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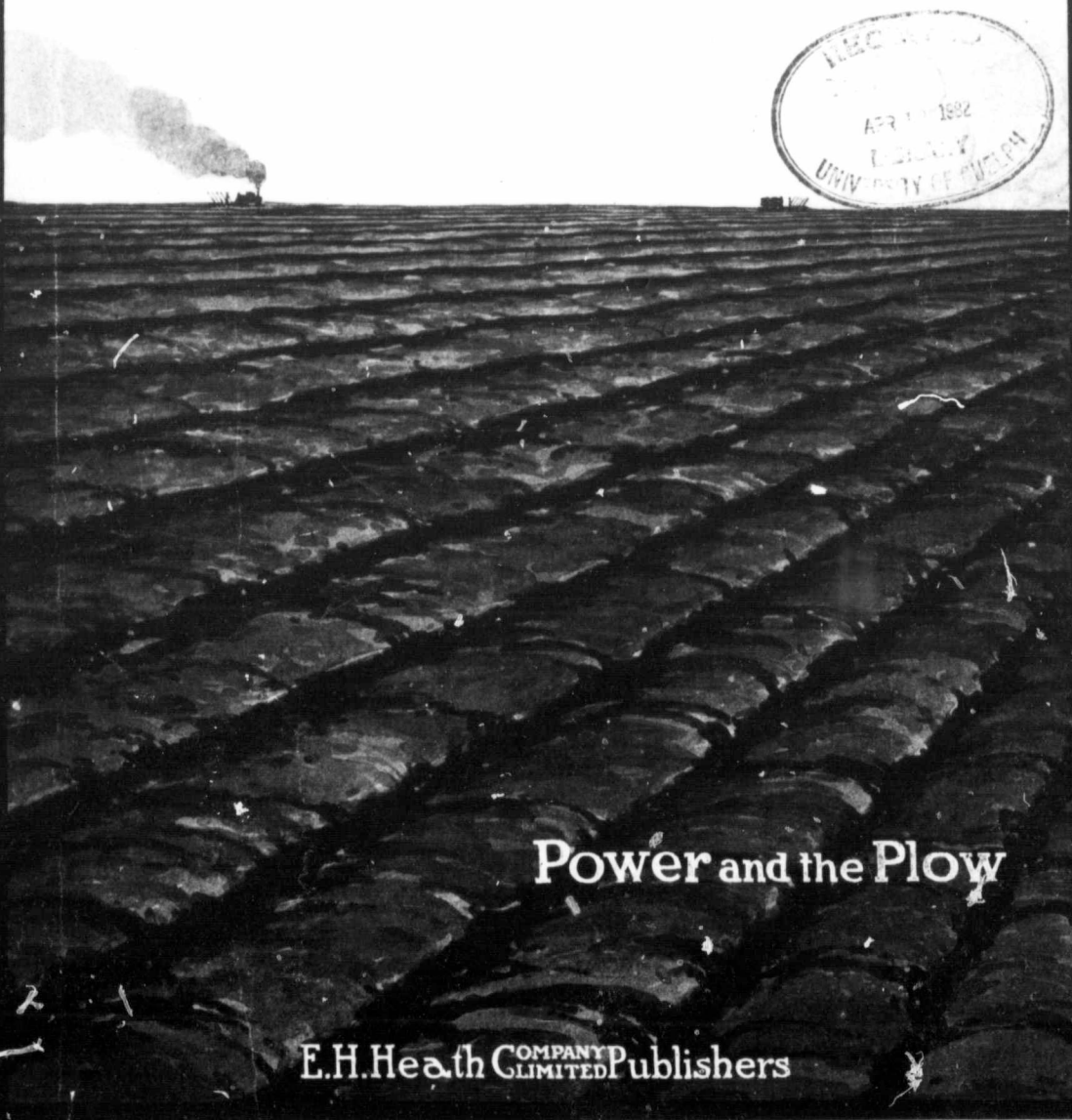
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# THE CANADIAN THRESHERMAN AND FARMER

CANADA'S FARM  
MACHINERY MAGAZINE

APRIL  
1911

WINNIPEG  
CANADA



Power and the Plow

E.H. Heath COMPANY LIMITED Publishers

# John Deere Engine Gang

## FOR PERFECT WORK



MORE JOHN DEERE ENGINE GANGS SOLD IN WESTERN CANADA THAN ANY COMPETITIVE MAKE

### 4, 6, 8, 10, 12 or 14 BOTTOMS

Labor most advantageously employed is the most productive.

The two men operating the engine plowing outfit shown here, will do from fifty to one hundred per cent. more work than six men and teams operating single bottom plows.

Therefore the profit on their labor is greater.

Or, to put it another way, the resulting crop costs less and is consequently more profitable.

This principle of the economical use of labor is one of the essentials of profitable farming.

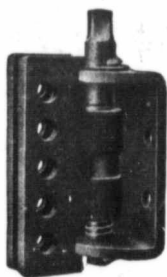
John Deere Engine Plows are built to operate most economically.

And to do the best work.

Here are a few important features.

Indestructible bridge-like steel frame, carried on three easy running wheels and covered with perfectly level platform. Plows

This is the Screw Clevis. Found only on John Deere Engine Plows.



Gives the Plows an Absolutely Accurate Adjustment.

attached to frame in pairs, each pair being operated by a single lever. One man can operate a John Deere Engine Plow, regardless of size. Each beam point is attached to a screw clevis, so plows can be given exactly the right adjustment.

A gauge wheel runs between each pair of bottoms making it possible to use rolling coulters in the right way. Beams carry stubble, turf and stubble, or breaker bottoms. And John Deere Bottoms have never been equalled for quality of work and light draft.

John Deere engine plows have the bottoms attached to frame in pairs. This ensures steady running, best work, easiest handling.

We have just published a new book which is the best thing ever put out on engine plows. It is FREE on request.

Ask for Package No. 50

Note the Special Features on opposite page

# JOHN DEERE PLOW CO. LTD.

Winnipeg

Regina

Calgary

Edmonton

Saskatoon

Lethbridge

# John Deere Engine Plows

With Quick Detachable Shares

Insist on an Engine  
Plow with the  
John Deere  
Quick  
Detachable Shares.



Furnished on rod or  
moldboard breaker  
bottoms or on  
stubble bottoms.

Don't waste  
the valuable time  
of a big plowing outfit  
changing shares  
the old way.



But one bolt to  
remove.  
Saves 80 per cent.  
of time in  
changing Shares



See this bolt

It's the only one you  
have to remove



SIZES :

John Deere Little Engine Plow  
4 and 6 Bottoms

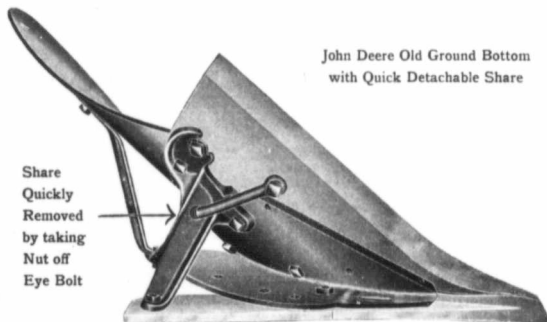
John Deere Jr. Engine Plow  
6 and 8 Bottoms

John Deere Sr. Engine Plow  
8 and 10 Bottoms

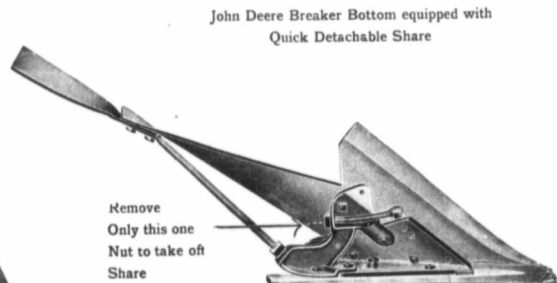
John Deere Big Engine Plow  
10, 12 and 14 Bottoms

With Quick Detachable Shares

Ask your John Deere Dealer about these plows, or write us for Engine Plow Book. This book contains all available valuable information on Engine Plowing.



John Deere Old Ground Bottom  
with Quick Detachable Share



John Deere Breaker Bottom equipped with  
Quick Detachable Share

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THE JOHN DEERE LINE OF ENGINE TOOLS INCLUDES AN IMPLEMENT FOR EVERY PURPOSE

# John Deere One Man Engine Plow

Operated from Engine Cab or Platform by Engineer

One Man Operates Both Plow and Engine

Three, Four or Five Bottom

The John Deere Engine Plow shown in this add is an ideal proposition for those who want a small one man outfit.

It works perfectly behind any small tractor that requires only one man to operate.

And the operator of engine handles plow without any assistance, because the lifting lever is just as handy for him as controlling levers of engine.

Combined with a small tractor this plow makes a very handy outfit which is economical to operate and conveniently used in comparatively small fields.

It will save money and time if substituted for horse drawn plows.

Engine of course, can be used for other purposes besides plowing. It is a general purpose farm power.

### Handles Very Easy

When plow is leveled and rear shoe set for plowing, the lifting lever is the only one that needs to be touched till land is finished. This lever extends far enough forward so engineer can operate it conveniently from engine platform.

Remember this plow has no platform and that it is not necessary to step down from the engine when raising bottoms.

In raising plow wheels crank backward, giving practically a power lift when engine is running.

Besides this, powerful lifting springs assist lifting lever.

The John Deere Engine Plow for Small Tractors is sold regularly with four bottoms, but it can be converted into a three or five bottom plow as conditions require.

To make a three bottom plow, remove rear beam and bottom and substitute blind beam which supports land side and clevis frame.

To make a five, attach fifth beam and bottom, also attach shoe to fifth beam.

This ability to increase or decrease number of bottoms is important.

For example, in heavy breaking the engine may not be able to handle more than three bottoms, while in loose stubble ground it may pull five easily.

### Deep Suck Quick Detachable Shares

These are not ordinary shares with the nose turned down. They are specially built for our engine plows and are very durable.

Quick detachable feature is a big advantage because it saves at least 80% of time ordinarily required to change shares on an engine plow. This means a lot—especially when in a hurry.

Simply remove one nut to take off share. This nut is easy to get at and holds share more securely than when held to frog by four bolts in customary way.



# John Deere Jumbo Grub Breaker

For Use with Traction Engines

Built for Heavy, Stony, Grubby, Poplar or Other Brush Lands.

There are many localities, especially in the Northwest, where there are large areas covered with grubs and it is desired to use an engine instead of horses for breaking. This requires a specially built plow of great strength.

And that is what the JOHN DEERE JUMBO Grub Breaker is.

It has the strength, turns a 24 inch furrow, cuts off all roots to depth of furrow and throws them out so that it is easy to clear the land.

It stands to reason that it is much more economical to clear a piece of brush land in this way, because the work is more rapidly done: all the roots are cut off deep enough to prevent sprouting and the ground is well plowed at the same time.

### All Steel—Has Great Strength.

The beam, levers, lever ratchets, clevis wheels, axles, handles and all other parts are made of high grade steel.

The fact is, the Jumbo Breaker is so strong that it will stand the pull of a high-powered engine without straining or breaking—you know what this means.

### Specially Constructed Beam

Instead of being one solid piece, the beam is made of three heavy flat steel bars securely bolted together.

This makes a very strong beam and permits the two outside bars to be shaped so that one supports the moldboard and the other the landside.

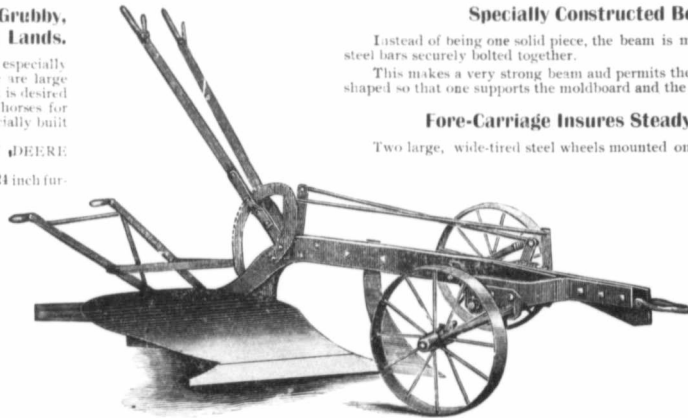
### Fore-Carriage Insures Steady Running

Two large, wide-tired steel wheels mounted on strong steel axles support front end of beam and steady the plow when at work.

Also axles operate with levers to regulate depth, level the plow and raise it out of the ground.

### Extra Heavy Standing Cutter

This cutter is held to beam by a strong clamp and is drilled at heel to receive share point—a great protection to share.



### Clevis Gives High or Low Hitch.

By referring to illustration, you will see that by inverting clevis a high hitch is obtained.

Clevis as shown gives a medium or low hitch.

Inverted, it gives a medium to high hitch.

Write us for further information about either or both of these plows

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THE JOHN DEERE LINE OF ENGINE TOOLS INCLUDES AN IMPLEMENT FOR EVERY PURPOSE

# BIG BUSINESS—BIG CROPS

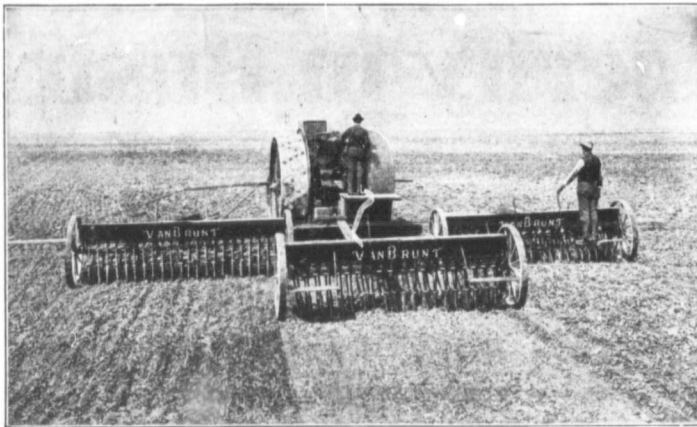
ANY FARMER WHO SEEDS WITH A  
**Light Draft Van Brunt Disc Drill cannot fail to make Money**

## WHY ?

Because every live grain that passes from the hopper goes right home to its proper seed bed and must germinate.

With the New (1911) adjustment of boot and discharge placed WITHIN instead of outside the circle of the Disc Blade, not a single kernel is left on the surface. Everyone is planted at a uniform depth.

Because there's no surface or a soil condition in Canada which it cannot perfectly negotiate without missing a single square foot.



Faultless work and a lot of it. Seeding with one Twenty and Two Twenty-Two Disc Drills 32 feet

## WHY ?

Because what it saves in horse flesh, gasoline or steam power. It is the **LIGHTEST DRAFT** seeder made—some 300 or 400 pounds lighter than most machines.

Because of the matchless strength and adaptability of the frame to uneven surfaces. **Dead weight** has been superseded by **living strength** in every rod, brace or bolt. It cannot sag in the middle and there is no straining on rough ground.

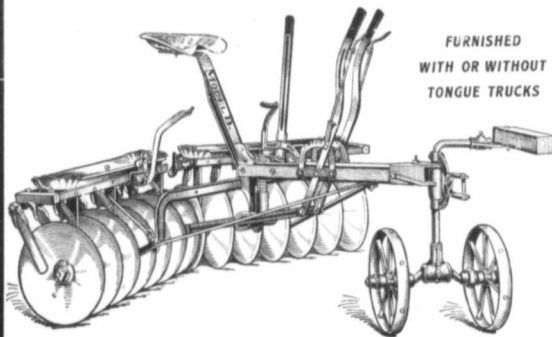
Because there is perfect alignment of frame, hopper and wheels, which with ordinary care when the implement is sold, guarantees a machine that will outlast most lives.

**Oil Tight Dust Proof Bearings**

**No Clogging Possible**

## DISC HARROWS

### Deere Model B Disc Harrow



FURNISHED  
 WITH OR WITHOUT  
 TONGUE TRUCKS

### It is the Only Real Flexible Harrow

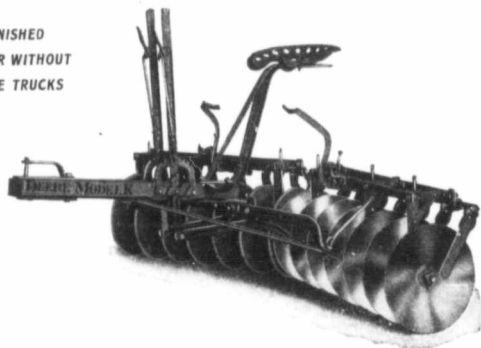
**PROGRESSIVE** Farmers know how much more satisfactory our Model "B" Disc Harrow does its work of pulverizing the soil evenly—without skipping rough places in the "middle"—because our Third Lever With Spring Pressure Yoke and controlled draw bars enables you to govern your discs. They can't push up in the centre, as with ordinary machines. You pull the lever and it locks automatically with discs working through dead furrows or over ridges always cultivating thoroughly. Special features besides superior malleable iron parts and extra durable construction are: Easy, Double-Spring Seat—High Frame out of dust—Adjustable Disc Scrapers—Lighter Draft, etc.

Write for Catalogue

Both of the above styles of Disc Harrows are excellent tools to pull behind a John Deere Engine Gang

### Deere Model K Disc Harrow

FURNISHED  
 WITH OR WITHOUT  
 TONGUE TRUCKS



**A** STRONG, substantial two-lever harrow, slightly lighter than Model "B," but having many of its points of superiority. The Frame is made from a single piece of heavy steel. The frame bars, crosstrees and braces are all steel, very securely riveted and bolted together.

The Scrapers are of the improved oscillating style, and can be easily removed or replaced. Hard Maple oil-soaked bearings are used on this harrow. Disc Blades are made of the very best quality steel, thoroughly polished and sharpened. Double Angling Levers on this harrow ensure a convenient machine for lapping lands and for hillside work.

Write for Catalogue

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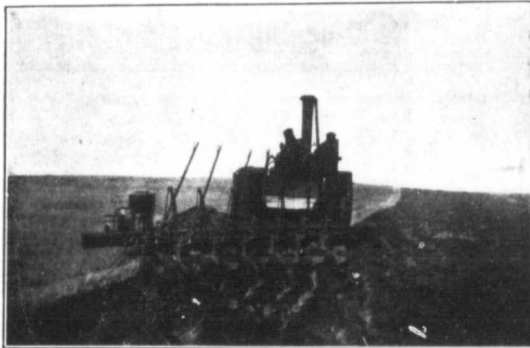
THE JOHN DEERE LINE OF ENGINE TOOLS INCLUDES AN IMPLEMENT FOR EVERY PURPOSE

# Our Easter Greeting

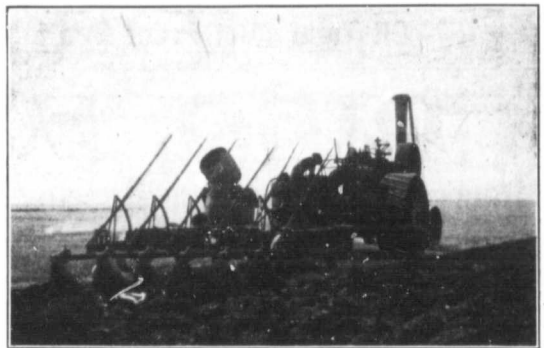
To You is

## 'Sincerity in Business'

**YOU** are offered the **S.M. line of Steam Plowing Engines** which we are sincere in saying is a line equal to anything on the market to-day



S. & M. Outfit of Donald McInnes, MacDonald, Man.



S. & M. Outfit of W. A. Kilgour, Moose, Jaw Saak.

**STEAMPOWER FOR THE PLOW** must of necessity be ample and cheap to repay you for bothering with it. You get this in our 22, 25, 27, 30 and 32 Horsepower Engines, all of which have successfully proved their worth to the purchasers

**YOU** who have the land to break or plow please consider well what we are placing before you.

Let us get together on a deal and the result is sure to make all of us happy

Can we send you our Catalog? It's free for the asking.

# SAWYER-MASSEY CO.

Winnipeg, Man.

LIMITED

The Largest Engine, Thresher and Road Machinery Manufacturers in Canada



Vol. XVI.

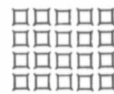
WINNIPEG, CANADA, APRIL, 1911.

No. 4.



## What Power Means to the Future

By L. W. ELLIS.



Does the fear of a landed aristocracy on the American continent lead us to blind our eyes to a change that is taking place? Do we cling to a tradition that must cease some not far distant day to be observed? Is the ideal of a little farm, well-tilled, so deeply seated that we are not willing to contemplate the possibility of a larger farm, better tilled and better managed? Must farm organization in the vast areas that are now being peopled follow the same lines as farm organization in older centers of population? Shall we some day say that hard-headed engine manufacturers, who are now staking their millions on a radical shift in farm methods, were miserably mistaken in their powers of foresight? These are questions of the hour. They bring us to one which is directly responsible for this article. "Will the large farms of Western Canada ever be universally split up and farmed in small, independent units like the farms east of the Missouri River in the United States?"

The answer involves a study in economics. Economic questions allow of infinite discussion, much theorizing, and indefinite conclusions. We shall attempt to consider only the arguments leading to a

negative answer to the question just put. Irrespective of our wishes in the matter, we must admit that conditions which never before existed are favorable to the permanence of large estates in Western Canada. Mechanical power on the farm, which is the dominant note in this annual traction farming number of the Canadian Thresherman and Farmer, is one of mighty factors, possibly the mightiest, that are bringing about this change.

ence and so-called "inherent" rights can resist the best interests of mankind as a whole. Governments, corporations and farms are subject to the same law—the perpetuation of the most efficient, the survival of the fittest.

Though separated politically, Canada and the United States are one in the working out of problems that ignore man-made boundaries. What is said here of one must be repeated with even greater force in the older nation

### Effect of Mechanical Power.

This labor must be spared from the unnecessary tasks. Machinery has released, and will continue to release, millions upon millions of farm laborers from the ranks of raw material producers. Mechanical power in the factory has eliminated the use of costly human muscle in the coarser tasks. Mechanical power on the railway and the steamship has led to the employment of a larger and larger proportion of the world's population in a beneficial change of products. Mechanical power on the farm must inevitably produce changes as far-reaching. Human labor must surely drift to those phases of agriculture where only human labor can produce the highest results. Phases which favor the use of mechanical power must as surely embrace the opportunity for its use.

Greater efficiency and greater production are demanded of our farms. In the United States this need is more keenly felt than in Canada. Four prosperous decades have brought hordes of European peasants to the States, and the population has increased one and a third times, yet each mouth takes a third more wheat, for example, than at the beginning of this period. Exportation of wheat has practically ceased, and importation has already begun. The cities are clamoring for the free entry of Canadian wheat. The tide of settlers has turned across the border, and Canada will even more rapidly



Buck and Bright and ? ? ? Effective but Slow

Man's industries must constantly grow more efficient or else perish. Mistakes will be made; temporary circumstances may force inefficient organization, but nothing can stand in the way of an economic necessity. Whatever is for the good of the greatest number will prevail. Inefficient management and the abuse of opportunity must both give way before the slow process of making the world better. Not even ideas of private independ-

which has a century less of future before it. The United States now and Canada in the future must face the problem of our daily bread. Neither can forever exploit her soil's wealth. Both must produce a sufficient food supply. Both must employ more labor in fitting raw products for final consumption, and exchange for the labor of densely populated kingdoms a larger and larger quantity of home labor in manufactured articles.

Some few months ago we enjoyed the pleasure of a visit from Mr. Ellis, and in the course of our conversation the question of the influence of the tractor upon agriculture came up. Mr. Ellis at that time laid down some theories that seemed to us new, and to say the least, interesting. They appealed to us so strongly that we asked Mr. Ellis to put them in form for our readers. We do not mean by this that we entirely agree with him, but at the same time, we must admit that what he says is pregnant with possibilities. Mr. Ellis has probably followed the tractor cultivation problem more closely than any man living today. —ED.



## POWER AND THE PLOW

## POWER AND THE PLOW



than the States come against the same problem of food supply.

### The Power Problem.

Right at the outset comes the question of power. Plowing is the peak load in agriculture. Sixty per cent. of the power consumed in raising and harvesting wheat, even on old land, is expended in the shallow plowing now prevalent. Deeper plowing, to secure maximum yields only sharpens the necessity for more power during the brief plowing season. The slow process of animal reproduction cannot yield the surplus power quickly enough. To-day, in Western Canada, where added power is imperative, horses are being imported at the rate of \$10,000,000 worth a year, yet oxen are used in large numbers. In the United States, the price of farm horses has increased 143 per cent. in ten years, in spite of a 50 per cent. increase in numbers, plus the enormous addition of farm power in the hundreds of thousands of engines sold each year for automobile, stationary and traction purposes.

Fifteen million work horses and the ten million more needed to keep up the supply of the States develop only sufficient power for present farm methods. Their feed alone costs one and a quarter billions each year, equalling the total income of two million average families. The crops from one acre in five are even now withheld from supplying human needs by the use of animals for farm power. Can we depend on an increase in the use of animal power to meet the needs of a demand for greater production? Or shall we admit the inevitability of mechanical power, that consumes nothing which could be converted into food for mankind? Every work horse displaced by animal power adds five to eight acres to the area which can be devoted to human maintenance. Even granting that agriculture may not always follow the lead of her sister industries, can we refuse to entertain the immediate solution to the problem of production that is offered by mechanical power?

### Power in the Industries.

What has been the effect of mechanical power upon manufacturing and transportation. The pack-mule and

prairie schooner have given way to vast railway systems, and the caravel to the Mauretania and even larger steamships. It costs less to send a bushel of wheat from New York to Liverpool than to haul it with teams from the farm to the railway station. Railways in the United States haul freight for as low as three eighths of a cent per ton mile, where teams transport

men in control, but this could not have been done had not mechanical power provided the basis for a more efficient organization than the old.

Centralized management, whether of corporation or community, has proved more efficient than individual management. Chicago is better lighted, and her water system is better now than when Mrs. O'Leary's cow kicked over an in-

sible in this case. We see, then, two closely related factors, power and management, making for the permanence of large enterprises. Is the farm exempt from these influences?

The large farm can be made more efficient than the small farm. That many large farming ventures have failed, and have been reduced in size is due to the lack of large calibre men of leadership. When old David Rankin, proprietor of 25,000 acres in Missouri, died recently, he was hailed as a captain of industry. Yet keen, quiet, college-trained boys are now taking hold of enormous farm enterprises and swinging them quite as successfully. We now have technical schools for farm managers and men of the proper size are now to be had to remove this obstacle to centralization.

The writer has in mind a 25,000 acre syndicate ranch in Kansas, the management which serves as a model for the entire country. Eight thousand acres of corn, two thousand of alfalfa and miscellaneous crops, eleven thousand hogs, six thousand cattle — these offer problems for a man of ability. The manager has been in charge for fifteen successful years. He has the most perfect system of farm accounting it has ever been the writer's privilege to inspect. Incidentally, two big traction engines bear the brunt of the heavy work.

The world's largest grower of hard wheat operates four or five engines on his 14,000 acre enterprise and has made a fortune on small initial capital. In California a 16,000 acre ranch with 10,000 acres of sugar beets offers evidence that intensive production is possible on an immense scale with proper management. Proper management plus mechanical power, perhaps, for ten traction engines, each having actually replaced sixty horses, were installed at the time of the writer's visit two and a half years ago. A classmate of the writer's operates a trifle over 6,000 acres in Saskatchewan for a firm in the States. Able managers and large power units have made these large enterprises pay. All are on a stable basis and show no signs of dissolution.

An editorial in the January issue of this magazine refers to a successful farm of 1,840



One Step in Advance but You Can't Beat it for a Straight Furrow

farm products at an average of twenty-three cents for the same unit. Mechanical power has centered manufacture in the steam-driven factory. The homespun and the tallow candle have gone forever, with a thousand and one necessities that cannot be produced as cheaply in the home as in the centralized manufacturing plant.

Our farms use four times the animal power per laborer that they

dividual lighting plant and the private vells of the neighborhood failed to stop the fire that followed. Winnipeg's street car service is vastly more efficient, and the city's growth is far less hampered, than under the old system of walking or keeping a horse. Mechanical power has made possible the central light, water and street car service, and centralized management is more or less of an afterthought.



What is Wrong With This Picture? Hold it up Before a Looking Glass and See the Result

used 60 years ago, and produce five times the weight of products per workman. The drift of labor has been away from the farm. Yet both factory and railway use more mechanical power to each employee than the farm uses in power of all sorts, and produce results in like proportion. The growth of these industries has brought staggering wealth to the

Efficiency of Large Enterprises. The growth of population in cities was first attended by an increase in the number of shops to supply the necessities. Then the department store was born, and population continues to increase, but department stores are not being split up as a result. Efficient management, and not mechanical power, has been directly respon-



## POWER AND THE PLOW



POWER AND THE PLOW



acres in Western Canada where the power equipment consisted of three traction engines, "two horses and two bronchos." Another case of management and mechanical power.

Economy in Production.

Large units are undeniably the more economical. In Minnesota a certain 1,800 acre farm, on which statistical investigations have been in progress, pays higher wages than 25 small ones on which similar records are kept. The rates of depreciation on the farm machines are, in the main, higher, yet the various machines cost less for each acre of crop handled, because their capacity is more fully occupied. The cost of producing an acre of barley is \$6.18 against \$7, \$8.88 and \$9.65 for three groups of smaller farms. On flax from \$1.00 to \$3.80 is saved to the acre in production, and from 90 cents to \$3.80 on wheat. Ten dollars a year is saved on each work horse kept. These are U. S. Government statistics, secured through six years of careful daily records.

In Iowa in 1900 each farm laborer had 3.91 horses at his disposal handled 60 acres of crops and earned \$611 per year. In North Carolina each laborer had .65 work animal to drive, tilled 13 acres and made \$147. Seven western states leading in the production of cereals in 1900 had increased 59.2 per cent. in size of farm since 1880, while in the South Atlantic States the average farm had shrunk 19.1 per cent. Greater use of machinery and power in the West were responsible, and we must remember that before 1900 traction farming was almost entirely undeveloped. The small grains have lent themselves most kindly to the introduction, first of machinery and animal power, and, second, to that of mechanical power. As early as 1895 it was estimated that machinery and power had increased the barley producing power of the average farm hand 2,244 per cent. and the traction engine was almost unknown. Think what influence power has had on production! They consider that the possibilities in traction farming are just beginning to be realized.

The tractor is revolutionary. So were the harvester

and cotton gin and the new cotton picker. The hay loader and corn picker, wonderful as they are, did not change methods of cultivation, nor effect a complete new farm organization. The tractor, on the contrary, suggests immediately the large farm; a farm without horses; a farm where several operations can be combined as never before, where, through abundant power, man has a new weapon of

areas. If mechanical power will reduce the labor necessary to produce a bushel of wheat, can we expect the ambitious farmer to be satisfied with producing the same amount that he now produces? Even if the acre production is doubled to compensate for the lower acreage, it has been shown that the necessary labor to the acre is but slightly increased with greater yield.

tent the experience of Germany and other countries, where leadership of large agricultural estates has contributed to welfare."

One of the first and most successful firms operating a gas tractor in Saskatchewan goes so far as to advocate government regulation of farming operations. The ground is held that intelligent supervision is essential to success and that farms are now too small to give competent operators a chance to show the economy in traction farming.

That mechanical power encourages the existence of large farms is sufficiently evidenced by the distribution of large power outfits. Where forests had to be cleared to make room for cultivated crops, the size of fields and farms depended on the destructive ability of the settler. On the prairies, however, the size of the farm was controlled largely by the number of horses which could be handled by one man. Prof. Davidson, of Iowa State College, puts a limit of four horses on the size of a manageable team in his state, and farms there are usually in multiples of what can be satisfactorily handled by such an outfit. Increasing the size in the past meant added complication in securing men and maintaining work animals. It is not surprising, then, that large farms through lack of managers able to control such complex enterprises, have been cut up into smaller parcels. In the south, where many large holdings exist, we often find them to be mere groups of small plots, each farmed by one negro and one mule, but under central ownership. The description, "a ten-mule farm," has a significance quite lost upon the average man from the north.

Now we have the opportunity to step to a larger unit, the "thirty-horse tractor farm," and it is a true saying of Dr. Thomas F. Hunt, of Pennsylvania State College, that man's activities have ever advanced with his opportunities. The small tractor cost more to build, sell and operate, proportionately, than the large tractor. It limits the possible size of a venture, and while it will be justified by economy and popular favor, we cannot lose sight of the fact



Good Work and Well Done but Expensive

defence against unfavorable conditions that threaten his success. The workman tills more acres, and may till them better if he will.

The small farm, well tilled, is destined to increase in size, but the idea dies hard. A close friend of the writer's recently said in an article in a farm journal. "The farmer of the future, to get the best results will cultivate 80 acres instead of the 160 he now handles

The Small Farm Threatened.

Dr. L. H. Bailey, Dean of the Cornell College of Agriculture, sounds a deep note in his book, "The State and the Farmer":

"I am not ready to admit that the traditional 'independent' farm family on 80 or 100 acres is always necessarily essential, as we have been taught, to the maintenance of democratic institutions or to the best development of agriculture.



6 Men and 30 Horses, and Yet the Outfit Doesn't Meet the Work of the Ordinary Tractor

in a half hearted way, as the big ranches and grain farms have already given way to the quarter section farm. Improved machinery and the greater use of mechanical power, with an ever increasing reduction in the amount of manual labor necessary to produce a bushel of grain will cheapen production." In the same breath is predicted a reduction of manual labor and a restriction of operations to smaller

The size of holdings and the relation of the family to the land, are likely to change radically in many regions, and we must be prepared to accept the fact. The American has a traditional fear of large estates, but such estates are bound to come in some of the remoter regions. We should now be sufficiently established in democracy to have forgotten our early alarm at such estates. Very likely we shall repeat to some ex-



POWER AND THE PLOW



## POWER AND THE PLOW



that the large tractor offers a wider opportunity than will certainly be utilized to the fullest extent. The large farm is in its very nature more efficient, and power and men are now available for maintaining its scale and organization.

### The Drift of Farming.

Each succeeding census of the United States shows a tendency, in some of the older sections, toward the larger farm and non-resident ownership. In others the tendency is toward smaller farms. The type of agriculture best adapted to each community is slowly but surely determining the size of the farm. The prairies are destined to remain the bread-basket of the world. Broad, free, stretches of level land, unhampered by petty farm lines and traditions, offer the opportunity for organizing the production of cereals on a broad and efficient basis. Where costly groups of farm buildings have not been installed on small holdings, where farm outlines have not been permanently established, where large power units and leaders of large ability are available can we expect an empire especially adapted to the large farm system to repeat the history of earlier settlements?

It will be far easier to retain the large farm in Western Canada than to make large farms out of smaller ones in Iowa. Yet Iowa, a purely agricultural state, alone shows a loss in population for the census of 1910. Her cities have grown, and fewer farmers are farming more land than was ever farmed in that wonderful state before. Throughout the Corn Belt, the countries which have gained materially in population are either those more recently settled or those containing cities of fair size. The time is ripe and all signs point to the reorganization of the older farming communities on a basis of larger and more efficient farms.

The small farmer cannot be a specialist. There can be no such division of labor on the small farm as on the large farm or in the factory. Capital and equipment cannot be so profitably employed for the economy of labor and the reducing of cost of production. The piecemeal marketing of farm products is an enormous handicap on the earning power of the

acre and the "independent" farmer is at the mercy of the highly organized interests that buy his products and sell him his necessities. Hence the widespread demand for re-organization.

### Re-Organization the Watchword.

Hon. Newell Sanders' remarkable paper, "The Reconstructive

waterworks, and each carry his water from the river in a bucket, the spectacle would not be more absurd, more wasteful, more barbarous, than the spectacle of the farm lands of Missouri, or of Kansas, or of any other state, cut up and farmed separately as they are now farmed."

We are entering upon a new era in agriculture. The opportunity

it sent hundreds of thousands to the city, and no dire results followed. The population was fed, clothed, and satisfied as before. The farm engine, once generally introduced, will send more to join their fellows. The big farm, with its marvellous equipment, will make work more attractive for those who remain.

