's. Rosy Gem	5c	20c 1.00
MARQUIS WHEAT—RED FIFE WHEAT—BANNER OATS—MENSURY BARLEY—PRIMOST FLAX—SPRING RYE—SPELTZ—FIELD CORN—FIELD PEAS—RAPE—KALE—ALFALFA—CLOVER—TIMOTHY—BROME—WESTERN RYE—KENTUCKY—RED TOP—MILLETS, ETC.			TOMATO, McK's. First of All	5c	35c

CYPHERS INCUBATORS—CYPHERS BROODERS—CYPHERS POULTRY SUPPLIES. PLANET JR. GARDEN TOOLS—BONE CUTTERS—LAWN MOWERS—GRASS SEEDERS—OYSTER SHELL—POULTRY FOOD—GRIT—GROUND BONE—THE WORLD FAMOUS COAL TAR ANIMAL ZINCULUM.

**A. E. McKenzie Company Limited**  
BRANDON, MAN. CALGARY, ALTA.

Western Canada's Greatest Seed House

plan as to the method of securing some of these extras—something more than the necessities of the average farm boy. If he can not secure such of these extras as he desires, he will picture to himself at times, air-castles for the fullness of his desires—in the village, in some city, down in Dixie, in the wild and woolly West, or in some other place. What is the result? The boy leaves the farm and the home and often, too often, goes "roughing it."

As a rule, my father did not give or pay money to his boys, but offered them propositions whereby they could earn their own funds. After the hay was placed in the barn a neighbor would want a meadow cut, and father would say: "If you wish, you may take the team and cut neighbor's hay." Similar jobs could generally be found at wheat harvest, clover-seed harvest, etc.

But father took his boys as partners in the proceeds of his own farm as well as regards the pin-money received from the neighbors. To illustrate: We were preparing a field for potatoes; perhaps the boys would lag a little; then came the proposition as follows: "There is half an acre across the creek that you may have for a crop, the proceeds to go for a typewriter, a

gun, or perhaps a visit to Niagara Falls." In such cases, with what a will and with that energy I labored to get father's potatoes planted so as to begin work on mine! Until father's seed potatoes were in shape to grow, I was "push," or boss, pro tem. He did not have to say, do this or that; but it was I who endeavored to persuade him to get to work a little earlier in the morning and to work a little later at night, so that I could sooner go at my crop.

Did the hours drag? Was I discontented? Did I wish to leave the farm? No! Father used his ingenuity to create incentives in me to perform labor in order that I could earn funds with which to secure some of the necessities as well as some of the extras of boys' desires.

**A Remarkable Belt Record**

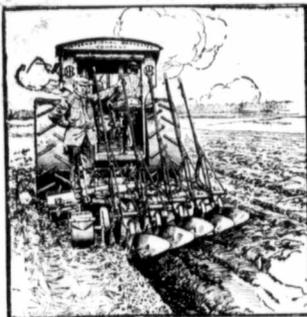
Only those who have been through a brick plant and realized the immense amount of grit that is constantly flying about sticking and tearing its way into the various equipment can appreciate the significance of a letter just received by the Gandy Belting Company from the Bessemer Fire Brick Co., of Birmingham, Ala.

The main drive belt at this plant is an 8-ply 26-inch Gandy, and has been in operation for over 27 years, during which time the plant has not been shut down except for repairs to the machinery.

In the early part of this month the driving belt pulled out at the old lace holes, where they formerly used leather lacings and later changed to belt hooks. This is the first time the belt has given the least trouble in the manufacture of over 140,000,000 fire bricks that have been turned out during its service. The owners are simply splicing on a new piece of belt to repair the damage, and the belt has continued in service and looks good for a long time to come.

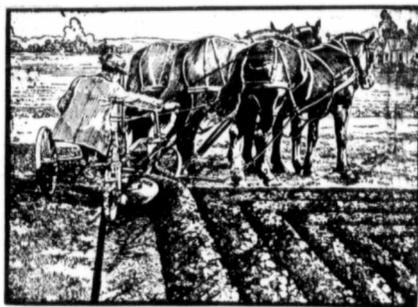
We look upon this as a remarkable record, but the Gandy Company tells us that it is by no means an isolated case, as their records show many such instances. They are making a specialty of belts for this class of work, and in fact all conditions where the belt is subjected to particularly hard usage, and where leather or rubber does not give perfect satisfaction the Gandy has been found to give excellent service.

Some plans should be executed, others electrocuted.



### Are Yours Well Plowed Fields?

Our plowing expert tells us that good plowing consists of turning each particular soil just to the depth and in just the manner that soil requires. A well-plowed field has no air spaces between seed-bed and subsoil. The plowing is deep enough to turn up fresh soil to be aerated and prepared for crop growing. The plow should break up and pulverize the soil as much as possible.



These points are fully covered by the work of Oliver plows. Whether your soil be clay, gumbo or loam, gravelly or sandy, there is an Oliver plow made to turn it properly.

## Oliver Plows Tractor Gang or Horse Drawn

are the result of fifty-seven years experience. Tractor gangs are built up of 4, 5 and 6 base sections, flexibly joined, so that they follow the lay of the land, and plow rolling fields to an even depth. The bases are set or lifted easily while the plow is moving. The levers have double latches, allowing either or both hands to be used. A strong 18-inch rolling coulter lifts the entire plow base over a stone or other obstruction, setting it again automatically when the obstruction is passed.

The Oliver No. 1 gang plow is a horse-drawn plow, de-

signed especially for use in Western Canadian fields. When plowing with an Oliver No. 1 gang the load is equalized at a point between the beams, which brings the draft strain equally on each beam. Four horses can work abreast, all of them walking on unplowed ground.

The I H C local agent will show these and many other advantages of Oliver plows, tractor gang, horse gang and walking. He will supply you with catalogues and literature; or, write the nearest branch house.

## International Harvester Company of Canada, Ltd.

At Brandon, Man.

Calgary, Alta.  
Regina, Sask.

Edmonton, Alta.  
Saskatoon, Sask.

Estevan, Sask.  
Winnipeg, Man.

Lethbridge, Alta.

North Battleford, Sask.  
Yorkton, Sask.

These plows are made at Hamilton, Ont.

### An Experience in Steam

A Valuable Tip for the Manufacturer.

As per request, I will give you my experience in traction cultivation on my farm for the last two years. I have been using a traction engine for four years, but for the first two years I was using the ordinary 25 h.p. threshing side mount engine, which was not very satisfactory, so I will in this letter only give my experience of the last two years.

In the spring of 1911, I purchased from The American Abell Engine and Thresher Co., one of their 32 h.p. Cross Compound steam engines. Just here I would like to say that this engine is under-estimated, as the cylinder dimensions compare favorably with other engines rated at 40 h.p. the cylinder dimensions of this engine, being high pressure 9 x 14, and low pressure 13 x 14.

We burn about 1 1/4 tons of coal per day of twelve hours during the past two seasons, but in 1913, we do not intend to burn coal, as we have made tests this last season in burning flax straw, which we have found to be more satisfactory than coal, for the following reasons: 1—The straw is on the farm, and costs nothing but the hauling to the engine. 2—You can get to work when desired.

Strikes of the men in the coal mines or on the railroad do not hinder you, and with a properly constructed sling loading device, the engine can be loaded with straw in four minutes, each load lasting the engine an hour and a quarter or a little more.

We use about seven tanks of ten



barrels each of water per day. We have large wells of 10 feet x 10 feet on each quarter section, so that we do not have to haul either the fuel or water far. This is one of the greatest points in keeping down the cost of traction cultivation, in having short hauls for both fuel and water. One man and team can always have water exactly when you want it, also one man and team can always be "Johnny on the spot" with the straw and help grease and take care of the machinery, while the engineer is taking care of the straw and water. We figure to take fuel and water at the same time.

Photograph No. 1 shows our

engine pulling eight plows with a double log drag each drag having a steel cutting edge, slicing off the cone of the furrow, and dragging it into the low places, then a set of ordinary drag harrows, then a 20 shoe drill.

This land was a very tough prairie sod, but was plowed, cultivated and sown to flax in one operation. We made an average of 16 acres a day.

We used:

1 1/4 tons of coal a day at \$8.00 per ton .....	\$10.00
1 team drawing coal 7 miles .....	4.00
1 team drawing water and roust-about .....	4.00
1 engineer .....	3.50
1 fireman .....	2.00
Board for three men and one team .....	2.00
Oil and depreciation .....	4.50
<b>Total .....</b>	<b>\$30.00</b>

on an average cost of \$1.87 per acre.

A neighbor or mine hired his breaking outfit done with horses at a cost of \$4.00 per acre, and boarded the man and four horses, which made an average of about 2 acres per day. So figure their board the same as I did my own, and it would amount to 75c. Then he disced and harrowed it twice, and drag harrowed it once, then sowed it, which would be about \$1.75 per acre, or a total per acre of \$6.50, or a difference of \$4.63 per acre in favor of the tractor.

Now I am sure his land was not in any better shape than mine.

Further, when my neighbor got his flax sown, his land was badly dried out, and the seed did not sprout for three weeks, and he gave up all hopes of having a crop, as the month of June, 1911, was very hot and dry with us. Rain came about the 1st of July, and the crop grew at a wonderful rate, then the harvest was wet and cold, and fully half of his crop was frozen, so that it was useless, and the balance was sold at 40c per bushel less than No. 1 Flax.

My crop was sown as soon as it was plowed, so the seed got all the moisture that was in the ground and germination started at once, and the crop was mostly all through the ground within 4 or 5 days. There is another advantage of sowing directly behind the plow. The seed sown gets an even start with noxious weed

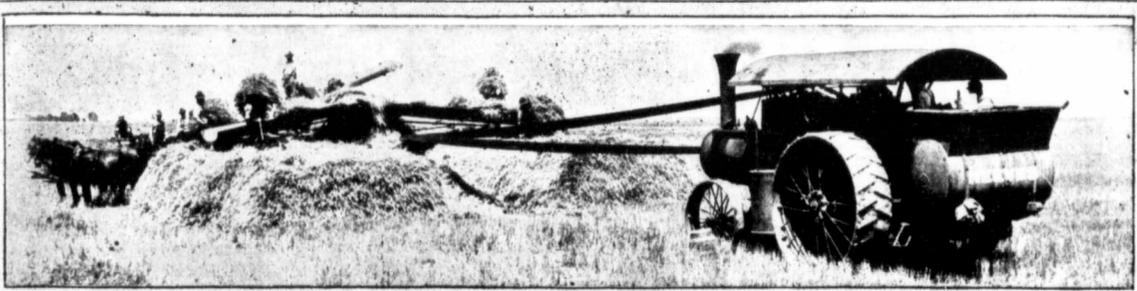


seeds already in the ground.

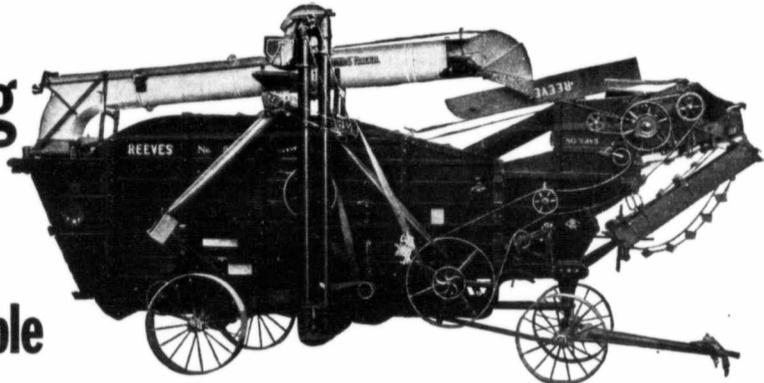
My flax was in the elevator before my neighbor's was ready to cut, and the flax sold for No. 1 N.W., and was sold at \$1.94 per bushel.

No. 1 photograph also shows the engine as it came from the factory, the front wheel being 28

Continued on page 71



**Make Your  
Threshing  
Easier—  
Faster—  
More Profitable**



by using an outfit that has never yet failed to go right through the biggest job with the least trouble and the most profit for the thresherman.

**Your profit depends on machinery.** No matter how ambitious you are—no matter how steadily you work throughout the season—if your separator doesn't run with the greatest efficiency, if your engine is not capable of giving the surest service at the lowest possible expense, you are not making what you ought to.

**REEVES THRESHER      REEVES ENGINE**

The Reeves Thresher, with its double separating feature, extra strong frame, weather-proof construction, increased separating and cleaning capacity, improved band cutter and feeder, special wind stacker and other superior features, is without doubt the greatest threshing, separating and cleaning machine in the world—doing all three jobs *perfectly*.

The Reeves Engine, with its ability to start from any point without "dead center" troubles, exclusive valve construction, patented drive wheel, and many other points of superiority described in detail in our catalogue, is the *engine supreme*—the one that is sure to give you traction profit in biggest measure, with largest, steadiest service.

**The Threshing Outfit that Makes Work Easier and Profits Certain**

There's good money in the threshing business if you have the right machinery. But the only way to run a threshing outfit is to have one you

actually *know* is producing a profit every day—that has been proved through years of use to be *reliable* and *standard*—that is backed by the

guarantee and reputation of a name that means quality of the highest type wherever it appears on a piece of machinery.

Reeves Threshing Outfits as they stand today represent the study—the experiments—the improvements of more than a generation of manufacturing experience. For years they have been a substantial factor in profitable farming. They are *good*, through and through, in all that the name REEVES implies.

Your biggest mistake *can* be made when you buy a threshing outfit. *Don't make a mistake*. Buy carefully. Learn first about the REEVES and in that way be sure of not only making wages during the threshing season, but of saving up good money, with greater satisfaction all around.

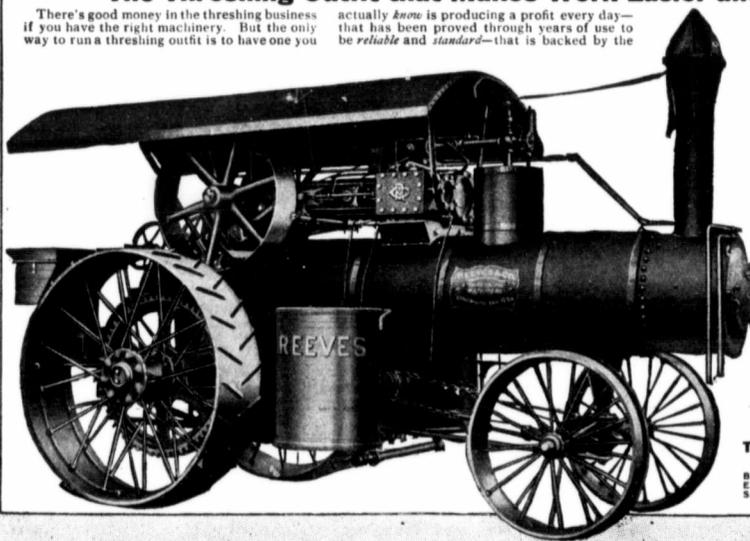
**WRITE FOR THIS FREE BOOK**

Write today for Free Book telling all about REEVES machinery. Drop a postal—write a letter—ask questions—any sort of inquiry you send will be carefully and promptly taken care of.

**EMERSON-BRANTINGHAM  
IMPLEMENT COMPANY**  
(INCORPORATED)  
**ROCKFORD, ILL.**

Largest Line of Farm Machinery in the World  
**Tudhope, Anderson Co., 1199 Princess St.  
Canadian Sales Agents, Winnipeg**

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



# PRACTICAL TALKS TO THRESHERMEN

CONDUCTED BY PROFESSOR P. S. ROSE

Talk No. LXVII

Note.—The term "gas engine" in these lessons will be used indiscriminately in speaking about all internal combustion engines.

THE great tractor companies are waging a tremendous advertising campaign during the present year to attract farmers more generally to invest in mechanical power for the heavy work on the farm. The

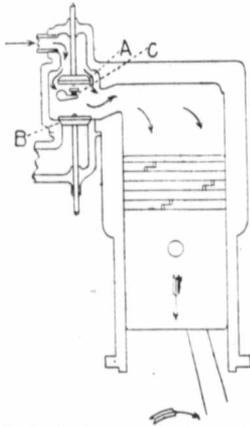


Fig. 1. Charging Stroke of an Internal Combustion Motor.

tractor has passed the time when it finds its greatest usefulness in threshing grain or in sawing lumber. It has been used by many people for a decade or more in general agriculture and the demand for it has increased considerably, but never before was there such a general educational campaign waged as at present. Several of the companies have established schools to train prospective customers in the use of these machines and all are sending out their printed matter by the carload. What will be the effect? First, it will inevitably increase interest and that will increase sales. After that it will all depend upon how well the buyers succeed in realizing their expectations as to how fast the demand will increase. If the majority can make a profit above what they can make with horses there is no question of the future. It will develop into one of the greatest businesses in this country. Will they so succeed? Will it pay farmers to gradually dispose of their horses and turn their attention to power farming? The writer believes it will where the acreage and the type of farming warrants making the change. This belief is based on the fact that hundreds of men in all the prairie states and many in the older states have made a success with such outfits. We get letters every day telling of the successes and only an occasional one telling

of failures. It is true we get letters of the latter character. Letters telling that the tractor, either steam or gas as the case may be, did not come up to expectations and stating that hereafter they will depend upon horses. One letter received recently blamed the tractor for not covering grain that was drilled in. Was that a fault of the tractor or of the drill? It also stated that the tractor would not run fast enough to give a binder the correct speed. Evidently both troubles were with the operator. He did not know how to operate his machine properly. For it is a fact that the greater part of

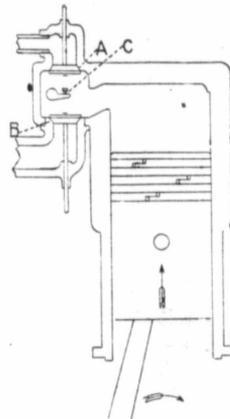


Fig. 2. Compression stroke of an Internal Combustion Motor.

Western Canada is farmed with tractors, and farmed successfully

Not all the troubles, however, are with the operator, some are due to trying to use the machines in a kind of farming to which they are not adapted. Before investing, a man should study the problem carefully as regards his own particular needs and conditions. He must first determine if he has enough work to do to warrant the investment, then determine on the type of tractor that will meet his particular requirements best and finally consider carefully his own fitness for managing and caring for such a piece of machinery. The fact must not be lost sight of that a tractor must have intelligent care and plenty of it if it proves successful. It ought not require as much attention as horses and will not, but it requires some and that, too, at the right time. Right here is where many men make a mistake. They do not give the machine the proper care. A horse must be fed and watered and curried and doctored when it gets

sick. A tractor needs the same loving attention, only perhaps not quite so much of it.

The next decade will see a tremendous development of the tractor business without any question. Farming, especially on the large farms, will be done largely by mechanical power. The success of that method has been proven over and over again. It will in a measure solve the hired help problem, the most trying one the farmer has to contend with. It will cheapen production and turn many acres, now used to feed work animals, over to the raising of human food. It will have a tendency to prevent the breaking up of large farms and will undoubtedly lead many men to increase their acreage to the maximum that can be profitably worked with the improved machinery without the addition of more human labor. It will have a tendency to the building up of large estates managed by trained agriculturists. It will tend to make country life a little easier and a little more attractive but

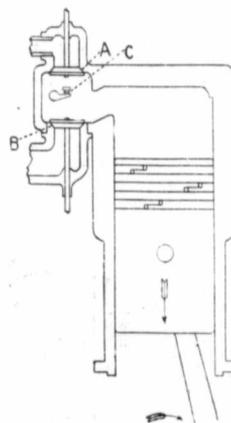


Fig. 3. Power stroke of an Internal Combustion Motor.

will not increase the rural population. These appear to be the inevitable results of an extension of power in agriculture. Whether we are right or not no one can tell, but one fact seems indisputable and that is we are on the eve of the extension of such power on a scale not even dreamed possible a few years ago and we will not have to wait many years for the answer. So much then, for the social and economic features. From now on we will be concerned mainly with the mechanical features of tractors with the object in view of giving our

readers a complete course in the mechanism, care and operation of gas tractors of all makes and styles.

**Fundamental Principles.**—Presumably every one knows the general principles of a gas engine, but in case they do not, the following will supply any deficiency. In the first place, a gas engine depends upon the heat of the fuel to make it go. It is a heat engine just as truly as is a steam engine. But there is this difference between the two. The steam engine runs with hot steam that is generated in a boiler under which fuel is burned. A gas engine runs with hot gases caused by burning fuel in the cylinder of the engine itself.

The fuel may be a liquid or a gas. In either case it is first mixed with the correct amount of air so that it will burn most perfectly. This process is called carburetion. When it is drawn or forced into the cylinder, as the case may be, it is compressed to a relatively small volume and then ignited by some suitable means. The burning of the mixture heats the gases formed by combustion to a very high temperature, and being confined in a limited space, their pressure is greatly increased. The gases press against the piston and cause it to move outward toward the end of the cylinder, just as steam presses against the piston in a steam engine cylinder. But there is this

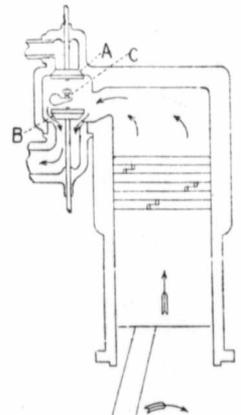


FIG. 6. Exhaust Stroke of an Internal Combustion Motor.

difference between the two. In the steam engine steam may be, and always is, admitted during a portion of the stroke before it is cut off and allowed to expand. In

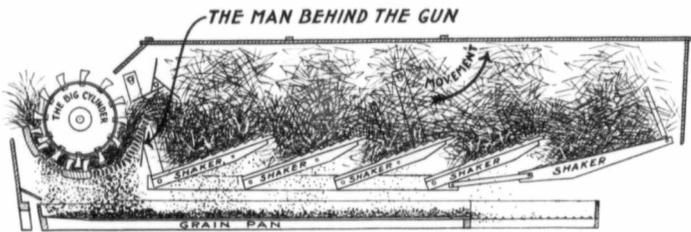
Continued on page 51

# Save The Farmer's Thresh Bill

Use a Red River Special with its *Big Cylinder*. The "Man Behind the Gun." The Patented Separating Grate and Check Plate---found only in the Red River Special. *The Uplifting Shakers*. The Red River Special is different. The only Thresher built which **beats the grain out of the straw**. All other methods depend upon the grain dropping out---all of it doesn't.



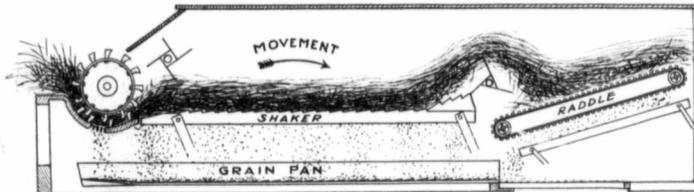
*This is the way you Separate by hand with a pitchfork*



*This is the way the RED RIVER SPECIAL SEPARATES BEATS IT OUT - like you do with the pitchfork.*



*This is the way the Lazy Man Separates with a pitchfork*



*This is the way OTHER KINDS SEPARATE THEY DON'T BEAT OUT THE GRAIN*

IRVING DUNNE, Valley City, North Dakota, says:

"I have run my 40 x 60 Red River Special two falls without a single break or stop.

"The reason is that it is made of the best material and made to stand the work.

"The 'Man Behind the Gun' is a great grain saver.

"I can thresh when other machines have to shut down. The Red River Special runs light and is easily handled. Wet grain or high winds do not make it stop work.

"Farmers insist upon the Red River Special because they know it will do their work faster than other machines and it saves their grain."

Write for Catalog

## NICHOLS & SHEPARD COMPANY BATTLE CREEK, MICH.

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

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

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

# The Thresherman's Question Drawer

ANSWERS TO CORRESPONDENTS

**Q.** How is the road speed of an engine determined, that is, the ratio of one gear to another from the crank shaft gear to the drive gear?

2. Give me a simple rule for finding the size of the different gears used, supposing an engine to have 250 r.p.m. crank speed and a road speed of two and one-half miles per hour.

3. How are fire figures designed? Do they have circular fire boxes and vertical flues or are they similar to the Westinghouse boiler?

4. Please describe the Westinghouse type of boiler. Is the Westinghouse company the only firm that builds a traction engine with an upright boiler?

**A.** In order to find the speed of the last gear of a simple gear train, use the number of teeth in the driver for the numerator of a fraction, the number of teeth in the last drive wheel for the denominator, and multiply by the speed of the driver. The result will be the speed of the driven wheel, neglecting all intermediate gears in the same direct train. For example, suppose in a certain traction engine the driving pinion has twenty teeth, the intermediate gear fifty-four teeth, the differential gear seventy-six teeth, and that the engine runs 250 r.p.m. Forming the fraction in accordance with the rule expressed above, we have:

$20 \cdot 75 \times 275 - 66 - 2 \cdot 3$ , which is the number of revolutions the differential gear will make. This is also the speed of the counter shaft to which the differential gear is attached. We will suppose now that the master pinion on the differential has fifteen teeth, and the bull gear seventy-five teeth. Forming the fraction in accordance we have:

$15 \cdot 75 \times 66 - 2 \cdot 3 = 13 \cdot 1 \cdot 3$ , the speed of the drive wheel. If the drive wheel is seventy-six inches in diameter and revolves thirteen and one-third times per minute, all we need to do to find the road speed of the engine is to multiply the circumference of the driver in feet by 13 1-3 and this will give us the number of feet per minute that the engine travels. If this quantity be multiplied by 60 and divided by 5,280, the number of feet in a mile, we will have the road speed of the engine in miles per hour. Working the problem in accordance with the above analysis we have  $76 \times 3.1416 =$

238.76 inches, the circumference of the wheel. This equals 19.9 feet.

$19.9 \times 13 \cdot 1 \cdot 3 \times 60 = 15,920$  feet which divided by 5,280 equals 2.82 miles.

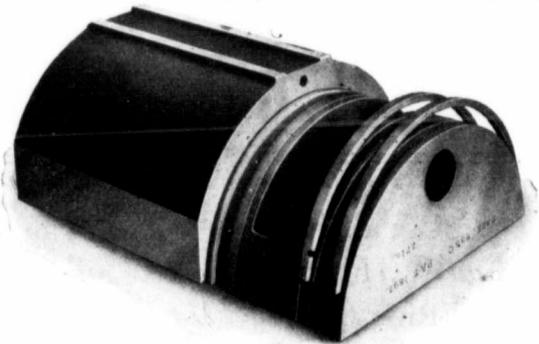
2. The answer to the first question will indicate the method employed for finding the size of gears from the road speed. For example, if we had used a different ratio of gears as, for example, eighteen teeth for the driving pinion and seventy-two teeth for the differential gear, the number of revolutions per minute of the drive wheel would have been  $12 \frac{1}{2}$ , and again, if it had been six feet in diameter instead of seventy-six inches its circumference would be 18.85 feet and at  $12 \frac{1}{2}$  r.p.m. it would travel 235.6 feet or 14.136 feet in one hour. This is at the rate of a little better than two and six-tenths miles per hour. If we make allowance for the slippage, the actual road speed would be about two and one-half miles per hour.

3. Fire engine boilers are of the water tube type. There is an outer shell enclosing a coil of copper tubing in which the water is contained. The conductivity of copper is much higher than of iron and the water becomes heated more quickly than in iron tube boilers. There is a comparatively small amount of water for the amount of heating surface and it does not take long to get up steam.

4. The Westinghouse boiler consists of a number of banks of nearly horizontal tubes which are beaded to heaters on each side. Baffle plates are placed between the sets of tubes to compel the water to circulate in a fixed direction. The flame plays up among the tubes, which are filled with water. There is a large amount of heating surface for the water contained and steam can be gotten up much more quickly than fire tube boilers where there is a large body of water in one container.

5. The Westinghouse Company is not the only one at the present time that is making an upright type of boiler. There is one made on the Pacific Coast, but it is of the fire tube type.

**Q.** I am having trouble with my steam engine governor. It seems to work all right when the throttle is about half open, but when the throttle is wide open the



## We Have "The Evidence" — Positive Proof —

That the GOULD BALANCE VALVE does show a gain from 15% to 30% over a common slide valve. 10,000 USERS of the GOULD BALANCE VALVE in every State and Province of America attest to this guarantee.

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KELLOGG, IOWA, U.S.A.

1,000 Agents Wanted

Write for Contract

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**PICKERING**  
"THE GOVERNOR WITHOUT JOINTS"

give greater efficiency

Equally satisfactory for STEAM and GAS TRACTORS

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

**The Pickering Governor Co.**

PORTLAND

CONN., U.S.A.



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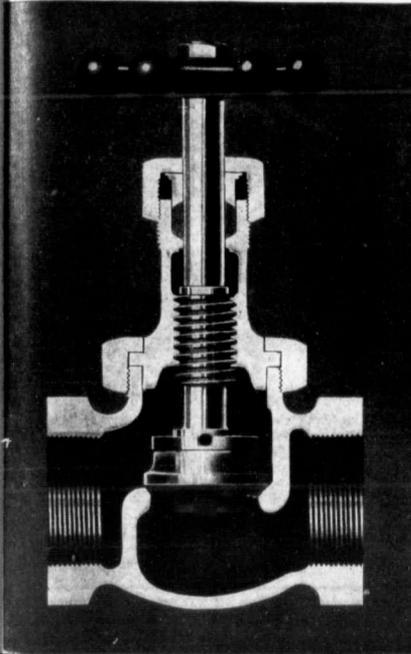
## Sawyer-Massey Co.

# NOT IN A COMBINE!

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

valve move. apart each p the tr valve of the using twelve A. error pears someti ing m gestio of the sure t shaft; gears balls a are ei place. error l may b across belt v thereby act irr that th length balls a is clos same t fast to followi will loc

Q. out ho



"Something better in valves than you have ever used before."



## Regrinding Brass Valves

VIZ:  
Globe Angle Cross  
AND

Horizontal, Angle, Vertical and Swing Check Valves

GUARANTEED TO STAND A CONSTANT WORKING PRESSURE OF TWO HUNDRED POUNDS

They Have Passed Government Inspection  
for the Provinces of Alberta and Saskatchewan

THEY EMBODY the newest designs and the best mechanical ideas ever employed in valve construction.

THEY WILL GIVE absolute reliable service and dependability under high pressures and severe conditions.

If You Want VALVE Comfort—  
**Give This Valve a Trial!**

Write us for interesting Booklet—"Something better in Valves."

**PENBERTHY INJECTOR CO. LIMITED, WINDSOR, ONT.**

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

valve drops down and does not move. I have had the governor apart several times and examined each piece closely but cannot find the trouble. The only time the valve raises is when the cylinder of the thresher is sluggish. I am using a Waters governor on a twelve horse power Case engine.

A. The fact that your governor works part of the time appears to indicate that there is something wrong with the driving mechanism and our first suggestion is that you examine both of the driving pulleys to make sure that they are fast on their shaft; then examine the babbitt gears which drive the governor balls and make certain that they are either keyed or pinned in place. Next examine the governor belt. It may be slack or it may be greasy. We have run across conditions where the drive belt was greasy and slipped, thereby causing the governor to act irregularly. Also determine that the valve stem is of the right length so that when the governor balls are out straight the valve is closed. See to it also at the same time that the stem is locked fast to the valve. We believe by following these directions you will locate the difficulty.

Q. R. J. I would like to find out how to jacket a boiler at

home, so I ask you the question: Which is the best, the steel or wood jacket? Also how to put on and all the material to use.

A. The steel is only to protect and give finish to the jacket. Blocks of magnesia are used to make up a jacket on a locomotive. On some traction engine boilers asbestos plaster is used. In some cases asbestos sheets are wrapped around the boiler and others are covered with wood. Hair felt is the best. In most every case Russian iron or sheet steel is used to keep the material in place. However, in some cases the wood is put or without any outside covering and it is likely the latter would be the most convenient for a "homejob." The most convenient way to put on a wood jacket is to take strips of tough wood about 3/4 by 2 inches and put them around the boiler, say about every three feet with the ends fastened together so that they hug close to the boiler. The jacket which is made of strips 3/8 by 2 inches is then nailed to these strips, which serve two purposes: one, to make an air space between the jacket and the boiler and the other to hold the jacket on while being built up until the outside metal bands can be put on which permanently hold the jacket in place. The dome is treated in the same way by first bending thin bands

around for the purpose of nailing the outside strips thereto. If the boiler is of the locomotive type, a strip of wood the thickness of the jacket can be bolted to the fire box as low as the jacket can be run and the outside metal bands can be nailed to the strip. This serves the same as if the bands went entirely around the boiler.

Q. L. G. How much coal does a jacket on a boiler save?

A. A jacket on a boiler may in average conditions save five or wind it will save more than on a ten per cent of the fuel. In a high still hot day. The amount of saving will depend on the conditions.

Q. M. K. What is the cause of a main flue leaking around where it is rivetted to the flue sheet and how can I fix it?

2—Where can I get new flues, 3 1/2 inches by two feet long at a reasonable price.

A. The heat, combined with the expansion and contraction usually starts a leak. Calk the leaks. A real dull cold chisel will may you a fair calking tool for the purpose.

2—You can get tubes for a boiler at any branch house of the engine's company at which made.

They have them cut any length to suit their engines.

Q. J. D. Please explain the difference between a balanced and unbalanced valve on a steam engine?

A. In an engine slide valve the common D type is an unbalanced valve, and the flat pressure plate and piston valves are balanced. In the piston valve the port is in the entire way around the valve, with the exception of small bridges which are used in some cases to prevent the rings from dropping into the port. In the pressure plate valve the ports are on both sides of the valve, the ports on one side only, which allows the steam to hold the valve up to its seat thereby making it unbalanced.

Q. J. B. How do you set a Russell valve?

A. A Russell or Giddings valve is a double ported and double D valve. There are two exhaust ports in the cylinder to match the two exhaust cavities in the valve. However, it takes steam on the end like a common D valve, yet the ends of the valve proper cannot be seen when the valve which forms a steam

chamber, thus there is no chance to see the ends of the valve proper nor the cylinder ports. There are marks on the bottom of the steam chest which correspond to the ports in the cylinder, also marks on the back of the valve which correspond to the end of the valve where the steam is admitted. Thus the valve can be divided; that is, the same amount of lead can be had on each end by shifting the valves. There being a right-hand thread on the one end of the rod and a left-hand thread on the other. The eccentric is keyed to the shaft and never needs any attention.

If the engine is of the simple type, the valve can be set by the sound of the exhaust. The valve stem can be turned while the engine is at work, and by turning the stem the proper place of the valve can easily be found by observing the sound of the exhaust.

Another easy way to set a Giddings valve is to take the plugs out of each end of the cylinder (these holes are provided for the indicator) then run the engine allowing the steam to blow out the holes. Now hook the reverse lever as close to the centre notch as possible, and if the valve is not properly set, you will find one end will blow harder than the other. There are means on the valve rod to adjust the valve without taking off the steam chest cover. You will find this method perfectly satisfactory as it can be set in this way as accurately as with an indicator.

**Q. G. W.** What is the remedy for a valve that, after the reverse is put in the centre notch and steam admitted, will make two or three revolutions one way and then make two or three the other way, and keep on reducing the number of revolutions until it finally stops? The valve is a piston valve.

2—How can a piston valve seat be case hardened: and what kind of composition would the editor advise for rings of such a valve?