### Power and the Individual.

Dr. C. E. Lucke, Professor of Mechanical Engineering at Columbia University, New York, sums the matter up as follows:

"No matter what changes may take place in the relation of man to man or in the individual life of each family, it is a truism that all must be fed, and the bulk of the food of the world must come from the farms; so that while one after another new occupation for men and women may be created and new class distinctions drawn, there always has been and always must be a farmer class, large, and fundamentally important to the mere existence of the rest. In fact, as the proportion of the farm producing population to the whole becomes less, so do those remaining on the farm become more essential to those who have left it; and the former are face to face at once with greater opportunities and greater responsibilities to feed with fewer hands the increasing millions that produce no food themselves.

"The use of power machinery is not only responsible for the creation and development of the manufacturing and transportation industries as they now exist, and all within the last century and a half, but there has also simultaneously resulted a change in occupation of a large part of the population, and to some extent in the mode of living as well. How, then, while these colossal social and industrial re-adjustments were taking place—more intense and more general than have ever been produced by all the wars and politics of the world—how has the original and fundamental industry of farming been affected, and what has power machinery done to assist in the production of the world's food supply? Practically nothing measured by the effects in the other fields; though a movement in this direction is now becoming



A Big Dutchman Engine Gang and a Hart-Parr 45 h.p. Gas Tractor at Work Near Portage la Prairie, Manitoba

Work of the Agricultural Engineer," published recently in these columns, points out the necessity and the way for one phase of the rebuilding of the farm. A farmer in Missouri recently wrote, "Give me the farm lands of Missouri, together with the work now expended on them,

for re-organization is here. A hundred years ago, four families on the farm barely supported one in town by their surplus products. Now, less than two support more than three, and the three have gone joyfully to the city. Man is a social animal, and prefers the crowd. The "back-to-the-land"



Plows, Packers, Disc, Drag, and He Burns Straw. A Reevs Cross Compound Engine Doing the Power Stunt, McLean, Sask.

letting me substitute one management for the present multiplicity of managements, razing fences, obliterating petty farm lines, and I will agree to do—what? I will give each farmer all he now gets and have an income of \$20,000,000 a year left. If the people of Kansas City would abandon their

cry has a pretty ring to it, but the drift to the city breaks into a race with every new invention that releases men from the isolation of the farm. J. F. Steward, the venerable sage of the International Harvester Co., once opined that the self binder was brought about by man's laziness. When it came



## POWER AND THE PLOW

# POWER AND THE PLOW

sufficiently general to warrant recognition and prompt some thought as to the possible effects should it continue."

And now what of the effect of mechanical power and the large estate upon the relation of man to man? What will be the ownership and management of the farm of the future? Dr. Hunt maintains that every invention that enables mechanical power to supplant the animal is a distinct advantage to society, but through what evolution must society pass in order to reap the full benefit? Men of large capital are now intently studying agriculture as a possible field for the investment of their accumulations, all the easy monopolies having already been exploited. The history of the modern captain of finance furnishes evidence that actual ownership of property is not essential to control. The control of credit is sufficient, and farming, like every other industry, must depend heavily upon credit. Can agriculture, the last refuge of the independent, be monopolized? Agricultural production, of course, cannot be centralized, but management can be, and inevitably must be centered more than at present.

### Co-Operation the Solution.

President McVey, of the University of North Dakota, said recently that the future control of agriculture depends upon the ability of small farmers to get together and perfect a business organization. An editorial in "Farm, Stock and Home" says: "Another phase of the coming farm life will be community industry. In our breeders' associations and other co-operative societies we have the beginnings of the system. If farming is to be placed permanently on its feet as a paying business we must expand and develop this vague groping after help into the close-knit co-operative community. The waste due to cross-hauling among neighbors only the neighborhood itself can eliminate. It is no argument against co-operation that it has heretofore shown but small results. The time for it was not ripe. The time is now here when the farmer can well afford to put his own farm upon a thoroughly organized basis, and can afford

to become a member of the larger community unit. In fact, he can afford no longer to do otherwise."

W. R. Wooden, Secretary of the Nichols and Shepard Co., draws a beautiful picture of the nature of like things to get together. "Consider the things that are blown about in the street," he says. "The wind blows, and the leaves gather in one pile, and the snow in another and the dust in

the tendency toward centralized management, regardless of ownership.

### Co-Operation Now Essential.

Co-operation has succeeded in Europe, in California, Texas, Florida, and elsewhere. Private will has been subordinated to common welfare. To be successful, co-operation must recognize the interest, not only of the co-oper-

in Saskatchewan may come to pass.

This very much resembles socialism. We already have it in our street cars, telephones, water and lighting systems, police and fire protection. What is sane socialism, after all, but the handling of affairs and property for the greatest number, with a guarantee of due compensation to the most efficient?

### The Large Estate in Canada.

The world must first of all be fed. Mechanical power will not only reduce the acreage needed to supply power for farm work, but will allow the organization of certain phases of agriculture on a broader and more systematic basis. Man's social instincts make the change welcome. Farm organization in Western Canada and other newly-opening areas can be more easily adapted to the new order than in older communities. There remains, therefore, a reasonable shadow of doubt that the large farms of Western Canada will ever be reduced by the process which brought about the small farm of the United States and Europe, or at least reduced to the same extent.

Land at the present time is cheap and there is every reason to believe that it will not reach prohibitive prices for some considerable time at least. Just as soon as one section of this Great West becomes settled and prices begin to soar, some new section is located that will raise its share of No. 1 Hard, and the emigrants or for that matter some of the old settlers wend their way thither, where large areas can be had for the mere asking.

Then again, the tractor with its complement of powerful tillage machinery makes the Western Canadian farmer more or less of a self-sufficient individual who with a minimum of effort can bring to a state of cultivation unusually large areas.

The people of Western Canada are farmers. If not in reality they are at heart. They are a land-loving land-linked class. Their living and their wealth is derived from the land, and so imbued with the idea of land ownership have they become that land holdings are to them what diamonds are to the collector of such gems. The large estate may some-

Continued on page 98



An Avery Undermounted Steam Tractor pulling a 10-bottom 14-inch John Deere Engine Gang, near Cardston, Alta.

another. Let that be a model for you threshermen."

Let it encourage the farmer, too, for farmers can and will get together. At the Land Show in Chicago last November, every conceivable form of co-operative effort was represented in the purchase of farm tractors. There was a joint stock company, with the small investor holding shares. There was the company where

ators, but of society in general. A prominent Ohio agriculturist once said to the writer, "The selfishness of the individual farmer is the greatest bar to co-operation. When co-operation among farmers comes, unless this selfishness is lost in the process, then Lord help the rest of us." But co-operation cannot be used as a club, or the story of the golden goose will be told.



A 26 h.p. Gaar Scott Steam Tractor Pulling a 6 Bottom 14 inch John Deere Engine Gang at work near Three Hills, Alta.

each stockholder lived upon the land representing the value of his stock, but management was centralized. There was the neighborhood partnership, and the pure co-operative society. There was also the proprietor hiring men to work portions of the whole; and the proprietor leasing portions of his farm to tenants on either a cash or profit-sharing basis. There was abundant evidence of

Society will give occupation only to the thing that serves it well. If power is abused, eventually it will be taken away. If opportunities are neglected they also will be removed. The process may be slow, but sure. Just as public utilities have many times been taken over by the community to check inefficiency and private greed, the public control of agriculture desired by the farmer

# POWER AND THE PLOW

# Hitches for Traction Cultivation

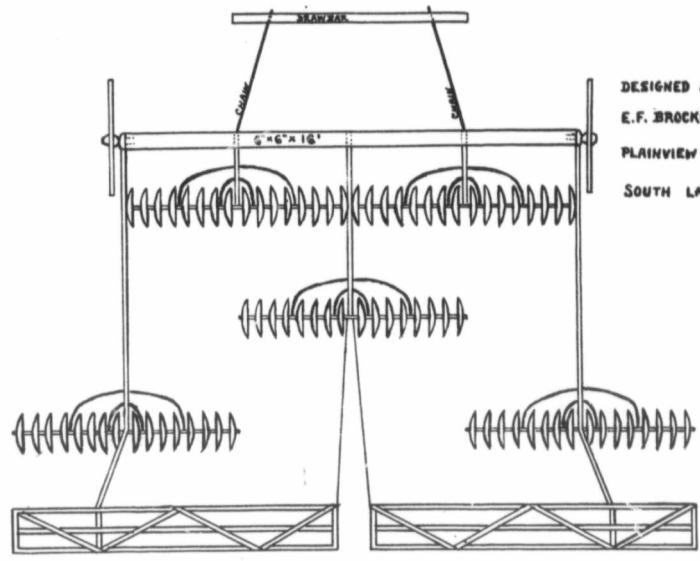


PLATE No. 1

### Three Good Hitches

This year we asked for hitch ideas from the traction plowmen of Western Canada and in response to our request we received over 100 ideas. We offered some small prizes for the three best and we can assure you that it was no small task to make a selection as we received so many good ones. The judges finally decided upon the following as the prize winners: 1st prize, E. F. Brockman, Lajord, Sask.; 2nd prize, J. L. Henderson, Adanac, Sask.; 3rd prize, Wilhelm Brothers, Swift Current, Sask. Honorable mention must also be made of those submitted by William Rowse, Hanley, Sask.; Rudolph Pele, Dominion City, Man., and Jno. S. Klaus, Gleichen, Alta. The majority of the ideas submitted were good and many of them will be published during the year. We want to thank you one and all for the interest you have taken in this matter and at the same time assure you that we appreciate your efforts along this line.—Ed.

I found for cultivating land that a tractor is O. K. and have worked out three very practical hitches which I have taken the trouble to draft and have them blue printed. I am sending you a copy of each together with films and photos taken from time to time. I am in a position to furnish any farmer or engine owner my drafting and full directions how to make them, which anybody can do on the farm with blacksmith tools. On plate No. 1 you will find disc hitch. In this we find two men and tractor doing the work of 28 horses and seven men; double discing and scrubbing at one operation. With this hitch the discs and scrubbers are all attached with 3/4 inch wire cable and clevises (no wire or binding twine used). Note how easily engine is attached and disengaged and machinery is yet all intact. Therefore, very little time is lost if engine gets in soft spot.

DESIGNED & OPERATED BY  
E. F. BROCKMAN AT  
PLAINVIEW FARM, 8 MILES  
SOUTH LAJORD SASK.

rows or plankers can be hooked behind drills if so desired. Two men handle this work nicely. We found it very convenient for flax to use kerosene barrels cut in two and bolt them on platform of each drill. A good day's work with this outfit is 75 to 80 acres per day on mile field of about one hundred acre strips. I have roughly outlined my ideas above and as I am just a farmer you will have to correct any errors which may be found. Very truly yours, E. F. Brockman, Regina, Sask.

### His Own Engineer—160 Acres per Day

Five years ago I bought a Reeves Cross Compound 32 h.p. engine and commenced breaking in this district. The first year I broke 1760 acres. I had six gangs roded together, making 12-14 inch bottoms. I have been hard at the traction farming ever since. I have broken nearly 7,000 acres and do nearly all my farming besides. I only use horses to touch up small corners that the steam rig can't get at. Last year I ran two steam rigs and now my steam power farming outfit consists of two Reeves Cross Compound engines 32 and 40 h. p., two Reeves steam-lift gang plows, carrying 16 and 12 fourteen-inch bottoms respectively, and a Reeves Compound separator 44-60, also discs, seeders, harvesters, etc. I pull the 16 fourteen-inch bottoms with the 40 h.p. and the 12 fourteen-inch bottoms with the 32 h. p. These two gang plows cut a swath of 32 feet 8 inches and in an average day will turn over 115 acres. This last year, 1910, I have plowed and broken 2,500 acres. Aside from plowing I have double-disced 2,700 acres with the 40 h. p. engine. My discing outfit consists of 12 eight-foot discs and double discs 48 feet at a swath. Besides, I often have 50 feet of harrows behind the discs. This rig will double disc and har-

On plate No. 2 you find drag harrow hitch made of 6 x 6 and 2 x 6—48 ft. long, bolted to four runners on skids. Note how evenly the draft comes at all points. This outfit properly hooked up takes the place of five men and twenty horses and covers 175 to 200 acres per day. In fact, in one day last spring in actual time from 11 a.m. until 8.30 p.m. without stopping for meals, two men covered 175 acres. Every farmer knows the value of time in the spring in Canada. In hitching machinery to an engine the hitch must be very strong and yet not bunglesome to be practical. In this hitch also the reader will notice how free and easy the engine works, being attached only at the draw bar. On plate No. 3 is drill hitch. This is planned for 22 or 24 shoe drill and 3 drills are all that can be used with any degree of success. We tried this hitch out last spring, sowing 1070 acres of oats and flax and it is a success. Har-

### DRAG HARROW HITCH

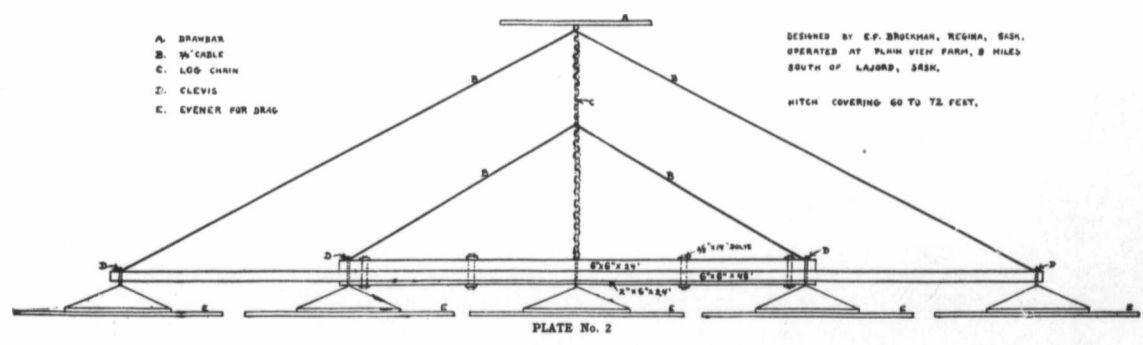


PLATE No. 2

- A. DRAWBAR
- B. W. CABLE
- C. LOG CHAIN
- D. CLEVIS
- E. EVENER FOR DRAG

DESIGNED BY E. F. BROCKMAN, REGINA, SASK.  
OPERATED AT PLAINVIEW FARM, 8 MILES  
SOUTH OF LAJORD, SASK.  
HITCH COVERING 60 TO 75 FEET.

row 160 acres a day. I usually follow this discing outfit with the 32 h.p. engine, pulling floats and harrows, covering the same swath. All my land working rigs such as discs, harrows, floats, seeders, etc., cover 48 feet at a swath. So one rig follows the other and covers the same amount of ground.

In seeding last spring I double disced, harrowed and drilled 1,700 acres, making an average of about 150 acres a day.

Last summer I did my first harvesting with steam power, pulling seven eight-foot McCormick binders and can make an average of 220 acres a day. I cut 1,400 acres of grain last year and call it a pleasure to harvest with such a rig. I use the 32 h. p. for this job; it's only half a load for the power.

I keep twelve work horses on my farm of three sections of land and find it quite sufficient to keep things going nicely.

The cost of breaking per acre is about \$1.00. Two firemen, two engineers and one plowman will take care of both rigs. I am well pleased with traction power for farming. I do my own building and repairing. I have been an engineer for years, and hold the position as chief engineer and manager in the bunch.

I have two drawbars 40 feet long. These drawbars are carried on two wheels. Old binder wheels are what I use. It's the best drawbar I have seen and in fact I can't see where it could be bettered. I hook 12-8 foot discs and 40 ft. of harrow and same stands up to its work without a twist, sag or bend. The rig is made of selected fir; main draw bar is 2 x 8 double. The rest of the frame is 2 x 6 double, and when put together is like a span bridge that is well supported with trusses. My neighbor tractioneers are taking the pattern off it. I will send you a drawing or the idea of what I have.

I use three cars in my outfit: dining car 11 x 28 feet; sleeper and shop 9 x 24 ft. When the spring's work begins we pull out the whole outfit and where my work is there you will find me.

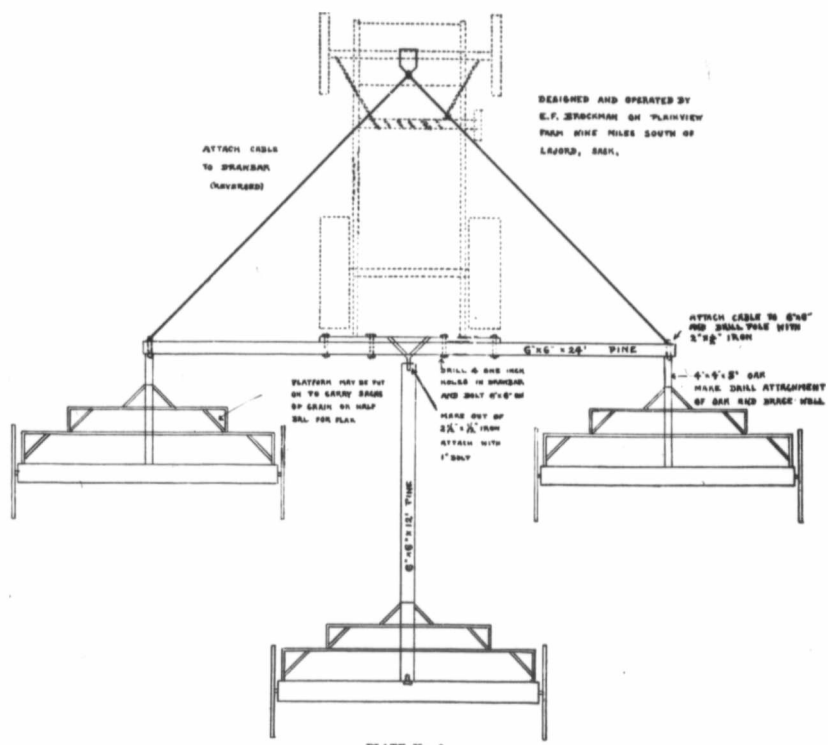
The success in farming with traction power demands good machinery. It must also be kept in good repair to do good work.

Yours truly,  
Wm. Rowse,  
Hanley, Sask.

**Hitches for Everything**

I am sending you a drawing and the dimensions of a hitch which we made and used last summer for all our seeding and discing. All we had to do was to draw it, as it never gave any trouble with the exception of having to tighten a few bolts occasionally.

It will turn as sharp as any engine and has gone over exceedingly rough ground, and as will be seen gives the engine no side draft. We used the two swivel wheels of Cockshutt plow frame, taking all the beams that go with the swivel part. We also used the chains, clevises, and grab links of

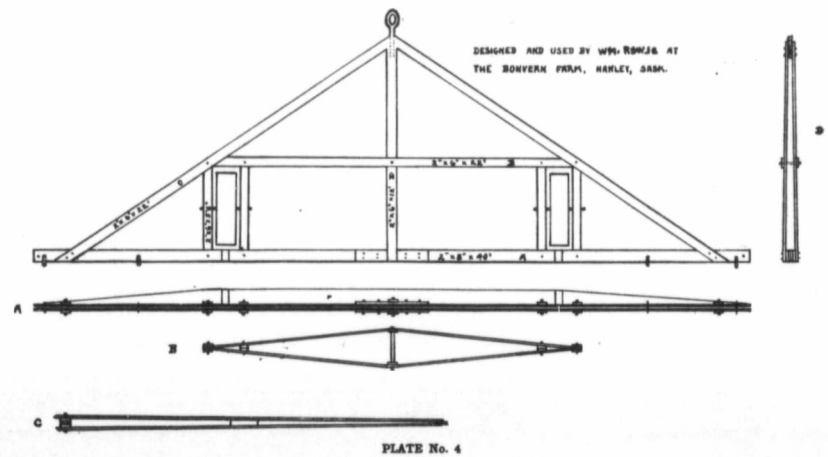


the plows between the two stationary beams, placed a 3 x 6 inch or if a 4 x 6 inch it will need trimming a little to clear the wheels. This sill extends back, the distance of which depends on how far back the discs or drills are placed. On the under side of this sill is placed a piece of the same sized stick, cut so it will fit the sill and slope towards the front to enter between the lower and back end of the steel beams, which it is bolted to; the upper end of this stick being bolted and spiked to the beam. The bolt which goes through the steel beams at the bottom is made long enough to allow for iron braces, which slope upwards, one

on each side and are bolted to the frame. This frame consists of three pieces 2 in x 10 in, by 30 ft. long. These are put edge to edge and are bolted to the beam. Starting at the front of the beam, between the last two pieces is placed a piece 2 in. x 6 in. by 30 ft. long on edge. This piece is supported by almost triangular pieces placed behind it and well nailed in place to keep from turning or splitting, as it is by this piece that the first row of discs are drawn, by cutting 1 1/2 inch notches for the poles of the discs. A strap of iron is placed over the top which is put on with wood screws for holding

the poles down. Another piece of iron 1/4 in. x 1 1/2 in. which is bolted on the underside of pole and runs forward 4 in., then down 2 1/2 in., then stops upward to the pole where it is again bolted. This piece serves to draw the disc. In drilling we drop the centre disc pole just behind the draw bar, putting a staple-shaped 5/8 in. iron through the iron in the end of the pole, and then poles in the draw bar, which has a plate in front to keep the nuts from cutting into the wood. On the front of the frame just between the swivel wheels is a piece 2 in. x 10 in. by about 15 feet long. This piece drops down and is nailed to the

**THE ROWSE DRAWBAR**



edge of the frame and supports the frame. As the draw-rods come under the bottom edge of it, brings the draft lower down. This piece is held from turning by two pieces of  $\frac{3}{4}$  in. x  $1\frac{1}{2}$  in. iron, which comes from the top where they are bolted to the frame on the top, then bent down over the face of this front piece. Then from the bottom upwards to near the back edge of the under-side of frame where they are bolted.

A bolt placed 2 inches from the bottom for to bolt this front piece to, another  $\frac{1}{2}$  inch hole is put in this strap 2 inches from the top and a tightening rod of  $\frac{1}{2}$  inch goes through on the under side of the frame, which is hook-shaped at the back and is for tightening the frame. At the outer end of the frame is another such rod going through about halfway between the wheel and the outer end of the frame. The nut end of this rod is held in the same way only the iron plate is short as the hole is all that is required.

Now two  $\frac{3}{4}$  inch rods with eyes in ends of them serve as draw rods. They are fastened at the back end of an inch bolt which goes through the beam about 8 or 10 inches behind the frame which this rod is put on and with a strap which goes on below it runs back a few inches where it is bolted and supports the draw-bolt. These two draw-rods run slightly together and to the front, under the front piece in which they are sunk deep enough to be held in place by nailing an inch on the under-side of them to the edge of the front piece. In the eye of each of these draw-rods is placed the clevis and grab-link of the plows.

Now to the back end of beams or sills is bolted a piece 2 in. x 8 in. which is bolted on top of the disc-poles and beam. Bolt-holes that are in this piece are made larger than the bolts used. To allow for the discs to rock, going over rough ground I use large washers on the heads of these bolts. On edge and nailed to the edge of this piece is another 2 in. by 8 in. for to support the second row of poles, which are discs or drills and are fastened, braced, etc. same as the first row, with the exception that they are allowed a little more side play and the draw comes from the draw bar with clevises and rods. The centre disc is fastened to its neighbor with light chains. As the centre drill which is drawn by it is a little inclined to draw it out of line when turning sharp, on the beam of this disc is bolted a piece 4 in. x 6 in. just a little longer than the beam. On the top of this is a 2 inch by 6 inch which is a little longer than the width of the poles apart, as the drill poles rest on it. Two staple shaped irons go over these poles to hold them in place and have nuts on the ends to hold poles down. A chain draws this drill from the back end of the disc.

Take off the foot-boards of the drills and bolt on a 2 in. x 12 in. piece. This may on some drills have to be put on the underside

Continued on page 95

DESIGNED AND OPERATED BY  
JNO. L. HENDERSON,  
ADANAC, SASK.

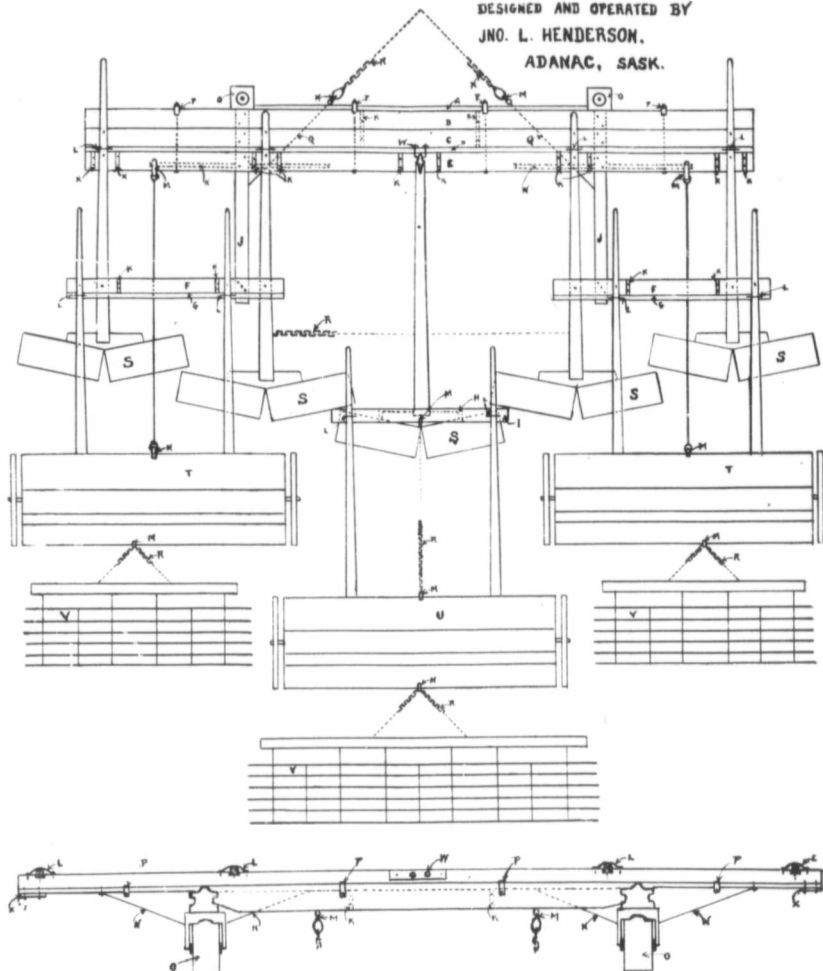


PLATE NO. 5

DESIGNED AND USED BY  
WILHELM BROTHERS AT  
SWIFT CURRENT, SASK.

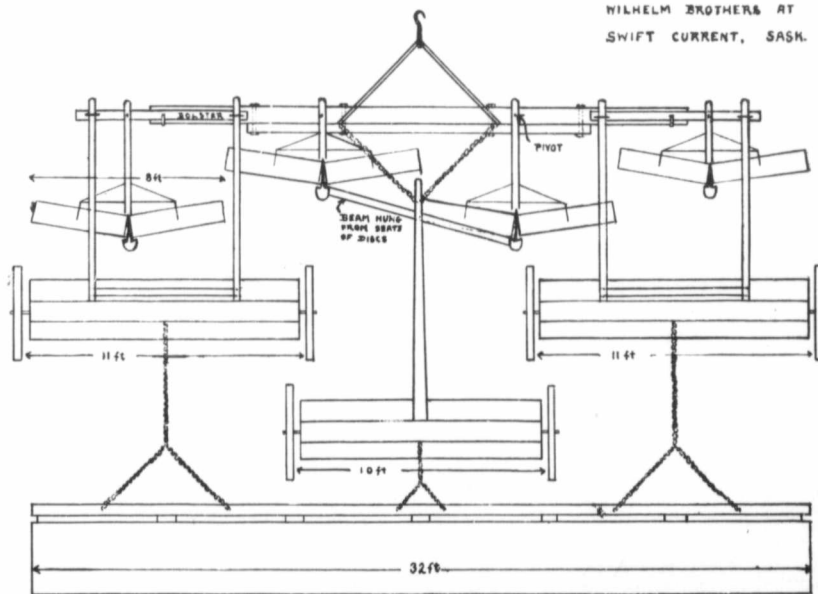


PLATE NO. 6

# TRACTION PLOWING

## AS TOLD BY THE MEN WHO DO IT

On this and the following pages will be found a number of letters from traction plowmen in Canada West, the originals of which are on file in our office. We have inserted the letters just as they came to us, and we will, therefore, not hold ourselves responsible for any of the opinions or criticisms contained therein. Should anyone disagree with the statements made, we would be pleased to offer them the use of our reading columns for the purpose of criticism, etc.—Editor.

### The Power Problem as Seen from the Inside

By G. S., Hope, B.C.

In considering the importance of the machine on the farm I certainly think that the traction engine is of the first importance, as it enables the farmer to do so much more work at a much lower rate of cost and also very much quicker than he can do along the lines the present farmer follows; or should I say the farmer of the past?

The writer does not intend to go into the past history of steam or gas engines, as it is of very little account to the average farmer, but suffice it to say that the engine has been invented and improved during the last few years to such an enormous extent that it is manufactured so cheaply that every farmer is able to buy the best, and again, it is becoming a necessity to the farmer.

It is my intention in this article to help you realize that the sooner the farmers of Western Canada see and benefit by the opportunity to raise their standard placed before them by the introduction of a new and cheaper motive power, the better it will be for themselves. I wonder how many farmers there are who, when they heard of steam plowing said to themselves: "Here is a chance to raise our social position." I will wager that most of them looked at a steam engine as a motor for pulling plows much as they look at an aeroplane these days.

Just let us consider the opportunity placed before us by these steam and gas tractors. In the first place, they enable us to do our plowing much cheaper, which helps our little pile which we intend to spend on an auto one fine day. Second, it does the work very much quicker, which gives us a little more time on our hands and saves the worry over that

fifty or hundred acres we couldn't get plowed last fall; and third, it does away with a tremendous lot of drudgery, such as walking behind a jaded team of horses, or swearing away our souls behind a stubborn team of oxen. As I said, it was my intention to

show you how much to your advantage it will be for you to own and operate a steam or gas tractor.

My readers will clearly understand how the steam engine helps to raise the social standard of the farmer from what I have already said, i.e., cheaper and quicker and more congenial. Now let us con-



An I.H.C. Gas Tractor pulling a 4-bottom 14-inch John Deere Engine Gang at Young, Sask.

sider the business end of the stick and see how we can do the work cheaper and quicker. I will refer to the steam engine in all my illustrations as it is the most costly of the two powers; so my readers will see that if plowing with steam saves 50 per cent. on the present cost of plowing, plow-

ing with gas will go a little further though the gas engine is practically in its infancy. But let me get to the point I set out to reach, the Advantages of Motor Plowing over that of Horses, as used in plowing.

In business a man will consider every detail with regard to cost, even including the common

mean is he should consider the cost of plowing, cultivating, seeding and harvesting in the way he is now doing it, and see if there is no way of doing it cheaper.

In regard to the cost of plowing with horses. We will take a farmer who has six good horses worth \$1,050 and two gang plows

the spring. It will take him twenty-five days to do his plowing and assuming that he has no more horses to put on cultivating or seeding, the above hundred acres making a total of forty-five days.

Now, assume the farmer has two hundred acres to plow. It stands to reason that two teams of horses could not do the work in time. Therefore, he must buy at least another three horses, making the initial cost up to \$1,755. With this additional power he would get his work done 25 per cent. quicker with only an additional cost of 50c. per acre. Therefore we have:

Initial cost .....	\$1,755
Acres plowed per day ... 4 acres	
Acres cultivated per day, 20 acres	
Cost per acre per day .....	\$2.50
Time (roughly) .....	35 days

Now, let us consider the argument that travelling salesmen put up about steam plowing; there may be something in it. Take in this instance a small plowing outfit, say 20 h.p., costing \$1,800 and a six bottom stubble plow costing \$500, making a total minimum initial cost of \$2,300. Now, for the cost per acre, you will need:

Engineer, per day .....	\$3.50
Fireman, plowman, tankman	
and team .....	7.00
1½ tons of coal .....	6.00

Total cost per day.. \$16.50

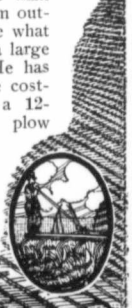
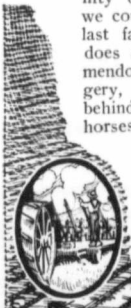
An outfit such as the above will plow 12 to 15 acres per day. We will use the lowest as a criterion and say 12 acres per day at a cost of \$16.50—\$1.37 per acre and 200 acres at the rates of 12 acres per day will take 17 days to do. But there is another advantage to the above outfit. It will also cultivate the land in the same operation as plowing, by the simple method of fastening harrows on behind the plows. If a farmer with 9 horses can plow cheaper than a man with 6 horses, it is equally applicable to the man with a small steam outfit; so we will see what the farmer with a large outfit can do. He has a 32 h. p. engine costing \$3,000 and a 12-bottom stubble plow costing about \$1,000, making a total minimum cost of \$4,000. He will need as follows



A Marshall Oil Tractor pulling a Cocksbutt Engine Gang, near Claresholm, Alta.

worth \$180, making the minimum initial cost of \$1,230. We now consider the wages of two men and two three-horse teams to be equal to \$8 per day. The most that the farmer can get those two teams to do would be four acres per day, making the cost of plowing \$2 per acre. Now suppose he has a hundred acres to plow in

## POWER AND THE PLOW



# The Engine Gang that Revolutionized Traction Plowing

- One Plow to a Beam
- A Double Beam to Each Plow
- Each Plow Works Independently
- No Tractor Stops for Rocks
- No Winging of Plows
- No Rising in Hard Ground
- No Choking in Trashy Ground
- No Shallow Furrows in Tractor Wheel Ruts
- No Trouble on Curves
- Quick Turns at Furrow Ends
- Long, Easy Lifting Levers

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

The Cockshutt Engine Gang, 3 to 12 plows, are drawn from a strong channel-beam triangular platform frame, with a large, roomy platform. Wide-tired wheels close to the slanting beam which carries the hinges, keep all plow beams at the set height above sod or stubble. This means that the last plow always plows at set depth, makes an equally perfect furrow with the leading plow. No matter whether ground is over soft or hard baked, all plows turn furrows at the set depth and in the same way.

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

This flexibility between all the plows, and the low line of draft from tractor mean speed. The long levers mean an easy and quick lift of all plows at furrow ends. The swivelled platform wheels mean a quick turn at furrow ends. There are no stops of tractor needed during work. This means economy. It means quicker plowing by covering more ground each working day.

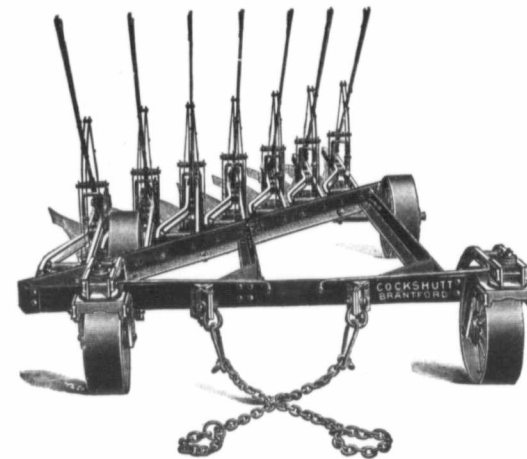
The Cockshutt Gang is the traction-plowing medal winner. Three out of four traction plowers use it. It is the easiest to handle. It stands up to all kinds of work. It does sod breaking or stubble plowing swiftly and cleanly, no stops for clogging or breakage. You need the Cockshutt Engine Gang for sod or stubble work.

## COCKSHUTT ENGINE GANG

We want you to see the Cockshutt Dealer regarding a Cockshutt Engine Gang. We have the flexible principle, the individual-plow principle—as near an approach as possible to horse plowing—the benefits of better work.

You get a type of Engine Gang that will never stop your plowing from an accident. If a plow does break down, simply transfer the rear plow, beam and all to the place of the broken unit and plow one furrow less while repairs are being made.

## Get the "Horseless Plowing" Book from the Cockshutt Dealer



Seven Furrow Engine Gang showing the wood platform removed. Note how strongly the frame is braced.

Note the wide platform wheels, the swiveled front wheel, the reinforced channel steel frame, the wide hinge bearing of the doubled plow beam, the set screw at each plow to adjust suck of share. See the length of lifting levers and the large platform room on the COCKSHUTT ENGINE GANG.

- Easy Beam Alignment
- Set-screw Share Adjustment
- Big Roomy Platform
- Plows Interchangeable
- Furrow of Rear Plow in Gang, Perfect
- Wide Hinge at Beam Connection
- Straight, Low-down Pull from Tractor
- Wide Platform Wheels Maintain Set of Plows
- No Miring in Soft Ground
- Increased Speed from Saved Power
- Increased Acreage from Continuous Plowing

**COCKSHUTT** PLOW COMPANY LIMITED **WINNIPEG**  
 BRANDON REGINA SASKATOON CALGARY EDMONTON

**COCKSHUTT** PLOW COMPANY LIMITED **WINNIPEG**  
 BRANDON REGINA SASKATOON CALGARY EDMONTON



## POWER AND THE PLOW



Engineer per day \$3.50  
 Fireman, plowman, tankman per team 7.00  
 2 1-2 tons of coal per day 10.00

Total cost per day 20.50

This outfit should plow 25 to 30 acres per day. We will again take the lowest and say 25 acres per day, costing \$20.50=82c. per acre and 200 acres at the rate of 25 acres per day will take eight days.

Now compare this man's outfit with the horse plow.

	Steam Plows.	Horse Plows.
Initial cost	\$4,000	\$1,750
Acres plowed per day	25 acres	4 acres
Cost per acre	.82c.	\$2.50
Time (roughly)	.8 days	35 days

The man with the large steam outfit can save \$336 every year on every 200 acres plowing over the man who sticks to the old-fashioned way of plowing with horses. Besides, if he hitches harrows behind his plows and does both by one operation he will save 40c per acre per disc harrow. Then again, these are not all the advantages of a steam engine on a farm. A go-ahead farmer will still keep on figuring the cost of seeding, breaking, harvesting and threshing and will find out that it will really pay him to buy a separator or hitch a few binders with a stooking attachment on to his engine and get some breaker bottoms for his plow and so on.

You will say that this is all very well for the farmer with a section of land, but it is equally applicable to the small farmer if he buys a gasoline outfit and runs it himself; or better still, if a few neighbors go in together and form a syndicate.

In figuring out the cost of coal I may say that it is slightly under-rated as the cost depends upon how far you have to haul it. A good way of handling it is to take a load of grain to town and bring back a load of coal. In this way you are able to haul all winter and in the spring you have your summer supply of coal right at home.

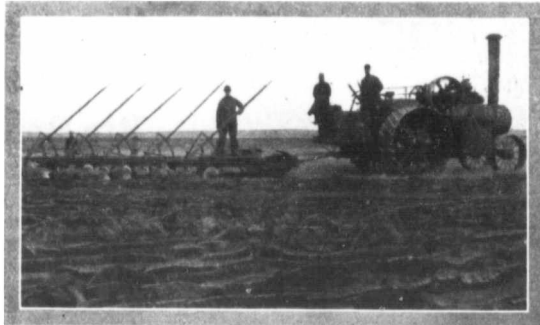
The next operation is to haul it to the engine. You may do this by having a spare wagon with a flat rack on and have the tankman throw on about enough coal for the morning's use before he goes out in the

morning and by the aid of practice and a little calculation, he will soon be able to judge just the right quantity. If he works it right he will always have an empty rack to drive home at noon when he can throw on enough coal to last the afternoon. By this arrangement you have the coal and water hauled by one team, saving a cost of \$3.00 per day for another team.

I had better say right here that

decided on a gasoline tractor. We ordered a 30 horse power Flour City. This engine will do the work on level land with good footing of about twenty horses, and has a 45 horse power at the belt. The engine was delivered early in March, 1910.

The actual expenses of hauling the tractor are less than with horses we found, but the trails will not allow it until they are graded, anyway.



A Sawyer and Massey Steam Tractor at Work near Swift Current, Sask. A John Deere Engine Gang Negotiating the Furrows

in my figuring I have just jotted down roughly what I remember it would cost two years ago in Northern Saskatchewan in my home town, and if I have under-rated the cost of steam plowing to the extent of making it help the actual cost, I may say that you are still saving money by owning one. I have been pitcher, tank man, fireman and engineer

The plows we use are 12 inch Verity gangs, ordinary horse gangs. They do nice work plowing, though we had considerable trouble with small castings breaking, as well as being awkward for the plowman at the ends. A plow for engine work has to stand fierce handling and the modern engine gang will do that. We found on account of the land be-



A Hart-Parr 45 h.p. Kerosene Tractor Pulling 6 14-inch John Deere Bottoms, at Castor, Alta.

and all-round handy man on farms, plowing outfits and threshing outfits for a number of years.

### Thinks Tractor Should Have Larger Gears.

We took a section of land in the fall of 1909, 52 miles northwest of Swift Current. Horses and feed were very expensive, and as we were anxious to get the land under cultivation, we de-

ing heavy that the engine would only handle four bottoms easily. The mold boards will not clean in this land, and that gave us considerable trouble and time lost in cleaning every half mile.

We lost some time with valve spring breaking. The temporary springs I made would only last one or two days, and, owing to a mistake, the springs ordered were sent to the expert, and we received them in June.

After we had broken seventy acres we hooked on two eight foot disc harrows, one fifteen-foot packer and twenty-foot drag harrows, and worked the land for flax. I did not keep track of expenses this work. The engine handled the load much easier than the four plows, and on the level prairie I could easily pull more.

We did not buy a separator, but tried the engine on a 36 inch American Abell which threshed around here. In flax and wheat the 36 inch is a little too heavy, but engine handled it fine, running like a steam engine. If we buy a separator it will be 29 inches to 32 inches to have more reserve power for heavy threshing.

I think the engine is better on threshing than plowing. This last summer was very hard on all gears, so much dust all the time. All tractions round here seem to have had the same trouble, and I think all gasoline tractors should have bigger gears, well protected from dust.

As to expenses. When plowing, one man and team would easily keep the outfit running. He hauled six barrels of gasoline in a trip, taking three to four days, and that lasted nearly two weeks. In fact, the only great draw-back in the distance from town is the difficulty in getting repairs promptly. We broke on an average of eight acres per day from four to five inches deep; that is a ten hour day. The gasoline cost 36 cents per gallon and we use 3 1-2 gallons per acre.

8 acres, 3 1-2 gallons per acre, at 36 cents	\$10.10
Engineer and myself	—
Oil and grease	1.25
Water, one barrel per day	.25
Board for two men	1.00
Depreciation on engine, plows, etc.	5.00

\$19.10

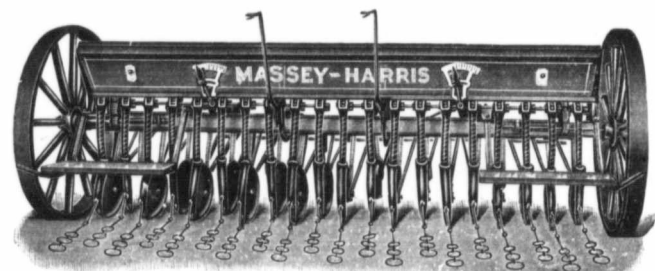
Although our venture has not been a brilliant success, I fully believe gasoline tractors are the only thing for all heavy farm work. There is never any trouble in starting. If our engine did not start after being pulled over two or three times, I could always find a loose wire or perhaps a dead cell in dry battery. The older types of ignition systems used to give the operator lots of trouble, but



## POWER AND THE PLOW



# MASSEY-HARRIS



16-20-22 and 24 Shoe, Double or Single Disc. Frame carries any style bottoms

**NEW**  
 Shoe, Double and Single Disc Drills  
**I BEAM EXTENDS**  
**FULL WIDTH OF FRAME**  
**STRONGEST DRILL MADE**

**CARRIES LARGEST GRAIN BOX SOLD IN CANADA**  
**SHORT AXLES—GEAR DRIVE—POSITIVE SOWER**

## Massey-Harris "Olds" Gasoline Engines

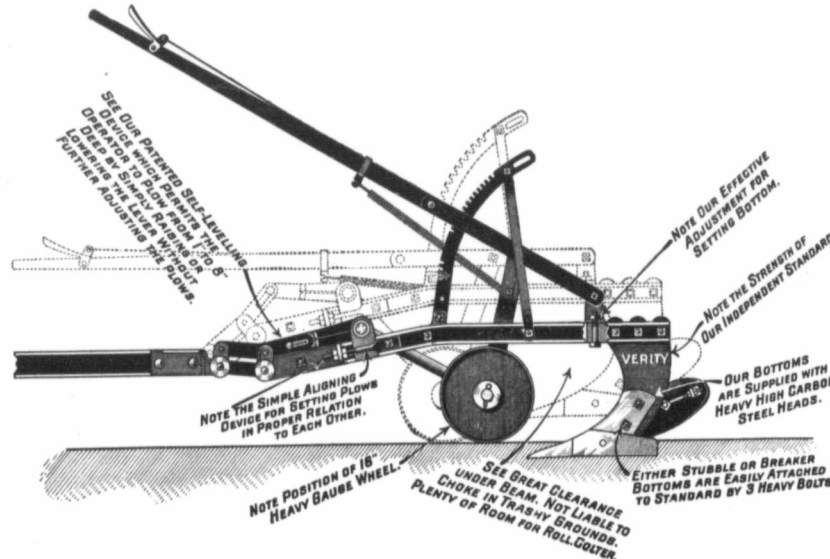
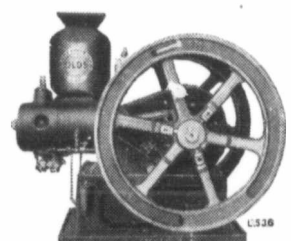
Most power from least fuel. The Engine of few parts.

**SEAGER MIXER** has fewest parts of any carburetor on the market. A perfect mixture. No pump is used. No packing to wear. No danger from fire through a defective pump.

**JUMP SPARK IGNITION.** Explosion always occurs at the right time. Time of ignition never changes. No lost power. All moving parts in the cylinder are eliminated. Batteries will last twice as long with jump spark ignition.

"**OLDS**" **HIT-AND-MISS GOVERNOR** controls engine at all times. Engine cannot "run away." Speed may be changed while engine is running. Simplest and most effective Governor manufactured.

**NO UNNECESSARY WEIGHT** WITH HEAVY CONSTRUCTION WHERE IT IS NEEDED



**NEW**  
**ENGINE**  
**GANG**  
 THE  
**ONLY POWER**  
**PLOW MADE WITH**  
**SELF**  
**LEVELLING**  
**BOTTOMS**

Proven capable of doing excellent work in Western Canada under Western conditions by severe tests under the most difficult circumstances to be encountered.

**Our New Drills, Gas Engines, and Engine Gangs may be seen at our Nearest Local Agency. Our Agent will be Pleased to Demonstrate**

## POWER AND THE PLOW



now with the modern magneto and spark plugs a little wipe over to keep dust away is all that is necessary, and lots don't get that. And also, if the operator will strain the gasoline, the carburettor will rarely give trouble. The only trouble I ever had with the carburettor was caused by auxiliary air valve becoming disconnected. Engine sucked the valve in against the throttle. Five minutes' work would fix that.

With a small outfit like this, trouble of hitching is not great. We figure on a 4 in. x 6 in. x 30 ft. bolted to Z bar, and carried at each end by a truck, or one wheel which will swivel when turning. This would be braced to front of engine by a light wire cable: It is easy to put necessary eye bolts in the beams for hitching seeders, etc.

Yours truly,  
E. O. Jones,  
Longworth, Sask.

### Been at it 3 Years,

We have now been in the traction plowing business three years, and in that length of time one learns a lot about plowing with an engine. There are six brothers of us and we own and operate an Avery Undermounted 30 H. P. double cylinder engine and a Cockshutt eight bottom plow. Last year we turned over about 1,000 acres, 300 of this being old ground.

In plowing old ground we used straw as long as we had any. We could not say how much we used, as we did not keep track of it. We had one man and team to haul the straw.

In plowing new ground we have used both wood and coal, and like wood just as well as coal. We use on an average of about 3,400 pounds of coal per day, plowing 18 acres.

The cost of plowing old ground, using straw was as follows:—

Man and team to haul straw	\$3.50
Man and team to haul water	3.50
Plowman	1.75
Fireman	2.00
Engineer	3.50
Oil and repairs	1.50
<b>Total</b>	<b>\$15.75</b>

We can plow and harrow on an average of 15 acres per day. In figuring the above you will see that we did not figure board

for men and teams or wear on machinery.

Our expenses for plowing new ground and using coal is about as follows:—

Man and team to haul coal	\$3.50
Man and team to haul water	3.50
Plowman	1.75
Fireman	2.00
Engineer	3.50
Oil and repairs	2.00
Coal — 3,400	8.50

have better water and more oil for plowing than for threshing, or his engine will soon be worn out.

We have done some discing with the engine, but always had a lot of trouble with the hitch. The discs would always get tangled up in turning around, until we made a frame in the shape of a triangle. Since then we have never had any trouble with them.

### Did All the Farm Work.

We have a 25 H. P. Case engine and a ten bottom John Deere big engine gang. We break on an average of about 25 acres per day, using 30 hundred of Hillcrest steam coal and 60 barrels of water.

It takes four men and two teams to run the outfit as follows: Engineer, fireman, one man and team to haul water and one to haul coal.

It cost us about \$1.25 per acre to break and, in our estimation, it is considerably harder on an engine to break than to thresh, as the strain on it is so uneven when going over all kinds of ground.

We did all our farm work with the engine last year, except cutting.

Last spring we pulled three sixteen disc press drills, drilling about 75 acres per day. We could have pulled two or three more just as easy as not.

We pulled six discs and two big harrows, double discing and double dragging about 50 acres per day. We also pulled them spread out single discing and single dragging about a hundred acres per day.

Our disc and drill hitch is made of two 4 x 6's 12 feet long, with a skein and wheel fitted to one end of each timber, then a big clevis of flat strap iron made to clamp around the end of each timber away from the wheel, tight enough so that it can't slip on the timber; then another clevis is put on each timber on the end next the wheel, just inside the skein, each timber being fixed just the same, two clevises and a wheel.

Each timber is then placed behind the engine with one wheel to the right and the other to the left parallel to drivers, the clevises on the in-ends being fastened to big bolts eye bolts in the out corners of the draw-bars. This is on a Case engine with contractor's tank. They both could be fastened to center ring in drawbar if necessary.

A cable is fastened to the clevises on the end next the wheels on each side running forward past the hind wheel and is fastened to the bolster support under the front end of the boiler close up. This makes the hitch about 30 feet wide.

The discs or drills are hitched to it by clevises, every



A Reeves Steam Tractor Pulling a 10-Bottom John Deere Engine Gang with Packer and Drag Harrow, near Swift Current, Alta.

Board for men	3.00
Blacksmithing	2.00
<b>Total</b>	<b>\$29.75</b>

The number of acres plowed was 18 or about \$1.70 per acre. The above is what the cost would be if we had to hire the men and teams, but we do the work ourselves, also the blacksmithing.

We use from 80 to 90 barrels of water per day, but this depends a lot on the kind of plowing to be

To make one, a person needs one 4 x 6, 14ft. long, and 4 x 6, 12 ft long, and one 4 x 6, 22 ft. long, one 4 x 4, 8 ft. long, and one 4 x 4, 3 ft. long and round. I run as follows: One 3-4 in. 9 ft., one 3-4 in. 3 ft. long and one 5-8 in. 10 ft. The 4 x 6 should be joined together with a mortise and braced with the round. This will make a frame for four discs and a person can make one any size. This frame can be run on skids or



The Straight Furrow of the Avery Undermounted Steam Tractor. A Cockshutt Engine Gang Doing the Furrow Laying.

done. Some places take more than others, and also the depth of plowing has something to do with it.

Now, as to which is harder on an engine, plowing or threshing. We believe that plowing is more than twice as hard for two reasons. The engine has to pull harder in plowing and there is more sand and dust to get in the machinery. A person also has to

wheels. As we have a truck on our disc, we use only one skid. The trucks and the discs carry the rest. We almost always double disc our ground by hanging three discs behind the four on the frame and by so doing we pull seven discs, which is almost as heavy as the plows.

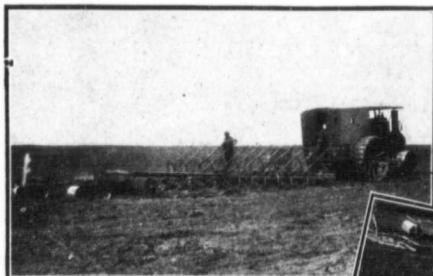
Yours truly,  
Cleven Bros.,  
Killam, Alta.



## POWER AND THE PLOW

# Which Way—

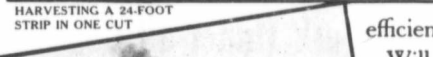
## Fifty years from now



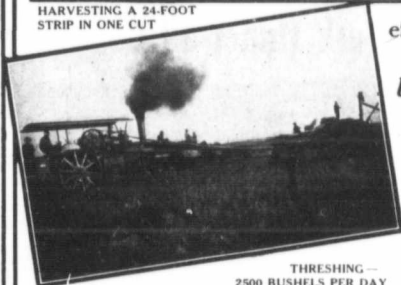
PLOWING, PACKING AND DISCING AT ONE OPERATION



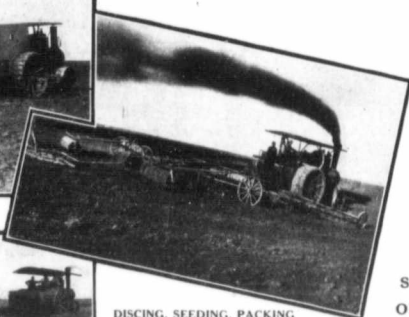
DISCING, SEEDING, PACKING AND HARROWING AT ONE OPERATION



HARVESTING A 24-FOOT STRIP IN ONE CUT



THRESHING — 2500 BUSHELS PER DAY



On the farm, which will prevail—animal or mechanical power?

Will farms be "worked" for a mere existence or managed as a business industry?

Will crops be raised in the sweat of the single toiler's brow, or will they be produced by mechanical power, with the least possible waste and the greatest possible

efficiency on the part of every worker?

Will it be the little farm, well tilled, or the big farm, **better** tilled, **better** equipped and **better** managed? In the end

### Efficiency Must Prevail

Mechanical power makes larger farms economical, more economical than animal power can ever make small farms.

Right now we are on the threshold of the mechanical age in agriculture.

50 years hence agricultural production will depend upon mechanical power. The Steam Traction Engine, even now, is such an important factor in furthering the "Run-like-a-factory" farm that the horse is passing, the machine advancing—so fall in step with progress and buy a

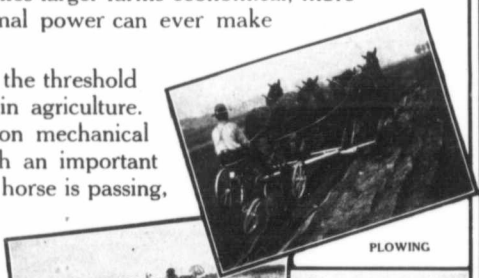
## Rumely Steam Engine

which is by far the most efficient, most economical form of mechanical power for the large farm that can be obtained today.

Rumely engines have large and spacious fire boxes, are economical in the use of fuel and water. They are rear hung and double geared. Gearing is massive, made of steel and semi-steel. Master gears are interchangeable, the entire engine built along substantial lines, rigid, durable and free from costly breakdowns.

Let us send you our literature

**M. Rumely Co.**



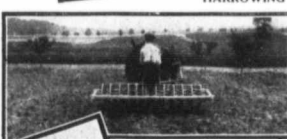
PLOWING



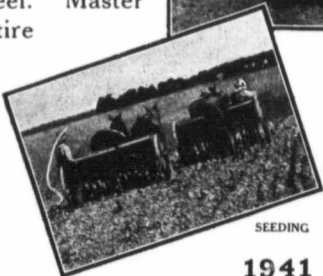
HARROWING



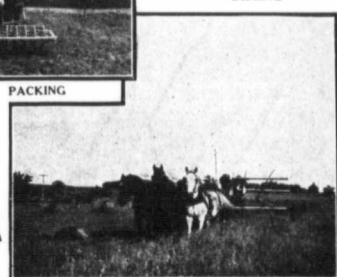
DISCING



PACKING



SEEDING



ONLY A SIX-FOOT STRIP

1941 Rose Street  
Regina, Saskatchewan

other disc having a short pole, the others being hitched just far enough behind so that they won't run together while turning around. This also brings the load close up to the engine and we have found it a very good hitch.

We enclose a small picture of our outfit with seven discs, a planker and a harrow. It may help to give you an idea of our hitch.

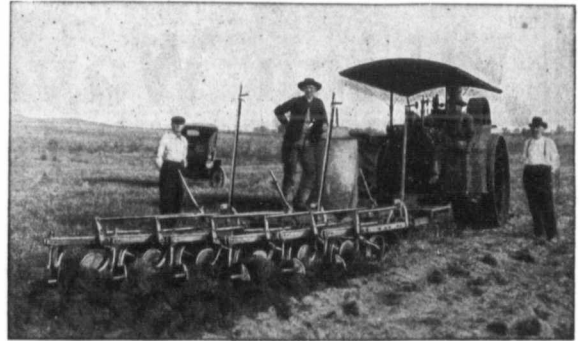
Yours truly,  
Fairbairn Bros.,  
Clavet, Sask.

may here state that I am speaking of fall plowing in stubble land, and I am sure I could have pulled two more plows without overtaxing the engine.

I consider that if you do not overload the engine you can plow with very little more wear on the engine than threshing.

We use about four or five tanks of water for twenty acres of plowing.

I find I can do a much better job in plowing with the engine than I could if I were plowing with horses and especially in a



A John Deere Jumbo Breaker ripping up the scrub, an L.H.C. Gas Tractor furnishing the power, at Munster, Sask.

**Don't Overload Engine.**

My engine is a Nichols and Shepard and is rated at 30 horse power. My plow is made by the Cockshutt Plow Company and consists of eight bottoms.

When I am plowing I generally have four men employed, an engineer, a water and coal hauler with team and two men, one of which attends the plows, the other man doing any other work that may be required.

As I generally have all my coal

year as dry as last year was. Our land here is very heavy and last fall different farmers here who had to rely on hoses for plowing had to give it up as it was simply a case of skimming it over. I have now plowed two falls and I find it cheaper and gives better satisfaction to plow with the engine.

Plowing cost me \$26.00 per day or an average of \$1.30 per acre, which is cheaper than can be done with horses. This expenditure includes men's wages, fuel



Rumely and Cockshutt with the aid of a Scuffler doing a nice job near Saskatoon.

hauled to my place before I start plowing, one team can do all that is required, but in an exceptionally dry year, such as we experienced last year, we have to have an extra team part of the time, as we had water to haul much further than usual. Usually we can get our water from a creek about 11-2 miles away.

The amount of fuel averages about a ton per day in which we average 20 acres, between the hours of 7 a.m. and 7 p.m. I

oil, grease and wear and tear on engine; in fact, all expense in connection therewith.

I have a Nichols and Shepard separator. I only put in 21 days' threshing last fall, and in that time I cleared over and above all expense \$2176.00 or an average of over \$100.00 per day. Of course last fall was an extra good year, as straw was short in this district and the wheat turned out good, averaging in many cases 44 bushels to the acre and oats good in

# J. I. CASE ENGINE GANGS

**For Good Work Under all Conditions**

This is not the result of an accident, but of experience accumulated by the building of good plows during a third of a century, together with a realization of present day requirements in power plowing.

Therefore, when you buy a **J. I. Case** Engine Gang, you buy so much steel and malleable of highest quality, plus scientifically correct design and construction.

Which means first-class work under all conditions — and durability.

Isles des Chene, Man., Oct. 25, 1910.

In regard to the 4-Furrow Engine Gang which I purchased from you this Fall, I am glad to say that it has fulfilled your claims, and is without a doubt the lightest draft plow that is working in this district.

We have tried it in both breaking and stubble in the heaviest of gumbo, in which there is more or less roots in the ground, and it cuts through them very easily. I sincerely believe that you have the best plow that is on the market. I have been operating an \* \* \* \* \* and the J. I. Case draws 50% lighter at least than my old plow, and I will gladly recommend it to anyone wanting the easiest operated and best built engine gang.

Your plow draws so easy that I want to add two more plows to it next spring. I am only using about half the gasoline I did with the old plow and more work.  
P. W. REIMER.

Brunkild, Man., Oct. 14, 1910.

In regard to the 12-Furrow J. I. Case Engine Gang which I purchased from you, I am pleased to say that same is giving entire satisfaction. It has done the best work of any engine gang in this district, both in breaking and stubble work. It is one of the handiest plows I know of for attachments, particularly the raising and lowering of two plows at once, which enables one to handle his plows very quickly. I believe this is the lightest draft plow on the market, being fully 25% lighter than any I have ever seen used. I can honestly recommend it to intending purchasers.  
H. M. STEEVES & CO.

This trade-mark  
on an Engine Gang  
Plow



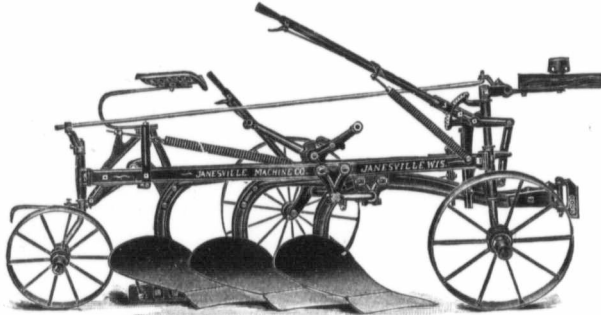
insures you  
**J. I. CASE**  
Quality

For complete information, address

**THE HARMER IMPLEMENT CO.**  
CANADIAN SALES AGENTS  
**WINNIPEG, MANITOBA**

**J. I. CASE PLOW WORKS**  
**RACINE, WIS.**

# The One Great Plow for the Great Northwest



## Here's the Plow that Meets Your Needs Best! The Top-Notch of Plow Value

You farmers of the Northwest require a much heavier and a much stronger plow than is regularly used in other territories. You have more work and the work is harder. An ordinary plow won't stand the strain long enough to pay for itself. Besides extra strength, you must have a plow with certain distinct features, which are absolutely essential to the greatest efficiency on your land. We have made a plow just for you—a plow that meets every condition of the Northwest and every requirement of the Northwestern Farmer. It's the

### JANESVILLE NORTHWESTERN GANG

In the first place, this Janesville gang is provided with extra heavy beams—both of which extend beyond the frame in front, allowing a very long cross clevis to be attached. This clevis gives you choice of four horse abreast—or four, five or six horse tandem hitch.

King and James Streets  
WINNIPEG

**American Seeding Machine Co.,**  
(INCORPORATED)

**CANADIAN  
SALES AGENTS:**

Made by THE JANESVILLE MACHINE CO., Janesville, Wis.

proportion. In fact, all grain yields were good in this district.

Yours truly,

Thomas Murray,  
Yellow Grass Sask.

### Good Engineer Indispensable.

If I were to relate my experience in as few words as possible and get at the most important facts as they have come to me, I would say that we have found the use of the traction engine for plowing highly satisfactory and believe it to be the only way to work large acres of land (say one section or more) with the greatest success and economy.

From my point of view I find the greatest drawback is the scarcity of engineers. I would like to emphasize the word engineer; there are scores carrying a document duly authorizing them to pull the throttle of a traction engine. But when I say engineer, I mean a man, honest and experienced that not only enables him to understand the practical workings of a traction engine, but one with possibly the train-

ing of a machine shop which has educated him to know quickly in case of trouble what is needed. I think I am justified in saying that incompetent men for such positions are not only most unsatisfactory and expensive at any price for the owner, but in many cases the manufacturer suffers. Many an engine has

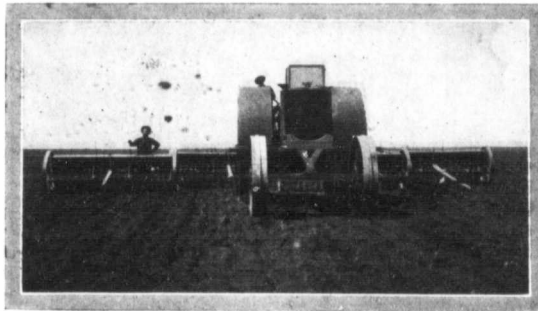
been unjustly condemned through the carelessness and ignorance of an operator. No piece of machinery on the farm is subjected to such a severe test as the traction engine used for plowing. Threshing or work of a stationary nature is only as exercise com-

pared with plowing. The operator must be as carefully selected as the machine itself, for with the constant strain, vibration, wear and tear of the traction engine, every part must be tirelessly looked after and all moving parts kept in perfect adjustment with oil constantly and intelligently applied.

should be as carefully avoided as the overloading of a team. Personally I would prefer to draw, say two plows less than the engine will handle and substitute some implement to follow, such as drag harrow on stubble and packers on breaking. At no other time can such great good be done and so effectively with the same amount of working as when land has just been turned over. It not only works down easier than at any other time, but the work is done when the greatest amount of moisture possible will be saved and leaves the land in the best of shape for following operations.

Four men and one team are used in operating our outfit, engineer, fireman, plowman and tankman. The tankman not only can supply water but sees that coal is conveniently placed for the engine to pick it up. This coal supply is usually placed in the field before plowing begins and in convenient piles at the head of lands where engine can be coaled and watered at the same time.

We have used both domestic and steam coal for plowing, and



A Gas Traction Engine pulling 5 drills in Saskatchewan. Nice work and plenty of it.

Last year we operated a 30 H. P. Rumely steam engine with a 12 bottom gang of John Deere plows in stubble with drag harrows behind. When land is in proper condition for working our engine will handle this out without overloading—a thing which

been unjustly condemned through the carelessness and ignorance of an operator. No piece of machinery on the farm is subjected to such a severe test as the traction engine used for plowing. Threshing or work of a stationary nature is only as exercise com-

**POWER AND THE PLOW**

## POWER AND THE PLOW



find the steam coal most economical when handled by an experienced fireman; about two tins per day being a fair average used when plowing from 20 to 30 acres per day. As to cost per acre. It would be hard to say, as our operations are all on our own land and engine expense is not kept entirely separate from other farm accounts, but from a conservative estimate find the cost of stubble plowing is less than \$2.00 per acre including interest and depreciation on outfit. This also covers drag harrowing once.

In conclusion, my advice to any intending purchaser of a traction engine would be to carefully select from the various types manufactured, one that will, according to his own judgement and information gained from those who have had practical experience best perform the work that will be required of it. Procure an engineer whose past record not only shows experience, but that he has made good, and your troubles will be as light as it is reasonable to expect in the operating of such an outfit.

Yours truly,  
George O. Kerr,  
Lethbridge, Alta.

### What Care Will Do.

While my experience in traction plowing has been rather limited, it was met with that degree of success which makes me feel free to express it.

About the middle of last September I decided that the best way to get my plowing done and done properly was to get a traction plowing outfit. So I went to Winnipeg and closed a deal for a 25 H. P. Gas Traction Engine and an eight bottom John Deere gang.

These reached Arnaud the next evening, an expert coming with the engine.

It was unloaded and run to the field the next day. The expert stayed with me the four following days, during which time we plowed 100 acres. All I knew about an engine was what I had learned these four days. I took charge of the outfit then and plowed 20 to 25 acres per day until my plowing was done. I did this without the help of anyone, my engine having a self-steering device which enables one person to manage the outfit with ease.



The ground was very hard and dry, which made it hard plowing. I plowed from five to six inches deep, pulling eight bottoms using about one and one half gallons of gasoline per acre. My engine requires but very little water, sufficient. I have estimated that

the guy chains and you are able to attach any implement you desire.

In conclusion, I am glad to be able to say that I lost no time during the whole season on account of the engine and my repair bill was nothing. I simply followed the directions of the

I am a practical engineer and machinist, and will state my experience as far as it goes. I have a 35 H. P. single cylinder double counter shaft Minneapolis engine, and use a ten bottom fourteen-inch Cockshutt plow. This makes a very desirable outfit. The main thing with an outfit is to run it in order to make it pay.

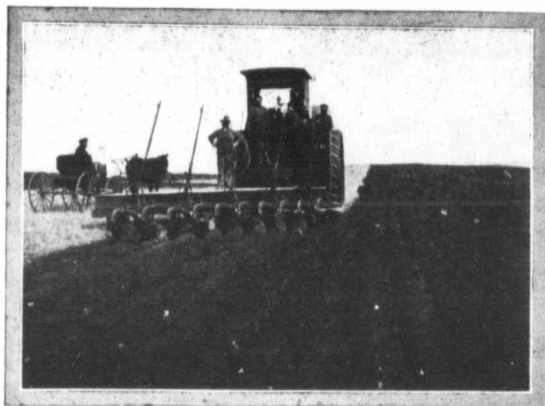
I did not run a full crew on my rig last year, but intend to put on a double crew this year, running day and night. I have got the time figured down, so that I know just how long it will take to make a mile including coal and water, which is two miles per hour. Figuring from this basis I can run my engine eighteen to twenty miles every twelve hours. I will have four men and one team on each shift, also one or two teams during the day drawing coal according to the distance that I will be from the coal. I count on using about three tons of our best coal in this part per twelve hours and about 100 barrels of water.

I figure there is good profit in steam plowing if properly handled. I figure it will cost \$1.00 per acre for running expenses to break. The great thing in plowing is to get a fixed system and stick to it.

I have had no experiences in different hitches, but will give you a description of what I believe would make a good hitch.

First, put on a stationary draw bar about 10 feet long, about five feet back from your foot board on your engine, bracing it solid to the platform frame. Then underneath this bar put in your long draw bar for as many machines as you desire to draw. Then go in front of your engine and attach to brackets on the smoke box a front bar about 10 ft. long and after well securing it I would fix pulley in each end of this draw bar and run a cable clear around from one end of the draw bar through these pulleys, thence to the other end of the draw bar, so as to equalize the draft in turning.

Yours truly,  
C. F. Henry, Bow Island, Alta.



A Case 110 H.P. Steam Tractor and a 10 bottom 14 in. John Deere Engine Gang at Work near Grassy Lake, Sask.

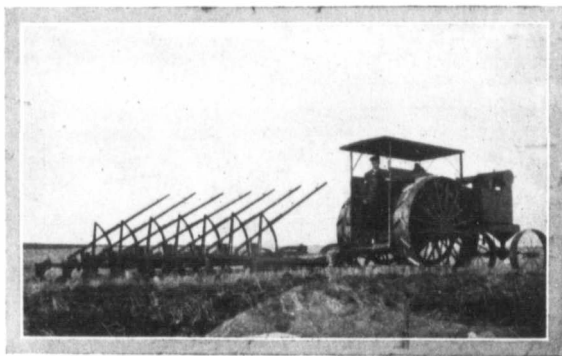
my plowing cost me about 50 cents per acre.

I pulled a separator for three days, threshing flax; got along nicely, but flax proved a failure.

My opinion is that threshing is much easier on an engine than plowing. I double disced 185 acres, breaking in four days.

"Keep all nuts and joints tight and use plenty of oil." I am sure there is a great difference in engines, but the cause of the greatest amount of trouble comes from carelessness.

Yours very truly,  
George W. Hollingsworth,  
Arnaud, Man.



A Flour City Tractor at work near Napinka, Man. A 7 furrow Cockshutt Engine Gang on the rear end.

The hitch we use in attaching discs drills, etc., is made by having an angle bar about 25 ft. long, bolted on in place of the regular draw bar. We run a guy chain from each end of this long draw bar to each end of another bar which is bolted underneath and in front of engine frame. Our long draw bar is thus straightened by

### An Original Hitch.

My experience in actual operation of a steam plow is very limited owing to the fact that I never operated one until last year. Conditions were also unfavorable for successful operations owing to the extremely dry weather, making water scarce for engine and making the ground hard and dry.