**A.** Reduce the lead of the valve. This lead may be all on one end, due to shifting the valve one way, or if not, the valve lead should be changed by shifting that part of the valve gear that will accomplish effect.

2—A piston valve seat cannot be hardened when cast in one piece with the cylinder. Cylinders are usually made of close grained hard iron. The only means of hardening the seat would be to use a bushing which can be hardened to any degree and then ground to a fit and pressed in place. The valve rings or piston rings should be of good cast iron, not too hard.

**Q. A. M.** Is the Woolff valve gear perfect? If so, why will the engine run with lever in centre notch?

**A.** We hardly think there is anything perfect about machinery. When a Woolff gear is in proper adjustment it comes very close to perfection. If your engine only runs one way while reverse lever is in centre notch, this would indicate that the rod running from the reverse lever to the reversing shaft, is either too long or too short; but if the engine will run both backwards and forward while reverse lever is in centre notch, this will indicate that the valve has too much lead. However, the latter is hard to fix in this class of valve gear and will do no harm, and the former case can be easily fixed by simply changing the rod mentioned.

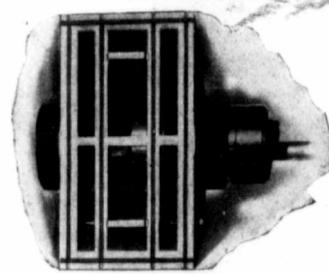
**Q. P. H.** Is babbitt instead of brass a good thing for a connecting rod?

**A.** Babbitt is a good thing for the crank pin but not for the cross head pin. The fact that it does not wear so well in the cross head end, may be due to the fact that nearly all cross head pins are smaller than crank pins. Babbitt does not heat as easily as brass and has equally as good and in many cases better, wearing qualities. When it is neglected by lack of oil, or if adjusted too closely, it does not scar the pin as does brass. Men who have had experience with both babbitt and brass testify to the superior qualities of babbitt in the crank pin box of the connecting rod.

**Q. G. F.** What is the simplest and most economical way of rebabbiting main shaft on engine?

**A.** After taking out the shaft, the old babbitt metal is removed and all the anchor holes for fas-

## START THE NEW YEAR RIGHT BY USING A BAKER BALANCED VALVE ON YOUR ENGINE THIS SEASON



### READ THE SEVERAL REASONS WHY

- First**—No more broken Valve Stems and Eccentrics.
- Second**—No more worn Valve Gearing.
- Third**—No more worn Valve Seats.
- Fourth**—No more trouble with Valves in bad water.
- Fifth**—No more trouble reversing engine under full head of steam.
- Sixth**—They pay for themselves in saving of cylinder oil alone.

#### What They Say About the Baker Balanced Valve

Enclosed please find an order for a Baker Valve for 20-H.P. Case. The one I am using on the 25-H.P. Case is giving perfect satisfaction, saves fuel, oil and water. G. M. Danials, Plenty, Sask.

Please ship at once another set of Baker Valves for a 25-H.P. Double Reeves. These valves are certainly a great improvement over the D slide valve. Kimble Bros., Bassano, Alta.

Write us at once for prices and particulars

### BAKER VALVE COMPANY

100 James Street

Winnipeg, Man.

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## Decide Now on Your 1913 Belting Requirements

You will find the Sawyer Canvas Stitched to be the ideal Farmer's belt. It will stand a few months' rest and come out strong and pliable, or it will stand many years of service.

Write for our Booklet L.

### SAWYER BELTING CO., Cleveland, Ohio

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

## The Rockwood Paper Cylinder Drive Pulley

Mr. Thresherman:

Here is a pulley more durable and more efficient than the leather lagged pulley you are using. Leather lagged pulleys are used because they are cheaper.

We will furnish a Rockwood Paper Pulley free of charge to any manufacturer who wants one to test on his machine. Many have already tried them and know they are better.

**YOU ARE ENTITLED TO ONE OF THESE PULLEYS ON YOUR NEW MACHINE**

WILL YOU GET THE BEST OR THE CHEAPEST?

**The Rockwood Mfg. Co., 1828 English Avenue, Indianapolis, Indiana.**

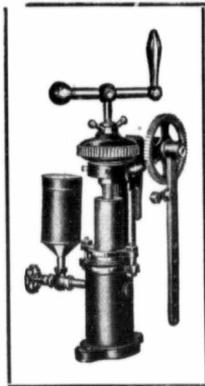
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# Madison Kipp Oil Pumps for Plowing Engines

**They will more than Pay for Themselves  
in a Short Time**

## OUR GUARANTEE

We guarantee our Oil Pumps when properly attached, to lubricate satisfactorily any engine of any size, of any make, irrespective of pressure, speed of engine, condition of oil or skill of operator.



## OUR GUARANTEE

We guarantee our Oil Pumps when properly attached, to lubricate satisfactorily any engine of any size, of any make, irrespective of pressure, speed of engine, condition of oil, or skill of operator.

**A MADISON KIPP OIL PUMP is the best Engine Insurance you can buy. Read our Guarantee carefully, and then write our Canadian Distributor for Catalogs.**

Canadian Agents:

Maytag Co.,  
Winnipeg, Man.

**Madison Kipp Lubricator Co.**

Madison,  
Wisconsin.

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

tening the holes are cleaned out. The slat is then replaced with sufficient blocking under it to allow the proper thickness of metal under it. It can be wedged up to its position by small iron wedges which can be taken out after pouring, or by a small block of babbitt metal which can be left in the box: or some times the shaft can be held up by the crank disc and fly wheel or gearing. The shaft should then be brought square with the cylinder and of the cross head guides are of the boxed type the only thing to watch beside getting it square with the cylinder is to get the pinion to gear properly in the spur gear. However, to allow a reasonable amount of metal under the shaft will not be far from right with the gearing. The shaft may be square with the cylinder by means of a fine line or thread, stretched through the cylinder; and when the line is true with the cylinder it should come to the centre of the crank pin. That is, if the crank pin box is three inches wide the line should be  $1\frac{1}{2}$  inches from the crank. The fastening for the line should be beyond the crank so that the pin can be turned from one end to the other, coming just down to the line at each end. This can be done by having the

shaft fixed so that it cannot roll out of its place, and the distance from the line to the crank should measure the same at each end. This will make it square with the cylinder. Clay or putty is used to prepare the box for pouring. The old metal can be used by adding new to it. Care should be taken so as not to get the metal too hot. It is better not to heat the metal to a red heat. After the metal is poured into the boxes the shaft is taken out to scrape the boxes. This is necessary on account of the shrinkage of the metal. A little lamp-black or red lead mixed with the oil is good to rub on the shaft to mark the places where scraping is necessary, which is done by turning the shaft in the boxes. Filing it out with a half-round file will also do, but a scraper made by grinding the edge of a half-ground file is the most convenient tool to use for this purpose. This scraping or filing will have to be repeated a number of times to get a good bearing. The caps may then be poured, placing the proper liners between the caps and boxes. The babbitt in the cap is fitted to the shaft in the same manner. Oil grooves are chipped in the box or cap, or in both in some cases. In the case of locomotive or flat guides the shaft should be level

with the cross head pin. In some cases it may be necessary to reset the guides to get the shaft level with the cross head pin and at the same time have the gearing in the proper shape.

Q

**Q. R. A.** What is draw-bar horse power and how does it differ from break horse power? Is it a good rating for an engine? How is it arrived at?

**A.** Break horse power is the power measure at the fly wheel of the engine and is the power an engine can deliver to the belt or the gearing of a traction engine. The draw-bar horse power is the power an engine can deliver at the draw-bar and is the horse power of the engine less the friction of the gearing in pulling itself on the load. The draw-bar horse power will vary, due to the design and working condition of the transmission gearing, also the condition of the road or ground on which it runs. Thus a hill may be steep and the ground so soft that all of the power of the engine is used to propel itself and no power left to be used at the draw-bar. In going down hill the draw-bar horse power is more than up hill or on the level. The draw-bar horse power is reduced

to 33,000 foot lbs. as is brake horse power.

If the draw-bar rating is considered in connection with a hard, smooth and level road, with the aid of a draft dynamometer to arrive at the pull in pounds, and the speed at which it moves, the draw-bar horse power is a very satisfactory rating.

Q Q Q

### Too Much Training

The man was trying to sell his dog. "You see," he said, "I bought the dog and trained him myself. I got him so he'd bark if a person stepped inside the gate, and I though I was safe from burglars. Then my wife wanted me to train him carry bundles, and I did. If I put a package in his mouth the dog would keep it there until someone took it away. Well, one night I woke up and heard someone in the next room. I got up and grabbed my gun. They were there—and the dog!"

"Didn't he bark?" interrupted the man.

"Never a bark, he was too busy."

"Busy! What doing?"

"Carrying a lantern for the burglars."



# Canadian Power, Seed & Soil



Vol. 1, No. 3.

605

March, 1913

## Rumely Power-Farming Machinery Lifts the Farmer's Burden

Published Monthly by  
**RUMELY PRODUCTS COMPANY**  
(INCORPORATED)

La Porte, Indiana, U.S.A.  
A Monthly Messenger of Better Farm Methods

### SPRINGTIME POINTERS

Although winter holds sway at the time this editorial is being written, by the time Canadian Power, Seed and Soil for March is in the hands of its readers the days will be edging along towards spring and spring-time activity.

Mother Earth will soon call again to the fields men, animals and machines that for months have been idle. Busy days, with never a moment to spare in getting in the seed will be each day's program.

It is high time now to get out of the dormant class. By working with the brain now, work will be saved for the hands later, and good crops be assured. Now is the right time of year to plan your spring campaign.

There are fields to be laid out, grains to be selected. Seed perhaps to be purchased, machinery perhaps to be ordered. All of this work can best be planned now, during the long winter evenings. All should be done before the spring rush.

Decide now whether it is easier to do your work with animal or mechanical power. Decide whether it is cheaper to handle thirty horses or an OilPull tractor. Which will save you the most time in the morning in getting an early start; at noon time and at night? Perhaps you will decide it's better policy to sell your horses and try tractor farming. Others are deciding that it pays.

If you are in doubt as to any subject on power-

farming, write our farming experts, who have made a careful study of farming problems and know from scientific standpoints why and how the best power is produced from tractors.

We are always glad to hear from old friends and to make new ones; glad to answer questions that pertain to farm machinery. Any interested party who will write us will receive free literature on tractors or other agricultural implements, which will mean better farming for 1913 and the years to follow.

### THE NEWEST RUMELY PRODUCT

There has recently been added to Rumely Power Farming Machinery the Rumely Portable Grain Dump and Elevator, an ingenious implement for elevating or unloading corn and small grains, dirt, sand or crushed rock.

This machine is run either by engine or horse-power, by cables which run over pulleys at the top of the derrick. These can be attached to the front axle of the wagon. The speed of the lifting crane is such that the wagon is raised just fast enough to empty into the hopper so that the hopper will not be flooded, yet will always carry a full load. From three to five minutes are required to raise and dump the entire load. The wagon is lowered in about 40 seconds.

Automatic arrangements prevent spilling of the grain or damaging the wagon or dump.

Actual performance assures us that this machine will prove of great value to the farmer, and that it is worthy to bear the name "Rumely."



### CANADIAN HUSTLERS

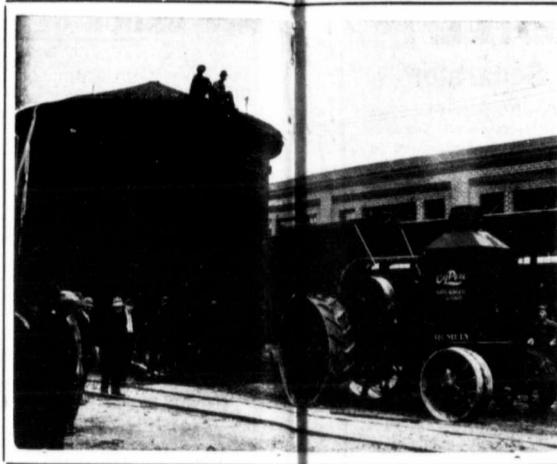
Our Canadian agents and salesmen are men of action. They accomplish much because they attempt much.

The above photographic reproduction shows Max Douglas (at the wheel), who is one of the firm of Douglas Bros., our agents at Zealandia, Sask. He is accompanied by Ben. F. Curtis, a Rumely salesman, and little OilPulla, who sits on the rear seat.

The Douglas Brothers have handled Rumely goods since 1909, and have put them to the front. They are making the name "Rumely" well known all the way from Zealandia to Brock, Saskatchewan, on the "Goose Lake" line. They have agencies established at Rose-town, Zealandia, Milden and Brock.

These men are highly regarded throughout the entire organization, and especially so at the home office at La Porte.

RUMELY  
LA PORTE



### A PULLING TEST

A 35-h.p. steam engine tried to haul this water tank and failed. A Rumely OilPull Tractor was then hitched on and the huge tank moved off without trouble. The tank had stood a good many years, full of alkali water, and was thoroughly water soaked. The total weight of tank, timbers and trucks was approximately between 45 and 50 tons.



Note the way the drivers on the engine take hold on the solid road bed.

RUMELY  
LA PORTE

### OILPULL IN MANITOBA

Elkhorn, Man., July 7, 1912.  
M. Rumely Company,

Gentlemen: The 30-H.P. OilPull purchased from you last spring, greatly exceeded my expectations in power and simplicity. I know what I am talking about as I bought and tested one of the leading gasoline engines, but it failed to do the work it was represented to do. My land is very hilly, and the Rumely OilPull drew six plows, plowing seven inches deep, on steep grades where the other one stuck with three plows and with their own expert operating it.

For power, durability, simplicity and economy, the Rumely OilPull has no equal on this continent, in my opinion.

Yours truly,  
John G. D. Knight.

### THE HOUSEWIFE'S LIBERATOR

The burden of farm life used to fall upon the woman. Her work began early in the morning and continued long after dark at night.

Besides her own immediate family to be cared for, there was the ubiquitous hired man with his classic appetite.

In the harvest time, when the threshers came, there was a small army of hungry men to feed.

If she wished to go to town, the horses usually were all in use. She was chained to soil, as a galley slave of old was chained to the floor.

As the OilPull liberates the horses, so will it liberate the wife on the farm. The army of hungry harvest hands will be eliminated, fewer men will do the work, she will share in the general prosperity.—Elbert Hubbard, in "The Philistine."

### ANOTHER CANADIAN "LIVE WIRE"

In the person of George A. Turner, of Tugaska, we have another keen representative, who has won his spurs for Rumely.

Mr. Turner, who is seen in the auto leaving the building, bears the distinction of having sold more Rumely goods in 1911 than any other Canadian dealer.

Notice the OilPull Trade Mark sign on the shield



of the automobile. Mr. Turner believes not only in action, but also in advertising, and with these two points combined is it any wonder he is making an excellent record in serving the farmers of Canada?

### CARE OF FARM MACHINERY

Extracts from an Article by H. H. Musselman  
It would seem superfluous to point out the need of care and protection for farm machinery. There are, however, many farmers who do not give this matter the attention it deserves.

In almost any community examples can be found where the period of usefulness of machinery, well protected and cared for, is nearly double that on adjoining farms where it is left to the ravages of the weather with no system of keeping in order.

By making a list of the implements and tools required on a 120-acre farm it will be found that their value will not be far from \$1,000. Properly housed and cared for the tools referred to should have a period

of usefulness of twelve years. On this assumption the yearly cost would be nearly \$85. The annual or yearly cost in each case is found by dividing the first cost by the period of time in use. Taking eight years as the period of usefulness for unprotected equipment, it will be found that the annual cost would be \$120. Now, an implement house to protect this machinery could be constructed at a cost of from \$200 to \$250. Using the latter figure assuming that the house could be used for fifteen years, a yearly cost of nearly \$17 would be shown. Not taking into account interest on investment for the purpose in mind, the total annual cost of protected machinery would be \$85 plus \$17 equals \$102 as against an annual cost of \$120 per year for unprotected. From these figures a saving of \$18 per year will be shown.

### RUMELY ENGINEERS

With the beginning of the year there became allied with the Rumely organization at La Porte, Mr. E. T. Adams, who ranks among the foremost internal combustion engineers of the world. Mr. Adams won international fame several years ago when he built the giant gas engines for the steel works at Gary, Ind. The success of these 4,500-h.p. monsters at once placed Mr. Adams among the five great engineers of the world.

Mr. Adams is our chief engineer, Mr. John A. Secor retiring to give his attention to the work of consulting engineer and to internal combustion problems for our Company.

With the supervision of two such leading men as Mr. Secor and Mr. Adams, Rumely engineering interests can not go wrong, and Rumely tractors and other machines will improve even beyond their present excellent standard.

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### An Every Day Saving

Gasoline in most territories sells for three times the price of crude kerosene. A ten-h.p. stationary engine burns on the average ten gallons of fuel for ten hours work. Figuring gasoline at fifteen cents per gallon and crude oil at five cents per gallon, means a saving of a dollar a day by using a Rumely-Falk Kerosene Engine—more than \$300 a year—more than \$3000 in ten years. Think of it!

### Rumely-Falk Kerosene Engines

Stationary or Portable styles 3-5-10 or 15 h.p. are equipped with the Secor-Higgins Oil Fuel System, which means they will burn kerosene or other unrefined oils at all loads and under all conditions successfully.

More about them in our free Data Book. Ask us the name of the nearest dealer.



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Every pound of pull that fuel can produce is assured to owners of OilPull Tractors. Canadian farmers buy them by the score because they are known for their good work at low cost of operation.



Made in two sizes—15-30 and 30-60 h.p., are ready early in the morning. They require no care at noon, and will work every hour in the 24 without tiring or baking.

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Hauling grain to a feed mill and back again takes time and is unnecessary work. When the roads are heavy, driving to mill is a nuisance.

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Grind when you are ready. Made in three sizes—8, 10 and 12 inch burrs, you are assured a size to fit your needs. Rumely Feed Mills are made of steel and angle iron. The burrs are of steel alloy—break-proof—they run absolutely true.

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Baled hay means sheltered hay—convenience in handling and shipping—city people buy no other kind.

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Test of Varieties of Wheat and Oats  
Made at Brandon Experimental Farm

THE number of varieties of wheat under test at the Experimental Farm has been greatly reduced. It has been considered advisable to drop out a number of varieties which, though good in many ways, are not as high quality as the best. Preston, Stanley, Huron, Percy and Bishop have all been abandoned. It is considered that they are now replaced by Marquis, which has their good qualities and has also better milling quality. White Fife has also been dropped from the test list. While it is equal in every way to Red Fife, it is not superior to the latter, and its color makes it unpopular to the purchasing public. The results of this year's test and the average yield for five years are as follows:

test there are others that are thought to be duplicates, for instance, Improved American is probably identical with Banner.

These plots were all sown on May 9th at the rate of 2 3/4 bushels per acre. Table 1 at end of this article shows the results obtained in 1912, and the average yield per acre for five years.

The stormy weather during August provided an unusually good test of the strength of straw of the various kinds. A great difference was observable; where one variety stood up well, those on each side were in many cases laid almost flat. The results showed the fallacy of the very common belief, which is held even by some seed breeders, that stiff coarse straw is a straw that stands up well. This is not the case, and the error of it was very evident this year. The finer, more elastic straw of Banner, or Victory, remained upright, where the

Variety	Wheat.		Average yield 5 years
	No. days maturing	Yield 1912	
	Bus.	lbs.	Bus. lbs.
Marquis (beardless)	107	26 46	43 41
Red Fife (beardless)	113	36 00	40 44
Garton's No. 46 (bearded)	111	33 20	
Exlude (bearded)	87	14 00	

Marquis, as usual, holds first place, though its lead over Red Fife is very small this year. The season was unfavorable for early wheat, as the June drought hurt it more than the later crop. Prelude especially suffered severely and is probably much lower in yield than it would be in a common season. For Manitoba at least, we believe that Marquis and Red Fife are preferable to the two newer varieties.

Oats

Sixteen varieties of oats were grown on uniform test plots this year. The number has been cut down from year to year, by dropping out some kinds that seemed inferior, and by eliminating, to a certain extent, duplicates. Where it was believed that two names were really only one variety, the best known name has been continued and the other dropped. Thus Danish Island has been decided to be really Banner, and has been discontinued. Similarly Abundance has been dropped for Regenerated Abundance. Among the varieties still under

Barley

The uniform test plots of barley were sown this year on May 20th, on sandy loam, summer-fallowed the previous year. The season was unfavorable for barley on summerfallow, and all varieties were badly lodged and very late in maturing. The yields as calculated from 1-40th acre plots will be found in Tables 2 and 3 at end.

O. A. C. No. 21 is a selection of Mendschuri barley brought out by Professor C. A. Zavitz, of the Ontario Agricultural College. It has for several years been one of our best yielding barleys, and is this year at the head of the list.

# Dairy Profits

are entirely dependent on good management. But the money-making product of the best milkers in the world can easily be dissipated in the conduct of the dairy—in poor equipment and obsolete methods employed in

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GET A

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"The Magnet" has them all 'skinned' for clean skimming and if you will every the trouble to send us a card we will at once satisfy you beyond all doubt that it is the Cream Separator for You to Buy.

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We will prove every point we claim for the superiority of the "Magnet" on your farm—at our expense.

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**STEELE BRIGGS' SEED COMPANY, WINNIPEG, Man.**

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Manchurian, selected by Dr. C. E. Saunders, from Mensury, was ahead of the O. A. C. No. 21 last year, but it was not quite so high this year. Garton's No. 68, a new variety tried this year for the first time, makes a very good showing. The six rowed barleys as a class are ahead of the two rowed, both as to yield and as to earliness, and are much to be preferred for use in Manitoba.

**Field Pease**

The uniform test plots of varieties of field pease were sown this year on May 8th, on land similar to that used for barley. The season was rather too cold for pease, and as a result yields were smaller than usual, and the date of ripening was late. (See Table 4 at end).

Solo is a new variety tried last year for the first time, and imported by the Experimental Farm from Sweden, where it is very commonly grown. Arthur (Selected) is a selection made by Dr. C. E. Saunders, Dominion Cerealists. It is a short strawed pea, and by far the earliest yet tested at Brandon.

**Variety Tests**

**Flax**

La Plata is a South American variety of flax noted for its high percentage of oil content. Primost is an improved strain selected from the common flax, and was formerly known as Minnesota No. 25. The seed of the North Dakota numbered varieties was secured from Professor Bolley, North Dakota Experiment Station, and while not wilt proof and wilt resistant, these varieties have been selected at that station under the direction of Professor Bolley. The White Flowering and Russian are two Russian varieties, while the Common is one of our own seed.

**Test of Varieties of Flax.**

Variety	Yield Bus. lbs.	Days maturing
N. Dakota No. 114	24 16	108
N. Dakota No. 52	23 32	110
N. Dakota No. 73	20 00	113
Primost	18 32	115
White Flowering	18 32	113
La Plata	17 48	117
Common	16 24	109
Russian	14 16	110

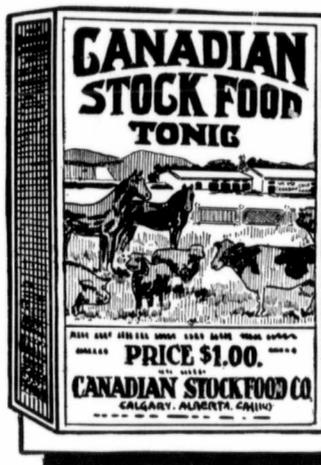
**Quantities of Seed Grain**

Experiments have also been carried on to find out the proper amounts of seed grain per acre. The plots used were 1-40th acre and had been summer-fallowed in 1911.

**Wheat**

Red Fife wheat was sown on May 8th at the following rates per acre:

Quantity per acre	No. days maturing	Yield per acre Bus. lbs.
1 bus.	109	32 50
1 1/2 bus.	108	30 10
2 bus.	107	24 20
2 1/2 bus.	107	33 00
3 bus.	105	37 45
3 1/2 bus.	105	38 00



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**Oats**

Banner oats were sown on May 9th.

Quantity per acre	No. days maturing	Yield per acre Bus. lbs.
1 1/2 bus.	119	116 16
2 bus.	118	117 22
2 1/2 bus.	117	121 00
3 bus.	117	125 30
3 1/2 bus.	117	122 12
4 bus.	117	125 30

**Barley**

O. A. C. No. 21 barley was sown May 20th.

Quantity per acre	No. days maturing	Yield per acre Bus. lbs.
1 1/2 bus.	99	74 08
1 1/4 bus.	99	82 24
2 bush.	98	86 23
2 1/2 bus.	98	89 08
3 bus.	98	82 24

**Flax**

Common flax was sown. Had the seed bed been rough and uneven the larger amounts of seed

would no doubt have given better results.

Quantity per acre	No. days maturing	Yield per acre
18 lbs.	109	17 48
23 lbs.	109	16 24
28 lbs.	108	19 16
33 lbs.	108	18 32
38 lbs.	108	14 16
43 lbs.	108	16 24

**Varieties of Field Corn**

The test rows of varieties of field corn were cut and weighed on Sept. 18th. These rows were all planted on the same day, June 1st, under identical conditions. With the exception of Quebec Yellow, the seed was all obtained from seedsmen doing business in the Province of Manitoba. The seed of Quebec Yellow was from the originator of this variety, Professor L. S. Clinck, of the Macdonald College, Quebec. The

yield of corn is given in tons and pounds of green fodder per acre.

(See Table 5 at end).

Corn is not as far advanced toward maturity this year as in the average year. Varieties that usually reach at least the milk stage are this year only in the silk. This was caused by the backward spring and the cool wet summer. "Early Eight Rowed Canada" and "Compton's Early" are two strong growing, vigorous varieties that produce a large quantity of fodder, but are a little late for the best quantity of ensilage. "Quebec Yellow" gives the best results this year, combining a heavy yield with well developed ears. Unfortunately it is not obtainable in commercial quantities as yet; it would be well worth the attention of our seeds-

men. "North Western Dent," the variety that we have recommended most in recent years, is not so well matured as usual, being only in the milk stage. It is still, however, the best ensilage variety obtainable from seedsmen. "Gehu" and "Free Press" corn are short semi-dwarf varieties. The former is very leafy and produces a considerable quantity of good fodder, the latter is probably the best variety for grain production for Manitoba. The average ears had reached the firm dough stage even in this backward season, and quite a number of the more advanced ears were ripe.

**Grasses and Clovers**

The weather before the first cutting of the grass and clover plots was extremely dry, and thus the yield of the first crop is an indication of the drought resisting powers of the various crops. The weather between first and second cutting was very wet, so that the second crop is an indication of the results in a wet season. The summary of the two should be a fair indication, in so far as a single season's results can ever be taken as conclusive, of the average productiveness of the varieties under test.

The plots from which these yields were obtained from 1-40th acre in size. They were sown in 1911 without a nurse crop, on spring-ploughed barley stubble land. The weights are of dry hay and are calculated as so much per acre. (See Table 6 at end).

**Potatoes**

The variety test plots of potatoes were dug on Sept. 24th. These varieties were grown in rows two and a half feet apart. They were planted in the usual way, under field conditions. The land had been summer-fallowed the previous year. The yields were obtained by weighing the crop from sixty-six feet of a row of each variety and computing the amount per acre. The yields of the various kinds will be found in Table 7.

**Test of Mangels.**

Variety	Yield per acre Tons. lbs.
Giant Yellow Globe	41 1160
Prize Mammoth Long Red	39 1640
Elvethian Long Red	36 1920
Golden Tankard	36 1040
Perfection Mammoth Long Red	34 1300
Giant Long Red	33 220
Giant Yellow Intermediate	31 700
Manitoba Giant Yellow	29 1180

**Test of Feeding Mangels and Feeding Sugar Beets.**

Variety	Yield per acre Tons. lbs.
Jumbo	42 700
Danish Improved Sugar Beet	39 540
Royal Giant	37 1460
Leviathan	35 1060
Giant Half Sugar	34 1520
Monarch Half Sugar	33 880
Giant White	42 240

**Sugar Beets.**

Variety	Yield per acre Tons. lbs.
Klein Wnazleben	19 1160
Vilmorin's Improved "B"	16 1220
Vilmorin's Improved "A"	14 1700

**Test of Turnips.**

Variety	Yield per acre Tons. lbs.
North Western Purple Top	45 200
Canadian Gem	39 100
Perfection Purple Top	33 1980
Bangholm	33 1980
Prize Purple Top	33 1760
Hall's Westbury	33 1540
Good Luck	32 1780
Halewood's Bronze Top	31 1360
Carter's Imperial	30 940
Magnum Bonum	29 1620
Hasgard's Improved Bronze Top	29 740
Garton's Superlative	29 80
Hartley's Bronze Top	15 1920
Garton's Model	17 300

**Field Carrots.**

Variety	Yield per acre Tons. lbs.
Improved Mammoth Long	14 1260
Mammoth White Intermediate	12 200
Improved Short White	11 1540
Cooper's Yellow Intermediate	10 1560
Improved Giant White Belgian	8 60
Oxheart	7 1620

The Improved Giant White Belgian had long tapering roots, and it was found extremely difficult to dig them without breaking the roots. This will account to some extent for their low yield.

**Cultural Investigation Work**

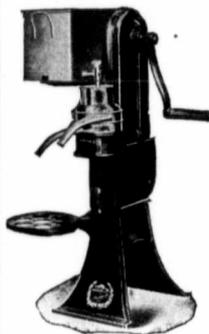
Over twenty acres have been devoted to the cultural test plots. They are 1-40th acre in size and each experiment is operated on a different set of plots. A system of rotation is followed on each experiment so that the required number of plots are ready to carry on the work each year.

These plots have been established with a view to gain some information as to the methods of cultivation likely to give the best results along the line of conservation of moisture, conservation and increase of soil fertility, and eradication of weeds.

The preparatory work was done on these plots in 1911, and results have been obtained in 1912. Owing however, to the fact that one year's experimental work counts for so very little in establishing a procedure which might be adopted on the average farm, and to the large amount of space a full report would occupy, it is not considered advisable to quote figures at the present time.

A few conclusions that this year's work have borne out might however be given.

1. That ploughing summer-fallow in May gave greater yields per acre than summer-fallow ploughed later in the season.
2. That ploughing down large quantities of green crops for manure did not increase the yield as did well rotted barnyard manure.
3. That a second ploughing of summer-fallow in September did not increase the yield.
4. That discing in the fall or in the spring gave as large returns as did ploughing but increased the number of weeds.
5. That burning the stubble without further cultivation decreased the yield and increased the amount of weeds.
6. That seeding two inches deep gave larger yields than shallower or deeper seeding.



## Startling Record

IN CAPTURING BUTTER FAT

At the Kingston (Ont.) Dairy School under tests made quite recently one Cream Separator listed as 450 lbs. capacity of milk per hour skimmed at the rate of over 520 lbs. Not only so, but skimmed down to 0.25 per cent. meaning that there was practically not a particle of butter fat lost in the skim milk. It was demonstrated that with this machine you can skim up to 550 lbs. and skim as closely as the next best 450 lb. machine and that it *skims ten times as closely as the average separator.* This was the

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Inflicted by lightning on any structure and its contents if said structure has been roddeed by our ninety-nine p.c. pure copper cable. We give an absolute guarantee to this effect, and we know we are taking no risk in doing so.

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No building which has been protected by the "TOWNSLEY" system has ever been damaged by lightning storm, while others in the immediate vicinity have gone up in smoke.

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**CANADIAN LIGHTNING ARRESTER AND ELECTRICAL CO. LTD. WINNIPEG**

**99 PURE COPPER**

TABLE 1—Oats

Variety	Number of days maturing	Strength of straw, 10 points means perfect stand	Yield 1912		Average yield for 5 years	
			Bus.	lbs.	Bus.	lbs.
Improved American	117	9	102	24	103	09
Banner	117	9	105	30	102	03
Twentieth Century	120	3	105	30	98	31
Swedish Select	119	2	98	28	96	13
Irish Victor	117	9	91	26	96	07
Siberian	119	7	98	28	96	00
Thousand Dollar	120	1	102	12	94	11
Ligowo	121	3	96	16	90	00
Reg. Abundance	121	3	69	14	87	22
Orloff	111	8	91	26	82	14
Daubney	114	8	88	08	77	09
Gold Rain	117	6	101	06		
Newmarket	121	5	100	00		
Victory	118	9	96	16		
Victor (Black)	119	7	90	20		
Garton's No. 22	119	6	71	26		

TABLE 2—Two Rowed Barley

Variety	Days maturing	Strength of straw	Yield per acre		Average yield for 5 years	
			Bus.	lbs.	Bus.	lbs.
Canadian Thorpe	106	2	63	16	60	44
Svedish Chevalier	109	0	56	32	60	02
Clifford	105	6	65	40	52	17
Beaver	109	8	62	24	51	08
Hannchen	107	2	73	16	Avg. 2 yrs.	68 36
Brewer	109	1	73	16	1 yr. only	
Gold	108	1	65	00	1 yr. only	

\*Hannchen and Brewer which give the best results this year in the two rowed class, are both comparatively new varieties. Hannchen was introduced a few years ago from Sweden, where it is considered one of the best varieties originated at the Svalof Station. Brewer is a new variety originated by the Garton Seed Company.