### Takes forge along—Orders Early—Feeds Men well.

We appreciate very much your publication and especially your traction number. It affords the means of meeting men who are endeavoring to



## POWER AND THE PLOW

# Start Your Spring Work With This Engine At Our Expense

Order A  
Gas  
Traction  
Engine



You  
Take  
No  
Risk

Buy only a guaranteed traction engine. Don't take chances when you don't have to. Send us the coupon attached to this page and we will tell you exactly how you can put a guaranteed Gas Traction Engine to work on your farm this spring upon our remarkable "on approval" plan. Find out by actual work what the Gas Traction Engine will do. Find out if it lives up to our guarantee. Find out before you pay one cent if it fully and completely satisfies you. If not—no pay. You know we would not make this offer unless we had absolutely proved by test that the Gas Traction Engine WILL LIVE UP TO ALL OUR CLAIMS FOR IT.

#### NOW WHAT DO WE GUARANTEE?

##### We guarantee:

All material and workmanship.  
The horse-power capacity of engine.  
The effectiveness of the automatic steering device.  
The fuel consumption of engine.  
Ample and continuous power for threshing.  
The number of breaking plows and stubble plows it will pull.  
These guarantees are of course subject to proper operation.

**WE KNOW, AND HAVE PROVEN,** that the Gas Traction Engine is the greatest all-round farm motive power sold today. We safeguard the buyer—make it possible for him to put this engine to work on his farm and decide after thorough trial that it lives up to its guarantee before he has to pay one cent. If that is the kind of treatment YOU want **SIT DOWN NOW** and write us to send on an engine. Write anyway for our **FREE BOOK OF GAS TRACTION ENGINES.** Send coupon attached.

#### READ WHAT OTHER FARMERS SAY

Farmers who are using the Gas Traction Engine swear by it. They are strong in its praise after actually operating it. As a live, practical farmer it is up to you to investigate all the special features of the Gas Traction Engine.

**DO THIS**—Tell us to send you a Gas Traction Engine. Your order will be merely an expression of your willingness to give the machine a fair trial on your farm, for it will be shipped to you absolutely **ON APPROVAL.** You are not asked to pay one penny before testing the engine in your own field on your

own farm—pay nothing until the Engine has filled the guarantee in every respect. In other words the Gas Traction Engine is ours until it "makes good" for you on the guarantee under which it is sold. Will you act with us on that basis? If you will, sit right down and write to us.

We can't tell you in an advertisement about all the mechanical and structural advantages the Gas Traction Engine possesses. We describe them in detail in our "Book of Gas Traction Engines." Beautifully illustrated. **FREE.** Send for it.

The wonderful Gas Traction Binder Hitch will successfully operate any make or size binder in the world, without the least side draft, or the use of trucks to support the hitch, and you can operate as many binders as your engine has power to pull. Get this Hitch. Cost is small. Ask for full particulars.

**AGENTS NOTE:**—We are arranging with agents for the sale of Gas Traction Engines. If you are a live, responsible man, we can do business with you. Write to us.

**Gas Traction Engine Co., Ltd.**  
WINNIPEG, MAN.

**H. E. MIEBACK**—Lethbridge, says: I pulled 6 14-inch stubble plows, an eleven ft. heavy weighted pack and a two section drag harrow behind. This was in clay loam at a depth of as near as we could get, 5 inches—am farming in the neighborhood of 3,000 acres. Have looked around a great deal at different makes of engines in the fields and shops and I believe these people have hit on the right thing. You will be struck by the simplicity of the engine.

**WM. D. MANNSELL**, Hanley, Sask., says:—First seeded 1,000 acres pulling four seeders and harrows behind—work was well done. Since, have been stubble plowing and have plowed as high as 25 acres in 14 hours with the Deere 8 bottom 14 inch plows—averaged in one week 20 acres a day in very heavy stubble land—used about 1½ gallons of gasoline per acre plowed.

**KLAAS PETERS**, Waldeck, Sask., says:—Engine has proved to be very satisfactory. Have plowed about 500 acres this fall, and one man has done all the work, running the engine and plow and has had an easy time of it. The average was about 20 acres a day. The steering attachment is worth \$5.00 every day I plow. Saves the wages of one man and steers the engine better than any man could do.

**ERNEST DIPPLE**, Rosetown, Sask., says:—Have disced, harrowed and floated on an average of 60 acres per day. If it is run right any one can get good results from it.

**THOS. JACKSON & SON**, Winnipeg, says:—Have done excellent work with Gas Traction Engine. The following will give you an idea of the amount of ground covered this season.

350 acres broke and disced four times.  
280 acres stubble plowed and harrowed twice.  
1120 acres disced four times.

We have an exceptionally small repair bill for the season's work. We find the steering gear to be a wonderful invention.

The above are all genuine statements. **THESE MEN KNOW THE GAS TRACTION ENGINE IS ALL WE CLAIM FOR IT.**

FREE

C.T.

Gas Traction Co., Winnipeg

Please send in your Book of Gas Traction Engines.....

Name.....

Address.....

Size of farm.....

I want more information about the Gas Traction Binder Hitch. Mark here (Yes—)  
(No—)

**THE GAS TRACTION ENGINE**  
**KING OF ALL GENERAL-PURPOSE**  
**FARM TRACTORS**



## POWER AND THE PLOW



gain, as we are, experience and knowledge men who are willing to impart their views in exchange for those of others, men of the most practical knowledge possible to obtain, and we very sincerely thank the editor for the very lenient manner and liberal space devoted to these articles.

We have two engines; one is a 20 horse power I.H.C. portable which we found very satisfactory as far as it went. The engine was very reliable and easy to operate, but we found it to be extravagantly rated. We operate a 28-40 Nichols and Shepara separator, which does splendid work, as the power of the engines will not permit the crowding of separator.

The other engine is a 22 h. p. and 45 b. h. p. Hart-Parr traction. It is needless to dwell on the details of this engine, as it is widely known. In operating a 36-56 Waterloo separator with all attachments we had power to spare. The past season, owing to the poor yield, we had equally poor threshing. The season was very short. We were just out 15 days and threshed 42,000 bushels, 90 per cent. wheat. We had ten teams most of the time, and twelve when we could procure them. We had no field pitchers but had two spike pitchers for four days. Then one was obliged to go to his homestead and we were unable to procure another. So my brother would pitch and I would overlook the engine. Then I would relieve him while he cared for the engine, etc. In this way we kept the old Waterloo humming merrily and all the time the engine was running on from half to two-thirds its power, and anyone visiting Hillcrest Farms next autumn will witness the same engine driving a 40 x 70 separator.

Near the close of the season we had the honor of a visit from a gentleman operating a steam outfit working side by side during the season. His comments were, "Well, boys, I have been 22 years in the midst of smoke and dust of the old steam thrasher and it is the first year there has been another machine pull out and show me the way, but you sure have this year."

So boys, don't be over-timid in venturing. A little horse sense and a good machine will make you money.

Permit us to make a few sugges-

tions. Order your machines early. Have them home a month before they are needed. Start them running at intervals for a day or two and if you can spare more time so much the better. Learn your machine thoroughly as it is impossible to become too familiar. Observe all fittings and vibrating parts, as a machine being new is not sufficient proof of its being in perfect running order.

among them discharge him. He is no use to you. Examine all forks thoroughly and any showing flaws throw so far it will never be picked up again. We find it very convenient to have a tank of water with the machine for the men to water their horses at any time. Study the men's interest. Give a little thought to their comfort and if there is a man among them he will compensate you. Never al-

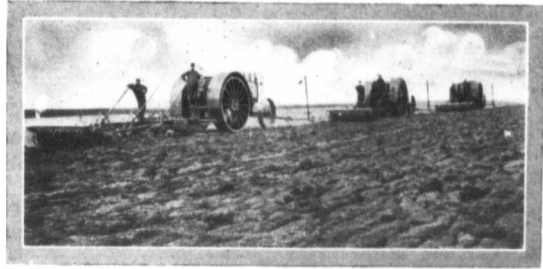
later on proved to be caused by the poor quality of the oil.

We did practically all our seeding with the engine and must say that the results far exceeded our expectation. The quality and uniformity were such that we challenge any horse operator to equal.

We perfected a hitch that has given entire satisfaction and if it is not infringing too much on your valuable space will try in as few words as possible to explain it.

The first thing to decide is the number of drills to be attached. The dimensions in this article apply to three 22 double disc drills, or a span of 33 feet. You then secure two pieces of square timber, say 15 feet of cedar; or spruce 10 x 12 inches square is necessary. If stronger material can be procured then smaller dimensions in proportion to strength will do, but if you err by all means err on the strong side. Always keep in mind that it is not one or two teams that you are preparing a hitch, but for the combined strength of 12 or 15 teams. It seems a common tendency with nearly all inexperienced operators to use a very much too light material for attaching their hitch and it is only after a great many delays, sacrificing valuable-time trying your patience and adding to your collection of scrap iron, that you begin to realize just what is required. Next secure four heavy pieces of strap iron; 4 inch wagon tire iron answers the purpose very nicely; have 1 inch hole put in one end of each piece and bolt same to sides of timber, allowing each iron to protrude enough past ends of timber so that holes will overlap to allow iron piece to be run through and connect timbers together. Then underneath fit a set of tongue trucks and have a chain connect with drawbar. By this means it permits timber to right itself to the uneven nature of ground when going through pot-holes or narrow draws when both wheels are on high elevation. Of course this is only necessary on a three or four drill hitch.

We use the axle and wheels of an old drill for mounting the timber and securing axle on top side which gives the drill tongues the proper pitch when resting on the timber. We would suggest to any who are unable to secure a large axle and



Three Gas Tractors and John Deere Engine Gangs at work near Calgary.

Send to a reliable house and get the best raw hide lace leather and cut your own laces, for paying a crew 10 or 12c. per minute to watch you lace a belt will soon buy your lace leather, and by all means use the double or single styles when lacing. Watch your machine carefully at all times. Don't think because everything is going lovely that it will always continue so. That is just about

low your temper to master you. It is a bad example and lowers you in the men's estimation. Be just in your commands and educate your men that you mean what you say. Show no partiality by seeing that every man does his part.

We use about 45 gallons of kerosene in a 12-hour day and would suggest to all operating a kerosene engine for threshing pur-



A Sawyer-Massey Steam Tractor pulling a 10 bottom 14 n. Cookshutt Engine Gang

the time something usually happens. If you intend threshing for the public provide a cook car; you then have the kind of foods you want and when you want it. Feed your men well; a hungry man is a losing proposition every time, an agitator of trouble and often a quitter. Give the best wages going and secure the best laborers. A well paid and well fed man doesn't mind a good day's work. If you have a knocker

poses to use a cheap grade of gasoline instead.

On looking over the experience of others I notice there is scarcely any comment about the different oils, what grades have proven satisfactory, etc. We believe this to be very important information, especially to the inexperienced. The first season we dealt with four different companies and at several times we accused the engine of deficient power, which



## POWER AND THE PLOW



# Farm Power

IS WHAT YOU GET WHEN YOU PURCHASE AN "IDEAL" GASOLINE TRACTION ENGINE

### Some Features

**Double Opposed Cylinders** — Making a perfectly balanced engine.

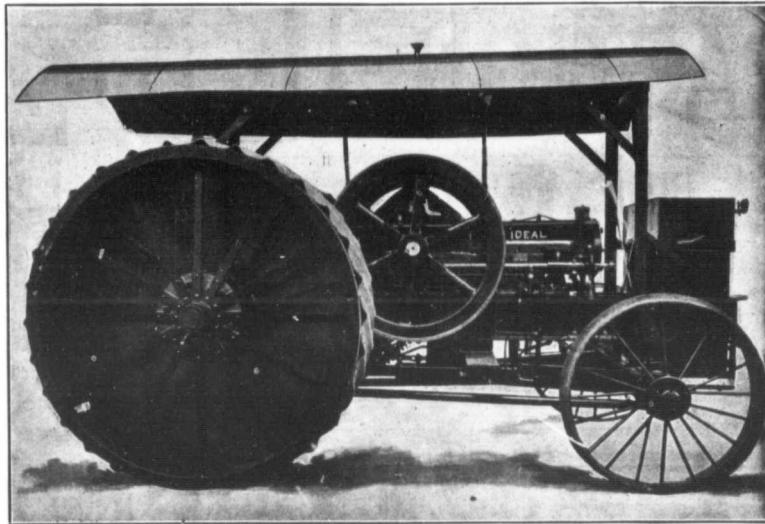
**Wave Cleat Drive Wheels** — Acknowledged to be the best in sticky and muddy soils.

**Automobile Steering Device** — Doing away with steer chains and making steering almost automatic.

**A Perfect Cooling Arrangement** — Insuring perfectly cooled cylinders on a minimum of water.

**Power Transmitted through Cone Clutches** — One lever controls all speeds and reverse.

**Larger Fuel Capacity** — Fuel tank holds sufficient for a day's run.



Built in 28 h. p.—20 nominal and 45 h. p.—30 nominal. Write for our special catalog on gasoline engines.

### More Features

**Easily Operated**—Using only one lever and the steering wheel is so placed that the operator has the engine under full control at all times.

**Double Exhaust** — Which ensures perfect scavenging of the cylinders and individually assists in keeping them running cool.

**Heavy Channel Steel Frame** — Insuring perfect support for both engine and traction, thus reducing the possibility of breakage to a minimum.

**Heavy Construction**—In building our engines we have kept the needs and requirements of the traction plowman constantly in mind and have designed and built the 'Ideal' Gasoline Traction Engine accordingly.

Factory: Brantford

**Goold, Shapley & Muir Co., Ltd.** 250 Princess St. Winnipeg

stronger wheels to do so, as the turning in soft ground at corners is very trying on them. Our experience proved that circling the field was the most satisfactory way of sowing, not only that you avoid the loss of time when turning at ends, which is considerable, but if there should come a spell of wet weather between the time of starting and finishing, a certain piece of ground, naturally the first sowing would mature earliest and in this way you are situated to cut just what is ripe, avoiding the necessary tramping of the grain when dividing the uneven portion. We find the centre drill works better to the rear, moving the end ones as near the timber as drill frame will permit. The forward drill tongues are secured to timber by an iron staple over each tongue,

being large enough to permit free adjustment when turning. The centre or rear drill tongues are allowed to remain free of timber, as the cross draw hitch on it swings tongue considerably. This hitch is very important if circling as the rear drill being further back

cuts a smaller circle, leaving a space between it and the one to the outside. After finishing the field the blanks on corners may be filled in with a single drill and horses or a stroke with the engine.

be convenient, and these are emptied while in motion. By this method there is practically no delay. Our engine travels two and one-third miles per hour. Allowing for delay in oiling and placing

requiring practically only half its power.

We secure a pole to the tongues of inner drill with a trailing hook adjusted in right proportions, so that engine wheel on following round will follow mark permitting an easy means of guiding the drills.

This hitch proves equally satisfactory for discing, adjusting staples for the disc tongues. With this hitch, as applies to single discing, it is impossible for re-tracing to take place. Another advantage with this single hitch is that it permits you to diagonal the breaking, which method we found put the ground in much better shape, with three single laps than with two double laps. The discs are set alternately to avoid collision when turning shortly. Behind each disc is attached a ten-foot three-log float, which is also attached alternately, allowing the ends to overlap and behind that is 34 feet of lever iron harrows. With this equipment one is prepared to get perfect results. floats following the discs crush out the lumps turned out by the former.



A Hart Parr 45 H.P. Gas Tractor negotiating some heavy sod with a 6 bottom John Deere Engine Gang. At work near Kindersley, Sask.

We have one man to look after drills, and we fasten planks on drill frame in front of hopper, and place on these bags of grain, sufficient to carry one or two rounds, from piles placed at intervals to

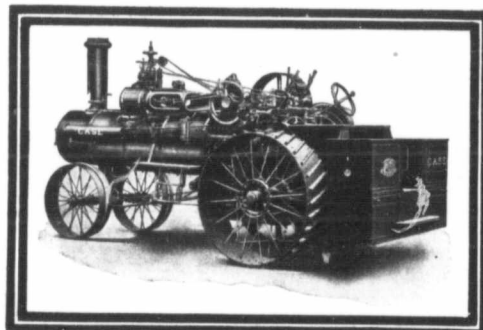
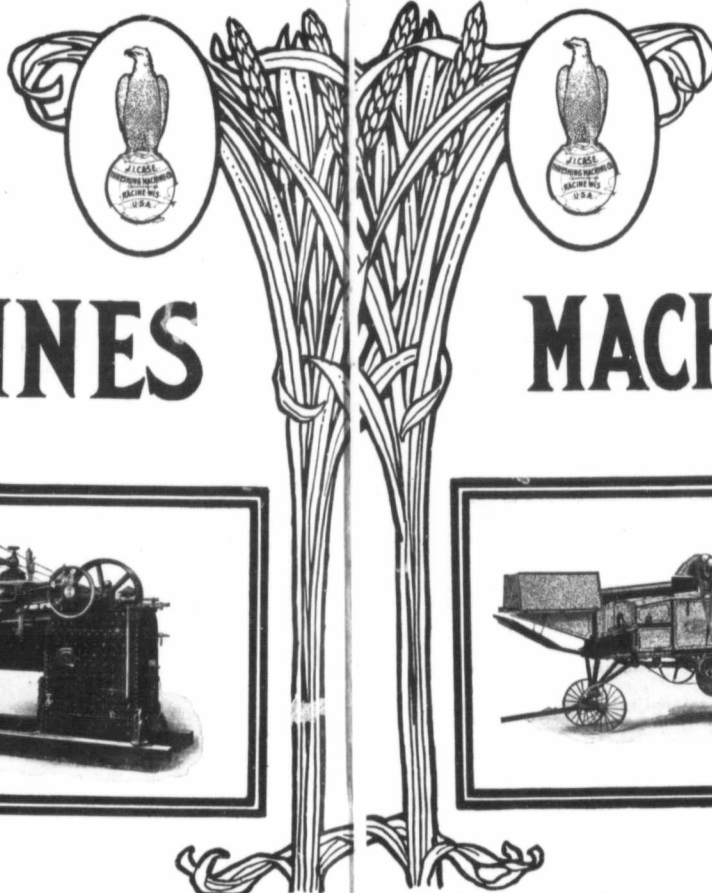
grain on drills, can easily average two miles per hour, meaning 8 acres or 80 acres per ten hour day.

This hitch with 34 ft. of lever harrows is mere play for the engine to handle on level footing,

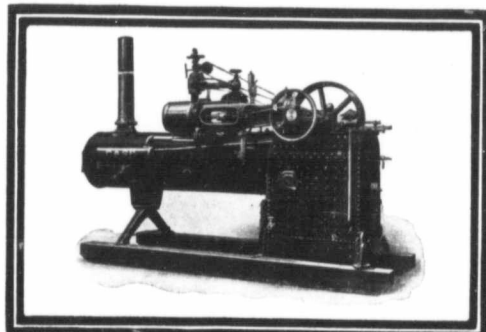
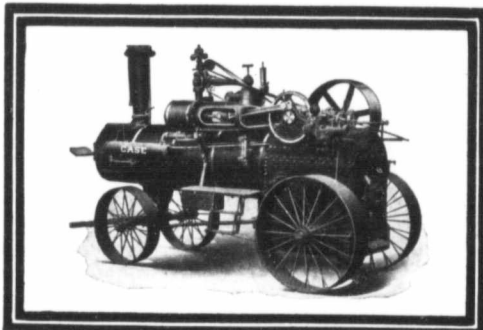


**POWER AND THE PLOW**

TRACTION **CASE** ALL  
 PORTABLE **SKID** **STEEL**  
**ENGINES** **THRESHING**



**ENGINES**



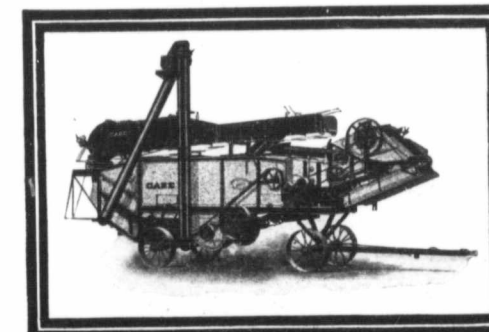
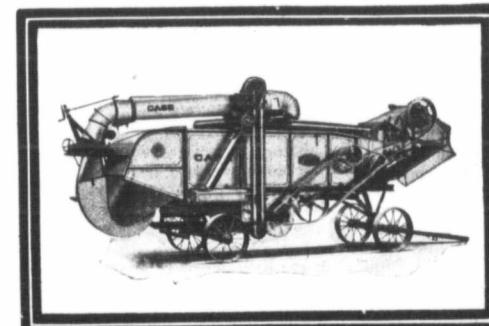
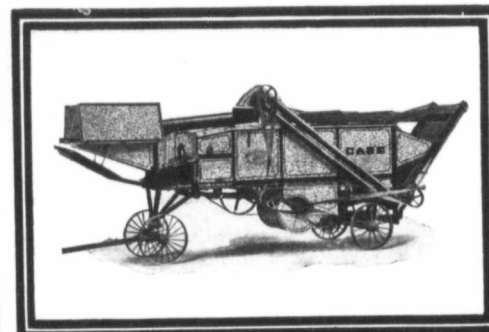
THE **CASE** CATALOG  
 AND IS  
 BUY YOUR SUPPLIES  
 BEING READY HAS MADE

WRITE FOR  
 GENERAL CATALOG  
 No 68

**J.I. CASE THRESHING**  
**INCORP**

CANADIAN BRANCHES, TORONTO,

**MACHINES**



IS MOST COMPLETE  
 SENT FREE  
 FOR THE YEAR EARLY  
 MANY A DOLLAR

**MACHINE COMPANY**  
**ORATED**

WINNIPEG, REGINA & CALGARY

RACINE,  
 WISCONSIN,  
 U.S.A.



while they are soft, dragging off badger mounds and uneven places and filling in holes and buffalo wallows. Then comes the harrow tickling the surface, working the finer particles into spaces retaining with minimum evaporation that most essential of all elements, moisture.

We must conserve the moisture in every possible way, for within this lies success or failure and I would like to say right here to our brother tractorneers, improve your hitches, procure the best ma-

vice and you will wonder why you hadn't thought of it before.

We sincerely trust there may be some who are anticipating traction power and who may be benefited by our suggestions, as we have by the suggestions of others.

Wishing this paper and all its readers a very prosperous year, and assuring you that we will be glad to give any further desired information, we are,

Yours truly,  
Conboy Bros.,  
Asquith, Sask.

# You Can't Make A Straight Furrow

## AND KEEP IT SO, WITHOUT A Cuddy Steering Device

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

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



An Avery Undermounted Steam Tractor pulling an 8 bottom 14 in. Cockshutt Engine Gang.

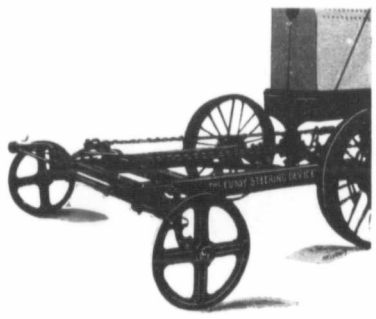
terial possible, don't cobble your hitch. If an adjustment is necessary, stop and repair thoroughly. Don't wait till something breaks and tangles your implement up, causing hours of delay when minutes would have righted it.

Owing to a dry summer and a serious mishap with the engine (through no fault of the engine but rather an oversight of ours running over a survey mound) our season breaking was rather under the average, being only 500 acres. We drew 7 fourteen-inch

### "I" Beam Hitch.

In regard to my 1910 work with my engine, I may say that I did not do very much last year excepting discing 425 acres four times and breaking 150 acres, it being so dry.

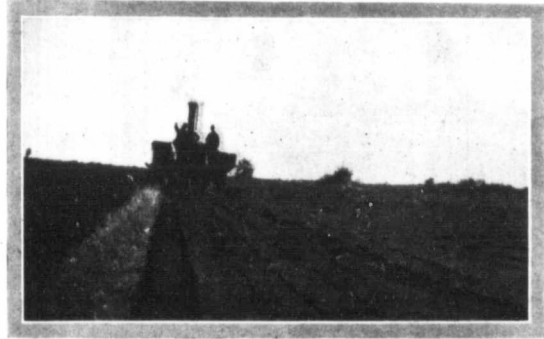
I might say I have a Rumely 30 horse power engine and a 10 bottom Cockshutt plow. I use four men on my outfit, viz., engineer, fireman, plowman and waterman. I use about 4,500 to 5,000 pounds of coal per day of 14 hours and



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

### Claims which you can Prove by Seven Days' Trial which we give to bonafide purchasers

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



Sawyer-Massey and a John Deere at Wadena, Sask.

Cockshutt bottoms in heavy land from three to five inches deep, and a 9 ft. packer, the engine handling this load with ease at all times, consuming from 2½ to 2¾ gallons of kerosene per acre.

We find a small platform mounted on a pair of skids a very convenient means of taking along with the outfit a forge, anvil and a few necessary tools. Secure to some out of the way place on the plow platform a good sized bench

about five large tanks of water.

I consider traction plowing twice as hard as threshing, that is in this locality. For labor and fuel I find it costs me about \$1.00 per acre or probably a few cents more.

Now in regard to the different kinds of hitches. I have had a lot of experience with hitches and drags. I guess it will not be necessary for me to give my experience with the hitches which

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

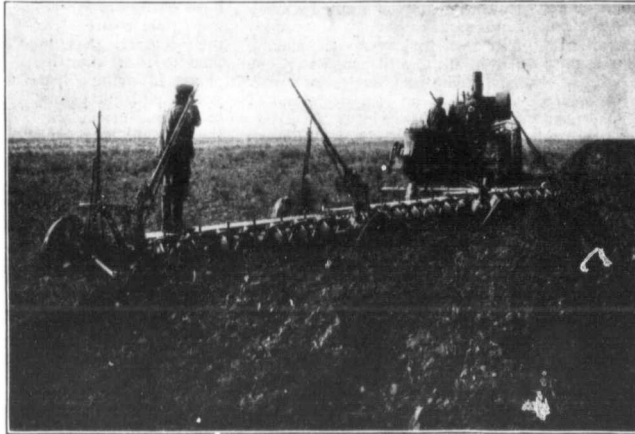
Always state type, make, H.P. and year of purchase of your engine when ordering. Further information gladly furnished.

Responsible Agents Wanted among Agricultural Machinery Dealers

Manufactured and Sold by

**The Western Steel & Iron Co. Ltd.**  
WINNIPEG CANADA

# Emerson Engine Plows



are made in sections. Buy the size best suited to your present needs, and any time you have use for a larger plow, just add to your original purchase.

No extra weight to carry around.

Will turn either right or left, and keep on plowing all the time.

## 56 Page Book Free

Send for special engine plow catalogue, which tells how to lay out a field for engine plowing and other valuable information for users of engine plows.

The book has 43 illustrations showing engine plows in actual use.

Billings, Mont., Dec. 3rd, 1910

Emerson-Brantingham Company,  
Rockford, Illinois

Dear Sirs—I purchased your plows at the request of my foreman, myself doubting his judgment, but after breaking about 2,000 acres with them I am convinced they are all O.K. and take much pleasure in recommending them to my friends. They are undoubtedly an assured success. Yours truly, W. B. GEORGE

## Emerson-Brantingham Company

Manufacturers of Farm Machinery Since 1852 Factory at Rockford, Ill.

# TUDHOPE-ANDERSON CO., LTD., WINNIPEG

WINNIPEG

REGINA

CALGARY

SASKATOON

were failures, but I have now got the best hitch I have ever had.

First, I purchased an "I" beam 25 feet long. I then drilled holes in it four feet apart, 1-2 inch in size. I then put a Cockshutt truck disc on each end of sweep with a tongue 3 feet 6 inches long. That is, taking my measurement from hole in sweep to center of the discs.

I then put any make of disc in center hole, tongue being 5 feet 6 inches long. I then put double tree on each Cockshutt disc 8 feet long made from 2 x 6, almost on top of disc back of levers with a half inch bolt through center.

I then put a hole in double tree in each end four feet from center. Then I fasten a disc on each end of double tree and an iron rod from it to one of the holes made in sweep mentioned above.

Now, I might say my object of this loubé tree on the disc is to weight them down and hold them from jumping around. I then put a heavy drag harrow 32 feet inch width behind, fastened to the back four discs holding them down, having

my tongues different lengths, so as to turn without intersecting with one another. In fastening my engine I use my plow chains crossed and fastened to sweep in center and an additional cable from the end of

## Threshing Pays better than Plowing.

The outfit which we own (a neighbor, my brother and myself), is a 30 horse power double cylinder Rumley plowing engine and

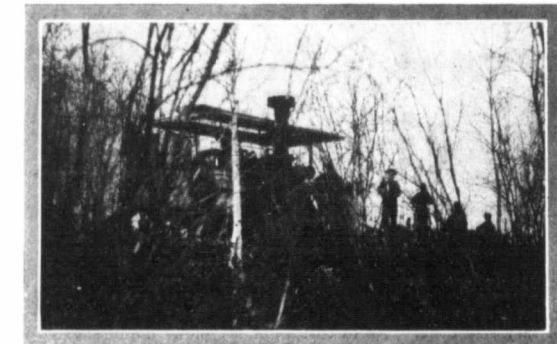
It takes four men to run the outfit, but we only hired three as I fill the engineer's place. The other men are fireman, tank man and coal man. We use four horses, one team for the tank and one for the coal.

We used Hillcrest steam coal, about 2,800 pounds per day, and the average cost per acre was \$1.50 for breaking and \$1.25 for stubble.

We consider traction plowing harder on some engines, but as our engine is built especially for plowing the strain is not so great. We found threshing as mere play for our engine, but considered the fact due to its build and power. The following is our bill of expense per day:—

Fuel . . . . .	\$10.00
Tank and coal teams with men . . . . .	9.00
Engineer . . . . .	5.00
Fireman . . . . .	2.50
Shear sharpening, oil, etc. . . . .	3.00
<b>Total</b>	<b>\$29.50</b>

We averaged 25 acres per day at a cost of almost \$1.50 per acre. We charged \$3.50 per acre for breaking and stubble, \$2.50



Some Scrub. Well, yes. This isn't a road though the woods but real plowing ground. A Huber Steam Tractor and a John Deere Engine Gang at work.

sweep to end of "I" beam on engine, and have hooks on the end of them so as to drop engine from harrows in a hurry to coal up.

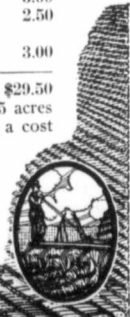
Yours truly,

J. W. Smiley,  
Taber, Alta.

we used a 12 bottom fourteen inch John Deere plow.

As we have only had our outfit one year, our experience is rather limited. However, we found it paid well and I suppose a greater experience will tend to make it more profitable.

## POWER AND THE PLOW



## POWER AND THE PLOW



Our separator is a new Rumely Ideal, which we found satisfactory. We found threshing to be a more paying work than the plowing as we were able to do the more expensive work ourselves, and the wear on the engine not nearly so great.

My brother was separator man, myself engineer and the neighbor who owns a share in the outfit attended to the business part, buying for the cook car, hiring men, etc. We had ten stook teams, a straw team and a tank team.

We had a sleeping car as well as a cook car, and my wife and a young girl did the cooking.

We gave the men breakfast at 5 o'clock, dinner at 11, lunch brought to the field at 4 and supper at 8. However, as your letter did not ask for threshing experiences, I will not take up any more of your valuable space.

Yours respectfully,  
J. S. Gardner,  
Harris, Sask.

### Low Cost Plowing.

During the last season I operated a 45 brake H. P. Ohio gas traction engine, drawing an 8 bottom John Deere engine gang in heavy stubble land, plowing at a depth of 8 to 10 inches, and have averaged 24 acres per day at a cost of 85 cents per acre.

The outfit is handled by two men at a wage of \$2.50 each per day, and the gasoline consumed per day is on an average 60 gallons at a cost of 24 cents per gallon.

I consider it much easier to drive a 36 x 62 separator with all the attachments than to do the above mentioned plowing.

Yours truly,  
Peter Siemens,  
Winkler, Man.

### Likes good Lubrication and Easy Speed.

I have a George White and Sons traction engine rated at 25 horse power. My plow is an eight frame with seven plows of the Cockshutt make. This plow works fine in prairie, but I find that it plugs up in scrub. We get in a mess in brush three feet high. When drawing the seven plows with 160 pounds steam I have to hold the reverse past



the 6th notch about one inch to handle plow. With 6 plows on fairly level land, I can run in the last notch and with five plows can hook back one notch more. When threshing I can get out 3,700 bushels in heavy straw with the reverse hooked in the third notch.

I have two men on the engine and one on the plow. One team furnishes the wood and water.

### Likes Lignite.

I have an Avery return flue 25 horse power engine and a Cockshutt eight furrow frame (with six bottoms), breakers. I employ four men besides myself, making five in all; one to haul water, one for hauling coal, one to look after the plows, an engineer and I steer.

I use about 2 1-2 tons of Lignite

plows. Some tell me that I could get along without him, but owing to the lignite coal, the engineer has no time to look after the plows. If anything happens, a plow jumps out, or a stone in the way, there would be no one to look after it, and then the work doesn't look good. I have done splendid work.

You might think I burned a lot of coal, but it only cost me \$1.75 per ton, so that the cost did not come very high. If the coal has been out of the mine for two or three days it lasts much longer. I like the coal fine. It doesn't clinker at all.

Yours very truly,  
J. F. Bellefleur,  
Willow Bunch, Sask.



A Rumely 36 H.P. Steam Tractor pulling a 10 bottom John Deere Engine Gang and a Fleury Pulverizer at work near Perdue, Sask.

We use about two cords of three foot wood per day and about four barrels of water per mile. I find it pays to keep the gear well lubricated.

My tires are three feet and I think they are too narrow. I think tires on a 25 horse power engine should be at least four feet wide.

coal, mined at Willow Bunch, per day and between 6 to 7 twelve-barrel tanks of water. I broke on an average of 12 acres per day, and I consider it cost me \$1.70 per acre.

I don't consider plowing is any harder on the engine part but on the gears.

I expect to do much better this



A Nichols & Shepard Steam Tractor pulling a 12-bottom 14 in. John Deere Engine Gang at Dundurn, Sask.

I consider our work is way ahead of team plowing. We can set the plows at a good depth and they stay there. As to cost I can hardly say what the exact expense is. My price for custom work is \$4.00 per acre with board and fuel and water furnished. My opinion is that the rigs that aim at the large mileage will soon be in the scrap pile, but the main thing is to keep going steadily, if slowly.

Yours truly,  
D. A. Furbel,  
Sheho, Sask.

coming season. Last summer was my first experience and everything was against me at first. I never got my plows until June 18, and it was so dry I couldn't pull six plows with ease, so I pulled five. Then we had to walk to the house for our meals. That took up so much time. This coming season I will have a car in the field, and I also intend to pull six plows for a while.

My plows did splendid work, and I am well satisfied with them. In regard to the man on the

### Made a Steady Run.

We were delayed in getting our outfit last spring on account of such a rush in business, so we lost a month of good breaking; but in spite of it all we found that it paid us well, and we made our payments besides.

Our engine is a 26 horse power American Abel engine and we find that it handles eight plows quite easily in land that is not too heavy. But we wish we had gotten a little larger engine, as two furrows makes a big difference, and that much more could have been done with the same crew.

We broke about 700 acres of raw prairie and we also did some stubble plowing, using breaking bottoms, and we found that they worked better than we expected. We are using a ten furrow Cockshutt plow, but we only pulled eight bottoms in breaking. We have plowed in all kinds of land sandy, gumbo and very stony land. The stones do not bother us at all for the plows tear them up. I like a gang where one plow is independent of the other, for they are much easier handled where there is a stone.

We burn about 2,600 pounds of Bankhead steam coal per 12 hours' run and use two teams. There are four of us in partnership, so we do not hire any of the help. I estimate the cost of steam plowing about \$1.37 per acre.

I think plowing is harder on an engine than threshing. A person should always try and keep his engine



## POWER AND THE PLOW



# WHY NOT?



Why not reduce your power expenses to the lowest possible point?

You know that it is the excessive fuel and help bills that eat up your profits.

We want you to let us prove to your entire satisfaction that an I H C gasoline tractor will save you many dollars in reducing your operating expenses.

Why not let us prove it? Why not get the best possible returns for your money and work?

I H C gasoline tractors are safe, reliable, and economical. This has been conclusively demonstrated thousands of times.

There are no flying sparks from an I H C tractor and consequently no danger of buildings or straw stacks being set on fire. There is no danger of boiler explosion through lack of proper care. These tractors are so safe that a licensed engineer is not required. In fact, any one can quickly learn to handle them and the necessity for high priced help is eliminated.

In the Winnipeg Farm Motor Contest, I H C gasoline tractors established a new world's record for low fuel consumption. Isn't that worth considering?

I H C tractors do not require men and teams to haul fuel and water. They carry enough for a long run. This means another big reduction in the cost of help.

All these things and many more should have your careful consideration before you invest in a threshing outfit, and you can not afford to pass by the I H C line.

An I H C tractor with a Goodison or New Century thresher will make an outfit that will be a money maker and money saver. The I H C line also includes Deering and McCormick huskers and shredders and Keystone shellers which will add to the earning capacity of your outfit.

## THE I H C LINE

**I H C Vertical Engines**—made in 2, 3, 25, and 35-horse power. **Horizontal Engines (Portable and Stationary)**—in 4, 6, 8, 10, 12, 15, 20, and 25-horse power. **Gasoline Tractors**—in 12 to 45-horse power. **Famous Air-cooled Engines**—in 1, 2, and 3-horse power. **Pumping, Spraying, and Sawing Outfits** in various styles and sizes

Let the nearest I H C local dealer show you why an I H C outfit will be a money maker for you, or write the nearest branch house.

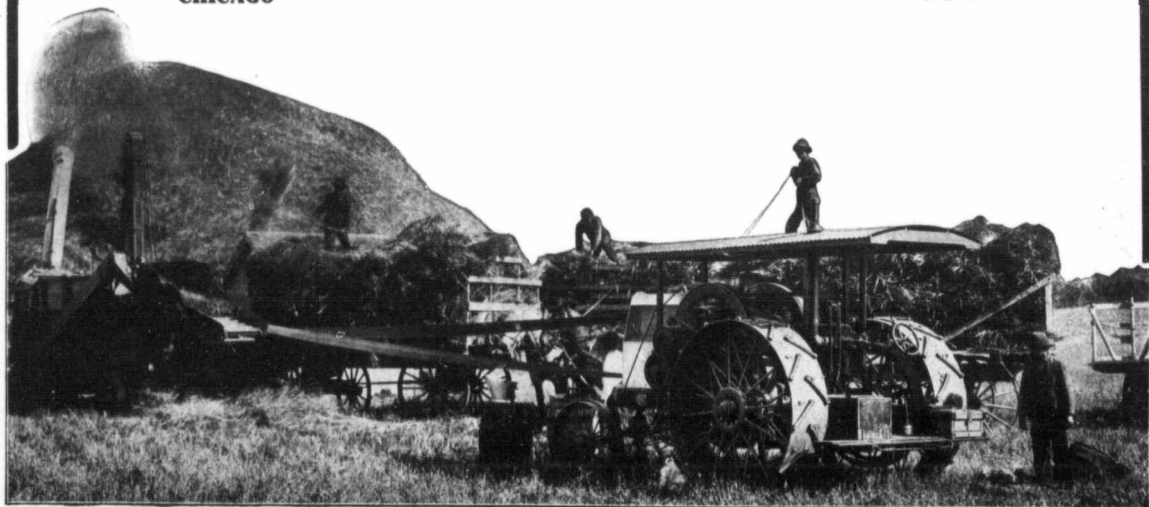
Canadian Branch Houses: International Harvester Company of America at Brandon, Calgary, Edmonton, Hamilton, Lethbridge, London, Montreal, North Battleford, Ottawa, Regina, St. John, Saskatoon, Weyburn, Winnipeg, Yorkton

## INTERNATIONAL HARVESTER COMPANY OF AMERICA

CHICAGO

[INCORPORATED]

U S A



## POWER AND THE PLOW



we'll greased with the best grease obtainable. We find black grease put up in yellow 25 pound pails excellent. We always keep our engine well oiled and everything tight, not enough to heat, but running smooth. To let parts work loose when the engine is working is very apt to cause a breakdown. We never had a break that delayed us over an hour in the whole season.

We are enclosing a picture of the outfit. Are sorry we have not a larger one.

Wishing your paper every success and hoping this may do some good, I remain,

Yours truly,  
A.-Lundblour & Sons,  
Mazenod, Sask.

won't take much more labor to run it than does a small plowing rig and it can do twice the work and earn twice the money.

Respectfully yours,  
A. Kappell & Sons,  
Pilot Butte, Sask.

### Kept at it When others Dropped

There are five of us, our father and four brothers. We have an Avery Undermounted 30 horse power Special plowing engine,

We always give our shears plenty of suction in the throat and points to hold in the ground.

When we commenced, water was near by, but it soon dried up, so we had to make two large tanks that held about 1000 gallons each and haul water five miles. We built the tanks and put on two four-horse teams. This made it expensive water. Our coal was hauled fifteen miles and this alone took a four-horse team.

ing the board and horse feed in the above figures.

With conditions more favorable, and by being closer to a coal mine and having water within a mile of work, this can be done about \$1 per acre cheaper than the above figures. That is providing the ground is good, free from stone or gravel. It would then only require two teams and six men. Besides there would not be so much spent in repairs, etc. Hard, dry ground is very hard on machinery, and it is better left alone.

We find also that it does not pay to try and put in fifteen or sixteen hours with one crew, no matter how good you pay them. It is better to work double shift if the outfit is to be kept moving from daylight till dark or possibly all night.

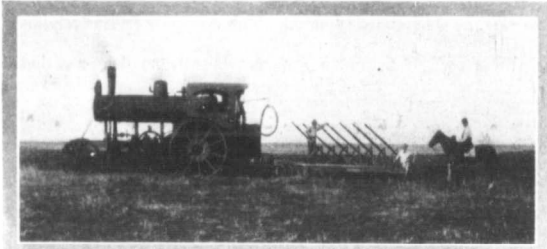
We always draw a furrow across the ends where we lift the plows out so we keep that square and can plow the land at the ends (whereon the outfit had been turning) when finishing, so that every bit can be turned under. It always pays to have someone measure off the lands exactly so that it saves making extra turns when finishing a piece.

We use the best oil we can get and generally use oil on the gears as grease won't stay on. I think these should be covered quite closely all around to prevent dust from flying in, especially in stubble plowing.

The owner of an outfit should farm enough land so that he can keep the outfit busy at home and not do much contracting. I think this would pay much better than running around looking for jobs, and wearing your machine out travelling from place to place.

I think anybody buying a traction outfit should be an engineer, or at least have good judgment about machinery. We have been in the threshing business for eight years and are now all pretty well trained but it cost us pretty dearly in the school of experience. We always run our own engine and also do our own repairing and blacksmithing. Our sisters do the cooking, so we don't need to hire very much help.

Threshing is just play for our engine compared with plowing. In plowing the traction is at work, causing more wear, and the engine is loaded down



An Avery Undermounted Steam Tractor in the land of the Cubans. A Cockshutt on the rear end.

### Recommends Big Power.

Our outfit consists of a 25 horse power double simple Gaar-Scott engine, and a six bottom Cockshutt engine gang. We consider this a very complete outfit. The engine draws the six bottoms in the toughest soil with perfect ease and no lack of power.

We used different kinds of coal, viz., Galt, Maple Leaf and Pennsylvania, and consider the Pennsylvania satisfactory for our engine besides being cheapest in the long run. We used about 2,400 pounds of Pennsylvania hard coal and about 70 barrels of water per day, averaging about 15 acres per day. We charged \$4.00 per acre.

We consider steam plowing by far harder on an engine than threshing. We employed four men and two teams, and our average cost per acre would be about \$2.00. Expenses ran as follows:—

Engineer .. . . .	\$4.00
Steer man .. . . .	2.00
Waterman and team .. . . .	4.00
Coalman and team .. . . .	4.00
Oil .. . . .	1.00
Coal for a day's run at \$9.00 per ton .. . . .	12.60

Total expense per day \$27.60  
Earnings, \$60.00—and profit, \$32.40.

We have our own men to run the entire outfit. The coal man did the cooking.

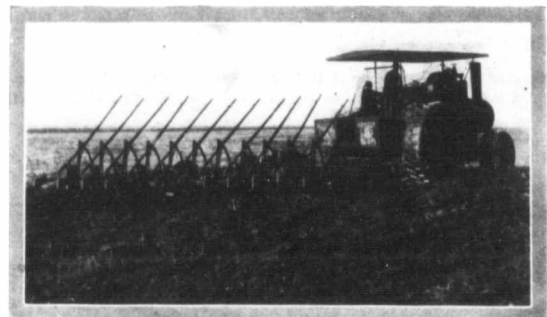
A small engine is fine for home use, but a man who is going to make a business of steam plowing should buy a big engine. It

and a 12 bottom John Deere steam plow. We also pull a corrugated packer behind these plows in breaking. This makes a first-class outfit.

We have been in the business two years. In 1909 we ran with an engine that was not made for plowing and also had a poor outfit of plows, so we got the above outfit with which we broke 1,200 acres last June and July. We put in two months of very hard

Our crew consisted of engineer, fireman, blacksmith, two tankmen, one coal hauler, plow tender and cook. Our engine burns about three tons of coal per day, and uses about 4,000 to 5,000 gallons of water per day. The expenses were about as follows for last season's work:—

Engineer .. . . .	\$5.10	.17
Fireman .. . . .	3.60	.12
Blacksmith .. . . .	3.60	.12
Plow tender .. . . .	2.50	.08



A Rumely 36 H.P. Steam Tractor and a 12 bottom 14 in. Cockshutt Engine Gang at Strathmore, Alta.

work. It was so dry that you could blow the dust out of the furrows and consequently breaking was next to an impossibility most of the time. We had a little moisture at the start, but it only lasted a few days. Most of the people around here pulled their outfits in but we kept at it. We put weights on the plows to keep them in the ground and found it was better to change shears often, and we did so twice a day.

Hauling coal .. . . .	7.00	.23
Coal, 200 tons at \$4.50 ton .. . . .	13.50	.45
Hauling water .. . . .	18.00	.60
Wear and tear, repairs, shears .. . . .	18.00	.60
Oil and grease .. . . .	2.25	.071-2

73.55 2.44-1-2

We have figured on the basis of 30 acres per day plowing. Now this was as near as I could come to the cost. I aimed at includ-



## POWER AND THE PLOW





# Don't Get It Into Your Head That

**Gaar-Scott  
Turf-Turning**



**Double-Cylinder  
Tractors**

## Are the Ordinary-Built Kind

They combine master-built, power-built and honor-built qualities to a degree hitherto unapproached in traction engine manufacturing. There is three-quarters of a century's success and **KNOW HOW** hammered into every one of them, from their matchless double-cylinders that use every ounce of steam, to the firebox door of their splendid boilers that generate every ounce of steam your fuel is capable of.

The valve gear is our well known locomotive center-hung link—the only reliable reverse gear made. It saves steam and saves trouble. Steam chest lids are just as easy to get at and remove as in our single-cylinder engines.

Connecting rods are forged steel with large anti-friction brass boxes, hand scraped and perfectly adjusted.

Crankshafts are forged from a single piece of high carbon steel. In quality and tested strength, all shafts are up to and a little beyond the standards of United States Naval specifications.

All brackets are chipped and ground to fit the boiler perfectly and not backed up by soft metal.

Brackets are wide and strong and give such full shaft bearing and freedom from strain and vibration that Gaar-Scott engines are good for both "usual" and unusual use and are not warranted merely against "usual use."

Pinions and gears are steel and semi-steel, 5 and 6 in. face.

Science and harmony in design and assembling, strength in materials and construction do more for these engines than bulky bigness does for others.

What you want when you buy a plowing tractor is the most power for your investment, the least expense of upkeep, easy and convenient handling, the greatest economy in fuel and water, and the limit of durability. All of these you get with a Gaar-Scott Tigerbilt Tractor. Ask the men who make traction plowing a success. Our special plowing engine circular will tell you some of them and our 76th Annual Catalog will tell you just how these engines are made.

Write for it to-day, and see the "Tiger Stripes" for 1911, on the biggest line of Traction Engines made by any one factory on the continent, and the New-Frame Model Tiger Thresher.

Macklin, Sask., November 12 1910.

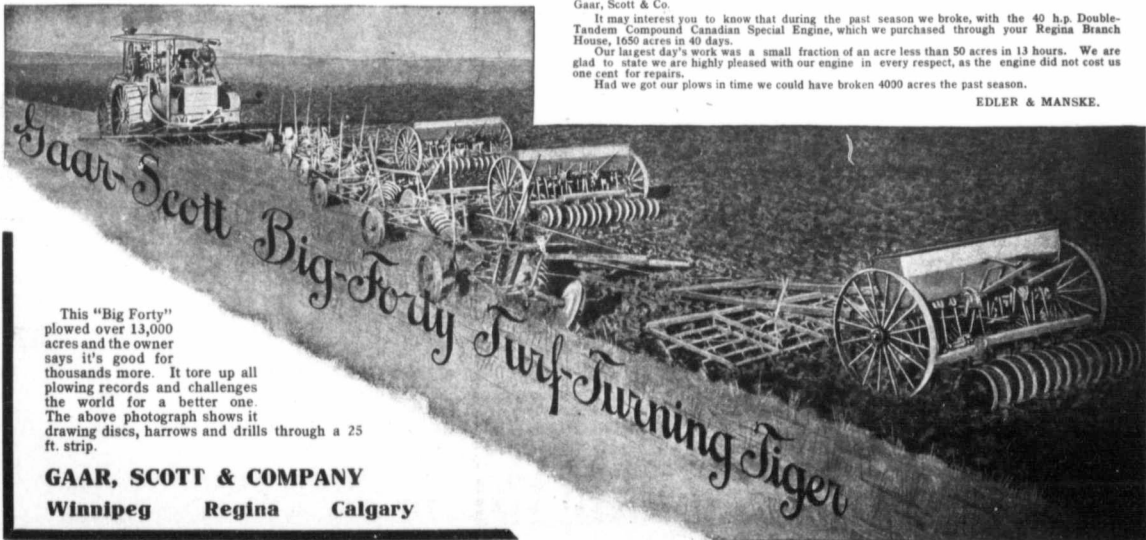
Gaar, Scott & Co.

It may interest you to know that during the past season we broke, with the 40 h.p. Double-Tandem Compound Canadian Special Engine, which we purchased through your Regina Branch House, 1650 acres in 40 days.

Our largest day's work was a small fraction of an acre less than 50 acres in 13 hours. We are glad to state we are highly pleased with our engine in every respect, as the engine did not cost us one cent for repairs.

Had we got our plows in time we could have broken 4000 acres the past season.

EDLER & MANSKE.



This "Big Forty" plowed over 13,000 acres and the owner says it's good for thousands more. It tore up all plowing records and challenges the world for a better one. The above photograph shows it drawing discs, harrows and drills through a 25 ft. strip.

**GAAR, SCOTT & COMPANY**  
Winnipeg Regina Calgary

## POWER AND THE PLOW



to capacity. The boiler is fired much harder, and everything is moving while the engine is travelling over all kinds of ground, going over rocks, coming down with a bump, dropping into holes, furrows or buffalo wallows. Occasionally you get stuck in gumbo spots, and then you have to strain your engine to get out. Of course you get into bad places when threshing too. We have been in some while moving, but that's traction work which can't be compared with belt work.

I will now give you a description of our discing outfit. We have three out-throw discs and three in-throw discs fixed together. The out-throw is ahead with a 3 ft. stub tongue in each, and the in-throw is coupled as close as possible behind the out-throw with a stone box over both to weight them down. Seats and springs removed. We pull three sets double discs in 24 ft. swath.

In seeding we hitch two nineteen shoe disc press behind the discs and two sections of smoothing harrows behind each drill. Our engine can travel right along with this outfit and double disc, seed and harrow over 100 acres per day.

We hitch all these on an evener described as follows: A 6 x 6 fir square timber 20 ft. long, with a wheel about 2 1/2 ft. high on each end with stub axels. These are clamped on with bolts. Four 3-4 inch draw rods with welded eyes on each end one end in a 1 inch ring and the other end through an eye bolt which runs through 6 x 6, evening as illustrated. We have six clevises made out of 3-4 inch round iron which fit over evener and can be put wherever they are needed to hitch discs, packers, drills or any kind of implement on the evener. We bore holes through evener for the draw rods and axels only.

We find this hitch as convenient as can be, but if there are better ones we would be glad to hear of them.

We look forward to your plowing number with great interest, and will be glad to learn of our brothers' experiences in the plowing business.

Wishing the Canadian Thresherman and Farmer a prosperous year, and the same to each and every

one of its readers, we are,

Yours truly,  
G. Malchow, & Sons,  
Clareholm, Alta.  
Per G. E. M.

### Variety of Work.

In the spring of 1910 we started out with a Cas: 32 H. P. or 110 B. H. P. steam engine. The first thing we hitched to was a

plows were fastened a 12 foot packer and to the packer a 12 foot drill, to the drill three leaf harrows. This is the way we seeded our oats.

Then we started breaking, using the same engine gang of ten fourteen-inch plows and the 12 foot packer. We had a little trouble in keeping the bolts tight in the packer. It seems rather hard on it on account of the breaking

for my part I would much rather do traction work as it is much more interesting. We make nearly double the clear money at traction than we do at threshing.

Our summer's work ran as follows: We seeded and disced at the rate of sixty acres per day; spring plowing and seeding 45 acres at the rate of 26 acres a day. We graded 3 1/2 miles of road, double disced and harrowed 1,000 acres at the rate of 85 acres a day; three-hed 20 days; then backset, packed and harrowed 115 acres at the rate of 27 acres a day.

In all the different kinds of work we did, we used the same number of men, excepting for threshing. I run the engine myself, my father hauled the water, which in doing our heaviest work required from 90 to 100 barrels a day. My brother hauls the coal using 3,000 pounds a day. He also prepared the meals in the car belonging to the outfit. We hired a man by the month at \$30.00, who handled the plow and did the firing.

Our itemized expenses are as follows:—

	Per Day
Coal, at \$6.45 per ton ..	\$10.00
Fireman, including board	1.50
Waterman, including board	1.50
Coalman, including board	1.50
Engineer, including board	3.50
4 horses .....	4.00
Oil and grease, etc. ....	1.25
Repairs and shares, etc. ..	1.50

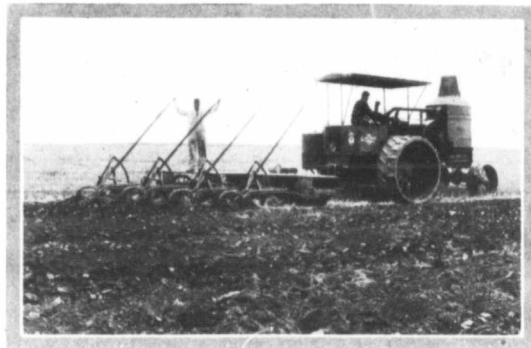
Total .....

An average of 30 acres per day, breaking and packing, at \$3.75—\$112.50. This makes expenses \$2 1/2 cents per acre.

Yours truly,  
John L. Henderson,  
Adanac, Sask.

### Only Wants a Reasonable Profit

During the two years that I have been a subscriber to your paper it has been my pleasure to read many an excellent article on threshing, steam and gasoline plowing, and modern up-to-date farming in general by experienced and successful farmers, machine owners, agricultural professors, advanced engineers and also your own valuable suggestions on modern improvements of machines. And perhaps though I may possess as much practical experience

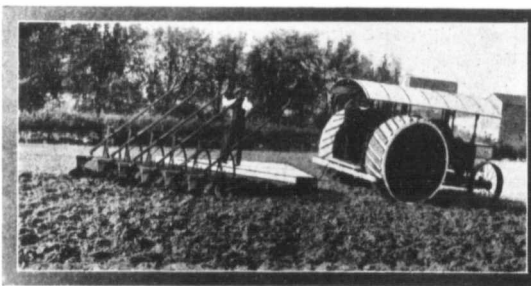


A Rumely "Oil Pull" Kerosene Tractor and an 8 bottom John Deere Engine Gang at work in Saskatchewan when the dry spell was on in 1910

portable granary, pulling it home. Then we hitched to an outfit of discs, which we had ready for the purpose. They were eight in number, each seven feet in width, and set four in front and four behind, set so as to half lap the first row, as they were all out-throw discs. This makes it a little easier to steer on the next round, as you have to lap half of one disc. Behind these we drew

being very dry and hard and turning up in chunks. But it left the ground in very good shape for discing, as you could give them full cut without turning the sod back.

After we got through breaking, which was about the 1st of July, we went grading roads. Then back to discing again, then to threshing, then went through threshing to backsetting which



A Massey-Harris Engine Gang and a Gould, Shapley & Muir Gas Traction Engine doing nice work.

35 feet of lever harrows. When thin discing we put five discs in front and three drills behind, one twelve foot drill and two 11 1/2 foot drills and 35 feet of harrows behind the drills. Both these outfits worked fine, as we had a good strong, simple hitch that was easily changed.

Then we started plowing or backsetting, using ten fourteen-inch Cockshutt plows. To these

we stayed at until it was frozen too hard.

Some people say it is harder on an engine to do traction work than belt work, but if your engine is loaded with belt work as heavy as you load it for traction work, I think there would be but little differences. That is as far as the engine part is concerned, but of course in traction work you wear the traction part more. As

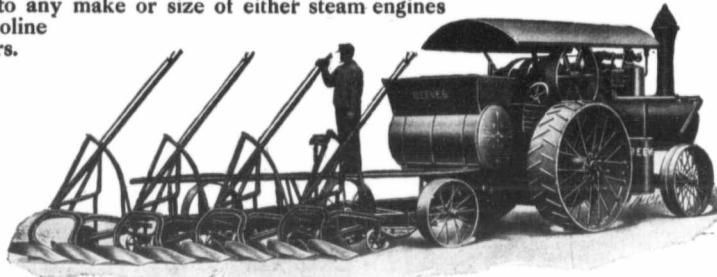


## POWER AND THE PLOW

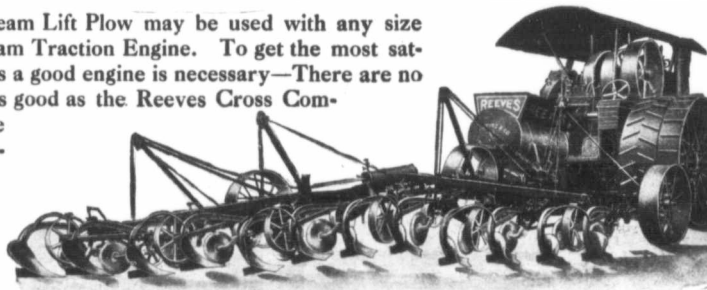


# REEVES STEAM LIFT <sup>AND</sup> HAND LIFT ENGINE PLOWS LEAD THEM ALL.

The Reeves Hand Lift Plow is adapted for attachment to any make or size of either steam engines or gasoline tractors.



The Reeves Steam Lift Plow may be used with any size or make of Steam Traction Engine. To get the most satisfactory results a good engine is necessary—There are no other engines as good as the Reeves Cross Compound—Double Cylinder Plowing Engine.



Reeves Engine Gang Plows, both hand and steam lift, have flexible frames—permitting the plow frame and the plow bottoms to conform to the irregularities of the surface; the plows are attached to frame in pairs, each plow reinforcing its companion and adding strength. Each pair of plow bottoms are carried on wheels producing light draft. The attachment of the plow to engine is pivotal, permitting the engine to control the direction of the plow—A spring releasing device insures against breakage when plows strike a stone, stump or other obstruction. With the Reeves Plow turns to right or left can be made without lifting plows from ground.

The plow follows the engine—it is not a case of the "tail wags the dog", the engine controls.

The Reeves Plow attached to the engine by its pivotal connection makes an ideal plowing outfit—controlled at will by the engineer. Don't make a mistake—get a Reeves Flexible Frame Engine Gang Plow and be in line for a profitable run of work in fall plowing. The Reeves plow is unlike others—many of which are simply dragged on the ground by chains, like a lifeless log, capable of movement only as it is pulled by the chain or rope attaching it to the engine.

The Reeves Flexible Frame Engine Gang Plow—either style, hand or steam lift—will do more and better work than any other Engine Gang Plow made. They cost more than others, but then you know the best is the cheapest—the Reeves is the best. Write for special catalog which tells all about it.

## REEVES & COMPANY

· MANUFACTURERS ·

### COLUMBUS · INDIANA · U · S · A

Chicago  
1887-1900

CANADIAN BRANCH: REGINA, SASKATCHEWAN

as some of the parties mentioned above, my ability to express myself, or to give an article that will benefit others will fall some short. I am not an old timer when it comes as far back as the horse power days, though I remember playing around my father's old horse power.

My early experience was with an Ames engine and Advance separator, an outfit that my father turned over to my oldest brother and myself. This was in the

where the farmers or grain growers get together and set the price for the thrasher. Their argument is sometimes so strong and convincing that the best thing the individual that owns a threshing outfit can do is to pull out of the neighborhood with the machine or put it in the shed. They will prove it by the fact that some neighbors of theirs down in Manitoba, Ontario, Indiana or Illinois, or some such place, threshed one, two or three cents cheaper than



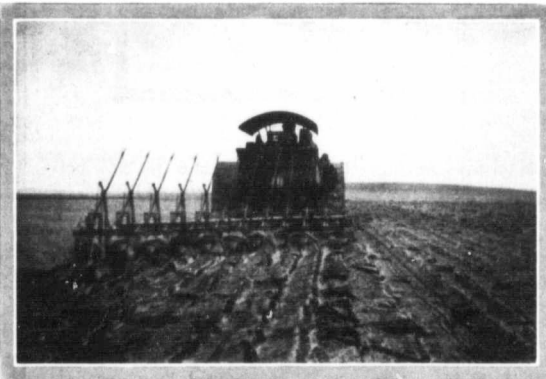
Breaking Scrub with a Case 75 H.P. Steam Tractor near Nut Mountain, Sask.

southern part of Minnesota. My brother was a good fellow, but believed in letting the other fellow do the worrying. I did the firing on the old Ames engine, and when I was wanted at the separator the engineer would take the fork. I also helped to keep the separator in shape at noon hours and in the mornings.

I can say that the old Ames engine and Advance separator were always on the go, threshing or moving, and threshed more grain

what you propose. Sometimes they will get an inexperienced, incompetent and careless thrasher, one who does not know nor has ambition enough to keep up his machine in such shape that it will do a decent job. Under those conditions you will often see a hundred bushels of wheat or oats go into the straw stack to the thousand and that you get in the grain box.

I for my part have no reason to complain. I am old enough in the business to look after myself



A Reeves Steam Tractor and a Cockshutt Engine Gang near Regina.

than any machine had done previous in the neighborhood.

We paid for our machine, but I for my part was very little benefited financially by my first experience. Threshing in that country was too cheap, 3 cents for wheat and 1 1-2 cents for oats. So I pulled out of it and went to North Dakota, where wages for separator men and engineers were from \$5.00 to \$8.00 per day. I think that is a better proposition than to own and operate a threshing outfit in a neighborhood

and my own interest. And it will also be proper to say that luck has favored us during the last six years that I have run my outfit.

In the year 1905 I went to Battleford, went out and looked over the land and filed on section 34-38-18 W 3, north half for myself and partner. The two of us had been working for the Geiser Mfg. Co. at Grand Forks, N. D., and we bought a Geiser or Peerless threshing outfit, 22 H. P. engine and 36 x 56 separator. We threshed with it in North Dakota

**The Marlin Model 20 REPEATING RIFLE**

You can buy no better gun for target work and all small game up to 200 yards.

Without change of mechanism it handles .22 short, long or long-rifle cartridges perfectly. The deep Ballard rifling develops maximum power and accuracy and adds years to the life of rifles.

The solid top is protection from defective cartridges—prevents powder and gases from being blown back. The side ejection never lets ejected shells spoil your head and allows quick, accurate repeat shots. With simple take-down construction, removable action parts,—least parts of any .22—is the quickest and easiest to clean. A great vacation rifle. Ask any gun dealer.

The 136 page Marlin catalog will help you decide what rifle best suits your individual desires. Send 3 stamps for it today.

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105 Willow Street New Haven, Conn.

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For good results use

**The Empire Brands of Hard Wall, Wood Fiber and Finish Plasters.**

**The Sackett Plaster Board**

Shall we send you the Plaster book?

**THE MANITOBA GYPSUM COMPANY, LIMITED**  
WINNIPEG, MAN.

**The Traction Plowman's Favorite**

## WATSON'S Pulverizer and Compressor

Yes! Pack your soil with this wonderful Pulverizer and insure a bumper crop

Made in two sizes) With 16 wheels, for 3 horses (weight 2100 lbs.), width 10 ft. 6 in. as follows: ) " 22 " " 4 " 2800 " " 14 ft. 6 in. 24 in. Wheels: Removable Boxing on all Wheels and Centre Castings.

THE 22-WHEEL SIZE IS SUPPLIED WITH TWO POLES AND PULLEY HITCH.

**Reasons Why You Should Use This Pulverizer**

1. It will leave your land in the best possible condition after plowing.
2. It will conserve the moisture.
3. It will increase the yield from 3 to 6 bushels per acre.
4. It will raise the grade of your wheat.
5. It will cause grain to ripen from 5 to 10 days earlier.
6. It will pay for itself twice over on every 100 acres upon which it is used.
7. Being inflexible, it will conform to ground level or dead furrow, leaving nothing untouched.

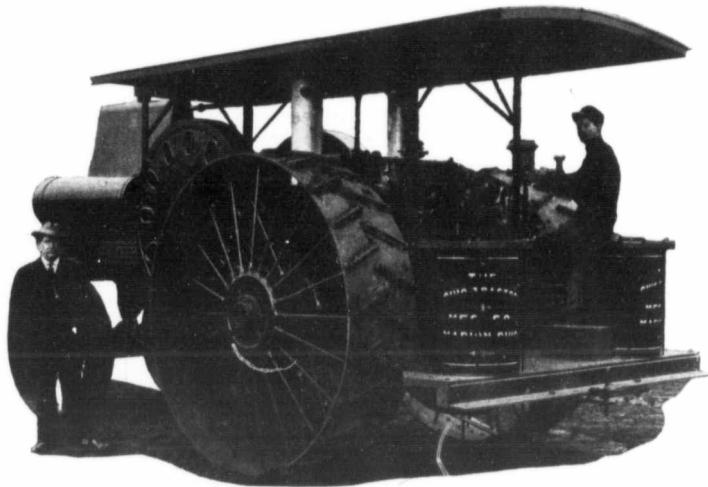
WATSON'S Steel Boss Harrows; WATSON'S All-Steel Channel Harrows; WATSON'S Boss Wood Harrows; WATSON'S Harrow Casts (24, 28 and 36 inch wheels) are all INDISPENSABLES if you are to make the most of the farm.

**John Watson Mfg. Co.**

Write us direct for prices and full particulars if your dealer doesn't handle WATSON'S.

CAN SHIP FROM BRANDON, REGINA OR SASKATOON **WINNIPEG**

# "Ohio" Tractor



Built in four sizes, 20, 30, 45 and 70 Brake H.P.

**TO OUR READERS:**

This space was reserved for Sawyer-Massey Co.'s "OHIO" TRACTOR AD., but their Sales and Advertising Manager advises that he and his staff have been for some time and continue to be too busy handling inquiries and orders for Spring delivery to spare time to write Ads.

EDITOR.

All Inquiries Handled Promptly

## Sawyer-Massey Company, Ltd.

HAMILTON

(Sole Representatives for Canada)

WINNIPEG

four season and in the fall of 1908, after finishing the run in North Dakota, shipped it up to Wolfe, Sask. That fall we threshed some eight or ten jobs for our neighbors.

The next season, 1909, we pulled out and started about 12 miles west of Wolfe. The vicinity will speak for itself. If a stranger passes through it in the summer he cannot help but admire the wonderful progress the farmers have made in so short a time. In 1909 it was big fields, one after the other, and the bundles of grain were neat and clean and nice to handle. The wheat ran from 20 to 30 bushels per acre and the oats from 50 to 100 bushels per acre.

We furnished teams and men and ran a cook car. The farmers furnished feed for teams, potatoes and garden truck. We got 9 cents for wheat and 6 cents for oats. And to my mind the thresher who could not make a good, fair earning or profit on his machine under these conditions ought not to kick, for it would be his own fault. However, the

price above stated is not too high. This should be the minimum price for the very best grain and big fields. As I have intimated before, we did exceedingly well in 1909, and if our profits were high on some of those big farms the farmers also were satisfied.

Last year I had a new partner,

and decided that they could not on account of the short and light grain in some localities, thresh and furnish a crew and board them for less than 10 cents for wheat and 7 cents for oats. The Grain Growers also had meetings. So we decided to pull out of the neighborhood.

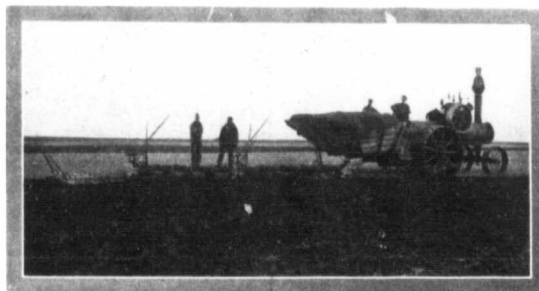
been expecting us all the time. And we threshed them for the same price we charged them the year before. I am quite sure that not one of the parties we threshed for felt dissatisfied over the job we did for them.

Threshing is not a bad business when a man knows his business. It is even at times agreeable when everything runs along favorably. The worst thing to contend with in this country is the shortage of help. It is a hard proposition to get a full crew and keep them. I believe a man should always have a full crew and one or two to spare.

Yours truly,  
C. Jellsett,  
Wolfe, Sask.

**Likes to Be Near Coal and Water.**

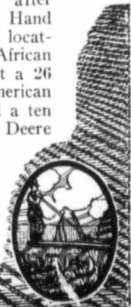
Last spring after moving to the Hand Hills district and locating some South African scrip land, I got a 26 horse power American Abell engine and a ten bottom John Deere plow, which I got by trading a section of land north of Stettler. And I must say I have



An American-Abell burning s raw near Weyburn, Sask. An Emerson 8 bottom Engine Gang laying the furrows.

he having bought out my former partner. We had our minds made up last summer to stand by our neighbors and thresh around home and in our own neighborhood when along came two disturbing factors, the Threshermen's Union and the Grain Growers' Association. The former met

So I drove out west of Redford to the country of the big fields where we did our big threshing in 1909, and to my surprise I found the crop there fine, at least twice as good as 15 miles east of that vicinity. Did they want the Peerless rig again? Well I guess they did. They said that they had



### POWER AND THE PLOW

## POWER AND THE PLOW



found it a very profitable investment.

The engine has far exceeded my expectations, pulling 8 plows under very unfavorable conditions, as the ground was very dry all last summer. A great many people who have had considerable experience with traction engines have expressed their surprise at what our engine can pull.

Being located very close to coal mines, the fuel problem with us is easily disposed of. We found that about two tons of coal was required per day, but a day very often was nearer fourteen hours than ten. A crew to do successful work was required as follows: 1 engineer, 1 fireman, 1 blacksmith, who also did the cooking, 1 tankman and four horses, 1 coalman and two horses. This made a total of five men and six horses.

I am of the opinion that traction plowing is harder on the engine than threshing from the fact that the engine must move itself in the one instance, while in the other it is stationary.