TABLE 3—Six Rowed Barley

Variety	No. of days maturing	Strength of straw	Yield per acre		Average yield for 5 years	
			Bus.	lbs.	Bus.	lbs.
O. A. C. No. 21	98	7	87	24	68	26
Odessa	103	3	80	40	68	02
Mensury	100	6	79	08	67	17
Mansfield	101	8	73	16	65	29
Yale	98	6	71	32	64	35
Manchurian	100	7	80	40	Avg. 2 yrs.	78 31
Garton's No. 68	102	5	86	32	1 yr. only	
Silver King	102	4	74	08	1 yr. only	
Guy Mayle (hullless)	93	10	67	24	1 yr. only	
Success (beardless)	90	10	65	40	1 yr. only	

TABLE 4—Field Pease

Variety	No. of days maturing	Yield Bus. lbs.	Average yield	
			5 years	Bus. lbs.
Mackay	133	24 00	44	13
Prince	133	24 00	43	19
Paragon	133	20 40	41	09
English Grey	132	24 00	40	39
Arthur	131	32 00	39	39
Prussian Blue	132	34 00	37	37
Chancellor	132	22 30	36	03
Golden Vine	138	14 00	35	15
Solo	126	42 40	Avg. 2 yrs.	46 55
Arthur Selected	119	38 00	Avg. 2 yrs.	36 00

TABLE 5—Field Corn

Variety	Condition when cut	Average height		Yield per acre	
		Ft.	in.	Tons.	lbs.
Early Eight Rowed Canada	Silk	8	5	26	400
Compton's Early	Silk	8	11	25	1800
Quebec Yellow	Late Milk	7	7	25	25
North Dakota White	Silk	8	8	23	1400
North Western Dent	Early Milk	7	10	20	400
Longfellow	Silk	7	7	20	400
Gehu	Dough	5	3	19	1600
Minnesota King	Early Milk	7	9	17	1200
Free Press	Firm Dough	5	10	17	200
Improved White Squaw	Ripe	3	4	7	200

TABLE 6—Tests of Grasses

Grasses—	First crop Tons. lbs.	Second crop Tons. lbs.	Total Tons. lbs.	
			1st	2nd
Brome grass	3 1320	1690	4	1920
Kentucky blue grass	800	1 30	1	160
Orchard grass	800	1200	1	400
Red Top	1 160	1800	1	1960
Timothy	1 760	1800	2	560
Western Rye Grass	3 1120	1280	4	400
Clovers—				
Alsike	1 1400	2 400	3	1800
Common red clover	1 440	2 800	3	1240
Mammoth red clover	1 1120	2	3	1120
White Dutch Clover		1 1500		1 1500
Alfalfa—				
Common alfalfa (Montanian seed)	3 320	2 600	5	920
Common alfalfa	3 730	1 1800	5	520
Common alfalfa (Canadian seed)	2 1720	2 600	5	320
Grimm's alfalfa	3 320	2 520	5	840
Turkestan Alfalfa	3 1480	1 1800	5	1280

use of by 5.00 wild free flow

Mixtures—			
Timothy and red clover	1 900	2 1140	3 1740
Timothy and Alsike	1 720	2 200	3 920
Timothy and alfalfa	1 960	1 1840	3 800
Western rye grass and red clover	2 1320	1 1920	1 1240
Western rye grass and alsike	2 1960	1 800	4 760
Western rye grass and alfalfa	2 1720	1 1760	4 1480
Timothy, western rye grass and red clover	1 1440	2 1000	4 440
Timothy, western rye grass and alsike	2 1200	1 1440	4 640
Timothy, red clover and alsike	1 280	2 1000	3 1280
Western rye grass, red clover and alsike	2 320	1 1960	4 280
Timothy, red top and alsike	1 100	2 680	3 780
Timothy, western rye grass, red clover and alsike	1 1680	1 1800	3 480
Timothy, western rye grass, red clover and alfalfa	2 360	2 200	4 560

TABLE 7—Tests of Potatoes

Table Talk	Marketable Bus. lbs.	Yield		Total Bus. lbs.
		Unmarketable	Bus. lbs.	
Wee McGregor	663 40	51 20	715 00	
Woolbury's White Rose	568 20	14 40	592 00	
Empire State	531 0	25 40	557 20	
Ashleaf Kidney	528 00	14 40	532 40	
Reeve's Rose	498 40	7 20	506 00	
Early Ohio	476 40	58 40	535 20	
American Wonder	462 00	18 20	480 20	
Irish Cobbler	458 20	51 2	509 40	
Early Bovee	458 20	40 20	498 40	
Late Puritan	455 40	11 00	466 40	
Sample from J. Guild, Elkhorn	399 40	14 40	414 20	
Money Maker	388 40	33 00	421 40	
Morgan Seedling	385 00	11 00	396 00	
Peacock's Surprise	381 20	58 40	440 00	
Early White Prize	352 00	55 00	407 00	
Rochester Rose	341 00	51 20	393 20	
Manitoba Wonder	330 00	40 20	370 20	
Saban Elephant	322 40	7 20	330 00	
Hamilton's Early	293 20	51 20	344 40	
Carman No. 1	281 20	44 00	325 20	
Factor	205 20	14 40	220 00	
Gold Coll	194 20	36 40	190 40	

Advantages and Disadvantages of Free Range for Poultry

By M. K. BOYER

Free range has its merits and its demerits. To quickly grow young stock there is nothing better; for practical poultry farming—raising eggs and table poultry—it is not advisable.

The young, growing chick needs a variety of food and it requires exercise. When it can have a combination of both the food is properly assimilated, and the seeds, the bugs, the worms, and the tender grass found on the range grow bone, muscle and feather. The little fellows are on a romp the livelong day, and at night their crops are packed hard with the variety they have gathered on their travels; the violent exercise quickly puts them to sleep, and nature gradually digests the food.

The consequence is they grow like weeds. Late-hatched chicks given free range soon forge ahead of their older brothers that from the start have been kept in small, barren enclosures.

Some years ago the writer visited the famous Oakland Farm, Taunton, Massachusetts, which at that time was the home for prize-winning Light Brahmas and Buff Cochins. To our surprise we learned that nearly all the birds on this farm were hatched and reared during summer. We saw July-hatched Brahmas and even September-hatched Cochins, and the latter as large as the former. We were then informed by the manager that all the Madison

Square Garden Winners were hatched in July. To the writer it was a revelation. Whoever before heard of hatching Asiatics during the hot months? Yet here we had the example. What was their secret? Shade and free range.

But when it comes to hens, we find that for successful egg farming, or market poultry, limited areas are more profitable. If the hens are provided with proper food and care, they will give larger egg yield when confined to runs than if running at large, and besides, there will be no danger of hidden nests and loss of eggs.

Experiments made with table poultry also strongly favor more or less confinement. If fed on meat-producing foods, the carcasses of yarded poultry are not only more attractive in appearance, but the flavor is superior.

In free range poultry we find toughened sinews, meat more or less tough, and lacking juiciness.

It is for this reason that epicures prefer poultry from the yards of expert poultrymen rather than "country chickens," or "farm-raised poultry."

Hens need bulky food. Clover hay or alfalfa hay cut in half-inch lengths helps to make an ideal ration. If cooked and mixed with bran it makes an excellent breakfast. Clover and alfalfa not only promote digestion, but also largely assist in supplying the elements necessary for the albumen.

A successful poultryman says that he keeps the combs of his poultry brightened by putting corn in a bucket and dampening with water, and then stirring in about a quart of powdered, air-slaked lime. He feeds this twice a week, as an evening meal.

Fattening poultry on food mixed or moistened with skim milk instead of water, produces whiter flesh and superior flavor. Skim milk alone is a highly nitrogenous food; the carbohydrates have been removed in the butter, so that it is not a complete diet for any animal. The fat of the cream, however, can be cheaply substituted with corn or cornmeal.

A fowl should always be fattened as quickly as possible. Ten days is long enough, but it should be confined either in a coop or a number in a small yard. They must have a continual supply of fresh water, and should be fed four times a day, the first meal being early, and the last one late. A recommended mixture is three parts cornmeal, one part ground oats, one part bran, one part crude tallow, the entire lot scalded and fed for the first three meals, with all the corn and wheat that can be eaten up clean at night. Weigh the articles given.

The poultryman who follows the daily cleaning method, is generally the one who looks after the other essentials, considering them equally as important. Cleanliness should be more rigidly enforced in winter than in summer, the reason being that on account of much bad weather, and longer nights, fowls are compelled to spend much more time in the houses.

It is a sad commentary on a man's humane ideas to compel a flock of poultry to roost for a week in an odor-laden atmosphere of droppings accumulated during the period. You may strew ashes, road dust, land plaster or what-not over the bed of filth each morning, but the odor will grow stronger and stronger. Then when the weekly cleaning takes place it is not necessary to go inside the house to know what is going on; the fact is smellable some distance off. This odor finds its way into every crack and crevice in the house.

The color of the skin of the fowl can be changed by the feed. Sometimes the color of the skin is important, but half of the fowls that are sent to market have anything but a yellow skin. In breeding for market it is important to have a breed that grows rapidly and fleshes up young; the skin should be yellow, and if the feathers are all white both the chicks and old fowls will look much better when dressed than those with colored feathers.

The Houdan is the only French breed that ever gained a stronghold in America. The

Continued on page 84

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MARCH 1913

## FARMER UP-TO-DATE

**Father:** I think, boys, we must make a dead set at alfalfa this year. I am satisfied that the little test we made two years ago proved that we could grow it here and get a good crop from it too. I believe if that little patch near the barn had been watched and protected till we had taken all that could be cut from it, we could easily have made it 5 or 6 tons to the acre and that is a fair crop of alfalfa. Of course away down South and on some of the British Columbia dairy farms they take three cuttings easily and then turn the cattle on to what is left in the late fall, but in our early stage of the game we do well if we make 5 or 6 tons of good hay in a season from the soil we have around here.



**Mother:** I have no doubt you are right, father, about what we can and ought to do with alfalfa. I had my eye on that little patch all through the season, and so had my hens. You boys got so busy after it had once started that I thought you had lost interest in it or just intended to let it take its chance as some women do with their bits of "gardens." They buy a dollar's worth of seed, nasturtiums and foxgloves, candytuft and snap-dragon, and all sorts of mixtures and just stick them in and leave the rest to Providence. But I watched Harry putting in that alfalfa seed two years ago, and so did my hens; I watched it grow, and so did my hens, and that's how you weren't able to take two fine crops from it and cure them both as a test.



**Harry:** Now, mother, I don't think you can say I neglected that little trial plot after I put in the seed. I watched it, too, when you were occupied elsewhere, and one day I "spotted" you at a distance complacently watching your chickens making free with it and as you seemed to be encouraging them, I didn't interfere. There was so little of it and you were so ambitious to make a good showing at Brandon with your hens, it appeared to me that your reputation in the hen ring came before a little bit of seed trial. But, my word, how those hens did enjoy it! What they didn't eat was good enough to show that when we get down to the serious business of alfalfa growing, we will have complete success on this land with ordinary weather conditions.



**John:** This year's convention at the Agricultural College has brought some things into the limelight that I believe we have hardly been giving enough thought to. Particularly what can be done in a serious effort upon the corn and alfalfa business. They had some reports of last year's trials that showed there isn't the shadow of a doubt that we can do as well here as at many points in the South, but the fact is some of the people who were growing these sample plots under the instructions of the college faculty did not give sufficient attention to them. One chap who had a good chance to provide data hadn't scales to weigh his crop so he couldn't give anything but a rough guess. If they want to make history, it will not be done by guess-work.

## FARMER GOOD INTENTION

**Father:** Got darn it—here's another kick! This is a letter from that woman who gave an order last fall at the "open market" in Winnipeg for a dozen bushels of potatoes. She says she wanted nothing better than the sample she got at the market but when the bulk was delivered, half of them were rotten or frosted; they had twice the dirt amongst them she ever got in a delivery of potatoes and in fact they were not the potatoes of which she had the sample. They were carefully provided for in a proper root cellar when they were delivered, but all along she has had to throw away half of them. It is all the more aggravating to her, she says, as she finds she can get the very finest mealy potatoes as she wants them from her grocer, at only ten cents a bushel more than she paid for ours, and not a scrap of waste in them.



**Mother:** Well, now, isn't that too bad! But it is aggravating to any woman to have an experience of that kind when she believes she is doing her best to economise in her household expenses. If she hadn't paid a good price to get good stuff I shouldn't have thought so much of it, but 55 cents a bushel was a fair price you must admit, father. In fact, when she can buy them from her grocer in small quantities at only 10 cents a bushel more, I think it was an excellent price to pay. It doesn't help the folks in Winnipeg very much who are trying to get us a better market for our things because other folks than that woman will have had the same experience with those potatoes you sent in.

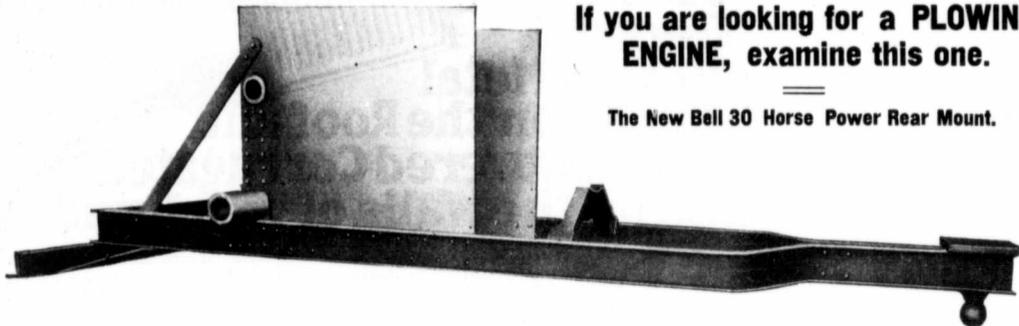


**Charles:** Huh! It's only about what I would have expected to happen. Those potatoes when they were dug up were as fine and healthy a crop of spuds as were ever grown in Manitoba, but you will remember they lay for days in the wet, and they were put in the bags when they were soaking, and you didn't ship for three weeks at least after they should have been down to the station. There's no doubt they got a touch of frost but I'll stake my life that they were grown from excellent seed, in soil that is perfectly adapted for potatoes. We can't blame the woman—we can't blame anything or anybody but ourselves. It's just one of the usual happenings of this place and of our way of doing things. Pot luck seems to be our fated luck all the time and if we succeed in anything it can only be by accident.



**Bob's Weekly Letter:** I have been to the grain exchange about that car-load of tough wheat but I can't get anything better out of it than they say they have given you in their correspondence. They seemed a bit saucy when I called and appeared as if they didn't want any more of our consignments. One chap said it was a nice enough sample (the handful they had in the office) when it was dried out, but another cheeky fellow said that whoever took it down to the loading platform must have forgotten to take down some blotting paper to pack it in. They certainly have got the laugh on you, father, as they said the grain was all right if it had been treated fairly, but that it must have been sleeping out in the wet many nights after it should have been well under cover.

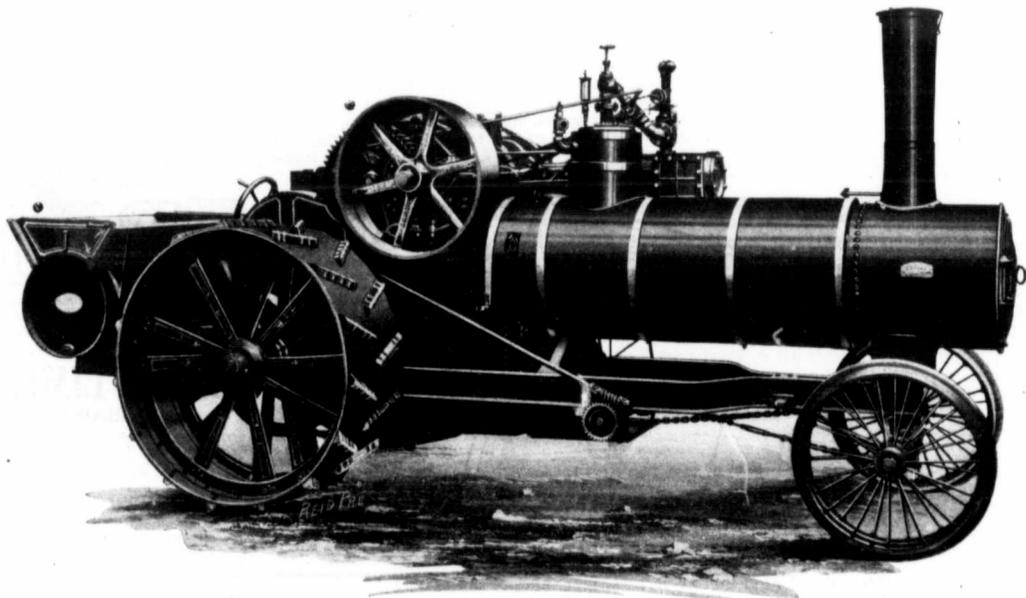
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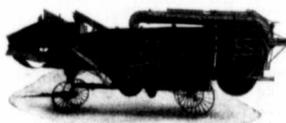
This is the Foundation on which the Bell 30 H.P. Rear Mount Traction is built. Engine Crank Shaft, Intermediate Gear and Shaft, Countershaft and Axle are part of this separate Steel Frame. The Boiler also is slung in this Frame, but is **not** used as a carryall for the Engine parts. **No Brackets attached to the Boiler with Stud Bolts or Cap Screws**, there can be no loose Brackets or leaky bolts. The power of the Engine is transmitted to the Drive Wheels through this **Separate Frame**—not through the plates of the Boiler. Saves the Boiler from these enormous twists and strains, eliminating leaky seams, stays and tubes.



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Good Farming in Saskatchewan

Continued from page 34

Clover and Alfalfa, the yield being at the rate of 9 bushels, 3 bushels 42 lbs., 4 bushels 3 lbs., and 100 lbs. respectively per acre.

Varieties	Yield
Alsike	1 ton 430 lbs.
Common Red	1944 lbs.
Mammoth Red	1458 lbs.
White	1660 lbs.
Sweet Clover	Largely killed out.

The results of Alfalfa tests on the University farm in 1912 are as follows:

Varieties	Ave. No. of Strains	tons	lbs.
Grimm's	4	3	1873 1/2
Sand Lucerne	3	3	1167
Turkestan	2	3	318
Provence	1	4	381
Common Montana	2	3	886
Common Kansas	1	3	743
Common Western	1	3	706
Common Canadian	2	3	907

Inoculation (Grimm's)

	tons.	lbs.
None	1	1560
Soil	1	1800
Pure Culture	2	800

Rates of Seeding (Grimm's)

10 lbs. per acre	1	1440
15 lbs. per acre	1	1480
20 lbs. per acre	1	1920
25 lbs. per acre	1	1800
30 lbs. per acre	1	1800

Methods of Seeding (Dakota Turkestan)

	lbs. per acre	tons	lbs.
Broadcast	18	1	550
Drilled 6 in. apart	18	1	345
Drilled 12 in. apart	9	1	935
Drilled 18 in. apart	6	1	1425

Cultivation of Alfalfa (Dakota Turkestan)

	tons.	lbs.
Double disced and harrowed in early spring	1	665
Double harrowed in early spring	1	530
No cultivation	1	485

3-year-old vs. 2-year-old Alfalfa in 1912

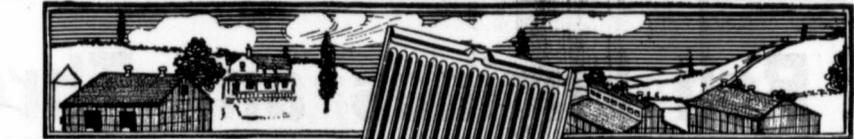
	3 yrs. old	2 yrs. old	tons	lbs.
Grimm's, Minn. (Av. of 3 plots)	4	10	1	1800
Grimm's, Mont.	3	196	1	1560
Turkestan (Av. of 2 strains)	3	318	1	510

(Av. of 2 strains)

Eight varieties of vetches have been grown in rows two feet apart. These plants, while more suitable to a warmer climate, grew exceedingly well, and give some promise of being suitable for mixing with oats or other cereals for annual pastures or for soiling purposes. We cannot, however, recommend them until further work has been done with them.

Our heaviest yielding varieties of corn are mostly of the flint type. Among the best are Compton's Early, Longfellow, N. D. White Flint, N.W. Dent and Leaming. Some earlier, lighter yielding kinds are "Free Press" or Patterson, Gehu, Quebec 8-rowed and Mercer. Yields from 10 to 18 tons have been secured here, but with the use of manure and the choice of a warmer soil, we hope to increase the yield of green forage.

Our root crops have done exceedingly well, the fall turnips reaching a yield of 22 to 30 tons, Swedes, 18 to 25 tons, Mangels, 15 to 25 tons, Forage Sugar Beets, 11 to 15 tons, and Sugar Beets, 5



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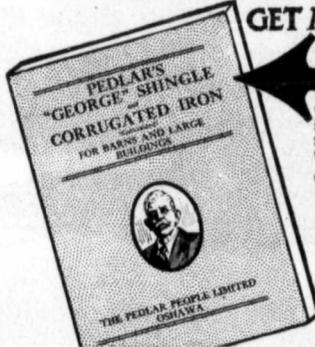
"My 'George' Shingle is made in 100-year non-corroding metal. Each shingle is 24 x 24 inches in size. Your roofer only lays 25 of them, where he would have to lay 600 cedar shingles. See what you save in the labor cost! See how you get a roof that will not rot, leak, rust or burn, like cedar!"

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to 12 tons. The varieties that have done best here are:

- Turnips—Aberdeen Purple Top, Aberdeen Green Top.
- Swedes—Selected Westbury, Superlative, Jumbo.
- Mangels—Giant Yellow Globe, Mammoth Long Red.
- Forage Beets—Royal Giant.
- Sugar Beets—Klein Wanleben, Vilmorin's Improved.

Over fifty varieties of potatoes have been tested. Among the earliest are Early Andees, Early Triumph and Early Ohio. The latter is the best yielder of the three. There are many heavy yielding late varieties: Burbank, Carman No. 3, Rural New Yorker, Pingree, Vermont Gold Co. are among the best, with us. Irish Cobbler is the best cooking pota-

to we have, but it is not a high yielder.

Hill selections from 19 varieties were made at harvest time in 1911 and eight sets from each hill were planted in 1912 with the results below:

Average of 19 Tests with Hills from Different Varieties	Average yield per acre.
Large hills	655 bus.
Medium hills	485 bus.
Small hills	306 bus.

Several varieties of each of the three principal types of millet—Foxtail, Barnyard and Broom corn—have been grown. The Foxtail millets seem to have proven their superiority, although the Japanese variety of Barnyard millet has also given large yields. Of the varieties of Foxtail millets,

the following average yields for 1911 and 1912 have been secured:

	tons	lbs.
Hungarian	3	1730
Kursk	3	1635
Siberian	3	990
Carman	3	30

Among miscellaneous forage crops, Rape yielded 26 to 39 tons of green forage per acre; Cattle cabbage 31 to 36 tons and Kohl Rabi, 33 tons.

From a study of the resistance of crops to alkali, the following conclusions were reached:

1. No crop is resistant to even white alkali, when the latter is present in large amounts.
2. Hoed crops are more resistant than most others—sugar beets and mangels did best.

Potatoes were only fairly resistant.

3. The grasses did better than the clovers and cereals, Western rye proving more resistant than any other, with brome grass a close second and Red Top third.

4. Of the cereals, barley and oats were more resistant than wheat or rye.

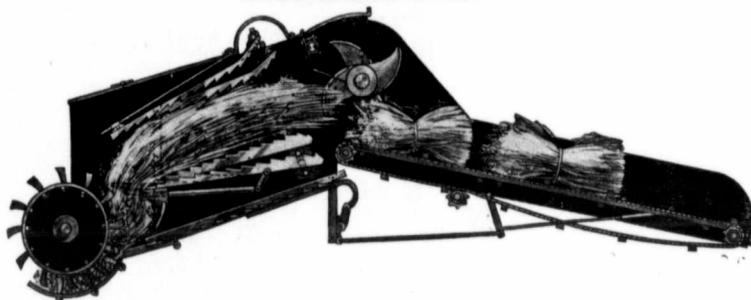
5. The clovers made a poor showing in the alkali soil, but alfalfa proved to be almost as resistant to the salt as Western rye, the most resistant member of the grass family.

The Prevention of Smut

By T. N. WILLING Saskatchewan University

It should not be necessary to remind the farmer that the only way to avoid smut in a crop, is to make the practice of treating the seed with a fungicide, an annual part of farm routine. The grain may look clean, but a few smut balls are easily overlooked and only "slightly affected" one season may mean "very dirty" the next. We know not when conditions are going to be very favorable for the development of smut, so we should take all precautions against loss. A brief account of the life history of the smuts of wheat will, no doubt, help us to understand the value of treatment of the seed for the control of the stinking smut, or bunt, which is the one that depreciates the value of wheat by not only decreasing the yield, but spoiling the color and imparting a bad odor, only removable by special process of scouring. A smut ball contains a vast number of fine particles known as spores, each of which is capable of producing a plant that will in time result in more smut balls. It is not in the soil, however, that this smut plant grows, but in the wheat plant, and by sowing tagged wheat, we give the best opportunity possible for the spores to germinate with the wheat and enter into the first tender shoot. The fungus continues its growth up the interior of the growing wheat and matures its fruit in the smut ball, which occupies the place of the wheat grain. We can easily see, therefore, that by destroying the spores which have become attached to the wheat, we give our crop a better chance to escape damage from bunt. We cannot prevent loose smut of wheat by treating the seed, because it is mostly from spores carried by the wind that the wheat becomes infected. The loss from loose smut is only in the yield, the entire head being destroyed and blown away before harvest. In small fields much good may be done by gathering the heads affected by loose smut, before they ripen, and burning

The Feeder You Want For 1913



HERE IT IS

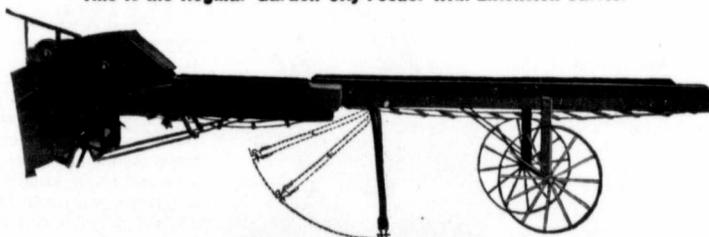
WE POSITIVELY WARRANT the GARDEN CITY FEEDER to feed any separator with any kind of grain in any condition to its full capacity, WITHOUT breaking any concaves or spikes, or slugging the cylinder, or winding on any part or causing any burned belts, and to deliver all bundles to the cylinder END FIRST, REGARDLESS of how they may be placed upon the carrier.

No other Company ever gave such a strong warrant, No other Feeder can MAKE GOOD on that warrant, they are NOT BUILT RIGHT.

We want you to give the Garden City Feeder a trial on your machine right in your own community, under your particular working conditions. Then you will know for yourself whether it will do the work you require a feeder to do. We know what the Garden City Feeder will do, so are willing to take this chance on its doing your work, and we run all the risk--all we want to know is whether you will keep the feeder if it does all the work you require.

You're going to want a good feeder this year. You cannot get along without one and make money. That's why you need the new 1913 "Garden City."

This is the Regular Garden City Feeder with Extension Carrier



Many Threshermen use it in connection with Dump Racks

Wouldn't you like to try one? Write to-day for Catalog, Terms and Prices.

THE GARDEN CITY FEEDER CO. Ltd. REGINA SASKATCHEWAN

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

them. That a crop practically free of stinking smut may be secured by using either bluestone or formalin, is accepted as a fact and all should secure in good time what they will require. If you have been in the habit of using bluestone, continue the practice, although formalin is now more generally favored.

Select plump, sound grain, thoroughly cleaned of shrunken and weed seeds and as free of smut as possible.

There are many pickling and dipping contrivances now in use, but the main point is to see that all grain is thoroughly treated. An approved solution is one pound bluestone to six gallons of soft water for six bushels of wheat.

Formalin should be used at the rate of one pound (16 fluid ounces) to forty gallons of water and used as soon as mixed. The grain should then be covered for an hour or so and should be sown within the next 24 hours. If grain treated with formalin is allowed to thoroughly dry before sowing, germination is apt to be delayed. Do not do this pickling or dipping in frosty weather and avoid too early sowing.

**Winnipeg Concern Moves to Saskatoon**

During the past month Saskatoon has captured one of Winnipeg's progressive implement concerns, viz. the Renfrew Machinery Company.

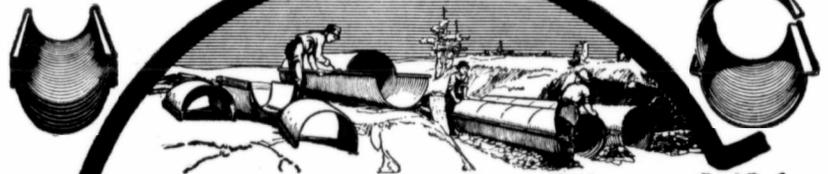
Wishing to be more nearly in the centre of their trade they have opened up offices in the Willoughby Summer Block with large and commodious warehouse quarters in another part of the city.

The Renfrew Machinery Company, in Western Canada, is under the management of Mr. E. Ellwood. Mr. Ellwood is well and favorably known to the implement trade of Western Canada, having been manager for four years of the Western business of the Empire Cream Separator Co., and for some time previous to this had charge of the Sharples Separator Co., with headquarters in Toronto. For the past year he has had charge of the Western business of the Renfrew Machinery Company.

Mr. Ellwood's earlier history presents an interesting experience in the iron industry. Starting as an invoice clerk in the office of a Beaver Falls Iron Company he was subsequently given the management of its New York business, which position he held for several years. Later he joined the forces of the Chicago Horse Shoe Co., as general superintendent, and was one of the organizers and directors of the Continental Iron Co., which company

The culvert comes in nested bundles, easy to carry in wagons, right to the road being repaired.

It fits together very easily, when you are ready to install it, like this.



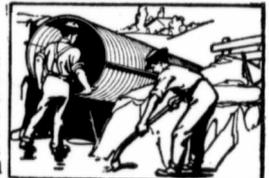
**See that Pedlar Culvert is used this Year on Your Roads**

HAVE your township use Pedlar "Toncan Metal" Culvert instead of wood or concrete. Frost and ice cannot break it. It will not wash out. It is good for years and years, because "Toncan" is a non-corroding metal. It needs almost no excavating, and is set in an hour or two. This Pedlar Culvert is famous. It has been installed in hundreds

**FREE**

A Sample of our Culvert and a Special Book about it to any Farmer or Reeve or Municipal Officer —

of bridges and road culverts. Get our free miniature sample and book on this culvert, and see that it is used this year. Send now. Learn how to permanently improve roads with little work. It makes good roads in your township. See the Reeve uses it.



This is all the excavation you need for a Pedlar Culvert. Wood or Concrete would need five times as much. See how easy it is to install. It saves work and money.

**Improve Your Farm With Pedlar Culvert**

Remember that you, personally, can bridge farm ditches and drains with Pedlar Culvert. You can use it as well-curbing instead of stonework. You can bridge your gateway entrance. Pedlar Culvert cannot wash out, is frost-proof, is easy to install, and above all is in non-corroding "Toncan," not steel.



Note how Pedlar Culvert makes a perfect gateway.



Use Pedlar Culvert and bridge your open drains.

- TORONTO 113 Bay Street
- OTTAWA 432 Sussex St.
- CHATHAM 200 King St. W.
- PORT ARTHUR 45 Cumberland St.
- St. JOHN 42-46 Pr. William St.
- MOOSE JAW 202 Fairford St.
- MONTREAL 321-3 Craig St.
- LONDON 86 King St.
- QUEBEC 127 Rue du Pont
- HALIFAX 16 Prince St.
- WINNIPEG 76 Lombard St.



- LETHBRIDGE 1262 1st Ave. So.
- SASKATOON Box 1645
- VICTORIA 434 Kingston St.
- EDMONTON 563 3rd St. W.
- YANGOUVER 108 Alexander St.
- CALGARY Rm. 7, Crown Block
- SYDNEY 194-208 George St.
- MEDICINE HAT
- Toronto St.

Established 1861

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

owned several large iron and steel mills in the states of Ohio and Pennsylvania.



E. ELLWOOD  
Western Canadian Manager Renfrew Machinery Co.

This Company was incorporated just about the time so many

individual companies of the kind were being merged into Trusts, and as the situation encouraged the idea of selling out on the most favorable terms, Mr. Ellwood and his colleagues took the top of the tide and bargained for their interests.

The Renfrew Machinery Company have greatly increased their travelling staff, the idea being to more thoroughly cover the territory and at the same time be in a position to render the most efficient service to both dealer and farmer.

A full and complete line of Renfrew Standard Cream Separators, Renfrew Standard Gasoline Engines, Grain Grinders and Wood Saws will be carried. Warehouses will also be maintained at both Winnipeg and Edmonton for the distribution of stocks to their respective provinces.

**New Water Cooling Tank**  
By PROF. A. R. GREIG, Saskatchewan Univ.

MR. Peters, of Langham, has designed and patented a new water-cooling tank with the view to applying same to his gas tractor. Mr. Peters' experiments were so encouraging that he solicited the assistance of the University with a view to having a test made. It was agreed that if Mr. Peters would have a tank constructed in Saskatoon according to his design, the same would be fully tested in the Engineering Department of the University. This test took place about three weeks ago.

Mr. Peters' tank consists of a galvanized iron cylindrical shell in which a number of tubes, also of galvanized iron, have been fitted into the upper and lower head, very much in the same way as the tubes in the boiler of a little

hoisting engine, so that the water surrounds all of the tubes and the air has free access up through the centres of the tube. The exhaust from the engine is taken into a compartment above the tubes and has a nozzle on it which is central with the short stack, pretty much the same arrangement as you would have in the smoke box of an engine. This exhaust from the cylinders creates quite a velocity of air up through the tubes and very materially assists in the cooling process.

During the test, the engine was run at a steady load of about 45 h.p., inside a building, the temperature of which would be about 65 degrees. These conditions were not at all in favor of the cooling tank. Five minute readings were taken of the temperature of the water on the suction side of the circulating pump and the following list of temperatures will give a very good idea as to the way the temperature of the water increased as the test proceeded. It was found that a temperature of 198 degrees on the suction side of the circulating pump gave a temperature up to 212 degrees on the delivery from the cylinder jacket and the engine started to evaporate water as soon as that temperature was reached. It was shown that Mr. Peters' tank could run under full load such as is seldom, if ever obtained either in threshing or plowing, for a period of nearly eight hours without replenishing water. It was also shown that if the tank were enlarged and a number of cooling tubes increased, these tubes being made of smaller diameter, that probably better results could be obtained.

I have given fully a list of temperatures and the horse power readings throughout the test.

5 Min. Readings	Load B.H.P.	Temp. Water	5 Min. Readings	Load B.H.P.	Temp. Water
1	43	82	12	43	174
2	43	87	13	43	180
3	43	98	14	43	184
4	43	108	15	43	190
5	43	114	16	43.5	194
6	45	124	17	43	197
7	45	136	18	43	198
8	45.5	146	19	43	198
9	45	156	20	43	198
10	stopped	160	21	43	198
11	43	166	22	43	198
			23	43	198

**All He Got**

"When I was a boy," says Cohn, "there were seventeen of us at home. And being so many we had to eat at two tables. And it was always my luck to have to eat at the second table. And do you know I was sixteen years old before I knew a chicken had anything but a neck."

**The Man From London**

Cornelius Husk was feeding his hens with corn-meal one day, when a city man, who was spending his holiday on the farm, said impatiently: "Why waste all that good corn-meal on those hens? The stuff

# EMERSON Engine Disc

## Built HEAVY for ENGINE Work

THE first real engine disc ever made. Not a made-over horse disc, but designed and built exclusively for engine work.

Emerson Engine Disc blades compared with ordinary discs are one-third heavier and the disc spools are twice as heavy with wide flanges to reinforce the discs.

Axes are heavier, contain more bearings, and the entire machine is doubly durable throughout. Two sizes cut 8 or 10 feet, with 32 or 40 either 16 or 18 inch disc blades.

**A Double Disc**

It is a double disc, with four disc gangs which work independently of each other—two in front and two behind. The illustration shows three EMERSON engine discs, equipped with EMERSON Force Feed Drill attachment, and drawn by a BIG FOUR "30" Farm Tractor.

**Handy Platform**

Between the front and rear disc gangs is a strong platform, for use of the operator or for storage of seed sacks, where Drill is used, so that seed boxes may be refilled without stopping the engine. Additional weight may be carried on this platform, if desired, when ground is very hard.

**Easy to Operate**

The levers on the outer end of the gangs operate much easier than the center lever construction. Rear section can with its lever be set at greater or less angle than front section, yet the operation of one lever changes the angle of both front and rear sections on one side. The front discs throw the dirt outward and the rear discs throw it in. Thus they are "working against" each other, which makes the "balance" so even.

that but little effort is required to operate the levers when disc is working. Furnished with or without

**EMERSON Force Feed Drill or Seeder**

attachment, and a good engine can walk right away with three of them hitched side by side, discing and seeding a stretch thirty feet wide. The Drill sows all kinds of small grains, is adjustable to sow the desired number of bushels per acre and every grain is planted at an even depth and is thoroughly covered.

The advantage of this type of seeder is that the grain is not piled one seed on top of another, but is sufficiently scattered over the bottom of an inch and a half wide seed furrow to insure best growing conditions. The uniformity of depth is important as it means uniformity of growth and ripening.