We found in plowing we sometimes used as much as six tanks of water per day, or I should say in about fourteen hours. Our tank was a 12-barrel one. The water was very good. That may have accounted for using so much. Four tanks of water was quite sufficient for threshing and much less coal was needed.

To anyone having a section of land or more and being located near coal and water, I would certainly recommend a steam outfit as a good investment for farm work.

Yours sincerely,  
A. E. Switzer,  
Hand Hills, Alta

### Wants Good Engineer.

In the spring of 1910 we purchased an American-Abell engine of 26 H.P. for breaking our own land and doing all we could for others. It was our first experience, and as we knew but little about running an engine, we had to trust to the engineer to handle the engine and tell us how to help him. We soon found that in order to succeed we must understand our own business. So we took up the matter and made every detail a careful study. We saw that the engineer did not know how to

run a plowing outfit with success and so hired another.

A few points must be impressed on the mind of anyone who would make it pay to run a rig of this kind. The engine and plows must be kept in good repair with as few stops as possible. An engineer must be able to see any part of the engine that is not running right while the engine is

will burn a lot of coal and then be unable to keep up steam.

With a good engineer and fireman we only used about a ton of Crow's Nest coal per day from five in the morning till nine at night. We found the Crow's Nest coal to be free from dirt and clinkers.

We had some trouble to get water for our engine. The quan-

### Wants an Association.

I am looking forward to your plowing number, for I know it will be well supplied with experiences and new ideas of our Western plowmen. I will endeavor to contribute some of my own.

Last year was my first break into the plowing business, and owing to the dry season I didn't do as well as I expected.

My outfit consists of a 75 H. P. Case engine, contractors tender and an eight bottom Cockshutt engine gang, which I consider makes a good outfit.

My only expense for repairs was \$12.00 for steering shaft. I run the engine and do my own own firing. I find that the man that saves the coal is the man that has to buy it. I have to hire a steersman, a blacksmith, a tankman and a man to draw coal. The blacksmith does the cooking. I have two teams, one to haul water and the other on the coal waggon.

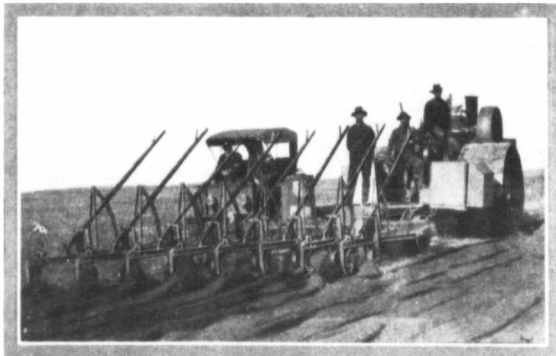
I find that the Crow's Nest steam coal gives good satisfaction. I use about 3,000 pounds a day and about 70 barrels of water. Our coal cost us \$5.50 per car load lot.

I believe that any man who is a successful threshingman can make money with a plowing rig. The main point is to keep moving. I start at five in the morning and run till eight at night, no stops for meals. The blacksmith gets his breakfast and then he changes me off, and when I come out we send the steersman in. The same for dinner and supper.

We take in water and coal every two miles. The steersman fills the coal bunker and greases the gear while I go over the engine to oil it up and see that everything is running cool. It takes about three minutes to fill the tender tank, so you can see we don't lose much time.

I averaged 22 acres per day. Of course the length of the rounds makes a difference. You can do five acres a day more on the mile than on the half mile. My best work was a hundred acres in three and a half days on the mile furrow.

As I had 200 acres of breaking to disc last fall, I thought I would try the engine at it. I rigged up six eight-foot discs and a drag harrow, making a double disc and harrow 24 feet wide. I could get over about sixty acres a



A Northwest Steam Tractor and an 8 bottom Cockshutt Engine Gang near Hanley, Sask.

in motion and not stop in the field to "fix things."

We run the John Deere plow with eight bottoms in fair soil and reasonable moisture. They did good work and the engine had no trouble in hauling them.

My son did the firing and I did the tanking, and we hired an engineer, which made three men in the field, and at times we had to hire a few loads of coal hauled,

ity of water used depends much on the way an engine is handled. If the exhaust is kept wide open it will make a difference of from one to two tanks per day. We used about five tanks of water a day.

Breaking is the most testing and wearing work an engine can be put to, as it jars loose taps and joints and keeps the water in constant motion in the boiler.



An Avery Farm Tractor handling some rough Gumbo near Winnipeg—a P. & O. plow at the "furrow."

but we generally hauled our coal in waggons behind our engine while moving from place to place. We kept a driving team and hired a young man to cook.

It is very important to have a first class engineer and fireman, as they can easily save their wages in coal and dispatch, while a poor engineer will keep stopping and fixing his engine until it will be all out of repair. A poor fireman

With our outfit we averaged about 20 acres per day, which after counting up all the cost as near as possible, averaged about \$1.00 an acre.

This season we expect to have a large tank at the end of the land that will hold one hundred barrels of water.

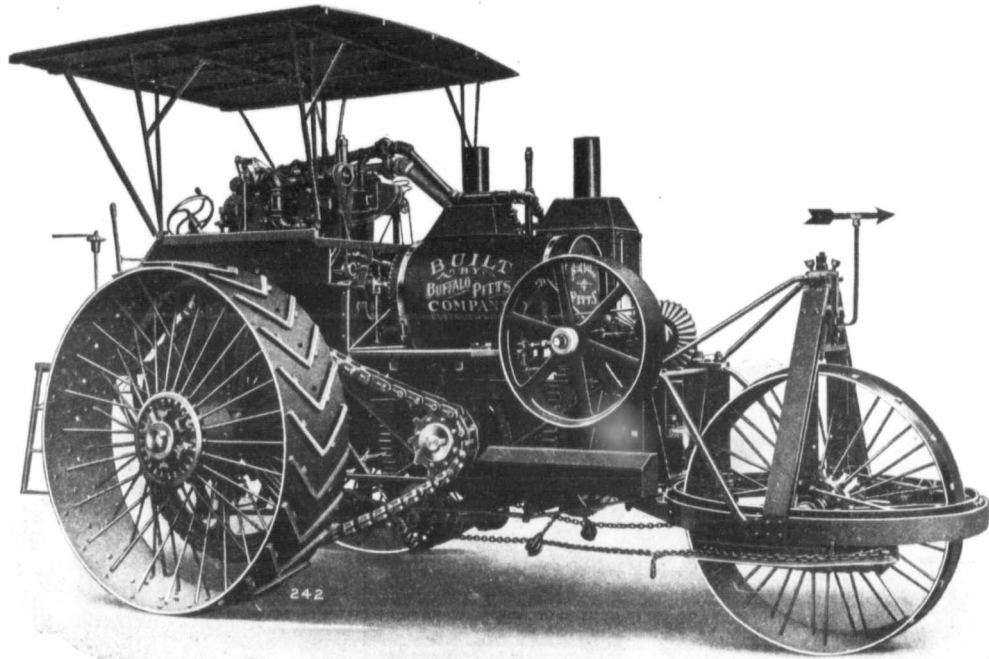
Yours truly,  
J. B. Newville & Son,  
Morse, Sask.



## POWER AND THE PLOW

# The Quality Machinery—Pitts

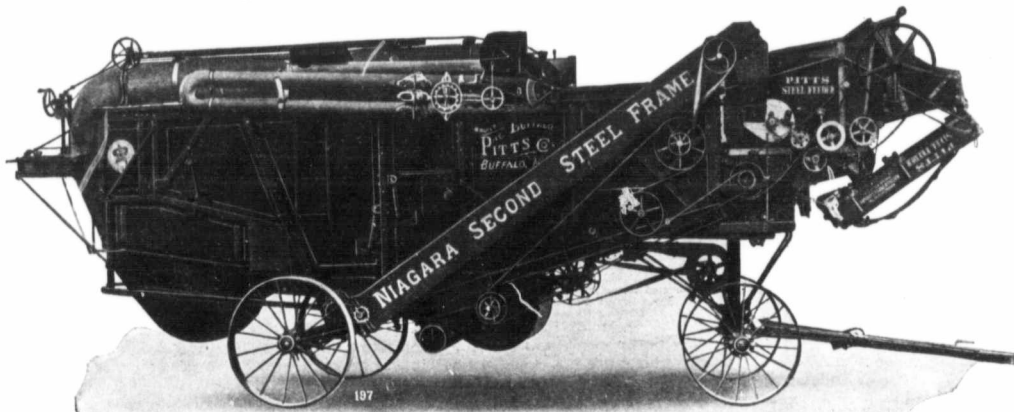
## In Canada



**BUFFALO PITTS TRIPLEX GAS TRACTOR**

To the Canadian Threshing Fraternity we wish to announce that we have opened a Branch House at Moose Jaw, Sask., Canada. Full information concerning our line can be obtained from Mr. George Flett, Manager, and samples will be on exhibition for your inspection.

To all interested in Threshing or Traction Plowing, we extend an invitation to visit our Branch House and inspect our goods.



**NIAGARA SECOND STEEL FRAME THRESHER—THE ONLY PERFECT THRESHER**

**BUFFALO PITTS COMPANY**

Main Office:  
No. 6 Carolina Street

**BUFFALO, NEW YORK, U.S.A.**

**CANADIAN OFFICE—Address**

George Flett

Moose Jaw

Sask., Canada

OUR CATALOGUES ARE FREE FOR ASKING

## POWER AND THE PLOW



day on a ton of coal. But I find it is harder on the gearing than plowing.

I am going to try seeding this spring with three discs, two seeders and a drag.

I think what we want badly is an association. One good reason is the Western plowmen use a good many car loads of coal. Why shouldn't we deal direct with the mines? As it is we have to pay cash and an agent's commission besides. If we could get ninety days on our coal we could draw it in the winter time when labor is cheap. I trust to hear more of this subject from my brother threshermen and plowmen.

Yours truly,  
J. W. Dowsett,  
Swift Current, Sask.

### Had Superseded h s Horses.

The great aim of the average farmer wishing to break his raw land is to do so to the best advantage. Such was my situation in the spring of 1908 with two sections of land and only 50 acres broken. I had four horses and outfit, but found this method very slow and costly. So I decided to purchase a power plow. After making a thorough investigation I finally bought a Kinnard-Haines 30 H. P. gasoline engine.

Unfortunately the engine met with a railroad wreck before reaching me and was rendered useless. So it had to be shipped back for repairs. It was therefore very little use the first year. However, we broke the desired amount last year pulling a six furrow John Deere engine gang, doing good work at a cost for gasoline and oil of about 90 cents per acre, gasoline costing 28 1/2 cents per gallon.

In discing we pull five discs, 16 x 16 and an 18 ft. float, made of 2 ft. 6in. x 6 in. timbers, and covered with elm plank with a few stones on that.

The hitch I used for discing was quite simple and did the work all right. I attach the plow draw bar, which is 9 ft. long, to the engine and put a short tongue in one of the discs and attach this to the center of the draw bar. I then took two discs with long tongues and attached to each end with a clevis. Then I put a chain from the draw bolt on the tongue to the draw bar on the engine.



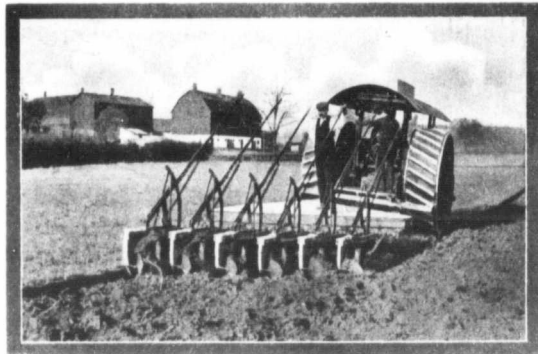
To keep two outside discs from crowding in when turning I bolted a 2 in. by 6 in. plank from one tongue to the other at the draw bolt. So that makes three discs attached. Now, I put my float on by using the two chains belonging to the plow. I attached the float by hooking the chains around the tongues of the two outside discs, letting the chains

barrels of water per day in some parts of the West.

Wishing you every success,  
Yours truly,  
J. E. Trelford,  
Strongfield, Sask.

### Plows Framed in Hitch.

I have a fine outfit on my farm at Warman, consisting of a



A Good Shapley & Muir Gas Tractor pulling a Masey-Harris Engine Gang.

come over the tops of the discs; this tends to hold them in the ground. Now, I take two more discs with long tongues and fasten to the chains running from the two front discs to the draw bar on the engine. I load three of the discs with stones, the other two being held down by chains from the float.

I think this very simple with very little expense and know it

Reeves 32 H. P. engine, a 12 bottom Cockshutt plow, packers, discs and seeders, also all the Cockshutt make.

I have invented a hitch last spring whereby I attached the seeding apparatus and did the breaking and seeding at one covering. The hitch was accomplished by making a frame of 6 x 6, surrounding my plow outfit and leaving my plows entirely inde-



Avery Undermounted Steam Tractor pulling an 8 bottom Cockshutt Engine Gang and a Soil Packer near Cardston, Alta.

does good work. I think the gasoline tractor the proper power for the West, where there is so much to be done in such a short time.

The average amount plowed was about one acre per hour and discing about four acres per hour. I have very little trouble with my engine now as I am well acquainted with it. It takes about 1 1/2

pendent of the hitch. This frame I supported on a two wheeled truck. To this frame I attached first the packers, and to the packers I attached the discs, and by a long pole from the seeder over the other two machines I attached the seeder direct to the frame, leaving it entirely independent of the packer and discs in turning. With this hitch I found it quite pos-

sible to turn in just about the same space that I would the engine alone.

I seeded about 100 acres of oats in this way and had a crop of 4 bushels to the acre last year, which was very dry and unsuitable year for a crop from fresh breaking. It was more an experiment to try the possibilities of plowing and seeding at the same time, which I found could be done quite satisfactorily and will be certainly a great success on stubble ground which has to be plowed and seeded in the spring.

After seeding 100 acres I proceeded then to break up the balance of my section. You will observe that during the time I had my seeding apparatus attached I was only using 9 plows. After detaching the seeding apparatus I attached the other three plows and proceeded to break at the rate of 35 acres per day. This fall I discing the whole of this with my engine with a double row of discs and harrows attached, going both lengthways and crossways, and I have a beautiful seed bed for the coming spring, when I expect to reap the benefit of as fine a harvest as was ever turned out in Saskatchewan.

During the time I had the seeders attached I had four men on the job, an engineer, fireman and seedman and tanker. After laying off the seeders, I only needed three men. During the time I was seeding I put in at the rate of 25 acres per day at a cost, not counting seed, of about \$2.00 per acre. In breaking alone the cost would be very little over \$1.50 per acre.

I consider traction plowing the only systematic and proper method of handling our Western prairies. I intend to make my engine do the harvesting as well; in fact, I do not expect to employ more than one-fifth the number of horses usually employed on such a farm, and consequently less men to attend them.

I have had good satisfaction with my outfit and have found it very economical. I have not been obliged to spend anything in repairs outside the usual wear and tear, and I broke nearly 2,000 acres last spring.

Wishing you success with your valuable farm journal.

I remain,  
Yours truly,  
A. A. Logan,  
Warman,  
Sask.



## POWER AND THE PLOW





# THE "BAKER" Balance Valve

IS A DANDY

It will pay  
for itself  
several  
times over  
in the life  
of an  
Engine

Has Steam Tight Expansion Rings. Can be applied to any style of Slide Valve Engine in about an hour's time. Has soft metal filling between cage and valve seat making a steam tight joint. Will wear as long as an engine, and remain steam tight. Removes all wear from eccentric and valve gearing. Increases power of engine 20%. Saves fuel and oil. Often prevents engine from foaming. Can be used in bad water without affecting it where a D valve could hardly be used. You cannot afford to operate an engine without one. If a man was to offer you \$1000.00 you would not refuse it. Neither would you refuse if he were to offer you \$100.00. Now this is just what the Baker Valve offers you. It will give you more power on the same amount of fuel or will give you the same power on less fuel.

If it were not that we have hundreds of testimonials from reliable parties who are operating our valve you might be justified in doubting. Read the testimonials and send your order at once.

Baker Valve Company, Minneapolis, Minn.

Kasson, Minn., April 29, 1910.

Gentlemen: I have just made a brake test on my 20 H. P. Northwest Engine with the D slide valve and the Baker Piston Valve. The results are as follows:  
TEST NO. 1, with the D Valve: Length of brake arm, 7 1/2 ft.; pounds lifted on scales, 165; revolutions per minute, 240; steam pressure, 145 lbs.; cut-off 7-16 inch.  
TEST NO. 2, with the Baker Valve: Brake arm 7 1/2 feet; pounds lifted on scales, 210; revolutions per minute, 240; steam pressure, 145 lbs.; 7-16 inch cut-off.  
TEST NO. 3, with Baker Valve: Brake arm 7 1/2 ft.; pounds lifted on scales, 260; revolutions per minute, 240; steam pressure, 145 lbs.; 1 cut-off.  
The valve is satisfactory in every way. Yours very truly,

LARS C. OLSON,

Baker Valve Company, Minneapolis, Minn.

Danville, Ill., July 21, 1910.

Dear Sirs: The Valves I purchased of your agent, Chas. E. Kent, have been found very satisfactory both in increasing power of engines and removing entire load of Valve gear.

E. P. JENKINS  
Henderson, Neb., Nov. 28, 1910.

Baker Valve Co., Minneapolis, Minn.

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

Yours truly,  
W. F. ENDERLE, Agt.  
Henderson, Neb.  
Sept. 5, 1910.

To Baker Valve Co., Minneapolis, Minn.

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

F. A. KISER,  
Tipton, Kan.

Maddock, N. D., Jan. 3, 1910.

Baker Valve Co., Minneapolis, Minn.

Gentlemen: I am well pleased with my Baker Valve. It was a surprise to everybody, as the engine wasn't the same one all through. I have a 20 H. P. compound engine, Gaar Scott, and I threshed as much as any of the biggest rigs around here. The engine runs so easily that I put my little 12 year old boy to run it, and before installing your valve, it was all I could do to handle it myself.

I pulled up the biggest hill this fall with my engine that I ever did in my life. It was over 1/2 of a mile long, and so steep that a team had all they could do to haul 50 bushels of wheat. I pulled up engine, 9-barrel tank and separator and car, all with 110 lbs. of steam. I wouldn't have tackled that hill with that engine with the old D slide valve, with any amount of steam pressure.

If anyone wishes a valve, I recommend the Baker Valve. Wishing you success, I am,  
A. W. GEORGESON.

Mr. Wilfred Baker, Aberdeen, S. D.

Dear Sir: The valve I purchased from you is the making of any engine that has the common D valve. I can safely say I run on 1/2 less water and it fires easier, but as I burn straw, can't say just how much. It is from 1 to 1 1/2 less straw, and you don't need any notches in the quadrant (I run mine between the notches most of the time, and it never moves when you leave it). I have run it 21 days, and have taken slack up once since I started.

No thresherman can afford to be without it. It increased the power at least 10%. Yours truly,

C. A. WATTS  
Seattle Wash., March 8, 1910.  
Dear Sir: We have been using a Baker Valve on our 24 x 30 Stearns Erie engine since Nov. 25 and will say that the valve shows no wear and is absolutely steam tight, and has proved satisfactory in every way. The valve has made a good engine out of a "very poor one." It has increased its power and has made a wonderful showing in the saving of steam. By installing your valve it has practically saved enough steam from our big engine to run a 200 H. P. Corlis, which we installed since putting in your valve. We have spent a great deal of money on the old valve in an effort to overcome the great amount of friction and though we helped it to some extent it was still very unsatisfactory and required a great deal of oil in order to run at all. The valve gear was very hard to keep up and it was almost impossible to keep it free from lost motion on account of the excessive strain and wear. We now use 50% less oil and have a valve that gives us no trouble.

Your valve has been of great benefit to us and we cannot say too much for it. You may refer any one to us and we will be glad to give the valve a "boost" as they will certainly make good if measured and installed properly.

Wishing you all kinds of success, I am, Yours very truly,  
JOHN L. INMAN, C. E.  
Greeley, Colo., May 3, 1909.

Baker Valve Co., Minneapolis, Minn.

Gentlemen: I am now using the Baker Valve in my 20 H. P. Huber Engine with the most surprising results. I have been running the Well Drill with 1,200 lbs. of tools and 2 inch hawser laid manilla rope down to 200 feet, with the reverse lever 1/2 of an inch from the center notch (without a notch to set it in) and it will stay there all day if I don't change it, and keep up the same speed down to 90 lbs., while with the old valve I could only hook up in the notch 2 1/2 inches from the center notch when the steam was over 100 lbs. If I have as much more power as I can show by hooking up the reverse then I must have 50% more power than with the old valve. I moved 26 miles, pulled a 14,000 lb. driller and a car full of coal and tool wagon behind it, and have been drilling 7 days, and have not touched the valve gear yet, and it doesn't make a bit of noise as yet. The second day I drilled, I left the lubricator empty all day to see if it would move the reverse lever into the notch, but it never affected it a bit. Last year I had to work on the valve gear about an hour after supper nearly every night to keep it tight, but now I can read papers after supper, and think about the wonderful labor saving inventions. Last year I offered to sell the old Huber for \$600.00, with \$200.00 down, but now I must have \$600.00 down, and a first mortgage on the engine and valve for \$600.00 more, because the engine is worth \$600.00 more than it was when I was short of power and overloaded with work and worry.

My brother had a balanced valve put into his 16 H. P. engine by a Company in Iowa just before threshing last year, and after threshing 19 days, he showed that he didn't have a balanced valve, because the reverse lever jerks in the notches, and will not stand between the notches at all; the half moon rings get short at the ends and leak. He wants to sell his (Gould) valve for half price and get a Baker Valve. If you would offer me \$150.00 for the valve, and \$1.00 per day to do without it while drilling wells, and \$1.00 per day while threshing, it would be no temptation to me. I would like to see the picture of the inventor. If it can be obtained, I'll give a \$5.00 bill for one.

Yours truly,  
CHAS. E. HOLMQUIST.

WE PAY THE DUTY **BAKER VALVE CO., 100 James St., Winnipeg, Man.**

AGENTS  
EVERYWHERE

# The Fairbanks-Morse Tractor

"THE ENGINE BUILT TO LAST"

For many years FAIRBANKS-MORSE Stationary and Portable Engines have maintained undisputed supremacy in their class, their general adoption by the GREAT RAILROADS and LINE ELEVATOR COMPANIES attesting to the sterling worth of their design and construction.

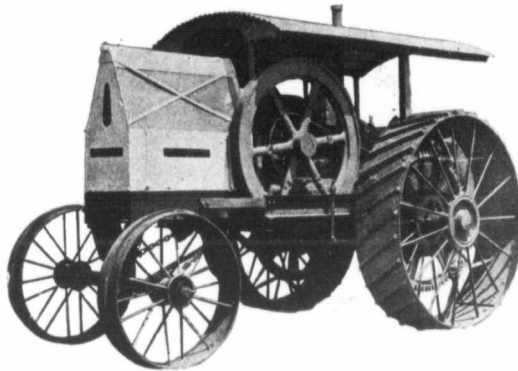
In the FAIRBANKS-MORSE TRACTOR we have eclipsed all past achievements, embodying in a plowing engine the features which have established the world-wide reputation of FAIRBANKS-MORSE ENGINES for absolute reliability, simplicity, economy of operation, and durability.

With the knowledge gained during thirty years successful experience in the manufacture of every class of internal combustion engine, we decline to concede that a successful plowing engine can be designed on the lines of a delicate, high-speed automobile motor.

Practical, wide-awake farmers are alive to the importance of durability and economy in a traction engine, and in the FAIRBANKS-MORSE TRACTOR we secure both by a long, slow and powerful piston stroke, utilizing to the fullest extent the force of every explosion.

We have mentioned but a few of the features which distinguish the FAIRBANKS-MORSE. The engine bristles with unique advantages, which are the result of elaborate experimental work, and severe tests, combined with our immense fund of practical experience.

Cut out and mail to us the coupon, asking for catalogue.



FAIRBANKS-MORSE 25 H.P. TRACTOR

THE FRAME of the FAIRBANKS-MORSE is of heavy steel channels, securely rivetted and braced.

GEARS are of HEAVY STEEL, well covered, and lubricated by positive mechanical force feed.

Engine is equipped with FAIRBANKS-MORSE Self-Starting Attachment, eliminating the laborious methods of starting common to other engines of this class.

ABSOLUTE CONTROL is effected by the operation of a SINGLE LEVER.

EASY ACCESS to all parts is facilitated by the provision of suitable platforms at side of engine.

## THE CANADIAN FAIRBANKS COMPANY, Limited

Winnipeg, Saskatoon, Calgary, Montreal, Toronto, St. John, N.B., Vancouver

Without obligation to me, send me full particulars of the FAIRBANKS-MORSE TRACTOR.

Name .....  
Post Office .....  
C.T. ....

### Begins with Small Outfit.

My engine is a 20 H. P. Goold, Shapley and Muir two cylinder opposed gas tractor and the plow is a Cockshutt engine gang, using four bottoms. I took charge of the engine myself and had one man with the plows. All we required of a team was to haul water and oil to the field about three times a week.

We used on an average 21 gallons of gasoline per day, breaking about seven acres. I estimate the cost of lubricating oil and other grease at about 80 cents per day.

The water tank holds about one barrel, and by having another barrel handy, and putting in a few pails now and again, three barrels would be sufficient for a week's run. Of course in cold weather the engine had to be drained when idle.

In discing, we pulled two Cockshutt and a Superior disc with a four section drag harrow behind. The discs were heavily weighted, and by double discing, and then cross discing, I managed to get the breaking into pretty good shape. The biggest drawback to

the discing was the dust cutting the gears and valves.

I found the best hitch for the discs was a 16 foot 3 x 6 bolted to the bar at the back of engine. Two discs with long poles were hitched at the outer ends at the right distance to lap with the center disc, which was hitched

tor. It was very windy when I was cultivating and I ran up against the dust problem again.

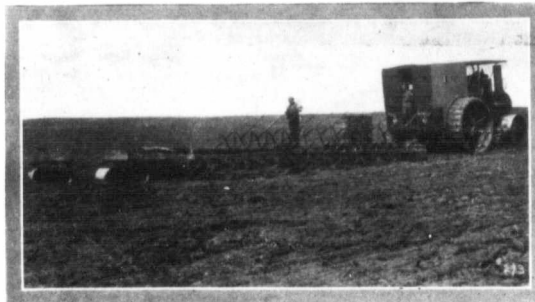
In the stubble plowing, I pulled four plows and a two section harrow in heavy gumbo and did excellent work. I averaged about 10 acres a day plowing at a good depth. I did backsetting on a

and then switched on to the magnet.

This was my first experience with a gasoline engine and I have a lot to learn yet.

Wishing your paper every success, I am,

Yours truly,  
C. E. MacKenzie,  
Springfield, Man.



A Rumely 30 h.p. Steam Tractor on a Farm near Strathmore, Alta. A Cockshutt Engine Gang Doing the Work

with a short pole. The harrow was hitched to the center disc with a chain. In this way I could turn pretty short without any trouble with the discs.

I worked a couple of days on summer fallow with one cultivator and a four section drag harrow. This did good work, but I could have used another cultiva-

few acres and the plows did a good job.

We did not do any threshing, but expect to do so another year.

We did several days' crushing, running a ten inch plate crusher, also three days on a twelve inch roll crusher. It was not much of a load for the engine.

I used the battery for starting

### Time Saving Scheme.

I may state in the beginning that I am not an old hand at traction plowing, but I have done a little and perhaps some one else would like to hear about it.

My outfit consists of a 25 horse power Waterloo engine and an eight bottom Cockshutt gang plow, which proved a very good outfit. Owing to the delay in receiving my plow I did not get time for a very long season last year.

I plowed 350 acres and used wood for firing which averaged about two cords per day, also about 6 to 7 tanks of water at ten hours per day.

I had one tank team and two tanks, using a tank hitch consisting of timber 6 x 6 x 12 ft. long, bolted on



POWER AND THE PLOW

# To the Farmer

What you need is a "FLOUR CITY" Gasoline and Kerosene Tractor, in order to do your farm work more economically than by the use of any other engine, or by any other means.

to engine platform with end projecting seven feet on left hand side of boiler with brace from end attached to hub of big drive wheel. I had two drift bolts driven in end of timber about eight inches apart to hold tank tongue from swinging, then an ordinary chain to hook in the draw bolt on tank. Thus there was very little lost time for taking empty and replacing full tank. It took about two minutes or less. In breaking we averaged 18 acres per day, and in stubble 22.

I employed four men to run the outfit and one team for water, the wood being placed at the end of field before starting. The cost of running the outfit was as follows:—

Engineer . . . . .	\$4.00
Fireman . . . . .	2.00
Plowman . . . . .	2.00
Tankman and team . . . . .	4.00
Wood . . . . .	6.00
Board . . . . .	3.00
Oil and sundries . . . . .	1.50

Total expenditure . . . \$22.50

This makes a cost of \$1.25 per acre for breaking and \$1.00 for stubble.

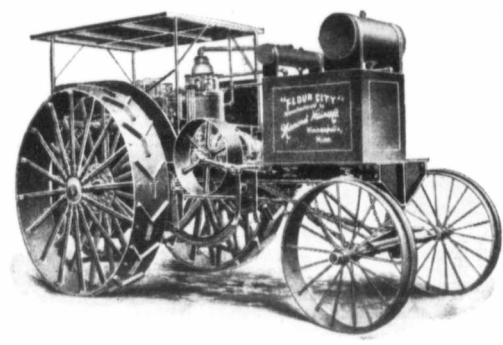
As far as threshing goes, I believe it is easier on the engine than plowing. First, there is not so much jar; secondly, the gear is not so much exposed to dust, the wind generally being in the back; and, thirdly, there is not so much strain on boiler and it is easier on flues, as it is more level.

Yours truly,  
A. S. Hall,  
St. Lazare, Man.

### Comparing Costs.

We have pulled from eight to ten fourteen-inch breaker bottoms, using a Cockshutt plow with our engine, which is a 32 H.P. Case. To pull the same number of plows in this ground, a good deal of which is turtle back soil, it would take from forty-five to fifty horses to do the same amount of work. I have used a 16 inch Cockshutt sulky on which I had six horses, weighing from 1,250 to 1,600 each, and after breaking 30 acres with good care, my horses were run down, their shoulders getting sore also. So I made up my mind to get an engine to do my plowing, and I must say that I am not sorry for getting one.

I consider breaking to be harder on the engine than threshing, although I must admit that most plowmen (like myself) overtax their engine. My experience in the past has showed me that an engine is a good deal like a horse. A good, true one will pull a big



The "FLOUR CITY" Tractors are Light, Substantial, Powerful, Economical

They possess from 30% to 40% more brake horsepower than the nominal rating given in the catalog.

No single or double cylinder engine can deliver as steady power in the belt as the "FLOUR CITY" Four Cylinder Engine.

The chief merit of the "FLOUR CITY" is not in its Oil Pull, but in its Oil Saving features. It does not pull on the Gasoline or Kerosene supply tank as vigorously as some engines, the manufacturers of which make peculiar use of a name.

Our Kerosene Carbureting System enables the "FLOUR CITY" to be in a class by itself, on account of the fact that it surpasses any engine on the market in the economic use of that kind of fuel.

Just try a "FLOUR CITY" and become convinced that we are not BOASTING, but always "Deliver the Goods."

Lawndale, Minn., March 10th, 1911  
KINNARD-HAINES CO.,  
Minneapolis, Minn.

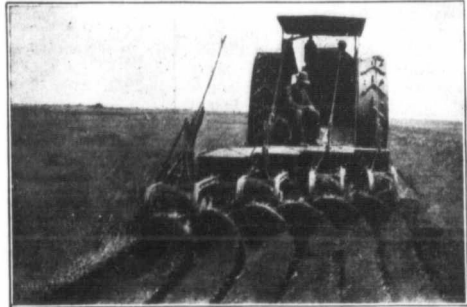
Gentlemen:—

Please ship us the mud lugs for the 40 h. p. "FLOUR CITY" Engine received from you last June. In very soft places, without the mud lugs, the engine slips the wheels.

We are shipping this engine into Canada. We started this engine last June and have been breaking, plowing, threshing, and hauling freight with it until Nov. 15th; and all the expense we put on the engine was a worn wheel on the steering gear.

We will probably be in the market for another engine like it this summer.

Yours truly,  
Signed—JOHN WILLIAMS & SONS



WRITE THE  
**ONTARIO WIND ENGINE & PUMP CO.**  
WINNIPEG OR CALGARY

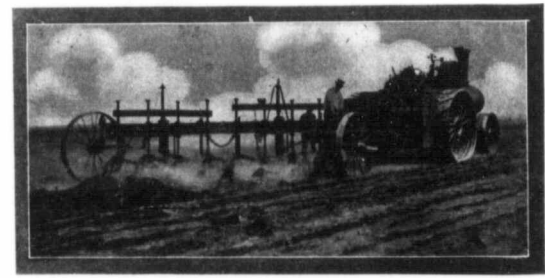
And they will send you our latest Catalog and Booklet of testimonials that will tell you all about it.

**KINNARD-HAINES CO.,** 828 44th Ave. North and Bryant, **Minneapolis, Minn.**

load if you force him to do it, but will not stand up very long with such treatment. Common sense

consider eight plows to be plenty load in this kind of soil for our 32 H. P. engine.

Wages for engineer . . .	\$5.00
Fireman, who also handles plows . . . . .	2.50
Tank team and driver . . .	5.50
Coal, 2 1-2 tons per day delivered . . . . .	10.00
Oil . . . . .	1.50
Board for four men . . .	3.00
Feed for four horses . . .	3.00
	<b>\$30.50</b>

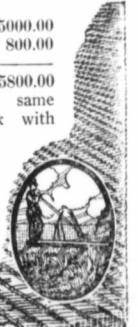
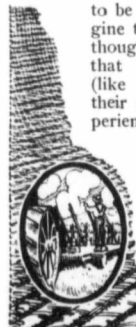


A Case 75 H.P. Steam Tractor and a Case Steam Lift Plow breaking Manitoba prairie

will teach us to give him what he can take along nicely and he will keep up in good order. The same is true with an engine. I

Taking a ten hour or a twenty mile run for a basis on which to work, the engine will compare very favorably with horses:—

Capital invested—  
Engine, plow, tank and wagon . . . \$5000.00  
Four horses . . . . . 800.00  
**\$5800.00**  
To do the same amount of work with horses would take at least five horses to each fourteen inch plow and a man for each



## POWER AND THE PLOW

plow, making the expenses as follows:—  
 Wages for 8 men . . . \$12.00  
 Wages for horses, figuring \$2.00 per team, the same as for hauling water for engine . . . 40.00  
 Board for 8 men . . . 6.00  
 Feed for horses . . . 30.00

To be fair and square we will not figure the wages for horses used as we did not figure it with the engine, and even then it will stand a good comparison in favor of the engine.  
 Capital invested—horses \$800.00  
 Plows, at \$50.00 each . . . 400.00  
 Extra harness for 36 horses . . . 700.00  
 \$9100.00

Yours truly,  
 Ostheller & Krueger,  
 Trochu, Alta.

**Good Fireman Did It,**

In 1910 I had my first experience in traction plowing. I own a Gaar Scott 25 H. P. double cylinder engine, and an eight furrow Cockshutt engine gang, and I am well pleased with my outfit. My plows are so strong on stony land and do a fine job. I broke four and five inches deep.

When I first started in breaking I had trouble in getting steam, but I changed my fireman and everything went O.K. I think one of the main things is to have an experienced fireman. It saves lots of trouble and fuel.

I run the engine myself and the fireman takes care of the plows. I also have one water man and one coal hauler, and I use my own horses for hauling. I used two kinds of coal and find that the Taber screened suits me very well. I used 3,600 pounds of coal per day and eight nine-barrel tanks of water. My estimated cost per acre is \$2.00.

I consider plowing is no harder on my engine than threshing, excepting the gears. My engine is just as good to-day as it was two years ago when I bought it. I do not run fast over rough ground. That is hard on any engine. I can break about two miles per hour, and I think that is fast enough if you want long life out of your engine.