**Drill or Broadcast**

By moving a little switch you can sow broadcast in front of the disc if you wish instead of drilling the grain in.

By changing ends with the drill the grain may be sown broadcast behind the Discs and covered with a tooth harrow—a good way to sow flax.

**Sight Feed**

Another great advantage of the EMERSON Force Feed Seeder is the sight feed. Does away with the tiresome work of walking behind, necessary with other seeders to see that they keep working.

With the EMERSON a man can ride on the platform and see whether each one of the tubes is sowing.

**Saves Plowing**

The Emerson heavy engine disc is a money saver for the large grain grower. Think what it means to prepare seed and finish a strip thirty feet wide with every passing of the engine. In semi arid sections this heavy disc will take the place of the plow two years out of three.

**Write For Details**

Ask us for the many advantages of the EMERSON Engine Disc, backed by the 60-year EMERSON experience and reputation, can benefit you. Address

**Emerson-Brantingham Implement Co., Rockford, Ill.**

*The Largest Line of Farm Machinery in the World*

Tudhope, Anderson Co., 1195 Princess St., Canadian Sales Agents, Winnipeg  
Branches: Winnipeg, Man., Brandon, Man., Calgary, Alta., Edmonton, Alta., Lethbridge, Alta., Regina, Sask., Saskatoon, Sask., Swift Current, Sask., Yorkton, Sask.



## Genuine Gregg Eveners



Made in two, three, four and five horse abreast styles for wagons, manure spreaders, for gang, sulky, and disc plows; also five and six horse tandem for gang plows. These are much stronger than similar eveners of different make now on the market as they are made of one-quarter inch heavier woodstock. Look for the name "Genuine Gregg" on every evener. Write for catalogue.

**GREGG MANUFACTURING CO. LTD. WINNIPEG MANITOBA**

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

looks just like sawdust. Substitute sawdust for it. The hens won't know the difference."

From town, a few months later, he wrote to Husk to find out how the sawdust feed was working.

"The sawdust feed is working

fine!" Corn. Husk wrote back. "My old yellow hen has been on it ever since you left, and in her last hatching six of the chicks had wooden legs, three were woodpeckers, and the rest were woodpeckers."

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



An Experience in Steam  
Continued from page 46

inches wide, and each rear wheel 45 inches wide. I soon found that the engine had not wheel enough both in front and in the rear, so in February, 1912, I went to the office of the Rumely Co., Winnipeg, to get the necessary extensions.

Photograph No. 2 shows the engine with the extension that I thought necessary for successful tillage purposes.

The rear wheels are now 5 feet wide, and 7 feet, diameter. The front wheel, which is made up of four separate wheels 13 inches each, and a small space apart, makes the front wheel 6 feet wide, so that it covers all the space between the rear wheels, or in other words, covering all the ground for 16 feet, the entire width of the engine, thus packing all the land. This engine loaded with fuel and water weighs about 52,000 lbs. When the weight is considered anyone will readily realize how perfectly this great roller will level out the land, and what perfect shape it will leave it in for the plows. It differs from a four wheeled engine, as the four wheeler packs part of the land twice, and about half of it is not packed at all, thus leaving the land in ridges. To my mind, photo No. 2 shows the only correct design for a farm tractor. The four wheeler decreases the yield, but the three wheeler increases the yield every time, and I fully believe when the farmer of Western Canada realizes the importance of such a machine he will demand this design for his tractor.

However most farmers will want a much smaller engine, but it would be just as easy to make the three wheeler in the small sizes, and I can assure all readers of the Thresherman that there are no objections to the one front wheel from the point of view of turning or steering.

I understand that Mr. Thos. Drummond, and a Mr. Cox of the old American Abell Co., designed this engine. Now I fully believe that the manufacturers will before very long wake up from a long sleep and adopt the ideas of these men or something that will accomplish the same purpose. These men will go down in history as having the correct idea of a successful farm tractor.

The trouble with our manufacturers today is that they are all eager to build something that will simply pull, and the power or energy that is used to propel the engine itself is worse than wasted. As soon as the manufacturer and farmer come to realize the benefit of rolling all the land, and deriving a benefit from the power taken to propel the engine it will not be long before the four-wheeled

# Plow Users!

## Here's an Engine Gang Plow For Discs or Moldboards!

To meet the *real need* that every farmer experiences from time to time. While the moldboard plow is more commonly used, there are times—on practically every farm—in every season—with every kind of soil—when the disc plow is badly needed. You have this *double service*—to fit the conditions of the hour—when you own the EMERSON Flexible-Section Engine Plow. Either disc or moldboard bottoms may all be used on the same frame—the change is quickly and easily made—and you have the *ideal all-purpose plow*. Built on the principle of the sulky and gang plows—with light, strong frame—we say positively that the

# Emerson Flexible-Section Engine Gang Plow

is the *lightest draft* engine plow ever made. The EMERSON compels the pulling of no surplus weight. Suction—not weight—keeps a plow in the ground. Both suction and weight in the EMERSON are exactly right for perfect work.

The flexible section makes accurate work possible when the ground is uneven—each section working up and down according to surface of the ground. Any number of sections can be used, in keeping with the power of the engine.

Pivot hitch makes this plow do perfect work around the ends. This means continuous plowing.

### Draft Control of Furrow Wheel

No other engine plow has this great feature—draft control of furrow wheel. It is protected by our own patent—is one of many distinctive points that make

the EMERSON supreme. Furrow wheel keeps the plow in proper position, inside plow having proper width of cut at all times.

### Superior EMERSON Construction

EMERSON construction means materials and workmanship of highest quality. Built of steel, braced for great strength and minimum weight. Discs easily adjusted—sloping or abrupt—to meet all conditions; bearings absolutely dust proof; moldboards provided with spring trips if necessary; dust proof boxing for axle bearings, insuring easy action on one application of grease.

Every detail worked out with EMERSON skill and finished with Emerson care. It is a *great plow*, backed by a policy that deals seriously with quality and service. Write today for detailed description.

### EMERSON-BRANTINGHAM IMPLEMENT COMPANY

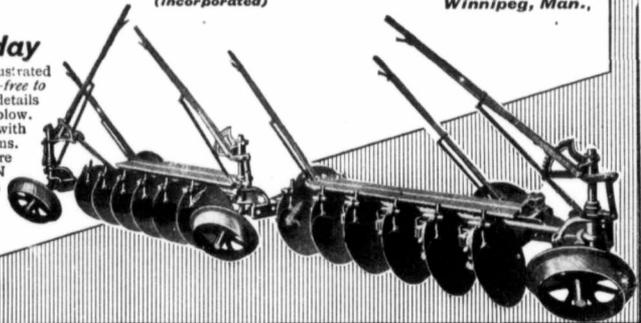
1192 Princess St.

(Incorporated)

Winnipeg, Man.,

### Write Today

Write today for an illustrated EMERSON Plow Book—free to you—giving complete details of this splendid engine plow. This book will help you with your plowing problems. Don't delay! Learn more now about EMERSON—the name that stands for farm efficiency and farm service.



29057

tractor will disappear.

Before leaving this, I would like to relate my experience in summer breaking. We used a ten-furrow gang plow. This summer we broke some very rough land. After the breaking was done, we made an engine disc, the harrow comprising three inthrows, which were placed in the front row, and three outthrows placed directly behind, which worked well, then a set of drag harrows. Now here is where this engine shines. It levelled this rough breaking out almost like a floor, and gave the disc harrows a chance to make a nice fine mulch on top, and prevented the escape of moisture. I do not wish to be boastful, but so far as I know I am the only man who has an engine that covers all the land, in this part of the country at least, and the work cannot possibly be done with any other implement to so much advantage. If anyone should feel inclined to

doubt any part of this letter, I invite him to come to my farm seven miles east of Bernie next summer, and I will be pleased to convince them that this engine will do what no other can do.

Just a word about burning flax straw. Equip the engine just the same as for other straw. Have some means to suit your engine whereby the engine can be made to transfer the straw from the wagon to the engine. By having straw and water on your farm, the cost of plowing can be reduced to a surprisingly low figure.

Here is the result of our test plowing stubble land, pulling twelve plows and two sets of harrows, and plowing on an average of 24 acres per day.

Engine	3.50
Fireman	2.00
Man and team drawing straw	4.00
Man and team drawing water	4.00
Board for four men and 2 teams	3.00
Oil and depreciation	4.50
<b>Total</b>	<b>\$21.00</b>

or about 88c per acre.

I have had some experience with gasoline, and where any farmer can get plenty of good water, never buy a gas tractor. To be very brief in my explanation of this, the adjustments on a gas engine are too fine for anyone who has not had a lot of experience.

Nels Jackson,  
Bernie, Man.



### Let's Have It

An early campaign orator was addressing a small crowd over on the south side the other evening.

"This high cost of living is a serious question," he bawled. Nobody disputed that.

"Its a great question," vociferated the orator, "a very serious question, indeed."

"We know it's a question," yelled a man at this point. "What's the answer?"

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**The Dignity of Feeding  
the Nation**  
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By E. CORA HIND

**A**BOUT twenty years ago I made a beginning as a reporter at Agricultural Conventions, and my first task was that of reporting a joint meeting of Farmers Institute Delegates and School Teachers. The principal speaker of the convention was Dr. James W. Robertson, then Dairy Commissioner for Canada. His subject was "Canada as a Food Producing Country," and in the course of his address he gave expression to the following thought "Woman is essentially the nourisher of the race." When through her efforts, the community is well fed, even to its poorer members, it is thus made strong to withstand the strain of our modern life upon it.

Amid the clamor of the call for new chances for the new woman, one can still hear the unspoken cry of half-nourished bodies asking for better equipment on the part of the women in the discharge of the duty laid upon them in our form of civilization. This is a much harder class of work than those occupations which are termed fashionable and genteel; but because it is hard to do it is best worth doing well. It is as much harder to do as it is harder to serve well than to shine well; and while the claims of social life, intellectual activities, financial management, domestic duties and artistic tastes become increasingly great, it is unpardonable that the hand of the nourisher of the race should become careless at its task. When boys and girls are grown in well nourished bodies, the highest possibility will be realized in passing the torch of life on from generation to generation with a clearer, more kindly unselfish light and life, exalted a little every time by the hallowed nobility of self-sacrifice and intelligent service. Whosoever will be great shall be your servant, and whosoever of you will be chiefest shall be servant of all. That is how those silent strong and constant forces can be made to act for good and not ill.

D. Robertson is an impressive speaker, and moreover he has been a persistent advocate of better conditions for women, and the idea set forth took hold upon my imagination and through all the years that have elapsed, this thought has been very continually in my mind, that to feed the nation is a task of such importance and dignity, that no woman need feel ashamed at engaging in

it, and no woman engaged it it should feel that either her time or her talent is wasted. In the present day there is a great deal of talk about the drudgery of women's work in the home and a great deal is being said about co-operative housekeeping and some writers at least are going so far as to advocate children being brought up by the state and their mothers left free to become economically independent. Whenever I hear of co-operative housekeeping and the feeding of the nation in bulk, I always feel devoutly thankful that I have got far enough along life's highway to be reasonably sure that this reform, if it be one, will not come into force in my day. But whatever may be done along this line, must be done in the cities first, and the country, for many generations yet to be, will be fed in the individual home. So I want to say a little to the women who have this task before them. To return for a moment to the first sentence of the paragraph which I read to you—"Woman is essentially the nourisher of the race." Nature has set her seal on this occupation. During all the prenatal period, the little new life is built up from the mother's body, and when through pain and tears, the child is ushered into the world of living, moving being, under ordinary normal conditions, the mother herself, for the first year at least, is the source of the child's nourishment. Caroline Perkins Stetson, in her book on "Women and Economics," which by the way is a volume well worth reading, in arguing as to the ignorance of many mothers, and advocating children being brought up by the state, remarks that no woman, who failing to be able to suckle her child, knows by instinct what will be a proper food for it; that the providing of food suitable for young infants has been the work of men of scientific training. This is quite true, but in having her fling at the untrained women, Mrs. Stetson forgot how strong a plea she was making for the dignity and importance which nature herself had conferred upon the woman as the nourisher of her child, so great that when the function which should be normal and natural failed as a supply of food for the child, it required the utmost scientific training to, even in a measure, supply what nature designed the most ignorant of women should be able to furnish



**The Sure  
SMUT KILLER**

**Over Five Million Dollars lost in  
Smut in Western Canada last year!**

The Automatic Seed Grain Picker picks at the rate of 135 bushels per hour, is self-operating, the weight of the grain supplying the power to operate; the machine is light though strongly built and with ordinary care will last a lifetime. The price is reasonable, it is built for using both bluestone and formaldehyde and does absolutely perfect work with any and every kind of grain, flax included. Last year we had orders for hundreds of machines more than we could manufacture and although every machine was sold with a guarantee of money back and freight paid both ways if the machine was not perfectly satisfactory in the user's estimation, still we have never yet had returned a single machine.

This machine has proven a huge success for the last two years. Do not allow your dealer to persuade you to buy another machine simply because he has another make in stock, but ask to see this machine; if he is an up-to-date dealer he will have it. But remember, order early. Price, for using formaldehyde \$17.00; built of solid copper for bluestone \$20.00; freight prepaid to your station and a guarantee with every machine. Write for further information or see your Dealer about it.

**Dominion Specialty Works**  
**Winnipeg - - - Manitoba**

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

**TO THE FARMER ;—WHO appreciates a really high-grade engine, an engine that is used and endorsed by some of the most progressive farmers of Western Canada.**

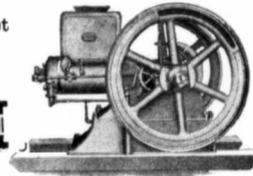
**We offer you our own big engine at prices that cannot be duplicated elsewhere in this country.**

**We want you to note carefully some of these features.**

- There are no Tin Tanks** to this engine. Cylinders and Bases are not cast in one piece. We put the Gasoline in the base of our engine; costs us more but it is safer than the unsightly Tin tanks that are liable to leakage.
  - The Cylinder Base and Sub-Base** are all separate, and are machined accurately, because with the Cylinder and Base cast in one piece, in case of an accident to cylinder, it means a repair would cost you as much as a new engine.
  - Both Intake and Exhaust valves** are water cooled, no chance of pre-ignition, as in the Air Cooled Head.
  - Our Engine is so governed** that it cuts out on both fuel and spark, on the life stroke, which is the reason they run so economically.
  - Positive Pump Feed** with overflow. **Speed Changer**, of 33 per cent. while engine is running. Relief valve for starting.
  - Automatic Intake Valve Lock** that locks the intake valve, so that no fuel is wasted in the exhaust; this is a very important feature, and should be on every engine.
  - Every Engine** is perfectly balanced, you do not have to nail it down to keep it from jumping around and pounding the boxings out.
  - A Surplus of 10 per cent H.P.** guaranteed over rating. **The only high-grade engine** sold in Canada direct to the farmer. "Built up to a standard not down to a price."
- We have just mentioned a few of the important features in this engine. You should know more about it, about our plan of letting you test this engine at your own work for 30 days, and then letting you be the judge as to whether you should keep it.
- If you have not a copy of our Engine, Grain Grinder, Wood Saw and farm supplies catalog, just write "Engines and Farm Supplies," on a postal card to-day, sign your name and address.

**C. S. Judson Co. Ltd.**

181 Market Street      Winnipeg Man.



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## Do Ten Days' Work in One

One day's plowing, under favorable conditions, used to be two to three acres—is yet, on many farms. But not for the farmer who owns an I H C tractor. He plows twenty to thirty acres a day, or more, depending on the size of his outfit, and has an easier time doing it than the man who walks sixteen miles or more a day holding the handles of a walking plow. If you have 160 acres or more of arable land to plow you are losing money every day you neglect to put an I H C tractor to work.

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## I H C Oil Tractor

with its simple, powerful engine and transmission, carefully protected from dust, dirt and grit; its ample, well-oiled bearings; its light weight for the power it develops; its freedom from dangerous sparks and annoying soot and smoke; its all-round usefulness



and general reliability, has done more than a little to make possible the stupendous operations of modern farming. If you use a tractor, buy a time and field-tested I H C tractor, the machine you can depend upon.

I H C tractors are made in every approved style, and in 12, 15, 20, 25, 30, 45, and 60 horse power sizes. They operate on low or high grade fuel oils. I H C general purpose engines, for use on the farm and in shop, mill and factory are made in 1 to 50 horse power sizes. The I H C local agent will give you catalogues and full information. See him, or, write the nearest branch house.

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to her babe. So important is this function and its use that many eminent physicians at the present day refuse to attend, at childbirth, on women who are so unnatural as not to wish to suckle their own children. The babe that draws nourishment from the breast of a healthy mother is supposed to have at least twice the fighting chance for existence of the child who is artificially fed. I know that some present rather shrink from comparison between the human and the animal mother, but I would like to draw attention to a fact which is recognized by every breeder of fine animals in the country, and that is the need of the young animal to have, in its early months the natural nourishment furnished by the mother if it is to attain its best development.

Calves which are designed to be prize winners are never weaned as long as this form of nourishment can be of any help to them. I would like just here to say a word for and to the mother who is nourishing a child. I have had the experience of standing in a farmyard, not a hundred miles from Winnipeg, and hearing a man denounce the imbecility of the hired help, who has permitted the mare with a sucking foal to become overheated, because of the danger to her foal, while the same

man has been blissfully oblivious to the danger to the babe in the cradle of the mother who has been through a long summer day, standing over a hot stove cooking for the men, or bending over a wash board in the hot steam. If the man were asked, which life he thought the more valuable, he would unquestionably and with indignation declare that of the child, but on the other hand, foals and mares cost real money, and they must be taken care of. Here is the initial point—where the mother should assert the importance of her position as nourisher of her child, and refuse to endanger its life and health by overwork. Before I pass from this phase of my subject, I would like to read you a paragraph from a book called "While Carolina was Growing," by Josephine Daskam Bacon. The little girl Carolina, with one of those strange restless freaks of childhood, had awakened, and tempted by the beauty of the summer night, had climbed out of the window and taken a run through the country in company with her cat. Climbing a high bank, she heard an infant wail and found herself suddenly on a level with the chamber window of a cottage, and had a vision which stirred the maternal in her childish soul, and has given one of the most exquisite word pictures I

have ever read—"Carolina could see only the upper portion of the woman's figure as she leaned over a small crib beside her, her heavy dark hair falling across her cheek, and lifted with careful slowness the tiny creature that wailed within it.

"Beside her, as he supported himself anxiously on his elbow, the broad chest and shoulders of the young husband rose above the screening footboard. The mother gazed hungrily at the doll-like writhing object; smiled with relief into its opening eyes and gave it her breast. Instantly the wail ceased. A slow placid smile spread over the woman's face, the man's long arm wrapped about his wealth, at once protecting and defiant, his head flung back against the world, while his eyes studied humbly the mystery that he grasped."

"The night lamp behind them threw a halo around the mother and her child, and the great trinity of all times and all faiths gleamed immortal on the canvas of that simple room."

Nature having designed the mother as the nourisher of the child in the early months of its existence, it seems eminently fitting that she should pass on to the more difficult and complicated task of feeding the child through all its future years. I wonder if

any of those present have thought of the part which women have played in the uplifting and civilizing of the race by their cooking. The first time primitive men ate a piece of flesh, partly charred in the fire produced by rubbing two sticks together, he placed a foot on the first rung of that long, long ladder, which has brought him slowly, step by step, to the development of today. There is a jesting song which ends, "Civilized man cannot live without cooks," but while this is intended as a jest, there is a profound truth in it, for cooked food meant more permanent camping grounds when as yet the race was living in tribes, and the chief business of man was to fight, and the chief business of women was to bear the race and feed it. There is a book in the Anthropological Series, called "Woman in Primitive Culture" which I would recommend all of you to read who have not already done so. It gives woman her rightful mead of honor for the development of the home

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

or domestic industries, and indicates that even before the discovery of fire some of the women had discovered the art of cooking fish in the natural hot or boiling springs.

Once fire for cooking food had been discovered, progress to food cooked in vessels was very rapid, and among the earliest examples of cooking utensils were fine baskets woven by the women, so fine that they would hold water, in which they plunged stones heated in the fire; naturally the water in the baskets boiled, and in that they cooked both fish, flesh and fowl. It seems to me that all these beginnings of cookery by women have their significance. It is of course eminently proper that we should say "Man should eat to live and not live to eat," but if a man does not get wholesome and well-cooked food, and at proper intervals, he will not live in the best sense of the word, and the woman who provides wholesome and well-cooked food for her husband first and her children, has given them an immense impetus towards right living. Carlyle was one of the world's great thinkers, in spite of an extremely bad digestion. I have often wondered what it would have meant to Carlyle and to Carlyle's wife, if the mother whom he so greatly worshipped had seen that in his early childhood he had food which was suitable to him. They were extremely poor, and possibly the mother could not have done better than she did, but the accounts we read of her seem to suggest that she never even conceived of the importance of proper feeding for the growing child. The heritage of every child should be a sound mind in a sound body, and for the providing of that sound body, the food which that child receives in its early years is very largely responsible.

To once more take a lesson from the animal kingdom. The breeder of fine live stock never minimizes the importance of the man who looks after the feeding of the herd. A stockman who is known as "a good feeder" is always in demand. He can command board and lodging and from \$75 to \$100 a month here in the West and more across the line. Last summer one of the best known and most successful breeders of beef cattle in the West, dropped out from all the show rings. I asked him the reason and he said, "My old feeder left me and I have not been able to really fill his place and I will not be back in the show ring until I do."

It would seem therefore the woman who first of all cares for herself, so that she may furnish her child with healthy pure milk, and who later sees that that child is suitably fed, must be performing, if we continue to believe that children are as important as beef

steers, a great work. It is the business of the woman to know about foods, to know their relative value; to not only make the best use of the foods which she has at hand, but to endeavor to impress upon her husband the need of providing proper food for the children. Personally I do not think for a moment that a woman who has borne a family has any business to be called upon to provide the means for their food. There is something wrong when she has to do so—I would like to hear the owner of a herd suggesting to the herdsman that he help provide food for the herd—but I do think that it is not only a woman's duty but her very great privilege and honor to see that the children whom she has brought into the world are so fed that they will go out to their life work with strong, healthy, capable bodies. The man today who is feeding live stock for the market is constantly studying foods. Attend any meeting of live stock breeders, and you will hear much learned discourse on the subject of balanced rations, the percentage of proteins, sugar and fats in different foods, and their relative value for feeding purposes.

For centuries women have been engaged in feeding the most precious live stock in the world, and yet until within the last few years how very small a percentage of them have even thought of the relative values of foods, and the influence that they will have on the future of the child, or of their duty in seeing that the child at least has what is best for it.

It has only been possible to throw out a few thoughts along the line of this question, but let me say that, believing as I do that the feeding of the race is naturally the business of women, that in the performing of this important task, the woman should have all the freedom and all the opportunity that it is possible for them to enjoy. If the women are to perform this task properly, it should be theirs to say what laws shall effect food supply of their country. Some years ago I was present at a gathering in this city when the Hon. Mr. Fielding made an enquiry into living conditions generally in Winnipeg. There had been a clamor from Eastern Canada to have higher duties placed upon American fruit, as the Eastern growers fancied that the American fruit coming into Winnipeg prevented sales of Ontario fruit particularly, in the West. They had even gone so far as to desire a duty on oranges and bananas, and I remember one man, who made a strong plea for free bananas, for the sake of the children, and Mr. Fielding asking if imported fruits were not a needless luxury? I thought then and I have thought since, how very much more reasonable and sensible it would have been had Mr.

## HEALTH WARNING PROCLAMATION

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**THINK MEN** of your health, comfort and from \$5 to \$20 a year cash saved in your pocket, that wearing my steels will get you. It's doing all I claim for over 150,000 men of Canada right now—over 600,000 men all over as you can prove.



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This steel soled, waterproof shoe is an absolute protection to your health, aside from being a comfort to your feet; for you can work all day in mud and water with your feet powder dry. You escape colds, rheumatism, neuralgia, the dreaded pneumonia, and the long list of ills that result from damp or wet, cold feet.

**The Sole of Steel**  
**FOOT COMFORT**  
 outlast from 3 to 6 pairs of regular leather shoes and are of absolute foot form. The Sole of Steel cannot warp, twist or draw out of shape. Consequently, corns, bunions, calluses, etc., cannot be irritated, and no portion of the foot can be rubbed so as to start new miseries of this kind. No all leather shoe can fit after it has a twisted, broken sole that allows the uppers to crease up into galling wrinkles. My "Steels" are made with adjustable steel rivets that sell for 3c and keeps my steels in good repairs for 2 years or more. I promise you your money back if not satisfied. This guarantee is legally binding on myself and my company. Prove the satisfaction. Send your order today to—

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 U. S. Factory at Racine, Wisconsin Great Britain Factory at Northampton, England (118)  
 Editorial Note: You are absolutely safe to save time by sending your order direct from this advertisement. Guaranteed money back if not satisfied on this liberal offer. **BOOK** Pick it selling the whole story if you want to win. Postal order O.K.

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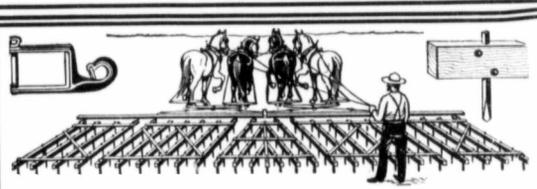
**Men's Steel Shoes**  
 Sizes 5 to 12  
 6 inches high, extra grade of leather, \$3.50 per pair.  
 9 inches high, extra grade of leather, black or tan color, \$5.00 per pair.  
 12 inches high, extra grade of leather, black or tan color, \$6.00 per pair.  
 16 inches high, extra grade of leather, black or tan color, \$7.00 per pair.

**Boys' Steel Shoes**  
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Each pair of steels is worth \$2.50 more than the best all leather work shoes. For all classes of use requiring high-cut shoes over 12 or 16 inch high Steel Shoes are absolutely indispensable.

Save \$20 Per Year Shoe Money

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## Watson's Boss Wood Harrows

More of these harrows sold in the West than all other makes combined. We make them of seasoned hardwood, with correct design to get best results. Each tooth firmly secured by two rivets—can't get loose or split the bar. Malleable draw clevis of improved design. If your dealer cannot supply Watson's, write us direct. Catalogue free on request.

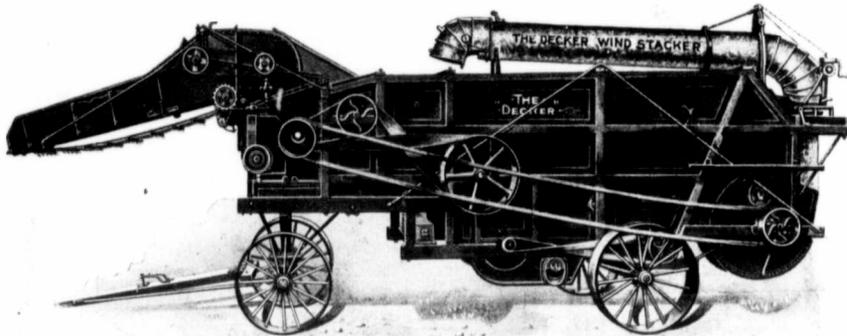
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 Channel Steel Harrows Lawn Goods Turnip Seed Sowers  
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**John Watson Mfg. Co.**  
 LIMITED WINNIPEG

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

# THIRTY-EIGHT YEARS' EXPERIENCE



Manufacturing the famous "Decker" line of Threshing Machinery. Engines in sizes as follows:

**18, 20, 22 and 25 h.p.**  
Boilers command 175 lbs. steam pressure. "Decker" Valve Gear, superior to all devices used for the purpose, heavy gear suitable for hard work. Plowing engines a specialty.

## "DECKER" SEPARATORS

Made in the following sizes:  
**24-46, 28-50, 32-54 and 36-60**

Well adapted for gas power, being easy to drive. A marvel of simplicity; efficient in separation and convenient to handle. Wind Stackers, Feeders, Baggers and full line of thresher supplies.

WRITE FOR CATALOGUE

# THE MACDONALD THRESHER CO. Limited

Western Branch: Winnipeg, Man.

Box 1296

Head Office and Factory:  
Stratford, Ontario, Canada.

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Fielding enquired about the consumption of imported foodstuffs and the need of them, not from the men, who after all know very little about the relative consumption, but from the housewives of Winnipeg, who were dealing with this matter at first hand every day. Women know, or they should know, what are the foods most essential to the health and well-being of the homes, and it should be theirs to say whether such foods should be taxed or not. Liquors and tobaccos are things which may seriously injure the growing child, and the laws relating to these should be under the control and supervision of women, in fact, if women are to realize their true dignity as feeders of the nation, they should be absolutely free, equal and financially independent, for while men may produce the bulk of the food consumed, unless that food reaches the nation in a proper form and under proper conditions, it might just as well not have been produced. The trinity of the father, mother and child should be as co-equal as the trinity of the God-head.

Quite apart from the physical effect of food on the body of the growing child, is the environment in which the food is consumed. How endless have been the jokes about mother's bread and

mother's pie, and yet how large a part in the life of happy childhood is held by the gatherings at the family table. I hope that no one present has had so forlorn a childhood that they cannot in memory go back to gatherings round the family table to discuss some favorite dish which mother made. I remember a man in Winnipeg in the early days, telling me of the period of great struggle to keep body and soul together, when he was so discouraged that he had made up his mind he would spend his last quarter on getting drunk and forgetting his troubles. Travelling down Ross Street saloonward from a last unsuccessful search for work, he saw some lumber and signs of carpentering in a back yard, and as that was his business, he thought he would make one more enquiry for a job. He went to the kitchen door and rapped. When it was opened, there was an outward rush of the smell of baking gingerbread. The woman, a kindly soul, told him she was afraid her husband did not need help, and perhaps reading something of his story in his face, she said to him, "Will you have a piece of gingerbread. I don't suppose it is as good as your mother used to make, but my boys like it." He said, with the smell and

the taste of the gingerbread, there rushed over him a vision of the old home, of his mother and all she had meant to him, and he resolved that he would make one more try and he succeeded. Perhaps the odor of gingerbread is not generally regarded as a means of moral reform, but anything that brings back home and mother and the influences of childhood is not to be despised, and the mother who has fed her children well and carefully has not only provided them with strong bodies to withstand hardship, but she has provided them also with a strong shield of happy memories that in after life will come to them again and again in their hour of need.

I will conclude with a little poem by May Bryon, which I think will appeal to every mother heart present, and expresses fully the place of the woman and the mother in the scheme of things.

### "AT BAY"

My child is mine,  
Blood of my blood, flesh of my flesh  
is he,  
Rocked on my breast and nurtured at  
my knee,  
Fed with sweet thoughts ere ever he  
drew breath,  
Wrested in battle through the gates  
of death.  
With passionate patience is my treasure  
hoarded,  
And all my pain with priceless joy  
rewarded.

My child is mine,  
Nay, but a thousand powers of ill  
Dispute him with me; lurking wolf-  
like still  
In every cover of the ambushed years.  
Distasteful and danger dog him; foes and  
fears,  
Bestride his path, with menace fierce  
and stormy,  
Help me, O God! these are too mighty  
for me.

My child is mine,  
But pomp and glitter of the garish  
world  
May wean him hence; while, tenderly  
unfurling  
Like a spring leaf, his delicate, spot-  
less days  
Open in blinding sunlight. And the  
blaze  
Of blue and blossom, scents and songs  
at riot,  
May woo him from my wardenship of  
quiet.

My child is mine,  
Yet all his gray forefathers of the  
past,  
Challenge the dear possession; they  
o'er-  
His soul's clear purity with dregs and  
lees  
Of vile unknown ancestral impulses:  
And viewless hands, from shadowy re-  
gions groping,  
With dim negation frustrate all my  
hoping.

My child is mine,  
By what black fate, what ultimate  
doom accursed,  
Shall be that radiant certainty re-  
versed?  
The Hell should thrust its fiery gulfs  
between,  
The all the heaven of heavens should  
intervene,  
Bound with a bond not God himself  
will sever,  
The babe I bore is mine for ever and  
ever.  
My child is mine.

**Bread Made in a Stable**

Bread made in a stable—think of it! Yet it is a fact that in one country, Normandy, bread making is carried on to such an extent that the kitchen is not anywhere near large enough to accommodate the bread makers, and consequently the stable floor is swept clean and the bread making begins. Hard work for the women? Not a bit! Why? Because there the men do the bread-making.

This bread making is gone through, not twice a week or oftener, as in our land, but once a month. Do you ask, if bread does not get stale and tough by the end of the month? Yes, it gets tough—in fact, the crust gets so hard that it can be cut only by a saw, which is kept on purpose for penetrating the outer shield; but it does not get stale because the outer crust keeps out the air, and the interior of the loaf is quite fresh and soft. The loaves themselves are enormous in size, resembling cheeses, and oftentimes being three feet in circumference and nearly a foot in thickness.

In making this bread, no pan or trough is used in which to mix the ingredients. The flour and water are poured on the stable floor, and the farmer and son attack the mass with wide, heavy clubs flattened at the ends. When the mass is mixed enough so that it will not "run," the yeast is added, a little more beating is indulged in — enough so that the leaven is thoroughly mixed in—and the whole thing is left to rise for half a day.

Kneading comes next, and this is accomplished by foot power. Wooden shoes, called sabots, are donned by the men folks, who immediately jump into the dough—dancing, skipping and hopping about and having a glorious time. It is a work that requires exceptional powers of endurance as well as great strength, and they have to rest, one at a time, very frequently. The wooden shoes are used for no other purpose than this bread making; they are made of white wood and are kept very clean indeed.

Next there intervenes a period of some hours, during which the dough rises again; and for a second time the men, armed with their flattened clubs, attack and beat it soundly. After this operation the dough is rolled into loaves, put into huge pans, and placed in the ovens till they are baked to a finish.

The firm of Haug Bros. & Nellerroe have just completed arrangements whereby they have secured the exclusive agency for the Hart Brown Wing Carriers.



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OR send your name and address for a free copy of the book that has opened the eyes of Canadian farmers to the possibilities of the "material-of-all-work"—concrete.

This book,

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

will be sent to you absolutely free. You do not place yours. If under the slightest obligation to buy any "Canada" Cement or to do anything else for us.

YOU will find the book interesting, instructive, and its information will be of real cash value to you. It is not a catalogue. It gives in plain, simple language the directions for using concrete for every possible kind of farm construction. Scores of every day uses, fully described and illustrated.

Write your name and address on the coupon below, or send them by letter or post card, and the book will be sent to you immediately. Address,

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If you are using concrete and wish to ask any questions about its use, remember we have a Farmers' Free Information Bureau that will answer them without charge.

All Point the Way to Success

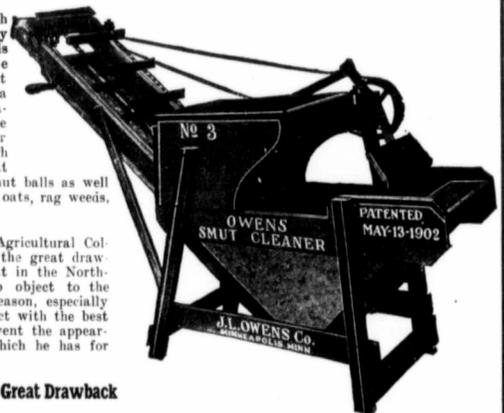


Are the only Machines

By the use of which you can be absolutely sure that every kernel is treated. They were manufactured to meet the great demand for a thoroughly practical machine which would handle seed grain in such a manner as to ensure the thorough wetting of each kernel and at the same time remove the smut balls as well as king heads, wild oats, rag weeds, light seeds, etc.