I have found that the engine works fine when the boiler is kept clean. I clean it twice a week and try to get good clean water.

I would like to hear from other brother threshermen regarding their traction experience. I think this a splendid way of helping one another.

Yours truly,  
 O. Johnson,  
 Loreburn,  
 Sask.



200 FREE CASH PRIZES GIVEN AWAY—SEE 1911 CATALOGUE, PAGE 5

**START A FIELD OF ALFALFA THIS YEAR**



**O. A. C. No. 21 BARLEY**

This WONDERFUL SIX-ROWED BARLEY bids fair to SUPERSEDE most other types on account of its IMMENSE YIELDS, EARLINESS, FREEDOM FROM RUST, and STRENGTH OF STRAW.

EVERY FARMER in the WEST should give the VARIETY a THOROUGH TEST! PROGRESSIVE FARMING is the KEY NOTE to SUCCESS in this MODERN AGE.

In APPEARANCE and SIZE KERNELS RESEMBLE MENSURY.

	Brandon	Calgary
Bags 25c. each.	\$2 30	\$2 50

**McKENZIE'S FIELD ROOT SEEDS**

**PROTECT YOUR FEED SUPPLY**

There is no better protection against the loss of your winter feed than a fine big crop of Field Roots.

Field Roots fed alternately with grain supply a needed change of diet and a mixed ration, upon which horses, cattle and other stock thrive to the highest degree.

PRICES POSTPAID

	1 lb.	1 lb.	1 lb.	4 lbs.
CARROT, Improved Mammoth Half Long White . . .	.20	.35	.60	
CARROT, Cooper's Yellow Intermediate . . .	.20	.35	.60	
HALF SUGAR MANGEL, McKenzie's Monarch . . .	.10	.20	.30	\$1.10
HALF SUGAR MANGEL, McKenzie's Giant . . .	.10	.20	.30	1.10
MANGEL, McKenzie's Manitoba Giant Yellow . . .	.12	.20	.30	1.10
MANGEL, McKenzie's Giant Long Red . . .	.10	.20	.30	1.10
TURNIP, McKenzie's N.W. Purple Top Swede . . .	.13	.20	.35	1.20
TURNIP, Carter's Imperial P. T. Swede . . .	.10	.18	.25	.95

**ALFALFA**

The Greatest Agricultural Success of the Future Depends Upon Alfalfa

The discovery that Alfalfa will grow in almost every section of the Canadian West, regardless of the climate, has spread its general use with amazing rapidity.

Never in the history of our business have we received such a phenomenal demand for Alfalfa Seed.

It presents more uses, value and possibilities than any known crop. Results have demonstrated that Genuine Montana Grown and the True Turkestan Seed is the most reliable for the Canadian West.

	Brandon	Calgary
ALFALFA—Prices per 25 lbs. 50 lbs. 100 lbs.		
Lucerne, Montana Grown . . .	\$7.10	\$7.25
Turkestan, Time Stock . . .	7.00	13.65 27.00
	25 lbs.	50 lbs. 100 lbs.
	\$7.50	\$14.50 \$28.25

**WRITE FOR OUR FREE BOOKLET ON ALFALFA**

**A. E. McKenzie Co., Ltd.**

BRANDON, Man. CALGARY, Alta.

**Rigged Engine for Plowing.**

I will endeavor to give you an idea of the little experience I had with traction plowing. My first trial at it was last summer, and not being properly equipped I could not give a correct and justified estimation.

My outfit consisted of a 25 H. P. Waterloo steam engine and a set of Emerson 14 disc engine

load it was pulling and travelled to fast for that kind of work I consider I got along first rate and made it a paying proposition.

I was using Crow's Nest steam coal at \$6.20 per ton, burning about 3,000 pounds a day, fifty to sixty barrels of water, according to the conditions of the soil and about \$1.00 worth of oil. Our

Fireman . . . . . 3.00  
 Oil and sundries . . . . . 2.70

Total expense per day . . \$17.00

Now, I don't wish to impress anybody that this is the actual cost of plowing for a person that intends to make it a business or money making proposition, but just doing one's work with steam instead of horses. The advantage in steam or traction plowing over horses is that you can get your work done quicker and in proper time; thereby catching the weeds just when they are at the right stage. This is speaking of summer fallow and spring plowing. Not being properly equipped I have not tried to plow any prairie.

A section of land can be run with two outfits of horses, barring the plowing, and if a man has an engine he can get this, the most horse killing job on the farm, done up in a hurry and at the right time by hiring an extra man for a few days, and although it is harder on the engine than threshing it will last a long time if properly cared for.

You may know that I was well satisfied from my last year's work when I tell you that I bought a set of disc plows for the next year. I have been thinking of using my engine for discing up stubble in the spring, and would be pleased to hear



A Nichols & Shepard Steam Tractor and a 10 bottom John Deere Engine Gang breaking prairie near Scott, Sask.

gangs (the latter being hired), fireman, tankman, one team and myself, coal being hauled in advance at spare time.

As the engine was not equipped or built for plowing, I made some alterations. I built two side tanks of four barrels capacity, coal bunker, hitch and patent oilers for the gears. Although the engine was too light for the

general day's work was about eighteen acres.

I paid the fireman \$3.00 and the tankman \$2.00 per day, so my actual expense per day, not allowing for myself or horses, which a man can figure as he likes, would be as follows:—

Coal, \$6.20 per ton . . . \$9.30  
 Tankman . . . . . 2.00

Continued on page 79

**POWER AND THE PLOW**

THE RUTH SELF FEEDER is warranted to feed any make or size of Separator to its full Capacity with

# The Ruth Feeder Guarantee

This  
Is  
Very  
Hot  
Stuff

## WARRANTY

The Ruth Feeder is warranted to feed any make or size of separator to its full capacity with any kind of grain, in any condition whatsoever, bound, loose, straight, tangled, stack burned, wet or dry, without slugging the separator cylinder or loosening a spike and to do a faster, cleaner and better job of feeding, and to wear longer and cost less for repairs than any feeder manufactured by any other Company in the world.

The Maytag Company

Read  
It  
Over  
Once  
More

Did you read that warranty? Just read it again. Go over it slowly and let it soak in. Is it strong enough to suit you? The beauty of it is, the warranty exactly fits the machine. Nothing less would do it justice, and please remember that the above warranty is made a part of the contract.

You may read glowing descriptions of other feeders. Salesmen may grow eloquent and convince you that they have a good feeder, but just ask them to write it in the contract. It's what you sign that counts. The hot air they give you in their talk and advertising will not help you out in the hot days of harvest when you are trying out their experimental machines.

The Ruth Feeder requires no introduction to the thresherman. He knows it almost as well as he does his wife. It is a household word; the name has stood for faithfulness and constancy from all time. It stands for perfection in the feeder world and we back the statement with a signed warranty which applies to both the Standard Feeder and the Swinging Elevator Feeder.

## The RUTH or PARSONS With or Without Wings

WILL STOP YOUR FEEDER TROUBLES

And do not forget your old friend, THE HAWKEYE, the Feeder that has never failed to give complete satisfaction. Just as Good to-day as ever.

With the Swinging Elevator Attachment, two pitchers can do the work of six men. Does that appeal to you?

It means a profitable investment in place of a bill of expense.

It means a solution of the labor problem and relief from unreliable help.

It means pleased customers with work well done and a small crew to feed.

It means that the life of the separator is doubled.

It means faster and better work with the separator always at full capacity.



We believe that any Separator for sale in Canada to-day will do good work if PROPERLY FED. To have them do THE BEST WORK they must have on either a PARSONS, HAWKEYE or RUTH Feeder. This is a question that has but one side to it—no room for argument. IT HAS BEEN PROVEN. THE CASE HAS BEEN TRIED BEFORE A JURY OF CANADIAN and UNITED STATES THRESHERMEN tens of thousands of times, and the verdict has always been the same. If you are buying a new separator this year, INSIST on having a RUTH FEEDER. We have the proper attachments to put it on. If your old feeder is worn out, or nearly so, start the season right by buying a RUTH. READ the WARRANTY at the top of this page again. Next month we will tell you all about the WHITE WINGS FEEDER and DUMP RACK PROPOSITION. It will be interesting reading.

## The Maytag Company, Ltd.

SUCCESSOR TO

Parsons Hawkeye Manufacturing Co.

WINNIPEG - MAN.

N.B.—MAKE A NOTE OF THIS: For the convenience of our customers in country adjacent to Regina, we will have quite a complete assortment of Repairs and Extras, at Regina this year. Send your orders to H. A. KNIGHT, Regina, Sask., and they will receive careful and prompt attention.

and to wear longer and cost less for repairs than any Feeder manufactured by any other Company in the World.

any kind of grain in any condition whatsoever, BOUND, LOOSE, STRAIGHT, TANGLED, STACK-BURNED, WET or DRY, without

slugging the Separator Cylinder or loosening a spike, and do a Faster, Cleaner and Better job of feeding

APR.



# The Canadian Thresherman and Farmer

CANADA'S FARM MACHINERY MAGAZINE

PUBLISHED MONTHLY BY  
E. H. HEATH COMPANY  
LIMITED

WINNIPEG - CANADA

Members Western Canada Press  
Association

Authorized by the Postmaster General,  
Ottawa, Canada, for transmission as  
Second Class Matter.



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

1911



"Everything begins and ends with the soil."

## A PLAIN TALK TO OUR SUBSCRIBERS

### SUBSCRIPTION RATES

Postage prepaid,  
Canada and Great  
Britain,  
\$1.00 Per Year.

Postage prepaid  
United States and  
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\$2.00 Per Year.

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paper, you should  
notify the office at  
once, when mistakes  
if any, will be corrected  
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All subscriptions  
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Advertising copy in  
order to secure good  
position should be in  
our hands not later  
than the 15th of the  
month preceding date  
of issue.

Advertising rates  
furnished on applica-  
tion.

**L**AST month we devoted this page to our advertisers. This month we would like to say a few words to our subscribers.

A great many of you have been reading *The Canadian Thresherman and Farmer* ever since it began. Originally, it was intended as a thresherman's publication exclusively. One day, however, we were asked the question, "Who is a thresherman?" and we were at a loss to answer. Some might say that he is a man who owns a threshing outfit. So far it is true, but we must go farther. He is in nine cases out of ten a farmer. We will go yet a step farther. He is a man who is generally more or less interested in farm machinery, a man who is keenly alive to its advantages and who knows what machinery is and what it will do.

It was at this time that we added the name *Farmer* to our already popular name *Canadian Thresherman* and as a sub-title, we added the phrase "Canada's Farm Machinery Magazine." This latter phrase is not of our own coining, but was suggested to us by one of the agricultural college professors in the east. This name stuck from the first and today we are known the length and breadth of Canada as

Canada's Farm Machinery Magazine.

A magazine, if it does anything, goes to its readers with a purpose. Some of the agricultural journals circulating in Canada have for their mission the exploitation and the betterment of live stock. Others purport to fight the farmers' battles against the so-called monopolies and trusts, to see to it that he gets a square deal. These are very laudable and praiseworthy missions, and if properly carried out can result in a great deal of good.

*The Canadian Thresherman and Farmer* wants to see every one of its subscribers get a square deal, and while you are getting that square deal we want to see you make the most of and get the most out of what you have. In looking over the field we believe that there is a vast amount of money being wasted in farm machinery. We believe that hundreds of thousands of dollars are being spent every year for the purchase of farm machines that never did the farmer the good they should do or the good that they were designed to do. We believed that there was a need for education along this line and we have accordingly designed this magazine with the one idea uppermost; viz., to act as the connecting link between the soil and the farm implement and to do our best towards educating the farmer in the proper use of farm machinery.

The idea was a new one. The term *Farm Mechanics* was practically unheard of and such a thing as traction cultivation was an unknown quality when we first started upon our work. The task has not been an easy one, but we felt that it was nevertheless worthy, and well worth the time and labor expended upon it. The results to ourselves have been very satisfactory and we know from what our subscribers are constantly telling us that they are more than satisfactory to them. Take for example our *Special Traction Cultivation* number, of which this is No. Seven. From the length and breadth of the land come letters of appreciation regarding these numbers. Five years ago we scoured the country for experience letters and succeeded in getting hold of

thirty-eight. This year, without a great deal of effort upon our part, there has come into our office over five hundred. It shows at least that we are doing a work along this line that is appreciated or it would not meet with such hearty response.

We have tried to make our magazine one of quality. From a typographical standpoint it has been as good as the printer could produce. Specially designed colored covers have made it attractive a magazine fit for the parlor table. We have used a large face of type in order that it could be read as easily as possible, and in the reading line we have always tried to give to our readers clean, up-to-date matter. Our advertising columns are the cleanest of any publication published in Canada today. No patent medicine or fake advertisements have ever found their way to our advertising columns, did we know it. Upon one or two occasions unscrupulous advertisers parading under a mask have gotten in, but in a short time they were unceremoniously ejected. This is why we guarantee against fraud on the part of our advertisers. You can readily understand that we could not do this if we were not absolutely assured of the character of the advertisements placed with us. It costs us money to do this, as there are thousands of dollars' worth of advertising that we could get, but we feel that it is not fair to our subscribers to palm this sort of stuff off upon them.

If there is one thing that we have tried to do, it is to be alive and up-to-date as regards farm machinery. If you want to know what the advertisers in these lines think of us just glance through our advertising columns and see how many implement firms doing business in Western Canada today are not represented. The agricultural colleges have come to regard us as an authority and a direct source of information along this line and if we were to tell you how many individuals come to us every month looking for implement information it would surprise you. We have started out to be the *Farm Machinery* publication of Western Canada, or to be more explicit, the publication that will link these broad Western prairies with the implements best adapted to their cultivation; the result being a decreased system of crop production and a better and a bigger crop.

We want you to think this matter over, for we believe that if you go into it seriously you will come to the conclusion that you want our publication regardless of how many others you may take. There are certain fields of agriculture that we do not cover. We will leave that to the other agricultural journals. You need more than one agricultural journal in any case. One editor alone is not sufficient to give you all that you want, but in many minds there is a wealth of knowledge. Read your *Canadian Thresherman and Farmer* carefully; read it with the spirit in which it is gotten out constantly in mind; follow its teaching and you will find in the end that it will pay you a thousand per cent on your investment. Think it over. \* \* \* \* \*

Don't forget that renewal. In the busy rush of spring work you are apt to put it aside intending to attend to it later. Remember there is no time like NOW. This number is but a sample of twelve more that are to follow.

### OUR GUARANTEE

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

# IMPORTANT

To all Persons Buying and Using

## WIND STACKERS



THIS

### TRADE-MARK

Is For Your Protection as Well as Ours

See that it is on the Wind Stacker You Buy, and then no one Can Cause You Trouble

**The Indiana Manufacturing Co.**  
Indianapolis, Indiana, U.S.A.

Conducted by  
Professor  
P. S. Rose

# Practical Talks to Threshermen

Talk No.  
XLIV.

In the old days of flail threshing or threshing by driving cattle or horses over the threshing floor, the long straw and coarse stuff was separated from the grain and chaff by men with pitch forks. They operated by throwing the straw into the air with forks and then catching it as it descended. When the rapidly rising fork struck the bunch of straw it administered a sudden sharp blow which had a tendency to throw the straw upward and away from the kernels of grain and at the same time tore the bundle of straw apart and thoroughly disintegrated it. This allowed the heavier grain to fall to the threshing floor. When done carefully and conscientiously, it was a very effective method of separation.

When men came to build mechanical separators they tried a number of methods of separating the grain from the straw, such as beaters, pickers and raddles or revolving belts. These latter were often given a vibratory motion by being run over irregularly shaped pulleys. For slow threshing, where the straw blanket was quite thin, these various devices did fairly creditable work, but when the days of fast threshing arrived they were apparently found inadequate because all of the large grain threshers at the present day make use of the old principle exemplified by the man with the pitch fork. Even where the raddle is now used, and it is still used to a limited extent, it is always in connection with a vibrating rack.

In order, then, to separate the grain and chaff from the straw most rapidly and effectively, it is necessary to make use of the pitch fork principle. In other words, the designers of separators approximate as closely as possible the action of the man with the

the following principles which must obtain in all well constructed separators. First, the straw blanket must be thin and must be spread evenly over the entire width of the racks. Second, the straw must not only be thoroughly shaken but every straw must be made to move with reference to its neighbor. Third, all bunches of straw that reach the racks must be torn apart and thoroughly disintegrated in order that no lodging place may be left for a kernel of grain. Fourth, the motion of the racks must not be so violent that any of the grain is thrown up and out of the blanket of straw. Fifth, the length of the racks and their speed must be so proportioned that the straw will be carried rapidly through the machine and yet be allowed sufficient time for all of the grain to settle to the grain pan below. To accomplish



Fig. 78

all of these results in a machine that handles, in one day, all of the straw that grows on a quarter section of land, and that is the capacity of some of our large modern threshers, is not such an easy task as it might at first sight appear. In fact, it has taken years to so perfect machines that they are able to accomplish such remarkable results. The various ways in which this problem has been solved will furnish the text for the remainder of this article and several of those to follow.

The Pitch Fork Idea is carried out in a variety of ways by the use of suitable link work or combination of cranks and links. Figures 78 and 80 illustrate two methods

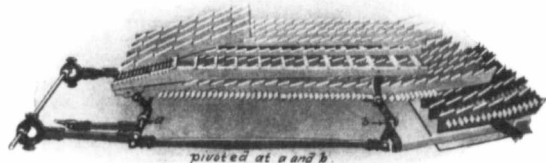


Fig. 79. Straw Racks of Northwest Separator.

fork. That is, they arrange a set of fingers to throw the straw into the air and as it descends the fingers again strike the straw from below and continue to toss and strike it while it is passing from the cylinder to the straw carrier at the rear of the machine.

A careful study of the principles of separation on the straw racks leads to the enunciation of

that are often employed. The former imparts a convex motion to the rack when viewed from above, the latter, a concave motion. In figure 78, in which an indirect link is used, that is, one that is pivoted near its mid point, it will be noticed first of all that the links when in their normal position of rest, do not stand vertically, but are inclined with the ver-

tical through an angle of about thirty degrees. This is an important point, to observe, as upon it depends in large measure the action of the straw rack. This can readily be explained by referring to the figure. In the normal position the rack stands at the lowest point in its travel. When started in motion it moves upward and backward with a quick motion, being in that part of the circle where

motion from a multiple throw crank placed at the rear of and below the racks. The crank shaft is so constructed that when one section of the rack is in its lowest position its adjoining mate is in the highest position. The result of this action is to tear the blanket of straw apart and agitate it very thoroughly. The fact that the sections are narrow and that the straw bridges across from one

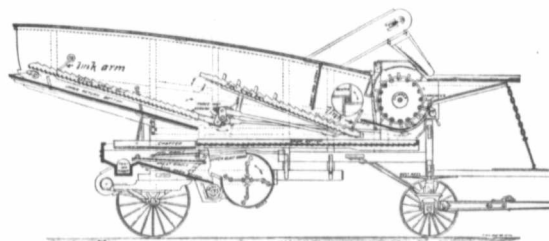


Fig. 81 Sectional view of Gaar-Scott Separator

the motion is about equal in both directions. This tosses the straw upward and backward. Before it has time to fall back on the rack, the latter is again on its up stroke and strikes the straw from underneath a vigorous blow which again sends it up and backward. This is repeated a great many times until the straw is finally pitched out at the rear end of the machine, but on its way it is tossed very much as a man with a fork would toss it. This action, it will be observed, has a tendency to throw the bottom straws backward faster than the upper ones, with the result that the bunches of straw are well torn apart. The speed of the racks is such that the straw moves at the rate of about one thousand feet per minute. The throw of the racks is only a few inches and so gauged that the grain is not thrown violently out of the straw. Figure 79 shows how this principle is applied in the North-west separator.

In figure 80 the motion of the racks as looked at from above, is not convex as in the first case, but concave. The racks again start from their lowest position and move upward along the under side of the circle. This has a tendency to again throw the lower part of the straw backward faster than the upper part, thus imparting to the straw a sort of backward rotary motion, which is quite effective in tearing all bunches apart and allowing the grain to fall freely to the grain pan. These racks may all be worked together, or each worked separately, depending upon the ideas of the designer.

Another principle which is frequently employed consists of a rack divided into a number of parallel sections which receives

section to another makes it evident that upon the upthrow of each section it will come violently into contact with the straw and strike it a considerable blow, at the same time moving only a part of the blanket backward while the adjacent part has no such motion imparted to it at the given instant. This, of course, has a strong tendency to disintegrate any bunches that may have come through the cylinder. This means of agitating the straw blanket is used on a number of the modern machines and has proven quite successful in the field. The multiple throw crank shaft works in wooden

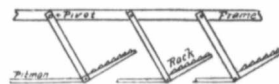


Fig. 80

boxes attached to the under part of the rear end of each section. These boxes are not as much affected by the dust and grit as metal boxes would be.

A combination of rotary motion and oscillating motion is illustrated in the skeleton view of the Gaar-Scott separator, figure 81. In this machine the cylinder end of the first rack is supported by a hanger or link which swings back and forth along the arc of a circle. The rear end of the same rack has a circular motion imparted to it by the crank. All points in between move in elliptical paths. The rear rack has the same motion with the ends reversed, consequently as the straw passes from the first rack to the second it is violently agitated and torn apart.



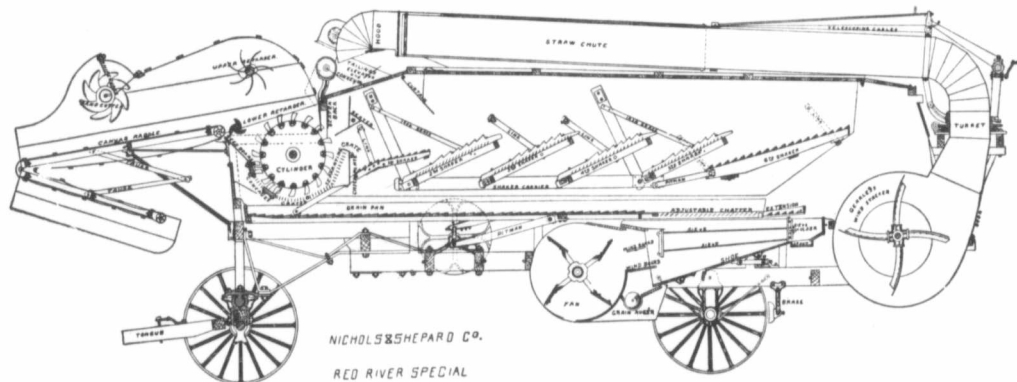
# Do it Right This Year

## AND NOTE THE DIFFERENCE

Buy a thresher that uses the only correct method of getting the grain out of the straw and chaff. All threshers but one work upon the theory that the straw should be hurried through the machine fast so as to be thin enough for the grain to drop out of its own weight. Experience tells you that these forks, raddles or flat running shakers carry too much grain out with the straw.

The Red River Special **BEATS THE GRAIN OUT**, just as you would do by hand with a fork. It is the only thresher built which does **BEAT IT OUT**. If you were separating by hand with a fork, you would not pitch the straw across the barn floor out of doors expecting the grain to drop out. Nor would you drag it around on the barn floor.

You would toss it up and **BEAT IT** and keep **BEATING IT** until you had **BEATEN** the grain all out. That is what the Red River Special does. It is the only thresher built which does.



**The Red River Special** — Sectional View

The Big Cylinder, the "Man Behind the Gun," and the separating shakers **BEAT THE GRAIN ALL OUT** before the straw leaves the machine. The farmer knows it and wants the Red River Special. The big jobs will insist upon it. Get the best —

# Get the Red River Special

- |                                       |                               |
|---------------------------------------|-------------------------------|
| It Will Get the Big Jobs              | It Will Thresh the Most Grain |
| It Will Get the Most Jobs             | It Will Save the Most Grain   |
| It Will Get the Longest Run           | It Will Thresh the Fastest    |
| It Will Make You the Most Money       | It Will Clean the Best        |
| It Will Save the Farmer's Thresh Bill |                               |

All because it does not wait for the grain to drop out.

## IT BEATS IT OUT

No other thresher does. Be up with the times and buy a Red River Special this year.

**IT DOESN'T COST ANY MORE BUT IT WILL EARN YOU MUCH MORE**

*Write for Catalogue*

**NICHOLS & SHEPARD COMPANY, Battle Creek, Mich., U.S.A.**

Branches with complete stocks of Machinery and Repairs constantly on hand at the following cities: CALGARY, ALTA., CANADA; WINNIPEG, MAN., CANADA; REGINA, SASK., CANADA

## The Thresherman's Question Drawer

Answers to Correspondents

### The Experience of a Fireman:

1  
It was in the fall of nineteen ten,  
When I was firing for Les  
McGlenn.

Les, you know, is a brother of  
mine,  
And that is why we got along so  
fine.

2  
I am going to tell all about  
How I labored with this young  
scout.

Now the engine we run was an  
American Abell.  
And, believe me, boys, she was  
never disabled.

3  
I never saw an engine run so  
smooth  
As this one did with its competent  
crew.  
From early in the morning till late  
at night  
We kept right on a hitting the  
pike.

4  
For every time we went around  
It helped to cut expenses down,  
And then at night when we hit the  
hay  
Old Mack was pleased with our  
work each day.

5  
I would take on the water and  
shovel on the coal,  
And then we'd both sit dow and  
watch the drivers roll  
But as we were pulling a heavy  
load  
Over a rough and rugged road.

6  
I did not have much time to rest  
As I always had to do my best.  
For if I let the steam down too  
low  
Les would look around and say,  
"Tom, we're going too slow."

7  
So you see I was always on the go,  
So that at night we could make  
some show,  
And as I was interested in the  
machine,  
It was up to me to make her  
steam.

8  
And so day after day I shoveled  
away,  
Always doing my best to make  
her pay.  
Now, if any of you farmers, are  
going to invest  
I will say, The American Abell is  
one of the best.

Respectfully submitted by

T. G. McGlenn,  
Lethbridge, Alta.

### The Troubles of an Engineer.

1  
I'm an engineer, as you may  
know,  
My life is full of grief and woe.

With incompetent help my trou-  
bles began,  
So here I will give you a few of  
them.

2  
Many a fireman I have had,  
Some were good and some were  
bad.  
Among them was Tom McGlenn,  
And he was as good as any of  
them.

3  
From four in the morning till nine  
at night  
I'm hollering at him with all my  
might.  
"It's rake out the ashes and  
grease up the gear."  
And then he will ask me, Is it my  
turn to steer

4  
When we are smoothly gliding  
down the pike  
The first thing we know a rock  
we will strike,  
It will tear off a shear or bend a  
beam,  
And then you will hear the old  
man scream.

5  
Its "Couldn't you steer out around  
that rock?  
Couldn't you find a smoother  
spot?"

So you see how it makes an en-  
gineer feel  
To be responsible for the man at  
the wheel.

6  
I'm building a cab on the engine,  
you know,  
To shield me from the wind and  
snow.  
You may know in the spring when  
we start down the field,

The engineer, not the fireman,  
will be at the wheel.

By L. S. McGlenn,  
Lethbridge, Alta.

B. B. Q. Can an engine be  
run too fast for a crosshead pump  
to work good? If a pump does  
not throw enough water, how  
would you make it throw more?

A. If the pump had sufficient  
capacity when the engine was  
new, there is simply something  
out of order. The valves may be  
leaking. A leak in one or both  
valves will affect the capacity. If  
the section pipe or hose is out of  
order, this would also reduce the  
capacity, either by a leak or stop-  
page. If the pump never had  
enough capacity, the best way to  
get more is to put a larger plun-  
ger in the pump. This will neces-  
sitate reaming out the stuffing  
box. The speed of a traction en-  
gine cannot be too fast doing reg-  
ular work.

R. K. Q. Will an injector  
force water into a boiler that has  
higher pressure than another boil-  
er to which the steam pipe on that  
injector is attached? Now, for



## Pickering Governors

made for

## Every Build of Engine

A Record Breaker for Output and  
Reduced Operating Expenses

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

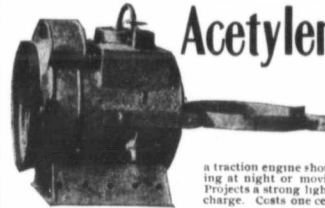
PATENT BALL RANGER SPEED CHANGER SUPPLIED ON ALL  
GENUINE PICKERING GOVERNORS

If you have Governor troubles write

**The Pickering Governor Co.**

PORTLAND

CONN., U.S.A.



## Acetylene Headlight

For Traction Engines

Complete in one apparatus. The  
latest and best on the market.  
All the light you want whenever  
you want it. Wind proof. Jar-  
proof. Every man who operates  
a traction engine should have one. Indispensable for plow-  
ing at night or moving over rough fields and bad roads.  
Projects a strong light 300 feet. Runs ten hours with one  
charge. Costs one cent an hour. Write for Catalogue.

American Acetylene Stove Co., 516 Masonic Temple, Minneapolis, Minn.  
CHAPIN CO., CALGARY, Agents for Alberta

## Sawyer Drive Belt

Is Not  
The  
Same



As Any  
Other  
Belt

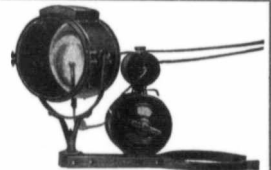
It lasts longer. The Lap NEVER comes apart. It never gets  
Stiff in Cold Weather. Dont cost a bit more.

Write for Book "L"

**SAWYER BELTING CO.**  
CLEVELAND, OHIO.

### SPARK ARRESTER

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



### ACETYLENE GAS HEADLIGHT

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

### FLUE CUTTER

You need this tool to get ready for your Spring Plowing. Is adjustable in  
length and size. Cuts the flue without burring the end. Try it.

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

SEND FOR CATALOGUE AND PRICE LIST TO

Parsons Hawkeye Manufacturing Co., Ltd., Winnipeg, Man.

instance, say the steam pipe on the injector is attached to one boiler, and the delivery pipe is attached to another boiler. And if the pressure in the boiler to which the steam pipe is attached is lower than the pressure in the boiler to which the delivery pipe is attached, will the injector force water into the boiler with high pressure?

**A.** The fact that the injector overcomes the friction in the pipes and the turns in same (a heater, for instance), and lifts the check valves, will show that there is some power to spare. An injector will force water into another boiler with a higher pressure than the one from which it takes steam. The writer has noticed a difference of 10 pounds on the delivery pipe from that of the steam pipe, and it is his impression that injectors can be built to do even better than that.

**T. B. Q.** If feeding too much cylinder oil, as well as not enough, has a tendency to cut rings and cylinder, will water passing through the cylinder destroy the oil and cut the cylinder and rings? How much oil is required in running 10 hours, cylinder 8 $\frac{3}{4}$  x 11?

**A.** Too much oil will never cut the piston rings. Dirty water caused by foaming of the boiler will cut the rings, but not clean water. One pint of oil should be abundant to run an 8 $\frac{3}{4}$  x 11 engine ten hours.

**W. S. Q.** Desiring to place my lubricator on rear of boiler, and cylinder being on front end of boiler, would like to ask if the long feed pipe which will be necessary to convey oil to cylinder, will have to be on an incline from oiler to cylinder, or can it be horizontal? Would it make any difference in the working of the lubricator?

**A.** A long feed pipe should be higher at the lubricator end so as to allow the steam to get into the lubricator and the oil to flow down out of the pipe. It should have enough drop toward cylinder end to make up the amount the engine is out of level by being on an incline at times.

**S. W. Q.** I have a complete outfit, consisting of a 25 h.p. engine, 42 x 66 separator, with self-feeder, blower and weigher. I would like the opinion of the Canadian Thresherman in regard to the engine. It has a cylinder 10 inches in diameter, and 12 inch stroke, with a Woolf reverse gear. It doesn't seem to have as much power as it should and pounds terribly when doing hard work, especially when the relief exhaust is closed. When the reverse lever is in the last notch the valve only opens the ports about three-fourths of their width, and cuts off at about two-thirds stroke while the lead is nearly one-eighth inch.

Don't you think there is too much back pressure due to compression and lead, which also

pushes the valve off its seat, and lets it come back with a pound?

Would not a new eccentric strap that has the connection for the eccentric rod farther up towards the block give the valve more throw and less lead?

**A.** A valve need not open its port full to admit steam, as the port is made wide enough to let the exhaust escape at a low pressure, say, almost atmospheric pressure, and at this pressure the volume is much greater than at boiler pressure. In the ordinary size traction engine, one-fourth of an inch opening for the live steam into the cylinder will be as efficient as three-fourths opening to let the exhaust steam out of the cylinder. On investigation you will find that when the valve gear is hooked up so that there is but a small port opening to admit live steam, the port is always opened wide for the exhaust steam. One-eighth of an inch is not far from the right amount of lead for this size engine. One-thirty-second

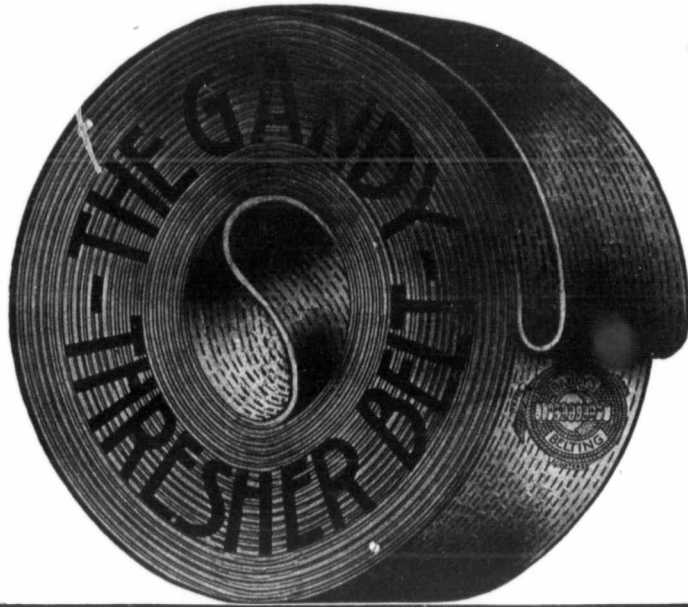
of an inch less might be better, but in later years engines have been given more lead than before the engine indicator was in use by traction engine builders. It will be interesting to you to find out how much the piston travels while the lead is effected, in other words, move the engine in the direction in which it runs until the valve is just ready to open; make a mark on the crosshead shoe and guide, then move the engine to the end of its travel, and you will be surprised to see how little the piston moves to accomplish the lead. In this position of the engine's travel, the valve is moving its fastest, and the piston is moving its slowest, and this is why a little excessive lead is not as detrimental as one would suppose at first glance. At all events, we do not think it would pay you to get a new eccentric strap to reduce the lead.

Your engine does not pound from excessive combustion. A lack of compression would be

more apt to cause a pound. When the valve gear is hooked up to effect an early cut-off, the compression is higher, and you will find this is where the engine runs the smoothest. Your best plan would be to hook the valve gear up as far as possible, to not only get a quiet, but also an economical engine. Any looseness about the boxes always makes more noise when the engine is cutting off late in the strokes.

**R. A. Q.** What size of exhaust nozzle would I use for straw burner 10 x 10 cylinder, about 220 revolutions and what size of nozzle for coal the same size of cylinder and same number of revolutions?

**A.** The size of the opening in an exhaust nozzle is very important. It does not need to be far from the right size to do poor work. You can find the correct size by writing to the makers of the engine.



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BALTIMORE, MARYLAND

New York Office, 88-90 Reade St.

## MEN WHO MAKE No. 1 HARD

Being first hand experiences of the men who own and operate threshing outfits in Western Canada

### A Good One.

My outfit consists of a 22 H.P. Simple return flue Minneapolis engine and a 36 x 56 Minneapolis separator with blower, feeder and high Perfection weigher. For two weeks before threshing, started last fall, myself with one or two others, spent most of our time overhauling the outfit. The engine being thoroughly repaired, as I thought, during the early part of the summer, required very little attention. So we all went at the old separator and, as my machine is nine years old and always being outside, I discovered that a great many new pieces were needed in the frame work of the machine. So we got the hard wood with a great deal of difficulty during the eleventh hour. During this operation we had the old separator literally down to pieces, but with careful attention it was all replaced neat and tight.