Prof. Henry Bolley, N.D. Agricultural College, says: "Smut is one of the great drawbacks to the growth of wheat in the Northwest. The farmer ought to object to the growth of smut for every reason, especially as he is in a position to object with the best hope of success. He can prevent the appearance of smut in the crop which he has for sale."

**THE OWENS Smut Machines**



THE OWENS Smut Machine Removes This Great Drawback

Made in two Sizes, No. 3, 30 Bu. per Hour; No. 4, 50 Bu. per Hour

Send for our Free Booklet "SMUT FACTS"

**The Harmer Implement Co., 181 Princess Street**

Winnipeg

Stocks at Winnipeg, Regina and Saskatoon

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



# 50 Sold in 1911—500 in 1912 One Thousand in Line For 1913

## We Can Save You a Big Discount on the Cost of Machine

If you will make your inquiry **NOW** instead of just within a week or two of harvest. We are so pressed with orders and prospective orders, we must make our season's arrangements **AT ONCE** in order to satisfy every customer as to delivery. You are **not** committed in any way if you write for full details.



This record has been made solely because the men who used the **Stewart Sheaf Loader** in 1911 and 1912 **did find** that it took the place of the number of men and bundle teams **we said it would**, at a time when hired help was next to impossible to obtain, and when possible, could only be got at prohibitive cost.

You can see or correspond with every one of those men. Let us give you their names and location, if you don't already know a neighbor who has done his harvest work with a

**Stewart Sheaf Loader**

## The STEWART SHEAF LOADER

Will positively rid you of all the worry of harvest from the time the crop has been cut. It will handle any kind of grain in any condition. It will do it better than human hands could do it and save in hard cash from \$25.00 a day upwards.

Write at once to the

**STEWART SHEAF LOADER COMPANY Ltd., 804 Trust & Loan Bldg., WINNIPEG**

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

anticipated, however, that in the very near future a commodious office and warehouse building will be arranged for in order to take care of the Manitoba trade.

### In the Interest of Eggs

During the past year the Live Stock Branch of the Department of Agriculture has been engaged in a preliminary investigation of the Canadian Egg Trade. Certain facts relating to the enormous loss that is charged back against the farmer and the unsatisfactory status of the trade as a whole have been collected and presented in Bulletin No. 16, entitled "The Care of Market Eggs." Realizing, however, the necessity of securing more detailed information before inaugurating any policy having for its object the bringing about of improvement in the condition of the business, the Minister of Agriculture has authorized the appointment of J. H. Hare, B.S.A., of Whitby, to undertake the necessary investigation.

Mr. Hare has held the position of District Representative in Ontario County, Ont., for the past four years. He was born at Cobourg, Ont., and received his early training on the farm. He

entered the Ontario Agricultural College in 1904 and graduated in 1908. Since taking up the District Representative work in Ontario County, he has devoted much time and has been very successful in the organization of co-operative egg circles. Not only has he paid particular attention to conditions of the egg trade as they exist in the rural districts, but he has also made a close study of poultry business in general and has written numerous articles, among which is a bulletin now in press. By virtue of his technical training and his practical experience Mr. Hare is, therefore, well qualified as a specialist in poultry work.

Mr. Hare will first be concerned with the collection of all data that is available on the grading of eggs as they have been received at wholesale produce houses of Canada during the past two years. The information thus obtained will be used to form a basis for such action as may be taken by the Government in initiating a movement to improve and properly regulate the trade.

Mr. Hare will be located at Ottawa, but will travel extensively throughout the Dominion, first in the east and later in the west.



Lawyer—"How is it that you have waited three years before

using this man Jones for calling you a rhinoceros?" Client—"Because I never saw one of the beasts till yesterday at the moving picture show."



Too Frank

"You are workmen—"  
"Hooray!"  
"And because you are working—"  
"Hooray!"  
"You must work."  
"Put him out! Put him out!"

## Make Farm Work Easy For Man and Horses.



The famous Heider four-horse Plow Eversens.

## Heider Eversens

Made right without side draft. Will last a lifetime.

## Consider Now

what it will cost and how much money you will save on your next season's fertilizer bill if you should buy your

# Nitrate of Soda

and other Farm Chemicals and mix them yourself.

Your own brand **MIXED AT HOME** will be better than any patent brand and is sure to have in it just what you want. Book of formulas and full instructions for Home Mixing will be sent

**FREE OF COST**

**Dr. WILLIAM S. MYERS**  
Director of Chilean Nitrate Propaganda  
17 Madison Ave., New York

No Branch Offices

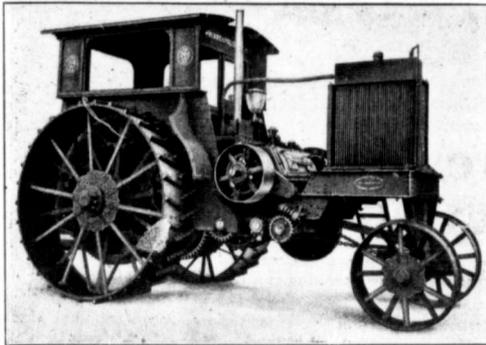
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# "The Great Minneapolis Line"

**Built Right**

**To Know Our Machinery**

**Sold Right**



THE MINNEAPOLIS 40  
An easy favorite from the very start.

### A Pleased Customer

Gull Lake, Sask. Jan. 2, 1913.  
The Minneapolis T. M. Co.,  
Hopkins, Minn.  
Gentlemen:-

It is a pleasure to me to write you about the 35 horse steam engine and separator purchased of you four years ago. The engine has given the very best of service and I have used it to break 4000 acres of land, and not a single piece of traction gearing has been broken or replaced. It is powerful, economical and very durable.

The separator is fine and for fast threshing, close saving and good cleaning I don't believe it has an equal anywhere. I am glad you are opening up branch houses in Canada as your machinery will prove to be the right kind for the Canadian Farmers and Threshermen. Yours truly,

G. H. MORSTAD.

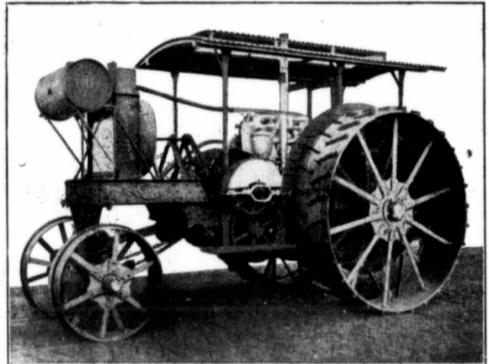
is  
**WISDOM**

(Catalog Free)

To Run it  
is  
**Success**

Why not entrust your next order to us.

You will be pleased and so shall we.

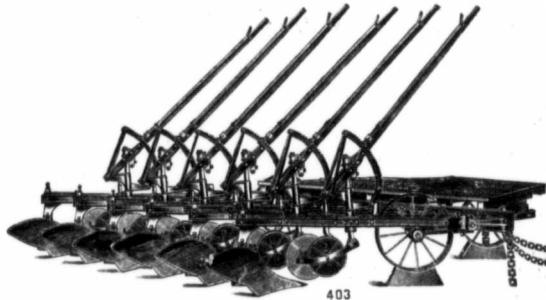


THE MINNEAPOLIS 25  
Will give you, as it has many others, excellent service.

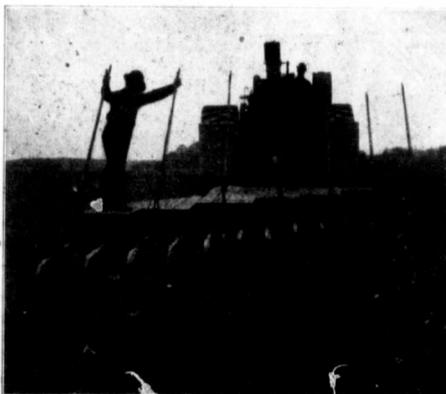
### A Good Recommendation

Taber, Alberta, Canada.  
May, 30, 1912.  
The Minneapolis Threshing Machine Co.,  
Hopkins, Minn.

Gentlemen:-  
Thought I would drop you a few lines to let you know how I am getting along with the 25 horse power four cylinder Minneapolis gas tractor purchased of you this spring. I wish to say that the engine is all that you recommended it to be and that we have been pulling six 14" breaker plows with a packer attached, and have turned over as high as twenty-three acres of this tough prairie sod in one day, which you can see speaks very highly for your engine. Our fuel consumption has averaged not to exceed two and one-half gallons per acre. There are several different makes of engines plowing in sight of where we are operating this Minneapolis engine and all the neighbors as well as myself have come to the conclusion that the Minneapolis gas tractor, without a doubt, is the best adapted engine for this class of work of any of them represented in this country and I cannot recommend it too highly to anyone who is contemplating buying a gas tractor for plowing or any other kind of work. Yours truly, J. W. SHUBERT



There are more features of merit on the Minneapolis than on any other engine gang plow made. We urge you to investigate. We welcome comparison of the Great Minneapolis Line with others



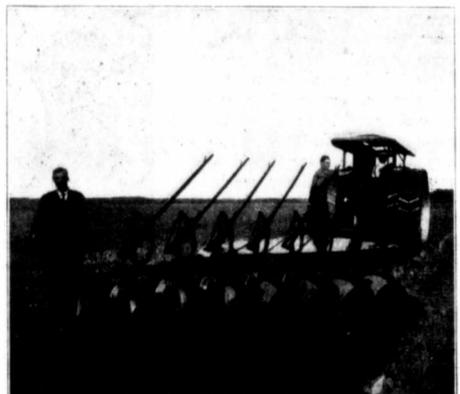
Steam Tractors

Farm Motors

Threshing Machinery

Engine Gang Plows

Attachments] and Supplies



**Runs Right**

The Line of ever increasing Popularity  
BUILT BY

**Stays Right**

**THE MINNEAPOLIS THRESHING MACHINE CO.**

West Minneapolis (Hopkins P.O.), Minnesota, U.S.A.

REGINA

WINNIPEG

CALGARY

EDMONTON

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

### Good Seed as a Factor in Grain Production

Continued from page 14

out quickly and vigorously, plant runts are eliminated, and the general strength and vitality of the crop is better than when part of the crop arises from light weight, shrunken seed.

It is a comparatively easy matter to grade seed grain so that the seed will be uniformly plump and heavy. Even though the previous year's crop, from which seed must be taken, was not a high grading crop, there will always be found a certain percentage of the seed that is as plump and heavy as could be desired for seed purposes. It is this portion of the grain that makes the very best seed possible to obtain, for these seeds are the products of plants that have succeeded in producing perfect seeds in spite of all the unfavorable circumstances—the crop has had to contend with. If these plump heavy seeds are separated from their lighter, weaker companions, the seed grain thus obtained is far more likely to produce a good crop than imported seed from a uniformly good crop.

Plump, heavy seed grain can be taken out of almost any sample of grain with a farm fanning mill properly adjusted and operated. The adjustment and operation of the fanning mill to select seed grain should be different from that used in merely screening grain for market. In selecting seed grain the capacity of the mill must be reduced and no attempt made to crowd the mill to its full capacity. In some cases, a second or even a third cleaning is worth while. Furthermore, the selection should be made on the basis of weight rather than mere size of the seeds, because many large seeds are weathered or water swollen seeds without strong germs or a large amount of starch. The screens can not be depended on very much in selecting seed grain. Shaking the grain into a strong wind blast that will carry over the light seeds and permit the heavy plump seeds to be carried off by themselves, is the principle to be followed in adjusting the mill—the amount of wind, the speed and the feed of grain to be adjusted according to the percentage of grain it is desired to take out for seed. The fanning mill is actually one of the most important of all farm machines for through its use the farmer has a check on weed pests as well as control over the vigor and uniformity of seed germination and the strength and vigor of the grain crop. Intelligent use of a good fanning mill is an essential process in securing "good seed" and the benefits to be derived therefrom.



## One Man FOR THIS BIG WORK

Think of it—Pulling 10 Plows, a Soil Packer, a Harrow and Seeder—thus Plowing, Packing, Harrowing and Seeding in one operation, a strip of ground 12 feet wide.

With a Cuddy Steering Device this entire outfit was operated by One Man and An Engineer.

Fifteen Hundred acres were put in with one of these outfits last spring by Johnson Bros. of Cavalier, N. D.,— do the same thing yourself this spring. This can be done only with the power and reliability of

## *Twin City Tractors*

Built in two sizes—25 and 40 Tractive Horsepower

They have stood the tests of the heaviest work ever done by a traction engine where every other machine has tried and failed.

Get the records Twin City Tractors made in 1912.

## Minneapolis Steel and Machinery Co. REGINA, SASK.

Write for Catalog No. 10J

### Crop Diseases and Seed Treatment

The annual losses on Canadian grain crops from the ravages of fungus, parasitic diseases are very extensive. Smut, rust and flax wilt levy a heavy toll on our grain crops, a large part of which could be avoided if all farmers conscientiously treated their seed grain every year. Rust and the loose smuts of wheat and barley are practically uncontrollable in the fields but the covered smut of wheat and barley, the loose

smut of oats and flax wilt can be checked and controlled through seed treatment. With these diseases the seed grain which we sow in the soil is the medium for carrying the disease over from one year to another, for the spores or tiny seeds of the fungus parasite plant adhere to the wheat, oat or flax seed and will germinate when the seed grain germinates and start sucking life from the grain plant at once. Treating the seed grain in dilute solutions of formaldehyde will destroy the vitality of the fungus spore and

leave the grain uninjured, and if this is done the crop will be freed from the most wide-spread and damaging of the crop diseases. Clean, treated seed will give a clean crop, free from disease, except with loose smut of wheat and barley which cannot be exterminated with ordinary treatments, and also an exception must be made in case of flax wilt which can live in the soil for many years and reappear as the parasite on flax whenever

Policy No C118653

Freedom from hail in your district in the past is no guarantee for the future

HAIL INSURANCE On a Satisfactory Basis

We introduced the system of classified risks and graduated premiums on hail insurance into Western Canada twelve years ago.

Our plan proved satisfactory, therefore successful. Today we are writing more hail insurance than all competing companies combined.

For districts less subject to hail than others, the premium is in all fairness made lower than for localities where hail is more common.

No greater mistake can be made than to believe that any district is hail-proof. The records of last season demonstrate this fact. The wise course for farmers living in localities comparatively immune from hail is to take advantage of the low rate at which reliable protection can be secured.

We have a strong organization operating all over Western Canada, giving the best possible service at the lowest cost consistent with reliable protection. We insure the same men year after year, proving that our policyholders appreciate the soundness of our system and the fairness of our methods.

Any of the companies shown below or any of our 1,200 Local Agents will be pleased to give you full information as to our rates and service, or write to

Insurance Agencies Limited

- BRANDON SASKATOON WINNIPEG EDMONTON REGINA CALGARY

Policy No C118653

The man who's insured is the man who can smile when a hail-storm is headed his way

THE CENTRAL CANADA INSURANCE COMPANY

INSURANCE AGENCIES LIMITED General Agents Jos Cornoll

THE SASKATCHEWAN INSURANCE COMPANY THE ALBERTA-CANADIAN INSURANCE COMPANY

Best Service at lowest possible cost



THE CENTRAL CANADA INSURANCE COMPANY

INSURANCE AGENCIES LIMITED General Agents Jos Cornoll

THE SASKATCHEWAN INSURANCE COMPANY THE ALBERTA-CANADIAN INSURANCE COMPANY

Best Service at lowest possible cost

Flax is sown in too frequent intervals. Treating seed flax is desirable to prevent the disease from getting into the land in the first place, or to hold it in check on any farm where it has made a start.

Numerous smut machines are on the market nowadays that will run seed oats, wheat or barley through the formaldehyde solution at a very rapid rate and do a more thorough job than can be done with a hand work. These machines have not yet supplanted hand work in treating seed flax

because flax seed lumps and cakes so easily it will not stand immersion or soaking in water and therefore the only practical way to treat it is to spread a solution over the seed with a compressed air sprayer.

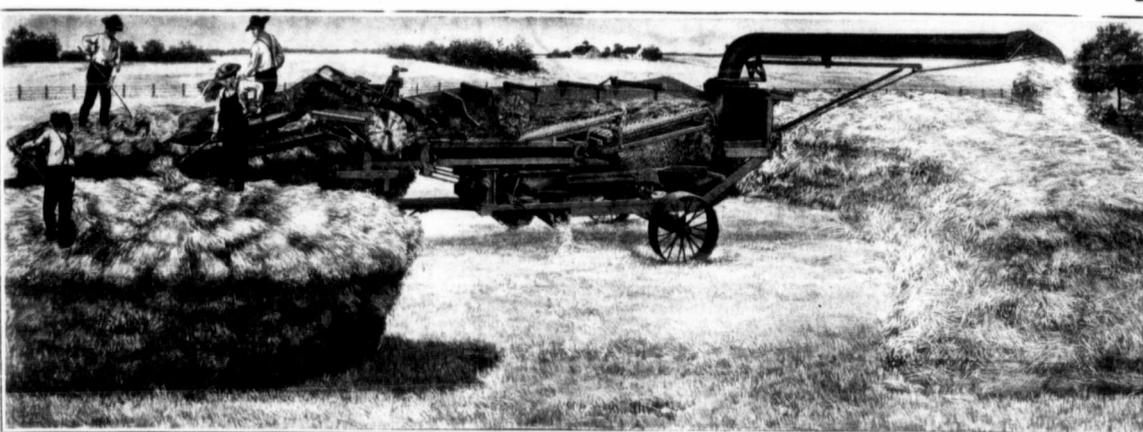
Seed oats, wheat or barley are very easily and quickly treated by hand methods by mixing a dilute solution of formaldehyde in the proportions of one pint 40 per cent. formaldehyde to 40 or 50 gallons water, and sprinkling this solution over the seed grain, shoveling it meanwhile to insure

thorough contact of solution with seed. A very handy way is to spread out the seed grain on wagon sheets, spray it and soak the grain stacks in the solution, spread the moist sack over the pile of seed and then fold the canvas over the entire pile. Sacks should always be soaked as they are a bad source of infection if left untreated. Treated grain can be sown with no difficulty four or five hours after treating, as all water will be absorbed by that time. In seeding treated grain the

rate of seeding should be increased 10 per cent. to 20 per cent. to allow for increase in size of seeds caused by water absorption.

Let us repeat again in conclusion that "good seed" is an important factor in producing the full crop, a factor that you cannot neglect if you want to produce all that your land is capable of producing. If your seed for this season will not stand the tests for good seed previously described, you cannot hope to realize the full crop.





**These 27 Field Tests Prove That Avery Separators Save the Grain.**

Read down the column and see the percentage of Grain Saved in each test.

|             |            |
|-------------|------------|
| Test No. 1  | 99 92/100% |
| Test No. 2  | 99 93/100% |
| Test No. 3  | 99 92/100% |
| Test No. 4  | 99 91/100% |
| Test No. 5  | 99 89/100% |
| Test No. 6  | 99 94/100% |
| Test No. 7  | 99 94/100% |
| Test No. 8  | 99 91/100% |
| Test No. 9  | 99 92/100% |
| Test No. 10 | 99 93/100% |
| Test No. 11 | 99 92/100% |
| Test No. 12 | 99 93/100% |
| Test No. 13 | 99 86/100% |
| Test No. 14 | 99 94/100% |
| Test No. 15 | 99 92/100% |
| Test No. 16 | 99 73/100% |
| Test No. 17 | 99 99/100% |
| Test No. 18 | 99 96/100% |
| Test No. 19 | 99 96/100% |
| Test No. 20 | 99 95/100% |
| Test No. 21 | 99 87/100% |
| Test No. 22 | 99 80/100% |
| Test No. 23 | 99 95/100% |
| Test No. 24 | 99 87/100% |
| Test No. 25 | 99 99/100% |
| Test No. 26 | 99 94/100% |
| Test No. 27 | 99 96/100% |

Just think of it! Twenty-seven actual Field Test, threshing on Canvas, and an average saving of 99-9/10 per cent. This is the best proven record of Grain Saving ever made by any make of Separator. No other make of Separator is backed up by such a record of Grain Saving as this.

**Thresh With an Avery and Save The Grain**

The records of tests at the left prove conclusively that Avery Separators save the grain. They are not claims, but positive facts that you can absolutely depend upon.

The next thing you naturally want to know is, why does an Avery Separator do such good work in grain saving. The reasons are found in the Avery Special Construction and Combination of Separating Devices.

The illustration above shows an interior view of the Avery "Yellow Fellow-Grain Saver" Separator. At the bottom of this page is an enlarged view of the separating parts behind the cylinder and grates.

Avery Separators have a long concave and grate surface with a special adjustable grate behind the cylinder. These separate out a large percentage of the grain from the straw before it reaches the racks.

Next is the famous I.X.L. Grain Saving Separating Device which is furnished with every Avery Separator.

There never has been a separating device that will do the work that this I.X.L. does in tearing up the bunches and spreading the straw out into a thin layer so that the grain is free to drop through.

Behind the I.X.L. are placed toothed fish backs on the straw rack slanting upwards. From these the straw drops about 10 inches to the rear rack which is also built with toothed fish backs. Both

racks have a strong motion upward and backward, and as the straw moves along over these toothed racks it is well shaken and every chance is given any few remaining kernels to drop through out of the straw.

This combination of Separating Parts makes an Avery Separator a Wonderful Grain Saver.

Besides all this — when you buy an Avery "Yellow Fellow-Grain Saver" Separator — you also get the Strongest Guarantee on Grain Saving ever given with any make of machine. This guarantee is printed right in the order blank:

"The Separating device will shake out 99-52/100 per cent, OR MORE, of the loose grain that is in the straw, the grain to be dry and in fit condition to thresh. When desired we will submit the machine to test."

This is the strongest grain saving warranty ever given. It is absolutely plain and straightforward. It means exactly what it says and there are no impossible conditions connected with it in any way, shape or form. We guarantee a saving of 99-52/100 per cent, OR MORE—and the "or more" means anywhere up to 99-99/100 per cent—for this record has been made by "Yellow Fellows" in field tests.

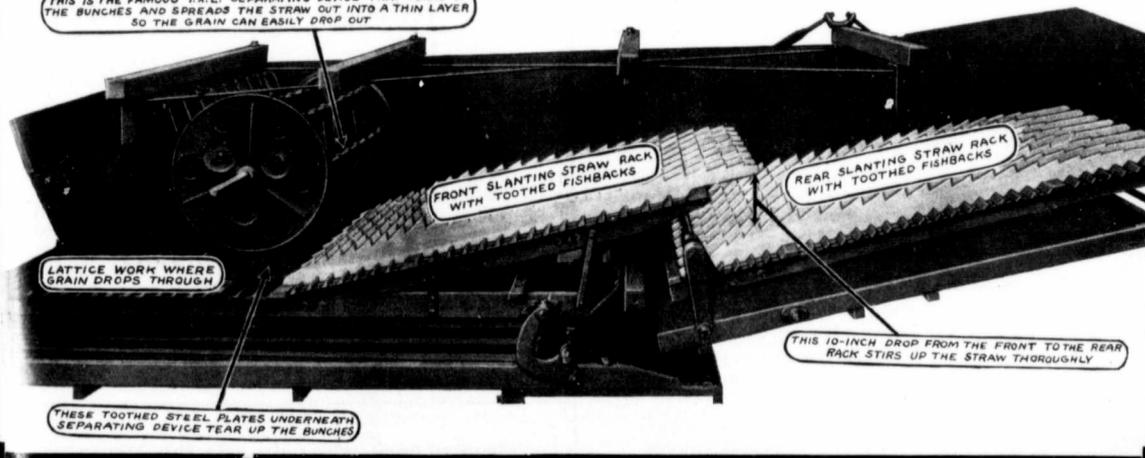
When you buy a separator you want a grain saver. That's one of the most important things. Write for a new 1913 Complete Avery Separator Catalog and learn all about the "Yellow Fellow-Grain Saver" Separator that does such wonderful work in saving the grain.

**AVERY COMPANY**

675 Iowa Street :: :: Peoria, Illinois

Haug Bros. & Nellercoe Co. Ltd., Winnipeg, Regina, Calgary  
WESTERN CANADIAN DISTRIBUTORS

THIS IS THE FAMOUS I.X.L. SEPARATING DEVICE THAT TEARS UP THE BUNCHES AND SPREADS THE STRAW OUT INTO A THIN LAYER SO THE GRAIN CAN EASILY DROP OUT



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

## Practical Talks to Threshermen

Continued from page 48

the gas engine cylinder the pressure immediately comes up to its maximum and expansion takes place during the entire stroke. It is evident that in order to get much power, the pressure at the beginning of the stroke must be very high and it is. Pressures of anywhere from two hundred to three hundred pounds per square inch are common in gas engine cylinders at the beginning of the power stroke. These pressures are caused by the heat of the gases which range anywhere from twenty-five hundred to three thousand degrees Fahrenheit. The temperature in a steam engine cylinder filled with steam at a hundred pounds pressure is only 337 degrees.

All of the gas engines used in gas tractors are of the four cycle type. Some people insist on saying four stroke cycle, which is without doubt the proper expression, but since language is merely for the purpose of expressing ideas and the term four cycle has the sanction of common usage, we will not split hairs by insisting on any terms that are not in common use.

The word cycle means a succession of events that take place in regular sequence. For example, the following four operations take place in every gas engine cylinder; namely, first a charge is drawn into the cylinder; second, it is compressed; third, comes the power stroke after the burning of the charge; fourth, the gases must be expelled from the cylinder before another charge is taken in. These are the four operations or events that take place in every gas engine cylinder. In some engines four strokes of the piston are required to complete the cycle, and in others only two. The first are, therefore, called four cycle engines and the second two cycle. The same events transpire in both, but in one four strokes are needed and in the other only two. All gas tractors are of the four cycle type.

In order to make the matter of the events of a gas engine a little plainer we have prepared two diagrams showing the cylinder of a gas engine of the type used widely on gas tractors. Figure 142 shows the piston making its first or charging stroke. The fuel and air are coming in through the lower valve and the piston is travelling toward the right. Figure 143 represents the return stroke of the piston and the compression of the charge. Both valves are closed during this stroke. The charge will be compressed into the head end of the cylinder and then, just before the stroke is completed, or when the piston lacks about a quarter of an inch of the end of its travel toward

the left, an electric spark will be formed inside the cylinder which will ignite the charge. The next outward stroke of the piston will be the power stroke. Both valves remain closed during this stroke just as in figure 142. The next stroke of the piston toward the left is the exhaust stroke during which time the burnt gases are driven out of the cylinder. During this stroke the fuel inlet valve will remain closed and the exhaust valve, the one in the centre of the cylinder head, will open and allow the gases to escape.



## Free Range for Poultry

Continued from page 60

French people are noted epicures, and the French breeds of poultry are among the very best for table purposes. If the Houdan was better known it would become a still greater favorite, for it possesses the most desirable qualities for a table fowl. The breast meat is plentiful, and of a fine texture, tender, rich and juicy. There is no breed of equal weight that will yield as much meat as the Houdans. They dress with less offal than any other breed.

Broiler raising calls for pluck, grit and perseverance. The parent stock must be strong and vigorous. Care, feed, fresh air and exercise are the essentials for growing a chick to broiler size. The chick must grow from the first day and continue to do so until the marketable weight is reached. Some chicks grow faster than others, and in such cases the weak must be separated from the strong, so that chicks of only the same development are kept together. Cleanliness is important, especially in the hovers, and sufficient light litter must be kept in the brooder runs in order to induce exercise in scratching for grain.

Post mortem examinations have shown that the death of chicks, during artificial incubation and rearing, can be laid to four causes: First, to heredity or to environment during the period of incubation. Successive alternate periods of heat and cold during incubation are responsible for a very large proportion of abnormalities. Second, to overcrowding in the brooders, resulting in death by suffocation, trampling, etc. Third, to imperfect sanitation, lack of ventilation, sunlight, etc. Tuberculosis flourishes in the dark, poorly ventilated brooders. Fourth, to improper feeding. For the continued maintenance of health there must be a definite proportion between the amount of carbohydrates, fats and the nitrogen-containing proteins. The Rhode Island Experiment Station says that a ration wholly vegetable is almost certain to contain

## GROW LARGER CROPS OF BETTER QUALITY

ALL up-to-date Farmers and Market Gardeners now realize that they must return the plant food, removed by repeated cropping, to the soil in order to farm successfully.

We have now in stock a limited supply of complete fertilizers for all **Crops and Soils**, also a small stock of **Muriate of Potash, Acid Phosphate and Nitrate of Soda**.

Write Now for Prices and Full Information.

## GARTON SEED COMPANY LTD.

Winnipeg :: :: Manitoba

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



Better Than Leather or Rubber for Driving Wind-Stackers

## Read What a Big User Says:

Gandy Belting Company.  
Gentlemen:—

We have been using large quantities of Gandy Belting on our threshers for the purpose of driving wind-stackers. We formerly used both rubber and leather belting, which was very unsatisfactory. On our large machines we use 4-inch 4-ply and on the smaller machines 5-inch 4-ply.

Last season we put over one hundred machines equipped with Gandy Belting for driving the stackers, and we have yet to hear one word of complaint; in fact, we have equipped other makes of machines with Gandy Belting for this purpose, belonging to parties who had seen our machines running.

Our dealings with you have been so satisfactory that we are giving you this information as a matter of appreciation for past favors.

GILBERT HUNT CO.

(Signed) GILBERT HUNT, President.

This is but one of the many voluntary expressions of satisfaction regularly received at our office. We want to send you a sample of GANDY Stitched Cotton Duck Belting. Just write us a letter and we'll do the rest.

## Gandy Belting Company

733 W. Pratt Street

BALTIMORE

MD.  
New York Office 88-90 Reade Street

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

Patronize those who patronize this Magazine

a too low percentage of nitrogen, while a ration exclusively animal is very sure to be deficient in carbohydrate.

I. K. Felch says the fancier and the poulterer are getting closer together. The latter now raises thoroughbreds, and sells his best pullets to the fancier. In this way both wings of the poultry industry are able to flap together. But even if all the livestock is to be for market purposes it is more profitable to keep purebred stock than to have a lot of mongrels with all sorts of shapes, sizes, conditions, etc. There must be uniformity of stock as much as uniformity of methods.

Venetian red is an article prescribed as both a preventive of, and a remedy for, roup. But there seems to be a misunderstanding of the nature of Venetian red, through confounding it with oxide of iron red. Venetian red was named from its extensive use by the Venetians; it is sometimes called light red. This is yellow ochre calcined, which makes a fine light red. Henry Hale says numerous other reds are now mined in numberless places, and are often sold for Venetian red, and often used even by painters who do not know the difference. Venetian red proper contains little, if any, iron, probably a very small proportion, while the other mentioned reds are more or less composed of oxide or (more correctly) peroxide of iron; some contain over 70 per cent. of iron, and are known to the trade as oxide of iron paints. This is the article that has the tonic property, and is what should be given the fowls.

There is something in the shape of an egg that tells the story. If it is ridgy, long and peaked, unusually large, or if it is "out of shape," it will not tell you whether it will hatch a male or a female, but it tells a truthful story of the condition of that hen. Such eggs come only from hens that have diseased ovaries, generally caused by being in a too-fat condition.

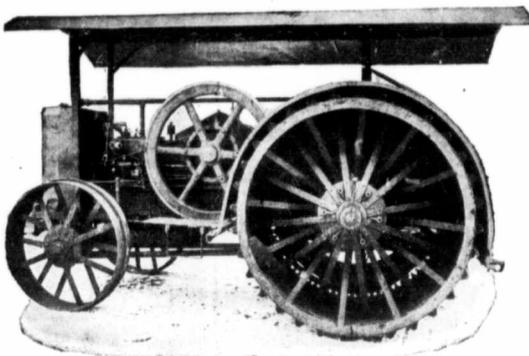
Better sell honest eggs—eggs that you can guarantee fresh. Remember that after three days of age an egg is no longer strictly fresh. It is necessary to date them the day they are laid to be sure of the age.

No man can properly attend to more than five hundred hens. It is not only a question of feeding and watering, but it is a necessity to closely watch their condition, to keep their houses in repair and make them comfortable, and a long list of little details that dare not be neglected.



First wife—"What is your husband's average income, Mrs. Smith?" Second wife—"Oh, about midnight."

## A Medal Winning Tractor Is a Good One to Own



MANUFACTURERS OF  
"IDEAL" Gasoline Trac-  
tors, Windmills and

Pumps of every descrip-  
tion "IDEAL" Hopper-  
Cooled Gasoline Engines.

"Maple Leaf" Grain  
Grinders, Wood Sawing  
Outfits, etc., etc.

Our "IDEAL" Tractor won the silver medal at the Winnipeg, 1912, and last year it easily took first place among five entries for design and construction. This indicates its ability to stand up under severe working conditions.

It is equipped with our tried-and-found-satisfactory opposed cylinder engine that delivers the power at a minimum cost. The cooling system we use does its work to perfection on only a slight evaporation of water. Experts say our steering device is the best yet produced. The

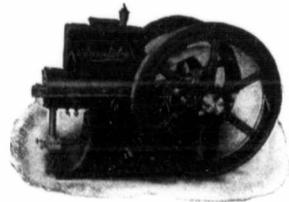
"IDEAL" TRACTOR is easily handled by one man, all operating devices being within easy reach. Engine is fitted with jump-spark ignition and governed on the throttling principle. The vibrating Bosch system of ignition which we use, does away with troublesome batteries and works irrespective of weather conditions.

Write for our catalogue, which goes thoroughly into all details of the "IDEAL" Tractor's construction. It tells what to look for and what to avoid in buying a tractor.

**Good Shapley & Muir Co.**  
WINNIPEG, REGINA, CALGARY, LIMITED

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

## We Make *Manitoba* Engines Right BEFORE---Not After



A **MANITOBA** Engine will not "fall down" in service. Every engine gets a severe testing before leaving our works. We are sure that each **MANITOBA** is right and ready for your business before it gets out of our hands. The test-card of every engine we ship is on file in our office.

There's a long and interesting story to tell about **MANITOBA** Engines that we haven't space for here. It's all told in our engine catalogue that's free for the asking. Send for a copy and read what we put into the construction of **MANITOBA** Engines and—more important—what we keep out. The greatest economy possible doesn't appeal to us where it means the slightest lowering of efficiency or durability in our product. Note that our whole line is

"Made in the West for Western Needs."

Gasoline Engines, 1½ to 35 H.P. Wood and Iron Pumps, Grain Grinders, 6 to 12 inches.  
Wood Saws, all sizes, Pumping and Power Windmills, 8 to 14 feet.

**MANITOBA ENGINES LIMITED**

(Formerly The Manitoba Windmill and Pump Co., Limited)  
BRANDON, MAN. CALGARY, ALTA.

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

## The "Bissell" Double Action Disk

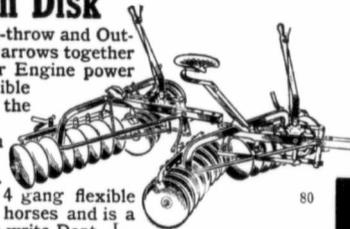
is a two-in-one implement. This Harrow is both in-throw and out-throw. By hitching 4, 6 or 8 of the Bissell Disk Harrows together in a group, you can have a double action outfit for Engine power and disking on a large scale. The gangs are flexible on the Bissell Harrow and are not too long to fit the hollows made by heavy Engine Drive Wheels. These same Harrows may be used for double action or single disking with horses.

The "Bissell" will make a proper seed bed for you. Another Bissell special is a 28 plate wide sweep, 4 gang flexible Harrow covering 14 ft. It is nicely handled with 6 horses and is a favorite with many farmers. For further particulars write Dept. L

MANUFACTURED EXCLUSIVELY BY

**T. E. BISSELL COMPANY, LTD., ELORA, ONT.**

Write to any of the Jno. Deere Plow Company's Branch Houses



80



Winnipeg, Mar. 7, 1913.

A study of the crop year's inspections to March 6th, reveals certain interesting features:

|        |                  |
|--------|------------------|
| Wheat  | 103,927,500 bus. |
| Oats   | 35,103,900 bus.  |
| Barley | 10,767,900 bus.  |
| Flax   | 12,549,600 bus.  |

It might be noted that in February the number of cars inspected ran about 2,500 under the figures of February a year ago, the decrease being due to the very heavy early movement of coarse grains and flax, and to hard weather conditions. Based on the recent estimate of the Northwest Grain Dealers' Association, this would leave about the following yet to market:

|        |                 |
|--------|-----------------|
| Wheat  | 22,000,000 bus. |
| Oats   | 17,000,000 bus. |
| Barley | 3,500,000 bus.  |
| Flax   | 3,750,000 bus.  |

Farmers having yet grain to market, will do well to put some study on these figures.

The percentage of tough and damp wheat passing inspection still runs 20 to 30; oats 12 to 25. Assuredly, off grade grain should be marketed now. At Transcona the C.P.R. will immediately open a drying plant, which will be of immense advantage. Already some damp cars have been unloaded, and will be dried at once. Unloading at terminals has been hindered by lack of room owing to so many off grades. Much flax is awaiting unloading room.

World shipments continue large, some weeks running 20 per cent. more than the corresponding week of last year. The United States of America has an exportable surplus of about 4,000,000 bushels weekly, but it is claimed that only about one-third of that is being worked. Argentine shipments are about twice those of a year ago. Until the decline of this past week, export demand has been poor. The Winter Wheat Crop in the United States has come through so far without any damage, and this has been a "bearish" feature. The continuation of the Balkan war, and the increase in European armaments have both caused tighter money and resulted in less wheat than usual being bought for shipment "on the opening." Indications are for an early opening of navigation.

February markets showed small fluctuations, and it is likely March

will so continue. Flour trade reports from big American millers show a little better demand. The wheat movement into both Minneapolis and Chicago has been much heavier than a year ago, resulting in "bearish" conditions on both markets. Yet the whole level of prices is so low that a gradual upward trend seems reasonable.

**COARSE GRAINS**

Little hope of improved prices can be entertained. The corn and fodder situation in the United States is "bearish" because of fairly mild winter and huge stocks. Barley has lately awakened in sympathy with corn and oats.

**FLAX,**

The big Canadian movement and unsettled money conditions in the United States of America have resulted in lower prices, nor is it likely that prices will improve much till the Big Interests in the U.S.A. know definitely what Wilson will do with the tariff. Flax seems too low however.



How the salesman can get over his route with the smallest outlay possible for freight or haulage and with the least possible delay. How he can extend his sales beyond the railroad into new and uncovered territory.

The Salesman provided with a Hupmobile, the body suitably arranged for showing his samples to prospects or customers, no matter where located, will answer satisfactorily the questions asked above.

Although the plan sounds expensive the outlay for cars at the start will be more than met by the increased business and the saving in time and expense of the travelling agents of the concern. Instead of experiencing numerous delays in shipping samples from place to place together with the annoying uncertainty in the planning of visits on the various customers, the travelling agent may thus be enabled to visit from town to town without tedious waits for railroads or steam haulage.

The Salesman may run his own machine with the samples aboard up to the store of his customer

# FARMERS! SHIP YOUR GRAIN TO THE CANADIAN ELEVATOR CO. LTD.

GRAIN COMMISSION MERCHANTS, WINNIPEG

It is as much our business to give satisfaction as to secure grain shipments. We watch the grading of each car and allow liberal advances on all bills of lading.

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

## Donald Morrison & Co.

ESTABLISHED 1904

### GRAIN COMMISSION

711 T Grain Exchange  
WINNIPEG

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

WE handle Wheat, Oats, Flax and Barley on commission, obtaining best possible grades and prices. Our work is prompt, accurate and reliable. Let us handle YOUR shipments this season. Daily or weekly market letter on application.

REFERENCES: Bank of Toronto, Northern Crown Bank and Commercial Agencies.

## McBEAN BROS. GRAIN COMMISSION MERCHANTS

If you want highest prices for your grain, all the money it will realize on this market, and have it handled in good, straightforward, honest, intelligent and experienced manner, then ship it for the old, reliable firm of McBEAN BROS. to handle on commission for you. We have no agents in the country, therefore the total value of the grain less our 1c per bushel commission goes direct to the shipper, and that means just that much extra cash in his pocket. We handle car lots of grain shipped to Fort William, Port Arthur, Duluth and Superior, and have the very best facilities for doing it. We have had around thirty years experience in the Western Canada Grain business, and that experience is always at the shipper's disposal. We give liberal advances, and make prompt settlement when the car is unloaded and sold. We are licensed and bonded. Reference: Bank of Hamilton, Winnipeg.

McBEAN BROS. - GRAIN EXCHANGE - WINNIPEG, MAN.

## The Opening of Navigation

Will likely be earlier than usual this year. Grain bids are now chiefly based on the opening prices. As spreads narrow from time to time toward the opening Grain Growers will do well to consign their grain in car lots. We can get you the prices and give you the service.

**BLACKBURN & MILLS** (A. M. Blackburn) (D. K. Mills)  
531 Grain Exchange Winnipeg, Man.  
TELEPHONE MAIN 46  
Licensed Reference: The Royal Bank of Canada Bonded

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Ask for New Booklet of Waterloo Boy Light Weight Caterpillar Type Oil Tractors, three sizes—15 H.P. and 25 H.P. Double Cylinders and 30 H.P. 4 Cylinders. These Tractors are exceptionally Light Weight. The 30 H.P. weighs less than 9000 lbs. Practically every part is made of steel.

The WATERLOO BOY GASOLINE ENGINE will run all day without attention, furnish exact the power you need, maintain a uniform speed and save you money every hour it works. Use either Kerosene or Gasoline for fuel—equipped for both at no extra charge.

The recent award of Gold Medal at Budapest, Hungary, in open competition with the best engines of all countries is clinching proof that the Waterloo Boy leads the World in Construction, Power, Service and Durability.

Has many important exclusive features—Speed Lever works like throttle on a locomotive; old reliable fly ball governor, automatic feed regulation, open jacket, starts easy in Winter, interchangeable parts, etc.

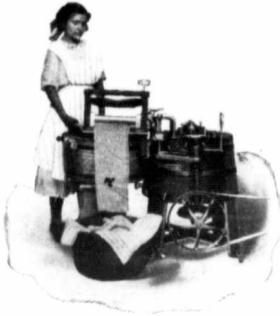
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Engine Gang Plows, Peerless Separators, Traction Engines, Grain Grinders and Power Washing Machines  
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**The Maytag Power Washing Machine with Swinging Wringer.**

The smallest gasoline engine is large enough.

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**WINNIPEG**

We not only sell the **RUTH SELF FEEDERS** but everything else that a thresherman uses. Write for catalogue.

- Rubber Drive Belts, all sizes.
- Canvas Drive Belts, all sizes.
- Leather, Gandy and Rubber Belting.
- Cut Lace Leather in pound boxes.
- Lace Leather in the hide.
- Oil Pumps, six styles.
- Gas Headlights for front of Engine.
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- Carbide to use in Headlights.
- Pope Spark Arresters.
- Inside Flue Cutters.
- Success Belt Guides.
- Boss Cylinder Wrenches.
- Tank Pumps, latest improved.
- Suction Hose, all kinds.
- Discharge and Injector Hose.
- Full line of Best Oils.
- Hard Oil and Greases, all kinds.
- Stick Belt Dressing.
- Speed Indicators.
- One, six and ten ton Jacks.
- Success Strainer.
- Wire Separator Cable-Fitted.
- Dump Racks to use with Stook Loaders.
- Dump Racks, latest improved.

without sitting in the hotel lobby waiting for the express man to appear. Here is an important point to consider in selling goods that bulk heavily or awkwardly. With the Hupmobile at his command the Salesman is able to get at his customer at the exact moment he desires to see him. In that moment he has his customer's attention. The fact that he comes up in an Hupmobile and that he has his samples in the car with him simplifies the method of his approach in selling the goods, and the ultimate saving in cost and employees' time for this firm is apparent. Shipping charges, and railroad fares are eliminated, less livery and hotel expenses incurred and greater territory is covered. This same economical arrangement might easily be adapted to your own business.

The specially fitted out Hupmobile will accommodate the trunks or travelling cases of the salesman. The machine will be under cover during the trips from town to town and also conveniently arranged for the comfort and welfare of the agent. Provided with a canopy top and glass front guard so that no matter what the weather is he may continue his trip if he so desires. He may keep off sun or rain, or in pleasant weather may tilt the canopy back. The Salesman may thus extend his selling field far into the country or make provision for his trip

as best suits him. The equipment of the motor car is so designed to make his outfit complete.

With this travelling car Salesmen are no longer dependent on time tables and slow methods of haulage especially in out of the way places. Nor are they compelled to make their routes to stop in cities and towns that are along railroad tracks, but are enabled to visit the cross-road merchants where steam transportation is lacking. In this way the field of the agent can be extended as far as desired, and new business can be brought to the firm.



**The Cure Is Marriage**

They sat on the verandah, so close together that there wasn't even room for an argument.

Suddenly she sighed—a soulful and sizeable sigh.

"What is worrying you, dear-est?" he anxiously inquired.

"Oh Jack," she cooed, this will be our last evening together until tomorrow evening."



**Not a Suffragette**

Kate Douglas Wiggin was asked recently how she stood on the vote for women question. She replied she didn't "stand at all," and told a story about a New England farmer's wife who had no very romantic ideas about the opposite sex, and who, hurrying

**DO YOU PREFER THE SUBSTANCE OR THE SHADOW?**  
Many stoves are but shadows of what they should be. Avoid disappointment. Buy **Ideal Household Blue Polished Steel Range**. Sold direct to consumer at Wholesale Prices, under a positive guarantee of satisfaction, or refund of purchase money and Freight charges. Tens of thousands in daily use demonstrating their superior Baking and Economical Fuel Consuming Qualities. Save the Dealers' Profits and get a better range, no chance for disappointment. Order from this ad, or send for Wingold Catalog.



**The Ideal Household Blue Polished Steel Range, A NEW DESIGN**

A new design with elaborate nickled trimmings. The nickeling is done by special process, and is of a white silvery effect. The **Ideal Household Steel Range** is equipped with all the latest improvements, and thoroughly up-to-date in every respect. Pay \$85.00 to the local dealer and you will not get a range to equal the **Ideal Household**. Absolutely the handsomest, most elaborate and highest grade steel range made in the world. A long step ahead of others in high art stove making.

THE IDEAL will last years after the cheap light weight stove has gone to the scrap heap. No better range made than the IDEAL HOUSEHOLD. Send in your order to-day. Burns wood or any kind of coal. Takes wood 24 inches long. No. 9-29 has oven 30x20x13 inches; six 9-inch lids, copper reservoir encaased, shipping weight, 350 pounds. Complete with high closet and oven thermometer \$48.75.

WRITE FOR STOVE CATALOGUE showing the most complete line of up-to-date stoves and ranges. Sold direct to consumer at wholesale prices.

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from churn to sink, from sink to shed, and back to the kitchen stove, was asked if she wanted to vote.

"No, I certainly don't! I say if there's one little thing that the men folks can do alone, for goodness sakes let 'em do it!" she replied.



**Convinced**

An Alambra negro was defended in court by Senator Morgan. Having cleared the negro of the charge, the Senator said to

him: "Rastus, did you really steal the mule?"

"Well, Marse Morgan, it was just like this," said Rastus. "I really thought that I did steal that mule, but after what you said to the jury I know I didn't."

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



## Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



### Prayer-Answer

At first I prayed for Light:—  
Could I but see the way,  
How gladly, swiftly would I walk  
To everlasting day!

And next I prayed for Strength:—  
That I might tread the road  
With firm unflinching feet, and win  
The heaven's serene abode.

And then I asked for Faith:  
Could I but trust my God,  
I'd live enfolded in His peace  
Though fears were all abroad.  
But now I pray for love;  
Deep love to God and man;  
A living love that will not fail.  
However dark His plan.

And Light, and Strength and Faith  
Are opening everywhere!  
God only waited for me till  
I prayed the larger prayer.  
Edna D. Cheney.



### REMINISCENCES OF PIONEER WOMEN

Believing that throughout the West we have many pioneer women, I have asked for reminiscences of their experiences. We are delighted to have for publication this month the following letter from Mrs. Mary McIntosh, the mother of Mrs. J. H. Howden, president of the Neepawa H. E. Society. We believe that some of our readers, who think they are going through hardships, will feel that the pioneer woman of the past is the woman who really understands the meaning of sacrifice and privations. Mrs. McTavish came to Canada eighty-three years ago and is the mother of twelve children. Her picture is an inspiration. Though eighty-seven years of age, she really looks no more than sixty. I trust we shall have more of these letters from other pioneer women. Tell us about the early days. It will be most interesting to our readers I assure you.  
P. R. H.

### The Pioneer Story of Mrs. McIntosh of Neepawa

Aged 87 years

In the spring of 1830 my parents, with their ten children, left Argyle, Scotland, to settle in Canada. After thirteen weeks' sailing (which I cannot remember, being only four years old) we arrived at Muddy York (Toronto).

Ox teams conveyed us over government roads, full of stumps and roots, and corduroy bridges, to the township of Caledon, where some friends from the home land sheltered us until my father cleared a space and built a house about thirty-six miles from Toronto. That home would be the delight of our Boy Scouts if dropped in their midst today. Lumber, glass and nails had no part in its construction; instead, lengths of cedar and hemlock logs were split into a

rough resemblance to boards and these served for lumber and shingles, and in many cases for glass. Short lengths, called clapboards, took the place of shingles, each row being held in place by a long slender pole fastened at each end. The wooden window was made to slide, and often the doors were made of stout woven gads. The fire-place was the most important feature of this one-roomed home, giving light, heat and good cheer. A large section of one wall was built in of stones, forming the back of the fire-place, from which rose the chimney of smaller stones and large, flat stones embedded in the earth made the hearth. Being open at the ends, generous lengths of logs were piled at the back with smaller wood at the front, and as the back logs burnt through, the ends were pushed together, making such a merry fire that it served for candles. We were careful not to let the fire die out as we had no matches, and I have known of coals being secured from neighbors. The howling of the wolves terrified us in that dense forest and even the



MRS. MCINTOSH, aged 87  
A Mother of the Real Canadian Stock

boys would not venture to the spring for water after dark; in fact, we were never thirsty if the pail was empty. Bears were also frequent visitors and were very bold. They would enter the little clearing and would sniff about the door and on one occasion I saw a dearly-prized porker taken off by the back of the neck from close to the house, where it was penned for safety. That was a great loss to us in those days and the children lamented the many dishes of good gravy lost to them for the coming winter.

At nineteen I was married and lived in Arthur Township for some years. My husband then took a lot (50 acres) in the County of Bruce, four miles west of where Walkerton now stands. With a two-wheeled ox cart we followed the Owen Sound government road as far as Durham and then turned west for twenty miles through the forest. Government roads, as we always spoke of them in the early days, were certainly not opened for speeding. The cart was upset and a box containing my scanty store of dishes came to grief against a tree, leaving one solitary saucer unbroken.

For the second time in my short life I was to go through the pioneer's hardships, but this time with the care of three small children. In the small clear-

ing I could scarce see the shanty for huge piles of branches and logs, but it had one window of two panes seven by eight inches. At a short distance in the valley ran a small stream with a hewn log serving as a bridge to reach the spring on the other side. On that log in later years the children would stand holding hands and teeter, laughing and shouting, until one after another lost balance and would jump into the water to escape a complete ducking. After that all resorted to the spring and lying on the ground drink the cool water bubbling up, with its fringe of water cress and reflection of stately trees and healthy dirty faces. Many a face got an unexpected cleansing as its owner became lost in wonder at the beauties mirrored in that crystal circle. For the first few years I could soon have a fine string of speckled trout from this stream. On a long gad I fastened two hairs from a cow's tail and making a noose on them held it steady in the shadow of an overhanging bank. When a fish put its head through the noose past the gills I gave a quick jerk and out came a beauty.

But many a lonely and trying experience were mine for several years. The nearest neighbor was one and one-half miles, and during the summer my husband went to the older settlements for work, leaving me alone with three small children. When I went to hunt the cows I put out the fire, fastened the children in and go, filled with terror of the forest and fear for my children. The second year neighbors were closer and soon a post office was opened in Walkerton with Mr. McLean as postmaster, in which office he continued until his death about four years ago. Years when work was scarce and crops a failure there was great suffering, particularly in the families that had no cows.

We could make plenty of maple sugar and syrup but there was no market for it, and the first sugar I sold brought four cents a pound. Leaf sugar, to buy, was twenty-five cents a pound, being named leaf sugar from the fact that it came in the form of a long, round loaf. The grocer sawed off the amount asked for by the customer. Gunpowder tea was \$1.12 for half a pound. It was in grains about the size of small peas and you may be sure it was customary to count the grains to a cup.

Walkerton, named after Mr. Walker, a settler, soon began to grow and comforts to increase, and many changes to take place. Coal oil at first did not seem much of a comfort, for every minute we looked for an explosion. Then came a wonderful No. 9 King stove with a high oven, and later a Singer sewing machine. That reminds me of paying a penny a yard to have some shirt bosoms stitched by machine. A number of mills were in operation and among them one on Silver Creek was owned by Mr. Shortt, father of Prof. Adam Shortt, who is so well known by Canadians today. The first sidewalks were a mystery to the country children. One country woman I know delights in telling how she kept the middle of the road, thinking the broad walk was for villagers only. The first organ in our church gave rise to much disturbance. One good couple sat with covered faces, weeping when the sound of that ungodly instrument filled the church with a hymn that today would be voted slow. But it certainly was a change from a tuning fork and psalms and paraphrases.

In 1877 my husband died, and of our twelve children, nine lived to find homes in this western land, to which I came in 1883.

Scattered through Manitoba are the children and grandchildren of my old neighbors in Bruce. To them the picture will be complete as they recall hunting beech nuts, quilting, and apple bees, the sugar camp, sleigh-riding on the hill, their most daring orchard raid, or one of those awful evenings of ghost stories.

### THE BOOK SHELVES OF OUR PRAIRIE HOMES

(A Plea for Good Literature.)

By Mrs. Chisholm, of Morris.

Note: The editor of this department noticed the very great appreciation of this paper and asked Mrs. Chisholm for the privilege to publish it. Since then several delegates have requested me to publish it, so I feel that our readers will greatly appreciate it. Mrs. Chisholm is a highly cultivated woman and is familiar with life in the country as well as in the city, so she is in a position to know her subject.

In the brave days of old, when the Romans—proud and triumphant from their conquests in Greece and Macedonia—returned to Italy, bearing with them their captives and spoils of war, they brought with them vast collections of the writings of the nations they had conquered, these being considered by them among the most precious of their trophies. Time was in the history of our British ancestors too when manuscripts and books were considered part of the nation's most valuable possessions, and even today in England can be seen in one of its great cathedrals, a room containing scores of books chained to the shelves, and we all know how the Holy Bible was fastened to the reading desks in the parish churches in the old land. But better and happier times have come as regards the possession of literature. We, more fortunately, are living in a time when books—good, valuable books—are within comparatively easy reach of us all, and the question naturally arises, "Do Canadians as a nation and do we as individuals put a sufficient high value on our literary possessions, or are we lessening the high estimate of books which characterized our ancestors in so marked a degree?" We are accused of not being a reading people, and comparisons—here, as always, odious—have been made as to the amounts spent by us for libraries, both public and private, as compared with those spent for less lofty and more material purposes. While no true lover of Canada can be blind to its defects and perils, still we believe that earnest thought is growing among us, and that, as a nation, we shall keep a true sense of relative values. A civilized people is always a reading people, and one of the thoughts of the public, is to put suitable books in their hands. Consequently, the public library has come to be an important factor in every community, from the little collection sometimes kept in part of a store or post office in the small village, to the thousands of volumes occupying an imposing building in the progressive town or city. We have been so used to regarding the public library as an unmitigated good for those to whom it has been intended to cater, that when prominent men, like Lord Rosebery and Edmund Gosse, come forward, as they did not long since, and speak in no un-

**LET MOONEY**  
Do It



**ALSO**  
IN  
**TIN BOXES**



**TOO MUCH BAKING HAS KILLED MANY A WOMAN**

Too many hours over a hot stove—too few for rest and recreation,  
**MOONEY** has changed all this.

**MOONEY'S BISCUITS** are made especially to replace home baking—to give the tired woman a chance.

**MOONEY** makes biscuits for every time and place, from the elaborate function to the daily meal.

**MOONEY'S PERFECTION**  
**SODA BISCUITS**

are the freshest, crispest, creamiest, biscuits ever made.

If you have never used them you have a delightful treat in store.

They sell in dainty packages or tin boxes  
—in either case free from every adulteration

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certain accents against some features of them, it makes us pause and think. I shouldn't wonder if some of us have thought considerably along the same lines, but, lacking the courage of our opinions, have gone on accepting the common belief—perhaps helping on the public library with our mite as part of our duty towards a promiscuous public. It is interesting to notice that one of Lord Rosebery's objections to a large public collection of books is that it has "rather a paralyzing than encouraging effect." Being a book-loving individual, as many of us are who make up this public, the incomprehensible thing is that more of us do not have our own private libraries, made up of those books only which we have read and loved and would wish to keep always near us as our friends. When we have learned the true use and preciousness of books we shall want them for our own. We Canadians might perhaps take to ourselves some words which Ruskin addressed to an English audience some years ago. "We call ourselves a rich nation," said Ruskin, "but we are filthy and foolish enough to thumb each other's books out of circulating libraries."

Now, it is to the homes of our country and largely to the boundless influence of the mothers and wives in these homes that we look for the standard and quality of the literary tastes of our people. We all have our ideals, and most women have their own ideals—their own mental models as it were—of the ideal home. If these be high, the home life is lofty; if low, it grovels, for we are no better than our ideals. The stream cannot rise higher than its source. However humble our homes or ordinary our environment, we should keep the quality of the life, the personality, at the highest possible standard; we should allow nothing to deteriorate it. Home is the radiating point from which every institution—that is, every valuable institution—has spread. Our religious and civil institutions all originated in the home. Government began there with the parents as rulers—the father the law-maker, and the mother the law-teacher. Our schools and educational institutions had their beginnings in the home and their is much

scanty today of returning more to the home simplicity in teaching. From the home also sprang our manufactories, hospitals, and libraries and while these have spread from it and each exerts a mighty influence in its own sphere, the home still remains the centre of social life and greater than all the rest together is the influence of the home. S. D. Gordon says: "A father and mother living together with their children, tender in love, pure in their lives, strong in their convictions, simple and orderly in their habits, do infinitely more than rulers, educators, and clergymen can do in making a strong nation."

It is, I think, generally conceded that one of the most potent factors for good or evil within the home is the literature that is harbored there. "Give a man a taste for reading," some one says, "and give him books and you open up to him a source of cheerfulness and happiness that will be a shield to him against all life's ills." And it is within the range of any man to possess both. But books have an immense influence on character and all books are not good any more than all people are not good and the mind and imagination may be poisoned. In these days, when "of the making of books there is no end," and when books are to be obtained at such a small price, there is nothing that requires more careful selection than the literature of the home. The time, too, for reading, with many of us, is so short that we cannot afford to read any but the best books. Yet it is marvelous how little thought many give to the choice of their reading matter. Any book with an attractive cover and title is purchased and it is commonly said that many comparatively useless magazines have a large sale because of their attractive covers. In the old days, when books were expensive luxuries, a much better class of books were found in home libraries than are generally found today. The little collections of books, on home-made shelves, carefully purchased from scanty funds, carefully selected and carefully guarded and eagerly studied, was the foundation, not only of great libraries, but of great education. No finer library work was ever done than in countless numbers of these

scanty home libraries with their fine old classics. Lincoln, lying in front of his pitch-pine fire, studying the English Bible, Shakespeare and Bunyan is a good picture of the work of the small home collection. The books may be few, but they can be chosen and choice. I think the safest rule for adults to follow in their selection is this: Choose books that have received the approval of good men and have stood the test of time. There is a "survival of the fittest" among books as among plants and animals. We need not exclude the productions of the press of the present day but do not try to keep pace with it. Because books are written and printed it does not always follow that they should be read. Individual tastes differ too. We do not consider it obligatory upon us to cultivate a friend's whole family relations with whom we have little or nothing in common and why should we cumber our shelves and bleed our purses to possess all of Eliot's or Scott's or any author's works when we love and find all our tastes require in two or three of them. If we were more thoughtful in our choice of books, we would not have sets of books for show that we have never read, neither would we have books by favorite authors that are not favorite books. "No book," says Ruskin, "is serviceable until it has been read, and re-read, and loved, and loved again; and marked, so you can refer to the passages you want in it, as a soldier can seize the weapon he needs in an army, or a housewife bring the spice she needs from her store."

It is in the selection of the furniture of the book-shelves that the influence of the mothers in our prairie homes will be boundless—her influence in forming and guiding the literary tastes of the children and young people under her care. It is not difficult to predict the kind of men and women who will develop from children who live in a vulgar atmosphere, who rarely hear anything inspiring, whose literature contains no models of nobility. On the other hand we can easily forecast the future men and women who will develop from children who breathe the atmosphere of intelligence and enlightenment, who live in the midst of models which inspire, elevate and

enoble. The mind is formed by what it feeds on; it must follow the character of its daily food. Let your boy escape for a time from the meanness of the boy across the street (or from the even more undesirable company of the hired man), let him roam the woods with Hiawatha, sail the seas with Sinbad, or play football with Tom Brown. These are play-mates who will never quarrel with him, nor bully him, but from whom he will learn to be brave, self-reliant and manly. The child who lives on terms of intimacy with such heroes as these cannot fail to be strong and true. Time was, not so very long ago either, when any weak, "goody-goody" book would do for the child. Now-a-days even a Sunday School library is no longer conducted on that plan, but has the children's classics on its shelves, first and foremost. The true book, living and real, is chosen, and the modern child profits enormously by the choice. Out of the child's reading must come the child's world outside his own personal experiences. To people that world with Elsie Dinsmores or dime novel train robbers is to deceive and injure the man or woman into which the child will grow some day.

Three simple things go a long way toward a liberal education—ability to use one's own language clearly and forcibly, acquaintance with a few good classics of the English tongue, and some general knowledge of history and events. The father and mother in the home may have hard work to make ends meet, yet may be able to give these to their children. Have you ever noticed the difference in speech and language, as well as in degrees of refinement, in the children attending perhaps the same little country school, where the parents had an equally good opportunity of education. The one child lives in a book-loving home, the other does not. One hears books read and stories told and the simple, correct language of the book becomes that of the child.

In Manitoba and our western provinces there is and will be for many years to come much pioneer work to be done. Even living along the line of railways, many privileges of civilization are slow in coming. Sometimes one of these is the public school. But if the parents in

the homes be as brave, persevering and resourceful as many pioneers and mothers of other days, there is no reason why their children should not have an education which may compare favorably with that of the average public school. In the long winter evenings—the book-lover's paradise—fathers and mothers can take bits of time to read with their children and discuss what is read and many a strong leader of thought has laid the foundation of his education in just such a home. There is no better mental training than teaching the reading habit to young people—a good, intelligent book-reading habit. Papers and magazines are of value but these should only have a smaller proportion of time. And we must not forget in our reading the greatest of all classics, from which one may receive (even had he no other) the finest education. The sublime language of the scriptures, their poetry, their picturesque descriptiveness, the moral and spiritual teachings obtained from and given by God himself! Is it any wonder that we find among the Covenanters and Puritans, in whose humble homes the scriptures were their daily meat and drink, strong, sterling, upright men whose words and deeds moved nations. Contrast with these the greed, the selfishness, the love of luxury, which are, I fear, already prevalent in many of our Canadian homes. Shall not we prairie people pause and set our faces toward the light? How true it is that "without a vision the people perish." What our young people make of themselves and of our country depends upon the ideals which they habitually hold and it will be a great thing for us to do if we keep the constant suggestion of high ideals—of things that are grand and noble in human achievement—ever in the minds of our young people. The mind that constantly aspires, that yearns for a larger growth and a completer life will not be forced to look back on a disappointed and deformed experience.

## Home Economics

### HOME ECONOMICS CONVENTION

It is impossible to give in our limited space a just report of the splendid program given at the Home Economics convention, held at the Manitoba Agricultural College, Feb. 4th and 5th. Never in my life have I heard so many splendid papers in two days' time. Every paper was complete, practical, and inspiring. Not one on the program but gave her best. Visitors from the city were greatly helped by the instructive, original and intellectual addresses given by the women from the rural communities of Manitoba. It was a splendid gathering of superior women, and we feel that with such a class of women promoting the Home Economics Society, this organization is a growing power that will create a province of prosperity, as well as a race of brilliant men and womanly women.

President Black has the interests of this society at heart and to him is due the credit of managing a convention so helpful and inspiring. This is the first time that the women from rural communities have been accorded an official welcome by the women of the city and at the close of the convention, the Women's Canadian Club, an organization of nearly one thousand women, invited as many delegates from the Home Economics convention as were in the city, and the President, Mrs. Dayton, was given a place of honor. This creates a sincere union of sisterhood between the city women and women of rural communities that will result in united action in all that tends to promote the best interest of the province.

The Manitoba Home Economics entering on its greatest year and every community that has not a branch of this society is depriving that community of opportunities that would mean prosperity financially, morally and intellectually.

### NURSES FOR ISOLATED PLACES

Since I have been so interested in the problem of nursing, I feel that the resolution passed by the Home Economics Convention, was a step that will bless hundreds of women in our western country. I have not the resolution with me but will give you an idea of its contents. "Resolved, that the women of this convention put themselves on record as urging the government at Ottawa to help in the establishment of a system of nursing in isolated places throughout the West." In the next issue I shall quote the resolution in full.

I feel very grateful to the Home Economics Societies of Manitoba for responding to my request so sincerely, and enthusiastically, and am pleased to give you an item from a letter received from Mrs. Beattie, of Miami. She wrote to the Victorian Order of Nurses pleading for help along this line and they replied promptly that they have a fund for this purpose and are ready to respond as soon as we give them an outline of the methods advisable for procedure in the work. Several of our societies have written to the Victorian Order in response to my request and we are making fast progress in bringing this about. Women are crying and dying for lack of nursing assistance and they must not be allowed to suffer longer. The women of the Home Economics societies are thoroughly aroused and that means that something is going to be accomplished along this line. I am my sister's keeper.

P. R. H.

### Opening Address by Mrs. R. W. McCharles, Provincial President of Home Economics Society.

Mrs. McCharles, as president, has done much during the past year to ensure the success of the Home Economics movement. She has addressed meetings throughout the province and they have been pleased with her helpful ideas and charmed by her personality. She has made a splendid president. Mrs. McCharles has a splendid vision of the possible possibilities of such an organization, which include an active part in such work as child welfare, libraries, rest rooms, educational problems and patriotic teaching, and she encourages every woman to join in this enthusiastic work.

Mrs. J. A. M. Aikins, president of the Women's Canadian Club of Winnipeg, extended to the convention a hearty welcome from the women of Winnipeg. She spoke at some length of the scope and value of the work done by the organization and of country life in general. All women, whether of city or country, are really working for the same object.

### Principal Black's Interesting Address

The women of the convention listened with intense interest to President Black as he related facts, experiences, and hopes of this organization. There are more than a thousand members. Virden leads with a membership of 140 members. Principal Black reviewed the history of the movement, and spoke of the assistance given by the agricultural societies, also of the excellent work done by the special cars on their summer tour. It is estimated that 15,000 women attended last summer.

The speaker gave some interesting facts for serious consideration. In the State of Illinois one thousand churches have been abandoned; in Missouri, 750; in Kentucky, 300; in Indiana, 900. It would be well to look after our own country churches. Call meetings for improvement of churches and schools.

President Black advocated the election of women for trustees.

Make a survey of the community. What are the boys and girls from fourteen to twenty years of age doing? We're making history in Home Economics work and the municipal councils should contribute in this work.

Beautiful village centres, make homes attractive, stop profanity, instil in minds of boys right ideas, provide street lamps, urge medical inspection, offer prizes for kitchen gardens. There is ab-

solutely no limit to the work the Home Economics societies can accomplish. Do not get outside the range of safety. Keep on the platform where all can stand.

Men's societies do not discuss politics. Politics and creeds introduce discord. Principal Black spoke very beautifully of the students in the agricultural college. He said that when he addressed them he looked into the faces of sons and daughters of pioneers—that these students had an expression of determination and definiteness of purpose—that no college could have that but once.

When Principal Black closed his address we were sorry, for we felt that every remark was full of weight.

### Keeping Young People Interested in Country Life

Mrs. H. W. Dayton, of Virden, gave a very comprehensive paper on this important subject. There are two sides to consider in dealing with the training of youth, eugenics and environment. Mrs. Dayton instanced the mothers of Scott and Byron as two examples of the potent influence of mother love in the one case, and lack of it in the other. Fresh air is one requisite for a happy family, and tents on the lawn in the summer will give joy to boyish hearts and save the mother much work and trouble. There must be books and music in the home and the mother must make time to play with the children. Work (suited to the age and abilities) is one of the greatest developers of character. Boys are the worst sufferers from scarcity of farm labor, as they are frequently kept out of school to help, and get behind with their classes, lose interest and sometimes drop out altogether.

Don't nag.

Touching the social life, Mrs. Dayton spoke of the charm of the open fireplace, also the ease with which boys are held in the home community if the girls are induced to remain. Enter into the games and sports of youth, in no other way can one obtain such an insight into the character of each child. Teach them to appreciate beauty, and study botany with them. The boys should have a cheerful room furnished to their taste, give them a home, not a jail. Too many homes are wayside inns on the way to prosperity. Do not curse the home with a "best room."

When the children come home from school or college, they have new ideas. They may make mistakes, "everyone does who makes anything," but be very sympathetic in your attitude. The hired man should be married and have his own home, as the constant presence of strangers in the home spoils family life. Never despise country life. We should adopt the English attitude toward country life. Give boys and girls an interest in the farm. Make the home right and they won't want to leave it. In conclusion Mrs. Dayton expressed her belief that the Home Economics Society should try to secure compulsory domestic science and manual training in schools, supervision of playgrounds and medical inspection. In Virden, a very healthy place, this inspection had been amply justified.

Mrs. Dayton related practical experiences in her own life. Make the boy a partner in the farm work. This keeps many boys on the farm.

Mrs. Dayton is the new president and is a capable woman for the position.

This address was followed by a dainty tea, served by the girls in the Household Science department. The women all enjoyed this half-hour.

### The High Cost of Living

Miss Laura E. Black, of the Household Science staff of the city schools, gave a paper carefully reasoned out on this vital topic of the day. Miss Black's experience justified her statements, as she has large experience along this line of work.

Intelligent buying would do much to rectify matters. On the farm the kitchen garden and poultry yard solve the problem to a certain extent, and for town dwellers, the elimination of the middleman is a great help. Those who are responsible for the purchase of family supplies should understand how to select food and wearing apparel, and be able to judge of quality.

In many homes the question is really the cost of high living.

Home Economics societies could do co-operative buying to good advantage.

### Home Management

Miss Green, of the M.A.C. staff, read a paper on Home Management, in the absence of Mrs. Charlton Salisbury.

Make the work more dignified. Buy good groceries. Insist on a change. Some women look only on the mechanical side of the work and think it is drudgery. Appreciate the real value of work. Beware of adulterated food.

### Household Science Equipment for Country Schools

Miss Duncan gave an interesting demonstration of a household science equipment in rural schools of more than one room. She prepared an outline, showing that for a consolidated school a class of 12 pupils could be taught from an equipment worth \$138.

The delegates seemed anxious that this be tried in their home schools. But arguments were advanced that the trustees could not be convinced of its usefulness. Someone suggested that the Home Economics society prepare a banquet and invite the trustees their reasoning power might be reached through their stomachs.

### A Practical Address

We were pleased to hear Miss Kennedy, as her valuable experience is full of suggestions that help us. She spoke on the conservation of human energy, and suggested that a commission might be appointed to investigate this subject and suggest remedies. Systematic arrangement of utensils and regular methods of work will do away with the drudgery of haphazard housekeeping and make it a profession worthy of our best efforts.

The speaker suggested that any local organization might have a very profitable meeting devoted to this question.

One of the best discussions of the convention followed Miss Kennedy's address. The value of vacuum cleaners was emphasized, also of washing machines. There are, however, so many poor machines on the market that it is necessary to exercise great care in purchasing one. Principal Black stated that he believed the day would soon come when electric power would be available, not only in towns and villages, but in farm houses. One young lady suggested that a well-trained man is a most valuable labor-saving device.

### An Enjoyable Feature

The question box was very successful and the delegates appreciated it. Lively discussions took place on the supervision of playgrounds, labor-saving devices, and the increasing of membership in societies. One woman suggested that it was not quantity so much as quality that was desired.

### The Dignity of Feeding a Nation—By Miss E. Cora Hind

There is not another woman on the American continent who is in the same position to write a paper containing the comparisons that Miss Hind makes in dealing with this subject. She is a recognized authority on stock-breeding and is known throughout Canada as well as the United States by leading stock-men. In fact, the executives of the stock fairs and conventions, both on this side of the line and in the States, consider her presence necessary and she is the recipient of many honors at these gatherings. Then, too, she is a thorough woman with a motherly heart and she discusses the care of infants and children with a sincerity of purpose that is most appealing to home-makers. The editor of this department resented this paper just as it was to be published in another magazine. We are selfish enough to want the best for our readers. Her excellent paper is published elsewhere in this number of our magazine.

### Brilliant Address of Mrs. A. V. Thomas

One of the best addresses delivered at the convention was that by Mrs. A. V. Thomas. Her delivery is highly pleasing and her ideas are practical. She is a very convincing speaker.

"The Labor Problem as affecting our Homes" was her subject. She asked us to consider what we are aiming at—just existence? A woman who does extra work thinks she is saving money—in do-

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Every one of these instruments **MUST GO** at some price and terms. This means we must offer this gigantic stock at figures which the public simply cannot resist and at terms which will make your purchase a pleasure rather than a drag on the pocketbook.

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We have a number of Used Upright Pianos on our floors, all in good condition, which are to be closed out at from \$49.75 to \$69.00. These Pianos are worth double and more.

### Splendid Values at \$148

This lot includes a number of Pianos of world-wide reputation which we are closing out at just a *fraction of their cost*. You cannot come too quick.

### New Pianos at \$242

**Our Greatest Bargain.** There are hundreds of this particular Piano in the City of Winnipeg and vicinity, all of which have cost their owners \$350.00 each. Your saving is \$108.00. Can you beat it?

**\$400 Pianos at \$298**

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**\$500 Pianos at \$398**

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Every purchaser receives free with Piano or Organ a fine stool to match the instrument.

#### FREE MUSIC LESSONS

To every purchaser of a Piano during this Great Sale we will present a Certificate good for a Two Years' Course of Piano Lessons. This alone is worth many dollars to you.

**We MUST Sell the Goods. You Can Make the Terms.**

Phone, write or wire. We will reserve a Piano for you from those remaining unsold.

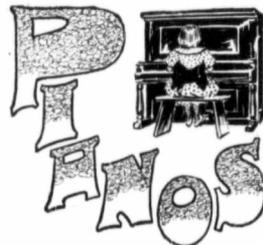


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ing this she pays an awful price. It is a foolish idea of economy. A good water system in the home is as cheap as a decent coffin. A gasoline engine can do your washing, churning and milk separating.

A good furnace costs no more than a doctor's bill.

Too many farmers value land and not life. Allow the daughter of the home to have some pretty clothes. "I remember my embarrassment over my brass-toed shoes when my friends wore pretty boots," the speaker said. The ultimate goal of life means many things to many men, the pleasure of the senses, intellect, happiness. The farmer who slaves twenty years in order to live the rest of his days in ease will surely be cheated. We enjoy things only as we feel the need of them; food when we are hungry, rest when we are tired, play after work. The income should be divided in three parts, living, saving and pleasure. Pleasure is an absolute necessity to right living. Wealth is produced not by stock and grain but by the labor of the people and they should have just as good a house as their income will allow. There is no reason why a country home should not be just as comfortable and convenient as any city residence by the aid of a furnace, a water system and a gasoline engine. "Don't be martyrs," said the speaker, "play the game of life straight and clean and do not be sorry for yourself." Save yourself, the best work of the world is done by men and women over 50 years of age. Some are old at thirty and might as well die for all the good they will ever do. Others are young at eighty.

#### Splendid Suggestions

An address on Home Furnishings, by Mrs. M. Violoux, was very helpful. Mrs. Violoux demonstrated her suggestions by distributing blue prints containing drawings of furniture made from farm junk. Attractive furniture was made from old barrels, pieces of machinery, and glass. Her ideas of harmony in tinnings and decorations were good.

#### THE EVENING SESSION

The opening meeting of the convention was well attended, the auditorium being crowded. President Black presided and between the addresses he gave a few well-chosen remarks that kept the audience in good humor.

Dr. Mary Crawford gave an address that was greatly appreciated, as it was so practical. She demonstrated some helps on "First Aid and Home Remedies."

Dr. Mary Crawford dealt with the important questions of "First Aid and Home Remedies." No man has any right, said the speaker, to ask a woman to go to a farm unless he knows something of what to do in case of illness or accident, nor has a woman any right to go unless she has similar knowledge. A most interesting suggestion and one that should be acted upon in every community, related to the formation of St. John's Ambulance classes, which can be formed wherever there is a doctor to give the necessary instruction, and six persons to form the class. All necessary equipment is furnished by the St. John's ambulance centres. Dr. Crawford gave directions for dealing with cuts, burns and similar accidents. Every home should contain a case of simple remedies, and the supply should always be complete. A good, sensible book is the first requisite, boric acid, tincture of iodine, olive oil, colodion, linseed for poultices, and a little good brandy for emergency use only, are all useful remedies. Epsom salts and calomel should, of course, be included, and Frier's balsam was recommended as a most useful medicine. The greatest home remedy of all is fresh air.

Dr. Crawford's address will be productive of good results.

Mrs. Nellie L. McClung's subject was "Why Boys and Girls Leave the Farm," and she handled it as only Nellie L. McClung can. This gifted woman has a charm and personality of her own and we who know her personally feel that it is impossible to do her justice by anything we can say. Her audiences anxiously wait for her to speak and when she closes her address they wish it were longer. Yet she says in one sentence and her original manner more than others say in a whole paragraph. We always expect much from her and are never disappointed. Mrs. McClung believes that boys and girls leave the farm through wrong thinking. We regarded the farmer formerly as a back number but this is not true today, since farming is a science. The speaker paid a high tribute to the work of the agricultural college, to the women's organizations and to the farm journals. She compared the city and country to two nurses—the city is an indulgent nurse and promises far more than she gives; the country nurse gives far more than she promises.

Mrs. McClung advocated literary societies, debating clubs and skating rinks. She spoke of the good times they used to have at picnics in the shade of a barbed wire fence. She deplored the condition of the country school-house today and urged that it be cleaned and improved for social affairs. A father should have a little pride in his clothes for the sake of his daughter.

The address was full of practical suggestions.

The audience enjoyed a vocal solo by Miss Spackman and a violin solo by Miss White. I would say in conclusion that the delegates appreciated very much the courtesy of the students and the meals served at Roblin Hall.

At the conclusion of the convention, the monument to the pioneer women was discussed. The women do not want a monument placed at Washington but prefer one that will be placed in Canada and erected by Canadians, which is a good suggestion.

The convention was a remarkable gathering of bright, clever women and we would suggest to President Black that next year the members of the Home Economics societies be the speakers, as they are practical women who can speak from experience and the delegates would appreciate hearing the subjects handled by their own members.

#### The New Officers

The Board of Directors of the Home Economics Society chosen for next year is a superior one. Every member has a personal force that will create influence and power.

Mrs. H. W. Dayton, of Virden, the new president, is a woman who has splendid executive ability and ideas that are productive of practical and ideal results. Mrs. McConnell, of Hamiota, is vice-president. She is a bright, active woman, full of enthusiasm. Mrs. McCharles, of Manitowish, is honorary president and well she deserves that honor for she has been the right woman in the right place during the past year. The Home Economics Society of Manitoba is indebted to her for her services as president, for she has been a power in the progress. The district representatives are Mrs. Price, Mrs. Gordon and Mrs. Chisholm.

#### Remarks Dropped at the Home Economics Convention as Heard by a Visitor

Delegate from Manitowish: "The addresses delivered by Miss Cora Hind and Mrs. A. V. Thomas were worth the time and money it cost to attend the convention."

City Visitor: "One of the speakers asked me to come with her to see the women of this convention. I feel thankful that I had the opportunity of seeing a gathering of such splendid women. It is an inspiration."

Reporter: "I hardly know how to do justice to the speakers. Every paper is a work of art."

Delegate: "I wish every one of our members could attend this convention. I feel selfish to be the only one from our society to have this opportunity."

City Visitor: "I am sorry I missed the first day. I did not realize that one could derive so much help from those papers."

From several delegates: "Mrs. Gordon, of Swan Lake, is an honor to any society. What a privilege to have a woman like her for president! It is no wonder that her society is prosperous. She is a young old lady."

Reporter: "Morris sent a splendid delegation. I tell you they are saying the right thing in the right place."

City Visitor: "Why can't we city women get up a program like this? We forget to take time to think."

Delegate: "President Black is right about prohibiting discussions of creed and politics. A woman I know said she had lived in her town twenty years and did not know her neighbors till she joined the Home Economics Society."

Delegate: "I must send my daughter to this college. What a help it would be to her to be with these teachers!"

Delegate: "I wonder how we can interest the foreign women in our work? Our society is in a community of foreigners."

Second Delegate: "Work up interest in their needle work, or any line of work they specialize in; offer prizes for their work, and you will reach them." Visitor: "Don't coax women to join. Point out, rather, that they cannot afford to stay away."

Delegate: "Will you introduce me to Mrs. Lipsett-Skinner? I liked her address so much that she gave to our society. I want to meet her personally."

Mrs. Lipsett-Skinner is very popular among the societies. They say she tells them the truth without offending them.

#### DELORAINE

Feb. 10th, 1913.

Mrs. Pearl Richmond Hamilton.  
Dear Madam: The regular monthly meeting of the Deloraine Home Economics Society was held on Saturday, Feb. 1st, at the home of Mrs. John Rutherford, with over thirty members present and the president in the chair. A new feature of our meetings is the roll call. Many useful suggestions were given.

Two papers were given on "The Co-operation of Home and School" (one by Miss Kines, the other by Mrs. John Rankin), both of which had been given considerable thought and study and were much appreciated. Some discussion followed. The curfew bell and rest room were discussed and a committee formed to interview the councils to see what could be done. Mrs. R. Price read a clipping, taken from the Thresherman, to the effect that the Victorian Order of Nurses has at the present time a sum of \$200,000 available for further extension of the operations. A resolution was unanimously adopted by this society urging the needs of the sparsely settled districts in the west and requesting the committee in charge that the work be largely extended in these districts. Mrs. Rutherford then invited the ladies to remain for a cup of tea. Yours truly, R. H. Perry.

#### MIAMI

Jan. 28, 1913.

Dear Sir—Enclosed please find the reports of Home Economics Society held in Miami.

#### December Meetings

The regular monthly meeting of the Home Economics Society was held in the vestry of the Presbyterian church. The president occupied the chair. The meeting took the form of the annual business meeting. The report of the former year was read by the secretary and proved very satisfactory. The directors appointed for the year 1913 are as follows: Miss Seip, Mrs. J. A. Frazer, Mrs. W. H. Campbell, Mrs. I. Blanchard, Mrs. T. Whittier, Mrs. T. H. Rumbal, Mrs. J. A. Beattie, Mrs. McNevin, Mrs. J. G. Garnett, Mrs. A. C. Kerr, Auditor, Miss Congdon. The directors met the following week and elected their officers. The result of the election is as follows: President, Mrs. A. C. Kerr; 1st vice president, Mrs. J. G. Garnett; 2nd vice president, Mrs. I. Blanchard; sec-treas., Mrs. T. H. Rumbal; 2nd auditor, Mrs. Todd.

#### January Meeting

The meeting of the Home Economics Society was held in the Presbyterian vestry on January 15th. It was opened with singing a couple of verses of "The Maple Leaf Forever." A couple of letters were read by the secretary concerning the conventions held in Winnipeg the fore-part of February. Three delegates were appointed to attend.

Mrs. McCharles, of Manitowish, addressed the ladies on the Home Economics exhibit at Lethbridge. This was very interesting and instructive. Mrs. McCharles is a capable speaker and the various pictures she represented to us made us almost feel as if we were there. One thing especially, which drew the attention of those present, was the exhibit of canned fruits, vegetables and meats, canned in an "economy" jar. Recipes were also given for canning meats, such as beef, pork and fish. The synopsis of Mr. Clark's paper gave the mothers something to think about. Mrs. Bond favored those

present with a mandolin solo, which was much appreciated. Miss Jones, formerly of M.A.C., gave a detailed account of the work in Home Economics. This was interesting and if conveniences are given to girls on the farm, farm life need not become drudgery.

A vote of thanks was tendered to the speakers for the able addresses which were given. Refreshments were then served and a social time was enjoyed by all, the attendance being about fifty.

#### HEADINGLY

A meeting of the Headingly Economics Society was held on Wednesday, Jan. 8th, with almost a full attendance. The minutes were read and approved of, after which the business matters were settled. A paper was then given by Mrs. McFee on "Profits of and How to Raise Poultry." She gave an excellent paper and anyone who was at all interested in poultry could certainly get a lot of information. Mrs. McFee stated that she thought the high cost of living could be greatly reduced if those having back yards, that are bringing them no income, would purchase a few thoroughbred fowls and each year raise a few good fowls, they could bring down their meat bill greatly. One hen with proper care will easily lay twelve dozen eggs in one year and eggs, at an average of twenty-five cents, will bring \$3.00 and eggs under present conditions will average more.

She stated that the poultry products of the U. S. last year reached to almost unbelievable total of six hundred and twenty-five million dollars. This is more than all the wheat which was produced in the U. S. in 1908, all the wheat amounting to six hundred and sixteen million dollars, and the hen beat it by nine million. It is more than all the oats grown on the North American continent in the same year. I only wish I had room to give you more of her figures, but I am afraid it would be too much, but it is her opinion that the essentials to success are good stock, good foods, good houses, good care, and good common sense.

We have been holding ten cent socials from house to house in aid of the Church of England's cemetery and have succeeded in raising quite a sum. After the paper by Mrs. McFee, our hostess, Mrs. Barrett, served tea and a social time was held before leaving.

(We would like the paper read by Mrs. McFee for publication.—P. R. H.)

#### SWAN LAKE

The ladies of the Swan Lake Economics Society spent a very interesting and helpful afternoon on Thursday, Jan. 16th, when Mrs. McCharles, of Manitowish, and Miss E. V. Jones, of Carman, visited them and addressed the meeting. In spite of bitterly cold weather and an unpleasant blizzard, 35 members attended, the country being specially well represented.

The president, Mrs. Gordon, spoke briefly of the pleasure and honor she felt at having been elected President for the third year in succession and then called upon Mrs. McCharles. The address given by this lady was on the Dry Farming Congress at Lethbridge, she having been one of the chosen delegates in charge of the Manitoba exhibit there. Space will not allow of a full report and it is difficult to specialize where all was worthy of note but one of the most interesting topics touched upon by Mrs. McCharles was the account of the movement which is on foot to build a monument in honor of the Pioneer Women of the Plains who have done so much in the past and whose work still lives in the present as a lesson in patience, courage and endurance.

Mrs. McCharles' address covered a wide field and was thoroughly appreciated. Whether she was talking of the splendid exhibit Manitoba sent in, of the gorgeous opening ceremony, the beautiful music, describing other exhibits, extolling Alberta for her progressiveness, giving excerpts from the speeches and addresses, explaining a Mormon Service which she and the other ladies attended or emphasizing the dignity of the farm life and farm labor so that Manitoba may supply Manitoba's needs, was all one to her audience, for Mrs. McCharles has a nervous, forceful manner of speaking which grips the attention

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It is compiled jointly with Messrs. SUTTON & SONS (for whom we are Special Agents for Canada) and is a safe and profitable guide to Horticulture in the Canadian West, as we list and describe only such varieties as we have found reliable in our 29 Years of Practical, Steadily-Acquired Knowledge of Western Horticulture.

### Mothers' Corner

#### A LITTLE BABY'S LOVE

As pure as a drop of dew that rests  
Within the heart of a rose;  
As warm as the beam from the golden  
crest  
Of the sun in the east that glows;  
As near to God as the sunlit stars,  
In the vault of blue above;  
The sweetest and purest thing of earth  
Is the little baby's love.  
—V. A. Houdek.

#### THE FIRST-BORN

Sometime between the midnight and the  
morn.  
With the first April glory soft she came,  
Slipped into waiting hearts and took her  
name  
Serenely glad, and we who somewhat  
worn  
With the long vigil, watched the quiet  
dawn  
Break on her birthday, saw within the  
frame  
Of dimpled flesh, the soul's eternal  
fame  
Clear burning in the eyes of our first  
born.  
The years have passed, and other hearts  
have grown  
To blossom in the brooding love of ours,  
And each has brought a gift of love its  
own;  
But still above her head that vision lies  
And lures us back to where through  
April showers  
We caught our first great glimpse of  
Paradise.  
—Mary Page Greenleaf.

#### HELPS FOR EXPECTANT MOTHERS

We have a booklet entitled "Helps for Expectant Mothers," which we are pleased to send free to any wife who writes for it. Realizing that there are many young wives who need this information and also neighbors who would help one another through maternity in isolated places, where there is no medical help, we felt that this book might help our readers. We are working hard to arouse public sympathy to the need of nurses for women in isolated places. We need all the information possible on cases that have suffered through lack of medical attention. I have a great

many letters now relating pathetic experience of this kind. These letters all help in bringing about the establishment of a nursing system. P. R. H.

"An Eastern proverb tells us that 'The house rests upon the mother.' Just as soon as you take upon yourself the vows that make you wife, you become the mother of a home. Whether children ever come to bless it or not, you are its mother. Yet few women appreciate the importance and power of this position. With the grain of truth these is in it, there is a great deal of wasteful talk about woman and her narrow sphere. Even though she be tied to the home and the little ones, yet her sphere is just as wide as she has a mind to make it. Four walls cannot shut in a large-hearted, loving woman. From the home blessed by her presence goes out a stream of mighty influence.

"Put into a woman's sphere all the depth and sweetness, and wisdom and comfort, that the words, love, home, mother and children comprehend and dare to call her sphere narrow if you will! To me it is so wide that I have seen few women who make themselves large enough to fill it, and these few are not found among those who talk of its narrowness and drudgery. The light of the home, the beacon for the husband, the teacher and guide for little feet, the sharer in all the secrets and joys, the consoler in all sorrows—how do the little annoyances and patience-trying cares dwindle into insignificance, when compared with these."—From "What a Young Wife Should Know."

#### A MAN'S COMPANION

In this age men want companionable wives. If a wife does not grow mentally with her husband, when he is about forty he begins to notice that she is a back number and hence seeks his company elsewhere. She should seek to keep pace with him in his mental growth, and never for a moment think that she is advancing his highest interests when she is denying herself that which would contribute to her development in order that he may advance. All that the wife can do in outside work, while not neglecting the higher duties of the home and heart, will only freshen and brighten her for companionship, and give her glimpses, yes extended views, of the world and its doings, that will serve to broaden her horizon, and bring her in closer touch with her hus-

band in his wrestling with the affairs of life."

#### Your Daughters.

"Teach your daughters, mothers, that happiness and health for themselves, and strong bodies for their offspring are what should be dearest to a woman; that they are more to be valued than riches. Marriage should be guided by nature—not by commercialism."

#### Soul-gardeners.

"Soul-gardeners should all mothers be in a peculiar sense, that the children which shall be given them, may have good soil in which to develop and grow during ante-natal life."

"We not only become like what we most love, and think most about, but we transmit this likeness to our little ones. O mothers! what an incentive to high and noble thinking, and to worthy objects of our loves."

#### First Aid to the Injured

If any one is scalded with hot water immediately put castor oil on the burns and you will find they will heal quickly, with the aid of a salve afterwards. A friend of mine had her baby near the kitchen stove. Accidentally a dipper filled with boiling water was tipped over and the water scalded his legs badly. She immediately put castor oil over the burns and wrapped them in bandages. When the doctor came he said she could not have done a wiser thing, as the castor oil is very healing and takes the poison out.

Gunshot Wounds.—If a patient is peppered by shot from a sporting gun, envelop the part in a towel wrung out of hot water, changing it from time to time; treat for shock in the usual way. Do not attempt to remove all the shot if a full charge is received, but only those easily reached. As a rule, the buried shot will cause no inconvenience subsequently.

Improvised Dressings for Wounds. These may be made from any piece of linen, cotton or fine muslin washed and boiled. These should be kept in the house for emergency.

In emergency clean note paper, not printed paper or paper that has been written upon, may be used next a wad for temporary purposes; an envelope may be laid open, and the clean surface placed on the wound (not the written side). If the paper is heated before the fire until lightly scorched, it will be sufficiently sterile. Burnt

and holds the interest, from the beginning to the end of her speech and she was deservedly thanked by a round of applause.

Miss E. V. Jones was also happy in the subject she had chosen, for she spoke of the good work being done by the Manitoba Agricultural College in the short courses they are giving for women and girls and gave an outline of some of the subjects which are taken during these courses. As Miss Jones pointed out, housekeeping is now a profession and a girl's development naturally depends to a great extent on her education, and a proper knowledge of all those arts which are essentially feminine is therefore necessary for any girl who is to take her legitimate place in the scheme of life, and that is where the Agricultural College steps forward, offering advantages for a very moderate fee which would otherwise be beyond the grasp of many. The courses given at the College comprise almost everything a woman needs to know, from the trimming of a pretty hat and the correct hang of a skirt, to the care of metals, the relative food values, nursing, and a course in Parliamentary law, so that when the much-fought-for vote does come the way of all women, they should at least know what to do with it. Miss Jones, though somewhat handicapped by lack of time to amplify her address, made her short speech very interesting and was also thanked by a round of applause besides the more formal vote of thanks to both ladies, suggested by the president, and carried unanimously.

Such visits are of great value to all Economic Societies and specially so in small towns where it is sometimes difficult to vary the program and Mrs. McCharles and Miss Jones have assured their welcome should they ever revisit Swan Lake.

The delegates chosen to attend the convention are: Mrs. Gordon, pres.; Mrs. Hartwell, sec.; and Mesdames Blair, Moore, Skinner, Dodd, Pepper and Holgson. Fifteen new members were enrolled at this meeting. Mrs. Dodd acted as secretary, Mrs. Hartwell being unavoidably absent.

Would you know the baby's skies?  
Be's skies are mother's eyes,  
Mother's eyes and smile together  
Make the baby's pleasant weather.

Mother, keep your eyes from tears,  
Keep your heart from foolish fears,  
Keep your lips from dull complaining,  
Let the baby think 'tis raining.

paper laid next the wound will be still better. Ashes obtained by burning wood, clothing, or vegetable tissue are, when sufficiently cooled, a sterile dressing of value. If employed soon after cooling are safe substitutes for boracic acid, iodoforn, etc.

**Dog Bites**—or Bites of other animals. The bite of any animal, horse, cow, cat, rat, wolf etc., should be treated in a similar fashion, because each and all of them may convey a poison. In a part covered by clothing the danger of infection is lessened, as the animal's teeth are cleansed as they pass through

the clothing. But in any case steps should be taken to prevent the poison from gaining access to the system. If the bite is in any part of a limb except the finger, pass a handkerchief round the limb between the wound and the heart; and, after tying the knot, slip a piece of wood, a key, or the like between the halves of the knot and twist tightly, thus applying a tourniquet. The wound is then washed, cauterised, and dressed as above described. If the bite is on the face, neck, or trunk encourage bleeding, wash the wound freely, and when possible apply caustic.

THE FIRST MATE  
The Story of a Bounder  
By J. SACVILLE MARTIN

MR. ROWLEY, the first officer of the s.s. Coleraine, plying between one of the smaller Irish ports and Liverpool, passed along the range of cabins going forward. The wind was rising and the night promised a storm. The little steamer pitched heavily, but her uneasy motion did not worry the mate.

As he passed an angle caused by the projection of the captain's cabin just forward of the saloon door, a cap blew across his line of vision—a red tam o' shanter, lost to its owner and making for the sea. He snatched at it, caught it, and looked about him for the claimant. He discovered her to be a very pretty girl with a mass of wind-blown dark hair, and eyes that laughed at her mischance. The mate, like almost all of his profession, was very susceptible to feminine beauty, and this girl would have aroused admiration in a stone. He handed back the cap with a little bow. The girl thanked him prettily.

"I nearly lost it, didn't I?" she said, smiling.

"Pretty nearly," replied the mate, making a mental note of the name "Elsie Jackson" which he had seen on a linen label inside the cap; "but you don't really want it."

"Why not?" she asked with a slight glance of surprise.

"I mean," said the mate, uncomfortable now that he had to explain an intended compliment, "that with all that lovely hair—well, it's a pity to hide it, isn't it?"

She looked at him mischievously. Then with a little laugh she placed the cap upon her head.

"Isn't it an improvement?" she asked.

"I didn't think it possible," admitted Rowley, "but it is."

The girl smiled again. She was thinking as she stood there that the mate was a very personable young man, for he did not look his thirty-six years. Open air and a healthy life had made them sit lightly upon him. On his part,

the mate was thankful to have extricated himself from the consequences of a clumsy compliment, and sought a safer subject of conversation.

"There's a little bit of wind blowing," he said. "I hope it isn't making you feel ill?"

"Oh, no," she answered, smiling; "I'm a good sailor."

"I'll be sworn you are," said the mate with open admiration. "And you're not frightened?"

Her eyes opened widely. "Of course not!" she exclaimed. "There couldn't be any danger here. Tom says so."

"Tom!" said the mate with a surprising and ridiculous spasm of jealousy. "Who is Tom?"

The girl laughed. "I forgot you didn't know," she said. "Tom—Mr. Haughton—is my fiance. He's on board now. He's seeing me home. I've been in Ireland on a visit to my aunt, and now I'm going home to my people. Tom's in the smoking room. He's a great traveller, you know. He's been all over the world, and he's seen some frightful shipwrecks. He's saved quite a lot of lives. Have you ever saved anyone's life?"

"I've been in after a chap once," said the mate modestly; "but the sea was calm. There wasn't any danger."

"Tom has been in the sea in some fearful storms," she answered proudly. "He has saved a man's life off the Horn. You know you get dreadful storms off the Horn. So you see, I feel quite safe whilst he's on board. And besides, he tells me that you can't get a real storm in these narrow seas. On the ocean it's different, of course."

"Of course," assented the mate drily. He was thinking of one or two nights he remembered; thinking also that Tom had been "spreading himself." He looked at the sea and pursed his lips. His unreasoning dislike towards the absent Tom inspired him. He almost hoped for the weather he foresaw.

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"All the same," he said at last, "I've seen some dirty nights about here. But your fiance is quite right not to frighten you."

A tall man, wrapped in an ulster, came out of the saloon. His face was a narrow one with closely set eyes and an aquiline nose. He looked at the mate with an expression compounded of superciliousness and suspicion.

"Hallo, Elsie!" he said, "I didn't know that you had found a friend. Having a good time, eh?"

"This is the mate of the ship, Tom," she answered. "He was telling me that you can get some really bad storms even here."

"Oh, I daresay you can get a bit of a tossing in a small way," said the newcomer loftily.

Mr. Rowley flushed. "You can get a good deal more than that," he answered, nettled. "I've been on this boat most of my life, and I know. You can get some really nasty weather."

"Gasbag!" he said to himself. "He's been stuffing that girl with yarns. I wonder if he's ever been in a storm in his life!"

As he came aft again, the captain called from the bridge.

"Dirty evening, Mr. Rowley," he said. "Just see that the aft hatch is properly secured, will you? We shall ship some water tonight."

The captain was right. The evening was shaping for a storm. The wind sang strongly in the wire rigging with power and exultation in every note. As the darkness fell the ship staggered more heavily. Each plunge she took caused her to shiver through her entire frame, and as she began to lift again the water poured upon her decks. In response to a whistle from the bridge, the mate climbed up the companion and leaned towards the captain to catch words only just audible thought shouted in his ear.



"The hen-coop rocked perilously and he had much ado to keep his hold on it."

"But you haven't been round the Horn, have you?" asked the girl in triumph. "If you've been here all your life, you can't possibly know the sort of weather that Tom is talking about."

"I'm afraid he's been trying to frighten you," said Tom, with an open sneer.

"I didn't mean to do anything of the sort," said Rowley hotly. "I hope I haven't done anything of the sort. I was simply speaking the truth. And if I'm not mistaken, there will be enough wind tonight to prove that I am right."

"Well, if we do go down, Tom will save me," said the girl with a smile; "so I'm not in the least afraid."

"Oh, there'll be nothing of that sort," answered the mate. Before he could say more a call from the fore-castle claimed his attention, and he went forward. He was angry with himself for talking as he had done, and angrier with Tom for having provoked him to do it.

"Get the passengers below, Mr. Rowley. It's coming heavier."

"Aye, aye, sir!"

The mate left the bridge. His task was not a difficult one. Most of the passengers had already forestalled the captain's orders, and were lying in their berths. But in an angle of the lee side he came across the girl to whom he had spoken and the man whom he disliked. An electric lamp gleamed above them. By its light he could see that she was a little pale, though her eyes sparkled with excitement. The man was a trifle pale also, though he assumed a composure in keeping with his sea experiences. Rowley stopped before them.

"Better go below," he said; "it's getting dirty."

"Oh, I'm all right here," answered the girl. "Tom's taking care of me."

"I'm sorry," said the mate; "I shall have to ask you to go below all the same. Captain's orders."

"I shall stay where I am," said the man. "As a passenger on this



## An Easter Greeting

is prompted by the joy and freshness of Spring, and the gladness which rules during this great Spring festival.

In such manner do we greet you, looking forward to a summer and fall of prosperous industry and mutual success.

A pleasant custom at this time is the interchange between relatives and friends of little personal gifts, particularly of pretty jewellery.

Our attractive 1913 Catalogue will show you many articles which you will like, and we will gladly forward you a copy of this book on receiving your name and address.

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**REMEMBER Our Advertisers are Trustworthy**

ship, I am not under the control of the captain, and his orders do not apply to me. I have sailed all over the world. A man of my experience can be trusted to look after himself."

"If you'r a sailor you ought to know that the captain's orders go," replied the mate bluntly.

"I don't want you to teach me my duty, my man," said Tom, with sudden viciousness. "I know what I am doing, and I mean to stay here."

"I'm not your man," said Rowley, angry in his turn. "And for my part, I have the captain's orders that you are to go below, and I mean to see them carried out."

"Indeed?" sneered Tom. "May I ask what means you propose to take?"

"Better not ask," answered the mate. "I shall take means, that's all."

"How dare you speak to us like that?" said the girl with a sudden flash of anger. "If you were a gentlemen, you would know better."

"Well, I'm not," answered Rowley drily. "I'm just the mate of this ship, that's all—a common seaman, if you like. I've got my orders, and I mean to carry them out. Now go below, please."

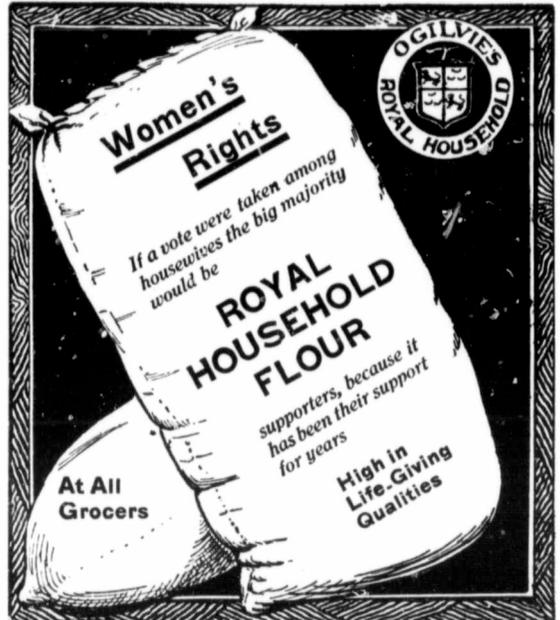
Before the man could answer him a huge wave canted the steamer high on one side. Instinctively, the mate balanced himself. Tom, for all his experience, was not equally fortunate. He staggered against the girl, knocking her against the cabin wall. Rowley caught her and saved her from a fall. With an effort, Tom recovered himself. His face was white, and there was a strange look in his eyes. To cover his confusion, he assumed an exaggerated nonchalance.

"That was a fairly big one," he said. "I think we'll go below. Elsie; captain's orders, you know. I don't think there's the least necessity, of course. I think it's ridiculous. Still — anything to oblige. Come on, little girl. We'll get downstairs."

He took her arm and she turned and went with him, ignoring the mate. He stood looking after them with a thoughtful expression in his eyes. "A coward!" he said. "And she's going to marry him! It's monstrous!"

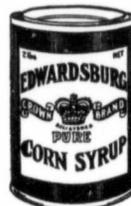
He fastened the cabin door and went to his own room, emerging a little later in oilskins. The ship was now plunging heavily and taking much water. Rowley made his way to the bridge, where the captain stood staring out from beneath grizzled eyebrows. The two men exchanged brief sentences.

"Bad night, sir," said the mate. The skipper nodded. "Put another man on the look-out," he said shortly, "and keep



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the syren going. I'm leaving the bridge for ten minutes. Call me if you want me."

"Aye, aye, sir," answered Rowley. "Expect anything 'hereabouts?'"

"There's the Mail," answered the captain, peering into the fog; "the Holyhead Mail. She should be somewhere about." He broke off suddenly with a cry. "Look!" he shouted, flinging an arm to port. "What's that? It's her! By the Lord, she's on us!"

Rowley had time for but one glance, but it was enough. The fast Irish Mail, coming up out of the mist, was on them before he could speak. Her sharp bows cut deep into the little vessel with a jarring crash that could be felt through every quarter of her frame. The lights were suddenly extinguished. As Rowley stared over the side the Mail backed away, lashing the water furiously with her screws. Then they lost her; but they could hear her syren hooting in the fog.

The ship leaned over dangerously. There was no time to be lost. "Boats!" shouted the captain, and Rowley turned and ran down the bridge ladder. Already the startled crew were assembling at their stations, and the passengers, insufficiently clad, were hurrying on deck with cries of alarm. Many of them, panic-stricken, were fighting about the first boat—the only one which seemed to be likely to be launched.

As Rowley passed the saloon door, the girl ran out. He caught her by the arm, steadying her.

"Tom," she panted. "Where is Tom?"

"Come along," he answered quickly. "There's no time to lose. He will be somewhere by the boats."

He hurried her aft. Around the first boat a wild struggle was going on. Rowley had read of such selfish panics, but he had never seen one, and in his heart he had refused to believe in them. Now he knew. Men were fighting in confusion, struggling to gain the best places, thrusting each other aside. The mate dashed into the thick of the fight.

"You hounds!" he cried. "The women first!"

The ship leaned over. The boat swung far out. A dozen men leaped for her. Rowley grasped the girl about the waist, and thrust her outward. Even as she had almost gained the boat, a man, mad with fear, sprang past her, pushing her back. The light from an oil lantern in the boatswain's hands fell full upon his face. She gave a cry as the man, in an agony of overstrained nerves, turned upon her and struck her in the face. She fell backwards into the mate's arms.

For a moment he thought she

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More Bread and Better Bread

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157

had fainted. Then the ship's bell rang out in sudden clamour from the fo'castle; she started into activity. As for Rowley, he, too, had recognised the man. He knew that it was her lover who had struck her. But he had very little time to think of it. The ship was low in the water and at any time might take the final plunge. He saw a large hen-coop, and dragged the girl towards it. He had just time to seize it when the steamer went down, and he found himself dragged beneath the surface of the water, scarcely conscious of what he was doing, but holding on grimly to the girl he meant to save.

He rose to the surface at last and drew a deep breath. The girl lay in his arms unconscious, and with a wound in her forehead. Some floating thing had struck her. Rowley was thankful that the sea water had stanchd the bleeding. He could not have attended to it; he had little time even to think of it for the hen-coop rocked

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perilously, and he had much ado to keep his hold upon it. A little distance away he saw the lights of the Mail, and watched her searchlight sweeping the seas. It flickered around them and steadied. It was evident that they were seen. A boat was lowered and ten minutes later willing hands helped them up the Mail steamer's side. The girl was hurried away to the cabin in charge of the stewardess. Rowley found himself surrounded by the ship's officers, eager for an account of the catastrophe.

"We've picked up one boat already," they told him. "Twelve men—no women; were there any women on board?"

"One or two," said the mate shortly. "Twelve men! The infernal cowards! One of them—Oh, well, he's saved too, is he?"

"They're all saved who were in the boat," answered one of the officers staring. "We shall cruise round for a bit and see if we can pick up any of the others."

For an hour they circled about the spot. They picked up three men clinging to a spar. Of the rest they found no trace. The sea had taken its toll.

The Mail, slightly damaged, ran on into Holyhead. The girl was transferred to the hotel. Rowley went on by the first train in the morning to give an account of the disaster to the owners at Liverpool. He was detained there for three days, during which his mind was busy with her. He pictured her lying in a darkened room. He wondered if that cowardly scoundrel was still with her. He wondered whether she remembered. Each day he felt that he could remain away from her no longer; and at last, his business finished, he went back to Holyhead.

He was not given to analysing his emotions, and on this occasion he found it especially difficult. He recognised that he was strongly attracted towards her, that her face dwelt in his memory, that he could not banish it, that he did not wish to banish it. But then he knew so little of her. He had met her but once, and then as the promised bride of another. Ah, but that other! There lay the real reason that he was going back to see her. The man had behaved like a cur, and if she knew it, how could she marry him? There might be a chance for another—for the man who had saved her life. He was not going to presume on that. But surely she would not marry the coward who had deserted her.

With such thoughts as these running in his mind, Rowley stepped out of the train at Holyhead, and crossed the platform to the North Western Hotel at the top of the Harbor. Inquiries at the office informed him that she was

still there, and that her parents had arrived and were with her. He sent up his card, and in a little time he was ushered into a private sitting-room. There were three people in it. The first was an elderly, white-haired man with courteous manners who stood with his back to the fireplace. His wife, elderly also, and with a gentle face, sat by the sofa upon which her daughter lay. The girl herself was pale, and her forehead was bound with a bandage. She seemed quite calm and looked at the mate with an expression of polite interest.

Rowley was embarrassed. In her presence the thoughts which he had been cherishing seemed all at once to have become the most unpardonable of impertinences. She seemed so calm and collected, so much at home in her surroundings and so far above him, that he could only wonder at himself, and, wondering, stammer out some commonplaces as to the object of his visit. He had come, he explained, as mate of the ship to inquire if Miss Jackson had received any permanent injury. He hoped she was quite recovered. Mr. Jackson answered him.

"We are obliged to you, Mr. Rowley," he said courteously. "My daughter has suffered a shock. But we have every hope that she will recover. At least we are thankful that she has been spared to us. It was kind of you to call."

The girl herself did not speak. Rowley was acutely disappointed. He thought that she might at least have thanked him. But she lay quite still with the same placid air, the same polite interest, and nothing more. Her father enlightened him.

"She remembers nothing," he said. "She received a blow upon the forehead—perhaps a merciful blow. The unhappy events of that night are erased from her memory."

"I know," stammered Rowley. "I mean the blow. I was with her, you see. I couldn't help it. There were a lot of things floating about. It took me all my time to keep hold of her at all."

"Then, you are the man who saved her!" said Mr. Jackson warmly. "Why, of course! The officers of the Mail spoke of it. We owe you our thanks—more than our thanks. We owe you more than we can ever repay. Mr. Haughton also—the gentleman to whom my daughter is engaged—wishes to thank you. He looked for her everywhere, but missed her in the darkness. He will be glad to meet you."

Rowley said nothing. Fate had loaded the dice against him. The coward was, it seemed, to remain unpunished—even to meet with reward. Before he could collect his thoughts sufficiently to frame



## Women Wanted

—who want charming homes

A charming home is the outward expression of a woman's sense of beauty—It is *not* the result of lavish spending.

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"Alabastine" is the twentieth century finish—something vastly better than paper or kalsomine, because—

Wall paper is placed on a layer of paste—

This is nothing more or less than a nursery for germs and insects—

Besides most wall paper is saturated with arsenic in sufficient quantities to impair health.

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Its base is only whiting and animal glue—a combination with no solidifying or sanitary qualities.

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Germs cannot live on or in it. Once the walls of a room are coated with "Alabastine" there is no necessity for re-decoration after sickness.

"Alabastine" has stood the test of time and is to-day more popular than ever—

It is more economical than either wall paper or kalsomine and far more sanitary. Anybody can apply "Alabastine"—

Just mix with cold water and use a flat bristle brush.

With our numerous tints and white any color scheme can be easily and artistically carried out.

## Free Stencils

Our staff of trained decorators will perfect any color scheme for you absolutely free of charge. Also supply free stencils exactly suited for your purpose. Your Hardware or Paint Dealer will supply you with "Alabastine." But write for full particulars, and free booklet.

THE ALABASTINE CO., LTD.,

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Write for finely illustrated Catalog of our 1913 Easter Jewelry and Silverware. Our Quality, Value, and Service is unsurpassed.

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WINNIPEG

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**Kendall's Spavin Cure**

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and be ready to cure cases of Curb, Spavin, Splint, Ringbone, Bony Growth or lameness from bruises or other causes. Thousands of other Farmers are doing it—have been doing it for over 35 years. It's the old, safe, remedy you can depend on. Get a bottle at once and see how much it will save or make for you. **47¢ per bottle** (6 for \$3). Ask your druggist for the book, "Treatise on the Horses," or write to:

**DR. J. KENDALL**  
Canaanburg Falls,  
Vermont.

74

For Wood, Horse, Scold, Contention, Last Fall I bought a mare that I have on account of a splint. I got the best of all horses and it cost me \$20.00. Very truly,  
Lester M. Jones

an answer, Haughton entered the room.

For a moment the man seemed taken aback. Then he advanced, holding out his hand. But seeing no response upon the mate's part, he withdrew it and bowed stiffly.

"Mr. Rowley, I believe?" he said. "I understand that we have to thank you for saving Elsie's life. Of course, we are all very grateful. I did my best," he continued, gaining in effrontery, "to find her. But in the darkness I missed her. There wasn't much time, was there?"

"No," said the mate slowly; "there wasn't much time."

"So we're all the more grateful to you," said Haughton, growing bolder as he began to feel safe from exposure. "And, for my part, if I can show it in any way—" He saw the growing antagonism in the mate's eye and broke off abruptly. "Elsie, my dear girl, how are you today?" he asked, crossing the room and taking his place beside her.

Rowley felt that he could not trust himself to remain longer. "Goodbye," he said, "I must be going. I'm glad to know that the young lady is doing well."

He bowed and left the room.

For a month or two he drifted about Liverpool waiting for another ship. But he was still unoccupied when at the end of the third month he received a letter from Mr. Jackson containing a warm invitation to his daughter's wedding. He pondered it carefully as he held it in his hand. He had not forgotten her. On the contrary her face had lingered in his memory, and the thought of her had grown dearer every day. He knew the pain it would give him to see her married to another. But he knew also that he would go, that he would be unable to keep away. On the day of the wedding he took the morning train to the little village where her parents lived and where the marriage was to take place.

His train was late, and he hurried in the direction of the church lest he should miss the ceremony. The village kept holiday. The streets were decorated with streamers and the bells rang merrily. He reached the church door just in time to take his place in the crowd who stood there awaiting the bride's approach. The bells ceased ringing.

Then he saw her coming. She was pale and quiet, leaning on the arm of her father. A moment later the bridegroom hurried up, bowing and smiling to his acquaintances in the crowd. He overtook her and stopped for a word; and at that moment the bells crashed out again.

One single clash of all the bells, and they were at it, chiming merrily their message of joy. But

# Big Ben



**Use Big Ben All Day Long**

Big Ben not only gets you up on time every morning, but he serves the whole family all day long as a reliable clock to tell the right time by.

He's really two good clocks in one—a crackerjack of a time-keeper—a crackerjack of an alarm.

He can ring you up in the morning just when you want and either way you want—five straight minutes or every other half minute for all of ten minutes.

If you're a light sleeper, turn on the half minute taps before you go to bed. If you sleep heavily, set the five-minute call and you can slumber then without the get-up worry on your mind.

Then when you're up and doing, carry Big Ben downstairs into the living room so that the whole family can use him to tell the right time by. He stands seven inches tall and his great big open face can be seen distinctly across the largest room.

Big Ben is triple nickel-plated and wears an inner vest of steel that insures him for life. His big, bold figures and hands are easy to read in the dim morning light. His large, comfortable keys almost wind themselves. He rings five minutes steadily or ten intermittently. If he is oiled every other year, there is no telling how long he will last.

He's sold by 6,000 Canadian dealers. His price is \$1.00 anywhere. If you can't find him at your dealer's, a money order mailed to his designers, *Waltham, La Salle, Illinois*, will send him anywhere you say, express charges prepaid.

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**SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS**

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

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.00 per acre. Duties—Must reside six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

**W. W. CORY**  
Deputy of the Minister of the Interior  
N.B.—Unauthorized publication of this advertisement will not be paid for.  
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WE ARE MANUFACTURERS OF ALL KINDS OF  
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**Brass Plating and Electro Tinning.**

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**Dominion Tack and Nail Co.,**  
Limited,  
GALT, ONTARIO

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WIRE CORNER 125 EGG

**\$13.48**

**RAISE MORE POULTRY!** Large profits by using our Canadian made hatcheries built by poultry men of 15 years' experience. Fast all stages of experimentation, proves the best by thousands of pleased users. None better at any price. Why buy middlemen's profits when our large factory saves you half on the one high-grade 100 per cent hatch-record-machine.

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**Guarantee Two Hatch Trials.**

Also low prices on brooders, poultry and supplies. Write for price book, brood book \$1.00 to you. **FREE!** Write postal now!

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**The Best Prospects of Insurance at Lowest Net Cost."**

This statement—from the Twentieth Annual Report, is borne out by the most ample evidence—and is occasioned by an unequalled record in the three essentials of successful Life Insurance management:

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There are a score of good reasons why The Great-West Life Policies are the best obtainable.

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Head Office - WINNIPEG

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**Patronize those who Patronize this Magazine.**



**Remove One Nut and Share is Off**

Off or on quick—that's the new feature. That's what you want. It's the biggest plow improvement in years.

When you see how it works you'll know the advantage of the

**JOHN DEERE**



**SHARE**

For New Leere Sulkeys and Gangs "Q-D"—means quick detachable Also quick attachable. You take the share off by removing one nut. Put it back and fasten it by replacing and tightening nut.

And this one nut is in a handy place—just glance at above picture. Could anything be easier? It "stays put" 100. Locking lug on landside holds share perfectly tight and rigid. Our book, mailed free, tells all about this new improvement in plows. Write for free "Q-D" Book No. 76

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**GRAND TRUNK RAILWAY SYSTEM**

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Smooth road-bed, polite employees, unexcelled dining-car service, and latest standard equipment

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It's the original and the only thing for driving cream separators with gasoline engines. **TRY ONE.** More in use than all others combined. Costs no more than imitation. Also, ask about our friction clutch pulleys.

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that first clash—deep and sonorous as that of a ship's bell in a storm—had awoken something within her, some chord of memory. Her eyes took a startled expression, and to the astonishment of her father, she shrank away, gazing at the bridegroom with a look of fear and horror. For just one moment more her memory wavered. Then she saw Rowley and all came back to her. Instinctively, she caught him by the arm and clung to him.

"That man!" she cried, pointing to Haughton. "I remember now. He struck me!"

"She's mad!" cried Haughton, white with fear and rage. "She doesn't know what she's saying." "No, no!" she insisted vehemently. "I do know. I remember everything. This gentleman was putting me into the boat, and that man pushed me back and struck me in the face—struck me because he wanted to save himself—because me was afraid!"

Her father looked at her doubtfully. "Is it possible?" he said. "Has her mind really given way?" "I think it has come back," said Rowley, with a fierce joy. "Everything happened as she has said. I saw it."

There was a moment's pause. Then Mr. Jackson spoke: "Why, then," he said very gravely. "I am thankful that she has recovered in time. There will be no wedding."

He turned and led the girl back to the carriage, motioning Rowley to accompany him. The girl's mother, who had been a silent and astonished spectator, went with them. Mr. Jackson handed the ladies into the carriage.

"Please see them home, Mr. Rowley," he said. "I will follow when I have explained things to our rector."

He turned and walked towards the church door, where a crowd of excited guests were discussing the scene. Rowley drove home with the two women. Very little lighted to note that the girl had was said. For he was secretly delost her apathetic calm. Her cheeks were flushed and she did not speak to him. When at last they reached their home, he followed them in. Without a word to her mother the girl went upstairs to change her dress. Mrs. Jackson followed her but came down almost immediately, and joined the mate in the drawing-room.

"My daughter wishes to be alone for a little," she said. "This has been a terrible experience for her, Mr. Rowley. She knows everything. She remembers everything. She remembers all you did for her. She wishes to see you before you go."

Rowley waited. He felt strangely afraid of the coming interview. It occupied his



Here's the best-made .22 rifle in the world!

It's a take-down, convenient to carry and clean. The tool steel working parts cannot wear out. Its Ivory Head and Rocky Mountain sights are the best set ever furnished on any .22. Has lever action—like a big game rifle; has solid top and side ejection for safety and rapid accurate firing. Beautiful case-hardened finish and superb build and balance. Price, round barrel, \$14.50; octagon, \$16.00. Model 1892, similar, but not take-down, prices, \$12.15 up.

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**BEST FOR WEAR**

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Dealers Everywhere

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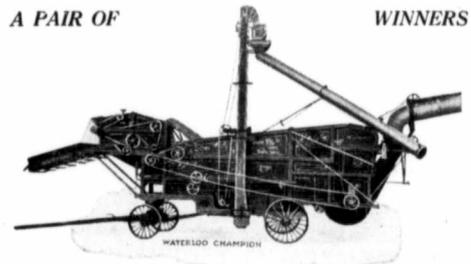
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Over 20 sizes and styles for drilling shallow wells either deep or on wheels or on tracks. Mounted on wheels or on tracks. With 10-horsepower, 20-horsepower, 30-horsepower, 40-horsepower, 50-horsepower, 60-horsepower, 70-horsepower, 80-horsepower, 90-horsepower, 100-horsepower. Any mechanic can operate them. Send for catalog.

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Enough to Make a Cat Laugh



A Good Answer

Many a speaker has been floored by a question put by one of his hearers, and W. F. Nickle, the clever young man who represents Kingston in the House of Commons, nearly met that fate in a recent campaign.

Mr. Nickle, upon ending his speech, said that he would endeavor by anybody in the audience. Hardly had he made the offer when he regretted having done so. A man—evidently an Irishman—whose face had a look that meant trouble for somebody, rose from his seat at the back of the hall and walked down the aisle till he stood near the platform.

"Mr. Nickle, you say that you'll answer any question put to you?" asked the man in the aisle.

"I'll try," said the speaker, wondering on what line he was about to be tackled.

"Then how much did your last election cost you?" said the questioner.

For a moment Mr. Nickle floundered. Then an inspiration came to him, and he answered: "Six weeks of the hardest work I ever put in in my life."

Not For Sale

An old lady who was spending her holidays in the city, entered a bric-a-brac shop, in search of something odd in the nature of a bargain to take home with her. After she had inspected several articles, but had found none to suit her, she noticed a quaint figure, the head and shoulders of which appeared above the counter.

"What is that old Japanese idol over there worth?" she inquired of the salesman.

The salesman's reply was given in a subdued tone—  
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"Waiter! This fowl is like rubber." "Yes, sir. That's why we call it spring chicken."

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**PACE, HARRISON & MILLAR**  
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| NATIONAL FIRE INSURANCE COMPANY<br>of Hartford, Conn.<br>Assets Exceed \$12,000,000.00 | GENERAL FIRE ASSURANCE COMPANY<br>of Paris, France.<br>Assets Exceed 7,500,000.00 |
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### Mackenzie, Brown, MacDonald & Bastedo

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Both for \$13.75

If ordered together we send both machines for only \$13.75 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man. and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station.

Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Five year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$13.75 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.

Write us today.

**WISCONSIN INCUBATOR CO., Box 224, Racine, Wis., U. S. A.**

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Established 1878

Capital Authorized.....\$10,000,000  
Capital Paid Up.....6,600,000  
Reserve Fund.....6,600,000  
Total Assets.....72,000,000

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**Gombault's**  
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**Has Imitators But No Competitors.**  
A Safe, Speedy and Positive Cure for  
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Strained Tendons, Founder, Wind  
Puffs, and all lamenesses from Spavin,  
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Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of **Gaustic Balsam** sold is  
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its use. If send for descriptive circulars,  
testimonials, etc. Address  
**The Lawrence-Williams Co., Toronto, Ont.**

**They Just Smiled**

Dr. George C. Creelman, president of the Ontario Agricultural College at Guelph, admits that in the following story the joke was on him:

For ten years he had held the position of secretary of the American Association of Farmers' Institute Workers, but found that his other duties would not permit of his continuing in that office. So, at the annual meeting in Washington, D.C., just before the election of officers was to be held, he explained that he would no longer be able to act as secretary.

The others members smiled when he said that.

So Dr. Creelman emphasized the fact that he could not continue as secretary.

Again his statement was met with a smile, so he said: "Now, I'm serious about this. I really couldn't spare the time to look after the work of secretary, and if you elect me to the office I will be obliged to decline it."

Once more there was a general smile.

After the first balloting had been held, the doctor learned why they had smiled. They didn't elect him to the secretaryship again—they made him president.

**Robert's Observation**

The family was at the dinner table one evening, when a man, a friend, dropped in. He had been moving and his appearance was not of the neatest. He excused himself for looking as he did, and then, turning to the youngest of the family, a boy of five, said:

"I look just like a tramp, don't I, Robert?"

"Yes," promptly answered the youngster.

The mother, trying to set matters right, said:

"Why, Robert doesn't know what a tramp is."

"Yes, I do," the little fellow cried out. "I seen one on a movin' picture once. He stole a pie off the window sill."

Kindly gent—"What is your name, my boy?" Hotel Page-Boy—"They call me Billiard Cue, sir." Kindly gent—"What ever for?" Hotel Page-Boy—"Because I work so much better with a good tip."

Bobby—"This sailor must have been a bit of an acrobat." Mamma—"Why, dear?" Bobby—"Because the book says, 'Having lit his pipe, he sat down on his chest.'"

"Ay, sir, we do enjoy your sermons, they are so instructive. In fact, we never knew what sin was until you came to the parish!"

**Cash For Cream**

Ship to us and get the **HIGHEST PRICE** with  
**PROMPT REMITTANCE**

We have nothing but satisfied customers on our list and we guarantee to give you perfect satisfaction. If your aim is to make the dairy end the biggest paying feature of your farming operations—get in touch with us at once. **Brandon** is the most central point.

*Best Market and Best Shipping Facilities  
in the Province.*

The Brandon Creamery and Supply Co.,  
Brandon, Man.

Brookfield, Desford, Man.  
Feb. 19, 1912.

Gentlemen—I wish to say that we have been pleased and satisfied with your business methods, and we wish you all success during the year 1912. Thanking you for interesting calendar.

Yours most sincerely,  
(Signed) E. Glover.

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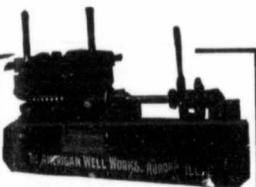


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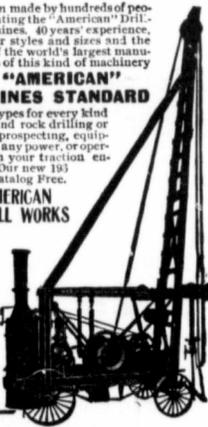
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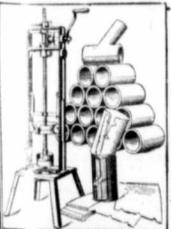
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They have the same dull finish, texture and fit as the best linen collar, and won't wilt or crack. "Challenge" Collars can be cleaned with a rub from a wet cloth. Always smart—always dressy. If your dealer doesn't sell "Challenge" Collars, send us 25c for collar or 50c for pair of cuffs. You'll be delighted. New style book sent free on request.

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**WINDSOR DAIRY SALT**

**Swept The Boards At All The Fairs**

1911 was a triumph for Windsor Dairy Salt. Practically every prize for butter-making was won by someone who used Windsor Dairy Salt.

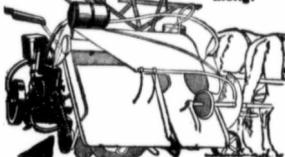
Those, who make their living out of their dairies, say that Windsor Dairy is their old standby. They always rely on it because they know it is pure—because it makes the richest, most delicious butter—because they win the prizes and get "Top prices" for their butter—when they use WINDSOR DAIRY SALT.

64D

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**Horses Simply Draw Machine**

The engine does all the work of operating. 4 h. p. Weight under 300 lbs. Speeds to 5 h. p. easily. Automatic throttle governor measures out fuel according to work. The original binder engine and more to use than all others combined. Detach and use for all-purpose farm power. Easy to handle, fits in anywhere. We also build 6-8 and 10 h. p. engines with same high efficiency—engines for all heavy duty. Write for free catalogue.

CUSHMAN MOTOR WORKS, 2022 N St., Lincoln, Neb.

**Farm Cushman The Original Binder Engine**

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GILSON ENGINES for all power purposes. You cannot afford to buy an engine until you investigate the latest improvements incorporated in Gilson Engines, which place them far in the lead. Send for free catalogue. GILSON MFG. CO. 290 York Street, Guelph, Ont.

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**Something to Think About**

**Better-Farming Hints**

The man who does nothing long enough is sure to come to naught.

People who ride in automobiles fail to see the violets by the roadside.

Every man can see the poetry in the rain when it breaks up a long drought.

Some men don't have to borrow trouble; they just make it in the neighborhood.

The truth, from the mouths of some folks, is stranger than fiction, all right enough.

Young man, set your goal so high that it would make you blush to tell your friends about it.

The way to get a reputation for a thing is to be and do that thing good and hard all the time.

We can all have all the diamonds we want when we are able to appreciate them in the dew-drops.

The big things of the farm are hard to handle where the little things have been long neglected.

Some men seem to go on the principle that it is necessary to do a lot of blowing in order to keep the fires of hope burning.

Only the bald-headed man can sympathize with the horse in fly-time. But a good fly-net, even for neck and ears, and save the wear and tear on the horse.

A Motto:—To succeed nowadays one needs to have good sight to see opportunities, and bad hearing—not to hear the voice of conscience.

**Lines on Life**

Whines won't win. Life's the best language.

Prosperity may be a punishment.

Narrow minds do not always travel the narrow way.

Your neighbors' slips are crimes—your own are failings.

In making tracks for heaven don't trample on your fellow-travellers.

The person who says he never minces matters generally manages at the same time to make mince meat of somebody's reputation.

Dearly beloved: The world is made for you. All that has gone before you was that you might be. If you desire wealth, it can be yours. If you desire fame, it can be yours. But you must pay the price. Industry is the only coin acceptable at the gate of success. Our Roosevelts, our Carnegies, our Whitmans, our Edisons have bought there way to Glory by hard labor. It's "the only way." The world and all therein is—that you want—is yours, if you pay the price in the free coin of the realm—industry.—Glen Buck.



**"One of the 'greatest' mechanical geniuses of all times"—a world-famed maker of a high priced car so refers to Henry Ford—whose great accomplishment is the Ford car. You'll want the mechanically perfect Ford this season—and to avoid disappointment you should get it now.**

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Both including Pipe for the nominal sum of **\$1.25**

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1911.

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**Remember to renew your Subscription**



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1—AMERICAN SEEDING MACHINE CO., Winnipeg.

2—HEATY BROS., Brandon.

3—BELL ROBT. ENGINE & THE SHER CO., Winnipeg.

4—BRANDON PUMP & WIND MILL WORKS, Brandon.

5—BRITISH CANADIAN AGRIC. TRACTORS, Saskatoon.

6—BUFFALO PITTS CO., Moose Jaw.

7—BURRIDGE-COOPER CO., Winnipeg.

71—Canadian Armstrong Quam Co., Saskatoon.

8—CANADIAN FAIRBANKS CO., Winnipeg, Calgary, Saskatoon Vancouver.

9—CANADIAN HOLT CO., Calgary.

10—CANADIAN MOLINE PLOW CO., Winnipeg.

11—CANADIAN RUBBER CO., Winnipeg, Vancouver.

12—CANADIAN STOVER CO., Brandon.

13—CANADIAN SWENSONS CO., Winnipeg.

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15—COCKSHUTT PLOW CO., Winnipeg, Regina, Calgary, Edmonton.

16—CRANE & ORDWAY, Winnipeg.

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19—DOMINION SPECIALTY CO., Winnipeg.

20—DUS GEO. & CO., Winnipeg.

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Deer Steel Boss. 17

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Evans Disc. 1

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Flury's Disc. 17

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Moline Flexible Drag and Lever. 10

Noxon Disc and Drag. 64

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Verity. 30

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Cockshutt Harrow Cart. 15

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25 Brake Horse Power Outfit

Here's a SMALL TRACTOR! Just Like the One You've Often Wished You Could Find. It's a

# HART-PARR -OIL TRACTOR-

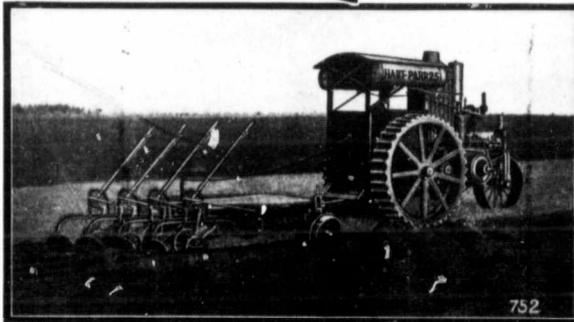
This addition to the long established and old reliable Hart-Parr line, is our answer to the constantly increasing demand for a medium power tractor. A tractor built especially for farms as small as 160 acres.

### Shop Tested—Field Tried Solves Small Farm Power Problems

Many inexperienced builders have rushed pell-mell into the field with untried, untested small size tractors. Even with our many years of tractor building experience, we were not satisfied to do this. First, we gave long, careful thought to the power problems of the small farm. We studied the requirements from every angle. Then, we designed and built this 25 BHP tractor especially to meet these conditions. Next, we gave this tractor a thorough, searching shop and field test. Step by step, we modified and strengthened it. No guess work at any stage.

### Costs Little—Pays Out Big

And now, that we, ourselves, are convinced that this new Twenty-five is right, we offer it to the farmer as the only small tractor that really is efficient, reliable and economical in every respect. It's a profitable investment on farms of 160 to 320 acres. And the price is within reach of the small farmer's pocket book.



### Great Strength—Light Weight

The same general features of construction which have made our 30, 40 and 60 BHP outfits so successful, are all embodied in this new Hart-Parr model. It will easily take the place of 10 sturdy horses and do the work better, quicker and cheaper. It uses CHEAPEST KEROSENE for fuel at all loads, and is oil cooled. It has two working speeds—1.8 and 2.6 miles per hour. It is built almost entirely of steel, thus insuring greatest strength with LIGHT WEIGHT. The drive wheels are equipped with our wonderful wave form lugs, making the tractor well fitted for work on soft soil.

### A Self Lift Plow, Too

The Hart-Parr-Sattley Self Lift Plow (see illustration) is built especially for use with the Hart-Parr Twenty-five. No other self lift plow is designed with so many fine features; none works so efficiently behind a tractor. The two equipments are big winners and big money makers. In combination, they form a strictly ONE MAN OUTFIT. You can operate both the tractor and plows right from the engine platform.

Let us tell you more about the important features of this new tractor and self lift plow. Write today for special circular.

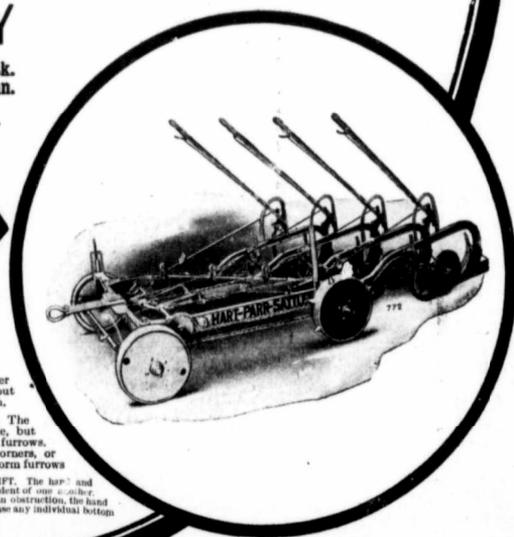
## HART-PARR COMPANY

30 Main St., Portage la Prairie, Man. 1616 8th Ave., Regina, Sask.  
57 West 23rd St., Saskatoon, Sask. 325 William Ave., Winnipeg, Man.

The Chapin Co., 325 8th Avenue, West, Calgary, Alta.

Agents for Alberta

Here Are Just a Few of the Many Superior Features Built Into the Hart-Parr-Sattley Self-Lift Plow



- 1 GREAT STRENGTH AND SIMPLICITY. No cumbersome construction. No excessive weight.
- 2 LARGE CLEARANCE. No chance for clogging in trashy soil.
- 3 THREE-WHEEL TRUCK. Affords excellent support over entire frame. Frame cannot sag and throw rear plow out of adjustment. Furrows are all turned to same depth.
- 4 FURROW WHEEL. No need to steer the plow. The engine may swing a foot or more to either side, but the furrow wheel keeps the plows in the furrows, enables plow to work close into fence corners, or Emase field turns and still maintain uniform furrows.
- 5 HAND LIFT AS WELL AS SELF LIFT. The hand and automatic lift features are independent of one another. Should any bottom clog or meet an obstruction, the hand lift enables you to clean or release any individual bottom without lifting the entire plow.

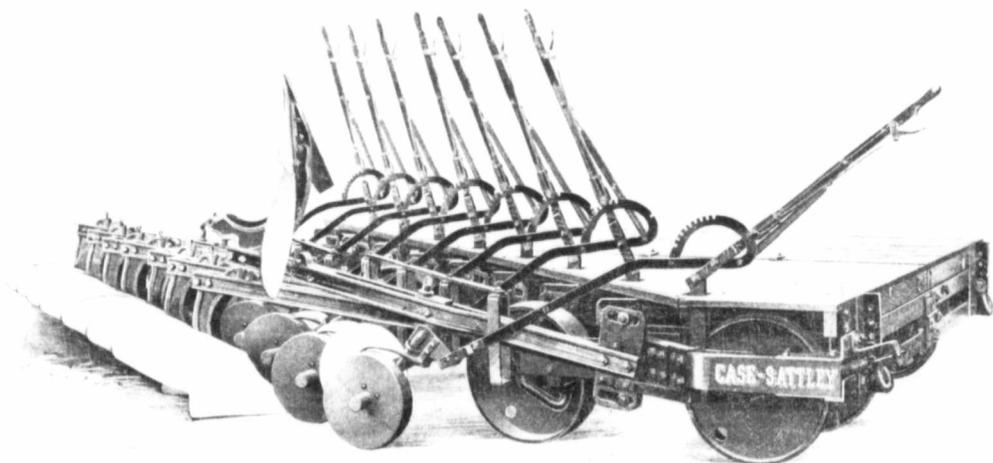
Plow Platform Removed Showing Mechanism

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

# EXCLUSIVE FEATURES

## CASE-SATTLEY ENGINE GANG PLOWS

It is a pleasure to plow with Case-Sattley Engine Gang Plows—because it's so easy to do good plowing with them. You couldn't ask for an Engine Gang more Easily Controlled—or more Easily Pulled.



### PLOW DEEP and WELL

Quality in Plowing is more Essential than any other Consideration. A Season's Labor on your Crops may be easily wasted through Poor Plowing. Case-Sattley Engine Gangs by Plowing Deep and with Uniformity—by completely Turning and Breaking Up the Soil—provide the first essential step to good Crops—a properly prepared Seed-Bed.

### YIELD BIG CROPS

Crops are well begun when the Plowing is done with the Case-Sattley Engine Gang Plow—built in five sizes, 4, 6, 8, 10 and 12 Bottom, Stubble or Breaker. Can be used with Steam or Gasoline Tractor.

*Write for Catalog which describes them fully.*

**J. I. CASE THRESHING MACHINE CO.**

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