This job done, the shafts were looked over. The worn ones were replaced with new ones. Boxings all carefully cleaned and tightened, a brand new set of knives put on the feeder, broken slats feeder all repaired with new slats of our own make, which I selected from a nice slick half grown birch tree. Those slats you can bank on when it comes down to wear, and they don't cost more than from 30 to 50 cents each.

This all completed, I set to work and brushed the machine all over, and sand-papered it until all grease, dirt and rust was moved. Then a thin coat of paint was applied. When dry, I gave it the finishing touch with another good coat of paint. Every color was put on just the same as when it was new in fact, a great many people would not know it was a new outfit.

The day for starting arrived. So I started up the engine and pulled out. It was about five miles to where we were to start threshing. Everything went lovely until we caught up to the waterman who had filled his tank at a slough, and in pulling away from the slough he broke the double-tree, and three of the wheels started to settle in the soft ground. The waterman was a cool level-headed chap and struck to a nearby house where he borrowed an axe. He immediately set to work and made a new double tree out of a chunk of poplar. By this time we were all on the scene and everybody gave a lift and we were soon out again. After this, everything went along fine and we arrived at our starting place, but as it was just dark we decided not to start until morning came. However, we put on belts and gave it a run, so that everything would be in readiness for the morning.

Morning came, but when I went out everything was wet. It had rained during the night and as we

were to shock thresh, work was at a stand-still on that farm. So about noon we pulled on to another farm where there were stacks and we got a start. By the time we were through with the stacks the stooks were dry. So I got my bundle teams gathered up again and made a start in the stooks that evening. From that on everything fairly howled. There was no trouble from morning till night, stopping only for dinner or to move.

During the second week we were tied up with a snowstorm, but as there were lots of stacks we were able to go to work just as soon as the snow cleared away.

I have a table or platform made which fits between the front wheel of separator and is same length as separator. This table is built up on the pole, but can be raised or lowered at an instant if necessary. While threshing, this table catches all the heads and grain that fall from the feeder and the setting is done, a scoop shovel will clean out this table in a very short time, and there is no digging in the stubbles and no clean up job. The axle at an end to any number of rods in any tones when the job is finished. I carry my wood on this table, making it very handy for the foreman.

I have two drive belts on the outfit, one from a bearing and one short belt. The short belt I use when it is windy and the long one in calm weather. Of course a man wants to watch and keep his machine set and to be able to change the short belt. This is a great advantage, as no wise man with any threshing experience will set his machine in a high wind with the

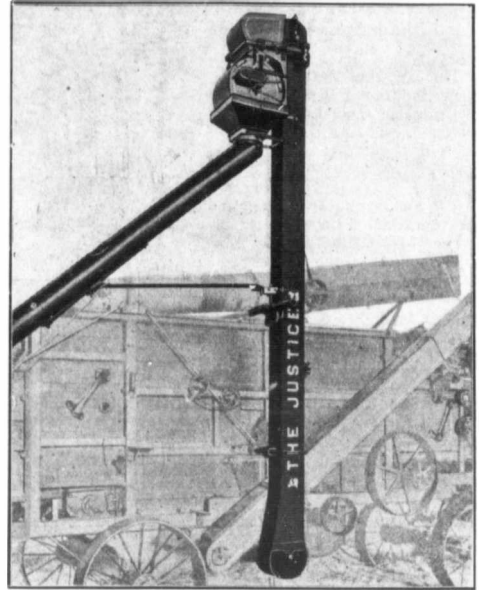
line to the separator. No matter how long a belt is there is danger of fire.

In the stook threshing I had six stook teams, and I put two men with each team, so they never changed when the load was on; they both went to the machine, and forked it off. I found this work very good, as every man knew all the time just when and what to do. At the finish of a set the last two teams stayed at the machine until everything was cleaned and picked up. Then by the time we got the machine to the next set the next two teams in turn would pull in and help setting.

One thing I have learned is how to put on a drive belt easily. Some men will back the engine up until the belt is so tight that every man is tired right out with pulling and forcing in their efforts to try to pull the belt on, and they sometimes fail. This is hard on any man, no matter how strong he is. The way we do is simply stop the engine, so that the belt can be placed on the fly

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BY THE



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A machine that cannot lie, cheat or steal. A servant whose fidelity is never in doubt. A detective that no species of dishonesty can tamper with. An accountant whose accuracy can never be questioned, whose statements never mislead. The only Government Standard for this purpose having the sanction of the Department of Agriculture. Buy us at a price within the reach of every farmer.

### Would You Forget all Your Engine Worries?

THEN GET A

## "McCullough" Oil Pump

An absolutely perfect appliance—a god-send to every engineer and thresherman. It cannot get out of order and is so simple in every part that a novice can handle it easily and without risk by following the simple instructions accompanying it. Agents wanted in every town.

When placing your order for that 1911 Threshing Outfit be sure and see that it is equipped with a Whiteford Justice Measure. Insist on it, and you can have it.

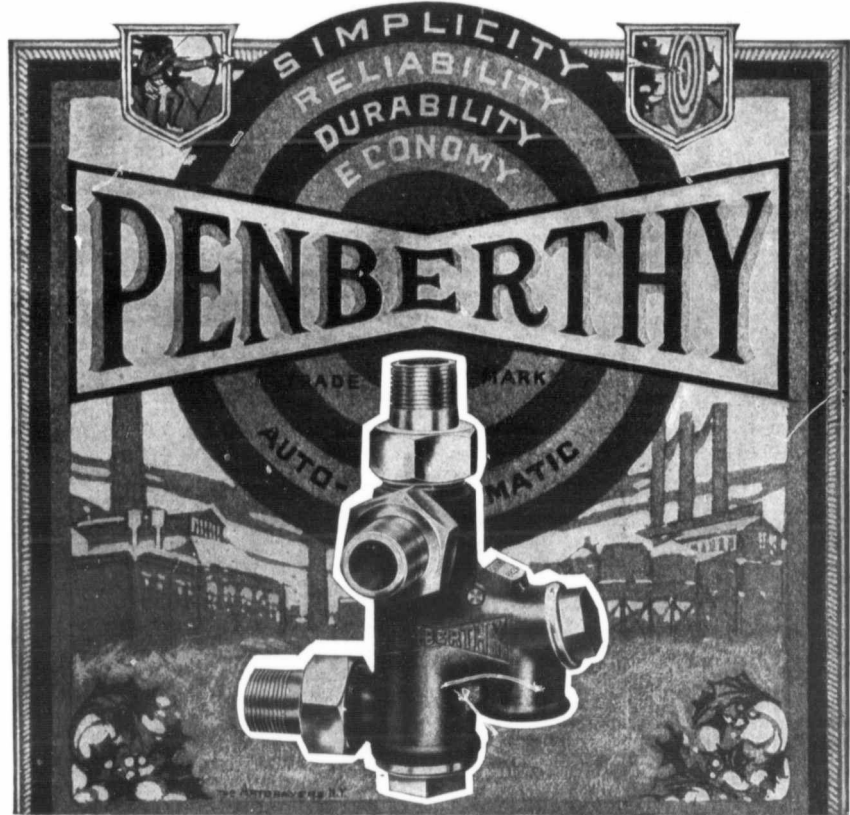
ADDRESS THE  
**Virder Manufacturing Co., Ltd.**  
Box 979, VIRDER, MAN.

wheel. Then put the crank where it will get a good easy start backwards, set the friction, see that the front wheels are going to come right through, open the throttle and watch when belt is about tight enough. Ease off on the friction lever until a block is placed in front of drive wheel.

The stook threshing went fine until near the last. When I came out from dinner I fired up and started to move to another part of the field. On the way across the field we could not keep up steam. Fire as we liked, the steam was going down. This was something new, for we always had to watch the engine closely to keep it from blowing off while moving. But I soon located the trouble. When we got to the next set, I jumped off the engine and there was the water running out of the boiler. This convinced me it was leaking. This was when my troubles started. I knew right well too that I should have changed the flues before I started to thresh, but as they were tight and the crop was light, I thought I could pull through without them leaking. From that day to the finish I could not keep them tight. Just imagine how I felt with everybody standing looking at me, and the water running out faster than the injector could put it in. Some nights I never got to bed at all, and I never missed a morning when I didn't have to put about half a tank of water in to the boiler with a pail, and one morning I lost the funnel and the tank pump was frozen up. So I counted the pails and I put 60 pails of water into the boiler with a tomato can. The size of the hole in the boiler is 1 1-2 inches. You can see just how much trouble I would have headed off if I had changed those flues before I started to thresh, not counting the extra expense or the threshing I lost. Nevertheless I caught as much as the most of them. I was out 30 days and I threshed 45,000 bushels.

I charged 5 and 6 cents for stook threshing, and 3 and 4 cents for stack threshing, which makes a fair wage if a machine is properly handled. To make this pay, a man wants to keep in touch with the following, a nice, tight, clean boiler, good belts, everything bolted solid to place, lots of grease and oil and a cool, level head.

I paid \$3.50 a day for stook teams and \$2.00 for a single man, with the understanding that they got their wages in full every two weeks. I never ask a man to work after dark as I find nine-tenths of the bad break-downs happen after night. So I cut night threshing out entirely. For two years I worried with one of these high classed adjustable sieves with the result that my old customers were beginning to say that the longer I threshed the worse I got. So, last fall I sent for a set of the old fashioned sieves, and discarded the adjustable sieve, and the results are, that for a good, clean easy job, I



## START THE NEW SEASON RIGHT

Buy a **GENUINE PENBERTHY INJECTOR** and get satisfaction ever after

**"THEY ALWAYS WORK"**

Manufactured by

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

would not give one old fashioned sieve for the entire output of the new patent sieves.

Now some men will sit up and say that a machine is worn out after four or five seasons' run and some in less than that, but I have a nine year old Minneapolis, and I am ready at any time to go in the field beside any new outfit of the same size, and I know I can run hour for hour and thresh as much as the new outfit. A machine is like everything else. If you want it to last you must take care of it; otherwise it will soon wear out. I always find it pays to keep water tanks clean and a good strainer on the injector hose, and there won't be much time spent sitting on the road.

Yours truly,  
George Young,  
Brancepeth, Sask.

### A Power Enthusiast,

From the time I was a toddler I would always be around where there was an engine or machinery of any kind. And when I would get into factories, power houses, locomotive shops and machine shops of various kinds I got a

pretty fair knowledge of all the different parts of various kinds of engines.

We came to Saskatchewan in the year 1907, and I guess I am not the only one who can remember that year. We were just two months to the day from the time we left Ontario until we got to our homestead. We spent most of that summer hauling out our cars of settlers' effects, which was fifty miles distant. The following year we tried the horses, breaking up this tough old prairie. We found that it was very hard work on good horses to make them average half an acre a day each. So the following year we decided to try some other power. In the winter we gave an order for a complete Case rig, consisting of a 25 H. P. engine and a 40 x 62 separator, which was to be delivered in the early spring. In the mean time we were getting things in shape.

Then we received word that the rig was shipped and landed at a siding on the new line of the G.T.P., which hadn't as yet any loading platform. So we went with the specialist to unload, built up a platform of railway ties. We succeeded in getting it

off that day, but didn't get it home the same day as we had to survey a road on account of having a few deep ravines to cross.

We started out the next day on a ten mile trip. Just as we started across the prairie we set fire. The coal we were using was bad stuff to slack and fall through the grates. We started out again but only went about ten feet when we had to stop to put out more fire. As it happened we had a sprinkling hose and it only took but a minute to stop it. We found the bottom of the frame of the back damper was cracked and open and allowed the fire to escape. We closed the damper and packed the back full of wet clay, and used the front damper only. After that we got along pretty well until we got to our own town, Adanac, where the specialist left us and said there was no use going farther with us.

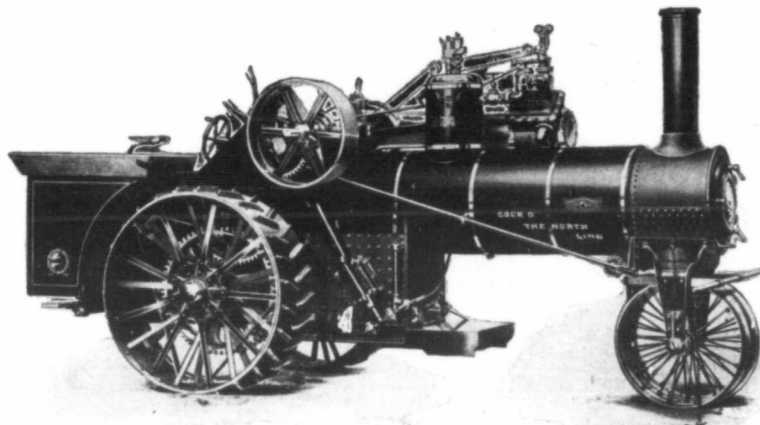
From there we soon came to a mile of soft narrow grade. I was running the engine and firing, and the fellow we had at the wheel was unaccustomed to it. We very nearly upset, but got across this soft grade, settling it from four to eight inches. As we struck the

Continued on page 99

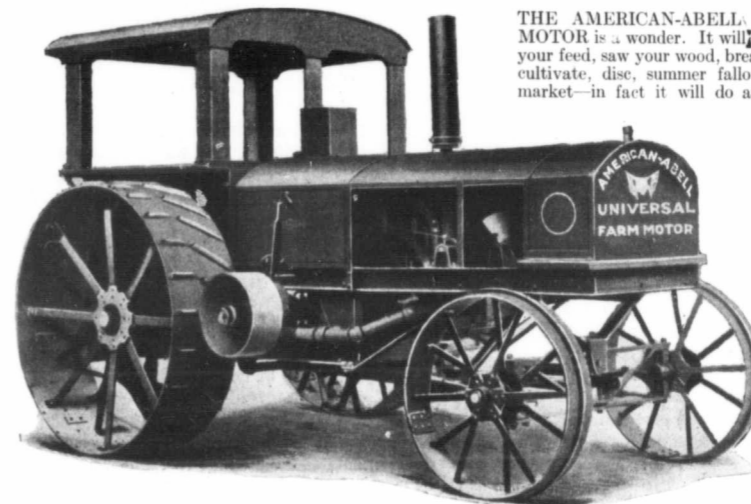


# 3 - PILLARS of POWER - 3

1. The American-Abell Rear Mounted Plowing Engine
2. The American-Abell Universal Farm Motor
3. The Warren-Detroit Automobile

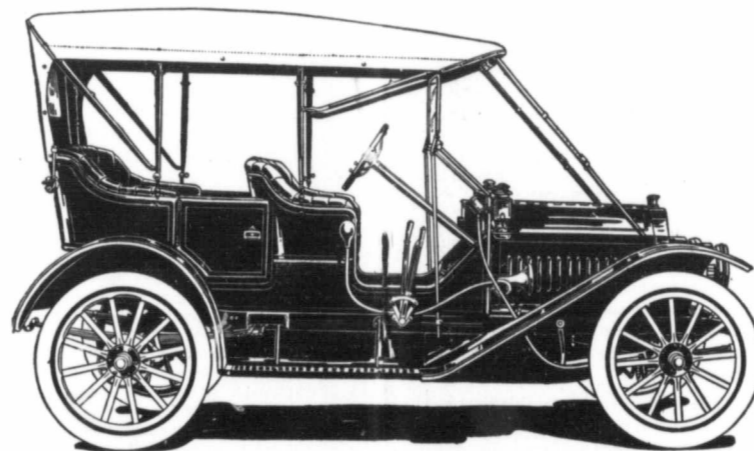


28 horsepower rear mount tricycle AMERICAN-ABELL Special Plowing Engine. This Engine is specially designed for plowing, threshing and road work. We invite the closest inspection of this Engine. Compare it with other makes and judge for yourself. This Engine is the VERY best value ever offered to the Canadian Farmer for the money. BE SURE YOU SEE THIS ENGINE BEFORE YOU BUY. Write for catalogue of this and several other styles and sizes of steam plowing engines.



THE AMERICAN-ABELLA UNIVERSAL FARM MOTOR is a wonder. It will run your thresher, chop your feed, saw your wood, break your land, plow, seed, cultivate, disc, summer fallow, haul your grain to market—in fact it will do anything on the farm or road at a much less cost than your horses will do. The Universal Farm Motor is a double opposed type cylinder, 7½ bore by 8 inch stroke, speed 500 revolutions, 40 horse break test, weight 10,500 lbs. See the new Universal FORTY HORSES IN ONE, compare it with anything on the market. NO WORK, NO EAT. Do you see the saving? Get a catalogue.

**W**EARNS WELL  
**A**CCESIBLE  
**R**ELIABLE  
**R**ICH IN APPEARANCE  
**E**CONOMICAL  
**N**O ROAD IMPOSSIBLE



**D**ESIGNED RIGHT  
**E**ASY TO OPERATE  
**T**RUSTWORTHY  
**R**IGHT IN PRICE  
**O**WNERS SATISFIED  
**I**N A CLASS BY ITSELF  
**T**O SEE IS TO BUY

A corporation, like a man, cannot stand still; they must either go ahead or go back. Here is another indication that we are going ahead. We have added to our line the DETROIT-WARREN 30. A first-class automobile at a reasonable price. The Warren-Detroit has many exclusive features that our catalogue will explain. An automobile is no longer considered a luxury, it is a PLEASING NECESSITY.

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We Represent THE ADVANCE THRESHER CO., BATTLE CREEK, MICH., and THE MINNEAPOLIS THRESHING MACHINE CO., HOPKINS, MINN.

### Our Creed

We believe that honest goods can be sold to honest people by honest methods

### Our Creed

We believe that honest goods can be sold to honest people by honest methods

## A TALK ON PLOWING

By C. H. STINSON

Western Manager of the American-Abell Engine and Thresher Co., Limited



**I** AM a power enthusiast. Some people have called me a crank, but I cannot help it. Away back in the days when I followed the old horse plow and stubbed my toes on the clods until they were sore, I felt that there was something better for the future farmer than being compelled to limit his day's work to about two acres, and this under the most trying conditions.

I was among the first to grasp the significance of traction plowing and several years ago got my taste of this fascinating work with an old Ames engine in Minnesota. This engine was not built for plowing, but for threshing and it is needless to say that my troubles were many and not very far between. I cannot say that my plowing experience at this time was profitable, but I was thoroughly convinced that such a thing was bound to come sooner or later; consequently, I have tried to keep in touch with the traction cultivation situation from that time until the present day.



Civilization Began with the Crooked Stick

We speak of the wonderful development that has been made in the arts and sciences, but if we are looking for something to appreciate in the way of development, we need look no further than our own farms. There is an old saying that "Civilization begins and ends with the plow." Civilization began with the crooked stick. It

was crude, it was slow and very ineffective as a seed bed maker; it cost little; it did less. At the time of its use it showed the length and breadth of mankind's ingenuity. In some places to-day we still see this crooked stick in use. In such places civilization has scarcely begun, and land that should yield an abundant crop is producing a bare living. To-day it is the implement of the savage. He knows no better and those who chronicle his advancement in the future can write his history step by step as he improves his plow.

Mankind was born to progress. Mankind is moreover a lazy individual and he does little work himself where other things can be made to do it. Naturally, he began to look around for a beast of burden and his eyes beheld the ox, strong, willing, enduring, and he harnessed him to his plow. It was a revelation. The effectiveness of the plow was increased ten-fold and millions were fed that would have starved. The land produced a greater yield and it seemed to those who lived at that time that the end had been reached.



But the Ox was Slow

effective power for the drawing of his plow.

About this time, however, a new difficulty arose. The farmer had found a power, but he had also found that his plow was not just the thing. The old crooked stick had developed into the wooden mouldboard and the wooden mould-board did not turn the soil properly. This was before the days of the perfection of steel.

We look at the plow to-day and we think it is a very simple thing. We admire its graceful curves, its polished mould-board and share and the ease with which it turns the furrow, leaving a smooth, shining upturned surface. It pleases us. But we do not know, we cannot realize and we never will, just what the amount of thought and energy and sweat and toil and heart-breaking defeats that such men as Deere and Oliver and others of their stamp put

into this same plow to bring it down to its modern state of perfection.

I wonder how many ever stop to realize that every curve in the mould-board of a modern plow is measured to the fraction of an inch, that every curve means something and that if it were not made just as it is the troubles of the man who handles it would be multiplied immensely.



In the Horse There Was a More Speedy and Effective Power

But I am getting away from my story. About the time that the horse came to be used extensively as a means for pulling the plow Deere and Oliver perfected their mould-boards. They increased the efficiency of the plow as a soil turning implement; they lightened its draft and they made it a thing of pleasure to handle, and the world thought that the end had been reached. These men were far seeing. They were men of visions. Who knows but that in their dreams they did not see the agricultural field as it is to-day. If one plow was good, two would be better and the gang was the result. Made up in gangs of two or three and mounted on wheels, held rigidly in a frame, easily controlled by suitable levers, the process of turning the soil was speedy, effective and the world said that the end had been reached. But the world is often-times mistaken.

About this time men began to wander, for the *wanderlust* courses through the veins of every man. The small valleys and narrow hill sides of the Eastern States and of the Eastern Provinces began to worry some of the more daring and a migration flowed into the prairies of the West and the North-west. Their vastness was appalling; the amount of grain that could be raised in these prairies was staggering and the men who attempted to conquer them saw a task ahead that must extend unto generations. This was the situation that brought power to the plowing field.

The traction engine by this time had assumed a greater or less stage of perfection as a power machine. Men used it for threshing purposes and to haul the mill from place to place; consequently, they reasoned that if it would draw the mill, why should it not draw the plow. "Necessity is the mother of invention," and the next thing that we saw and heard was a stream of smoke and a grind of gearing that left in its wake across the prairies a broad ribbon

of newly turned sod. Several gangs had been hitched together by means of chains and poles and many other contrivances, and the result was a wonder. It would make a story in itself to tell of the troubles of these men. Their engines were designed for belt power, but such a thing as power at the drawbar had not as yet been worked out.

The engines in those days were designed rather for the purpose of pulling themselves than for the purpose of pulling anything else, and the scrap heaps that were enriched by traction engine gears in those days were numerous and large. Even the plows had been designed for horses and not for the power of steam; consequently the beams that were twisted and the shares that were broken were numerous enough to pile up an enormous repair bill.

By this time the world did not say that the end had been reached. It had said it so often and future developments had given it the laugh so many times that it felt that it was not a safe thing to do.

The history of the old horse gang as an engine plow is a short one, for almost immediately after its inception there was paced upon the market what was known as the stiff gang. It was a gang plow in every sense of the word, the beams had been strengthened, the shares made heavier and there was given to the plowman the first engine plow.

The manufacturer of steam engines had likewise not been asleep. The building of an engine with him was a matter of pride and he would not have it said that his engine could not do any work to which it might be put. Accordingly, wheels and gears were strengthened, engines of larger horse power were made and not being satisfied with the simple power of steam he compounded it until the farmer began to wonder just where all this sort of thing was going to end. Men began to speak of plowing, not in terms of acres but in terms of sections and the result was that the farmer began to measure his grain crop not by bushels but by car loads.

The rest of the story is the story of to-day; the story of the modern engine gang and of the modern steam engine, together with its younger and fast becoming popular brother, the gas tractor. Farming is now largely a question of power, or to be more accurate, a question of applying power to the farm and

as I look back over the past few years, I am glad that I was permitted to live in an age when this great thing has come to pass. It marks an epoch in the history of agriculture. It marks the dawn of a period of crop production where the cost can be reduced to a minimum and the profits to the farmer in consequence stretched to the maximum. It marks the beginning of a period when it is no longer a question of power on the farm, but the kind of power and I have now reached the point where I want to give you a few words of advice.

When buying a traction engine to-day, even though you do not use it for cultivation purposes now, you will put it to that use eventually. Therefore, as a protection to yourself and as an assurance that you will get the most for your money, it behooves you to look for that engine that is designed for cultivation purposes. Your engine may have power at the belt, but have you ever followed that power through to the draw bar and determined just what percentage of it was delivered there? Remember that power at the fly wheel must be transmitted through gearing to the drivers. This gearing is subjected to enormous strains and unless it be designed and constructed so that it will stand these strains it will cost you untold trouble. Power is one thing and the cost of producing that power is another thing. In the old days when the steam engine was only required to run for a short time every year, the matter of cost of power was not very important. But at the present time where your traction engine is placed in the field in the spring and scarcely leaves it until the fall, the matter of cost of power is of considerable importance to you viewed from the standpoint of dollars and cents. It matters not whether you buy a steam engine or whether you buy a gas engine, you must in any case provide the fuel that furnishes the power and that fuel will cost you big handsome dollars.

I do not want to spoil this story by making it an advertisement, but I cannot finish my advice without telling you something about the American-Abell line of power machinery. I feel, however, after what I have just said that you are open to appreciate it.

The construction of a traction engine to-day is the work of master minds. Used as it is for all kinds and classes

of work, there must be no weak parts. A chain is no stronger than its weakest link and the efficiency of a traction engine to-day is gauged by the part which gives out most often. That is why American-Abell steam engines and American-Abell Universal farm motors have given such universal satisfaction. In the belt they give but one result—power. On the road they give but one result—power. In the plowing field there is but one result—power, and at the end of the balance sheet there is but two words written in big red letters—economical power.

Constructed in the most modern factories, designed by the most skilled engineers and erected by the most competent mechanics, who have behind them the largest and best equipped factories of their kind in the world, the results to the man who buys can be summed up in one word—satisfaction.

I want you to look over the illustrations of our goods on the two previous pages of this magazine. I believe that you know and appreciate good goods when you see them. I want you to compare them with others designed for the same purpose and then I want you to thoroughly investigate their merits before you buy. All I want is an honest chance to show you and then let your decision rest with your better judgment. I believe "That honest goods can be sold to honest people by honest methods," and if there is anything under the sun that requires honesty it is the building of power machinery for the power farmer of to-day.

Just one word more and then I am through. Did you ever stop to realize just what this power farming is leading you to, Mr. Farmer? Did you ever stop to realize that it means a complete mechanical power equipment on your farm which brings us down to the automobile. That is why the American-Abell Co. have added the famous Warren - Detroit cars to their already large line. It is an honest car. It is built for service. It is the top notcher in automobile values. Ask about it.



There Was Given to the Plowman the First Engine Plow



Several Gangs Had Been Hitched Together



If One Plow Was Good Two Would Be Better

*W. H. Abell*  
 FOR THE  
**American-Abell Engine and Thresher Co.**  
 LIMITED  
 TORONTO - WINNIPEG - REGINA  
 CALGARY - EDMONTON - SASKATOON

We represent the Advance Thresher Co., Battle Creek, Mich., and the Minneapolis Threshing Machine Co., Hopkins, Minn.





**Some Facts About Stock Food.**

Water is contained in all foods and feeding stuffs. The amount varies from 1 to 15 pounds per 100 pounds of such dry materials as hay, straw, or grain, to 80 pounds in silage and 90 pounds in some roots.

Dry matter is the portion remaining after excluding the water.

Ash is what is left when the combustible part of a feeding stuff is burned away. It consists chiefly of lime, magnesium, potash, soda, iron, chlorine, and carbonic sulphuric, and phosphoric acids, and is used largely in making bones. Part of the ash constituents of the food is stored up in the animal's body; the rest is voided in the urine and manure.

Protein (nitrogenous matter) is the name of a group of substances containing nitrogen. Protein furnishes the material for the lean flesh, blood, skin, muscles, tendons, nerves, hair, horns, wool, casein of milk, albumen of eggs, etc., and is one of the most important constituents of feeding stuffs.

Gluten is the name given to one of the most important of the nitrogenous substances classed together under the general term "protein." "Wheat gum," obtained by carefully chewing wheat, is a familiar example. It is the gluten of flour that gives consistency to the dough.

Carbohydrates.—The nitrogen free extract and fibre are often classed together under the name of carbohydrates. The carbohydrates form the largest part of all vegetable foods. They are either stored up as fat or burned in the body to produce heat and energy. The most common and important carbohydrates are sugar and starch.

Fibre, sometimes called crude cellulose, is the framework of plants, and is, as a rule, the most indigestible constituent of feeding stuffs. The coarse fodders, such as hay and straw, contain a much larger proportion of fibre than the grains, oil cakes, etc.

Nitrogen-free extract includes starch, sugar, gums and the like, and forms an important part of all feeding stuffs, but especially of most grains.

Fat, or the materials dissolved from a feeding stuff by ether, is a substance of mixed character, and may include, besides real fats, wax, the green coloring matter of plants, etc. The fat of food is either stored up in the body as

fat, or burned to furnish heat and energy.

**Feed and Care of Calf**

Much has been said in the agricultural press in the past in regard to the feed and care of the dairy cow but comparatively little in regard to the feed and care of the calf.

Now, if the statement made a few years ago by a professor of animal husbandry in Wisconsin that any dairy bred heifer calf, if properly fed and cared for would make a good dairy cow, then this subject must be of vital importance to us, as dairymen. I believe there is a good deal of truth in the statement by the professor.

We all realize that the calf of to-day is the coming dairy cow and we must do all in our power to develop its dairy qualities in the best possible way. The young calf should be fed with great care. We make a practice of letting the calf suck the cow for its first meal. Then feed from a pail an amount of milk depending on the size of the calf and its inclination to drink. We weigh it for them so we know just what they are getting and we plan to feed with regularity night and morning.

The first three or four weeks we give whole milk, often diluting with hot water about one-third to prevent scouring for whole milk is often too rich for young calves. We then gradually work the calf on to skimmed milk and if the calf has done well at the age of six or seven weeks, we are giving him all skimmed milk and continue the feeding of this until at least a year old when we have plenty of it.

After the calf is six months old if he has grown well, twenty or twenty-five pounds per day, is given, seldom more. I think there is such a thing as giving them more than is good for them even though they do crave for it.

The milk should be warm when fed. I think calves are often injured when young by feeding cold milk.

Young calves should have second crop clover hay before them as soon as they will eat it. I speak of second crop clover because that is finer and they eat it much better than first crop. The mangers should be cleaned out at least once a day and a fresh supply given.

They should have plenty of wheat, bran or oats before them as soon as they will eat grain. The best time to feed it is right after giving them their milk as they will

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You buy will save you costly repairs and loss of cream.  
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The Driving Gear; see that it is square gear, strong and durable.



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Cheap worm gear drive in a fast running machine like a Cream Separator; it soon wears, causing the bowl to wobble, hence poor skimming and loss of butter fat.

**AVOID**  
A bowl supported at one end only; it soon wobbles, gives poor skimming, and loss of cream.

**EXAMINE**  
The **Square Gear MAGNET**, built strong, will run steady and skim perfectly, and will not wear out in fifty years.

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Machines which were heralded ten—yes, five—years ago as equal, or superior, to the De Laval have almost without exception faded from public recollection, and the aspirants which fill their places today will have suffered a like fate before another five years have passed. They come and go like the seasons, and frequently with the seasons, worthless guarantees and doubtful testimonials only serving to facilitate their passing, but

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More cream separators and fewer inferior ones will be bought during 1911 than ever before, while thousands of worn-out semi-profitable machines will be exchanged. The importance of dairying as a sure source of revenue, a means to cash discounts and the foundation of savings accounts, is impressing itself, and there is a growing tendency among practical farmers to apply the creameryman's test when choosing a separator: Does it measure up to the standard of excellence established by



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learn to eat it sooner if given at that time. I like oats best but oftentimes you can get a calf to eat wheat bran sooner than oats. We give oats up to the time they are a year old and often longer. I have it yet to be proven to me that it pays to grind oats for young stock.

Corn silage is recommended highly for calves by many good dairymen after the calves have a little age. We have never tried it as we are always short of corn silage so prefer to keep it for the cows and give the calves clover hay for their roughage.

We never turn calves to pasture now before eight months of age, as experience has proven to us that we can make them do better on dry feed up to this time.

Enough has been said in regard to the feed for the calf. We now come to a no less important part of our subject—the care of the calf. I care not how good a feeder a man may be or how regular he may be about feeding, if he does not give the calf proper care he will not obtain the best results.

The calf should be born in a clean, dry, well bedded box stall and should be kept in clean, dry, well bedded, well ventilated, and well lighted quarters. We like to keep them in separate box stalls until about five or six weeks old, then in a large stall where several may be put together and stanchioned up for fifteen or twenty minutes at time of feeding milk and grain to avoid their sucking

one another's ears which is very objectionable. Once in a while there is a calf that fill insist on sucking. Such calves should be kept separate.

Calves should have daily outdoor exercise when the weather will permit. Fresh water should be supplied them daily as soon as they are old enough to want it.

In closing I want to say—Give the calf a good start and you will never have reason to regret it.

#### What a Farmer Can Do With Concrete.

Here are some concrete possibilities. You can build concrete foundations, sidewalks, fences, water troughs, cisterns, water tanks, shelves, cesspools, gutters, floors of all kinds in the cellar, barn and stable, steps and stairs, well curbs, horse blocks, stalls, hog pens, troughs, chicken houses, corn cribs, ice-houses, incubator and mushroom cellars, hotbed frames, bridge abutments, chimneys, dams, windmills foundations, fence posts, clothes posts, and hitching posts.

The three ingredients of concrete, cement, sand and broken stone, must be carefully and thoroughly mixed. All sorts of proportions are possible, but for general work a very satisfactory mixture is one part of cement, two and a half parts of sand, and five parts of broken rock. Sand taken from a pit is best. It should be comparatively free from clay,

soil, sticks, leaves, or rubbish. Drop a handful in a pail of clean water. After a few minutes, if you can see the sand in the bottom of the pail, it is clean enough so far as clay is concerned. The rock, sometimes called aggregate, should be broken up into irregular pieces, having rough, clean surfaces.

It is best to use a watertight platform or a shallow box in mixing. The proper amount of sand should first be spread in a layer and the cement spread on top of this. Mix dry until the whole mass is uniform in color. Then make a hollow spot or crater in the middle of this mass, and pour the proper amount of water into it, a little at a time, being careful not to make it too soft. The dry material should be worked up from the outside towards the centre, and then turned rapidly with shovels, and water added by sprinkling until the proper consistency is reached. The broken stone, thoroughly wet, is added after the cement and sand have been mixed. Where considerable concrete work is to be done on the farm, it would be well to buy a mixing machine. They vary greatly in price, but satisfactory ones can be bought for about one hundred dollars.

While for general use the proportion 1 to 1½ to 5 is recommended, for unimportant work where the concrete is put in masses, such as in backing for stone-masonry, or in large foundations, a mixture of 1 to 4 to 8 will do.

This is a leaner mixture, however, and would not be satisfactory in ordinary cases.

In order to reinforce concrete for fence posts, when the forms are made and before pouring it in, place some old barb or bale wire or steel rods in the forms in such position that they will take care of the strain. If this is not done some of the posts are sure to break when the fence wire is stretched. Wood is unsatisfactory as a reinforcing material, and should never be used. Although steel is put in a wet mass, the air is kept from it and it does not rust.

A very common mistake in estimating the amount of concrete that will be required to fill a given space, or the number of cubic feet, is to assume that ten barrels of broken stone, five barrels of sand, and two barrels of cement, for instance, will make seventeen barrels of concrete. From such a mixture, the quantity of concrete obtained would be but slightly greater than the amount of cracked stone used, because the cement simply fills the space between the stones. Keeping this in mind, it is easy enough to figure the cost of concrete work. When you know how much a barrel of cement costs in your neighborhood, and the cost of sand and cracked stone, you can estimate the number of cubic feet in the mass you are going to build by multiplying the length, breadth and height together. Then figure the amount of crack-

ed stone you will need, and let it serve as a basis for your calculation. If, for example, it will take five barrels of cracked stone to fill the space, you will need one barrel of cement where the proportion 1 to 2½ to 5 is used.

**Work Horses in Spring**

When this number reaches the readers of the Canadian Thresherman and Farmer, the season of spring work for the horses will be fast approaching — the time when so many good horses go wrong.

There are a few suggestions that are timely to nearly everybody. If they are observed and acted upon much trouble may be avoided—if neglected, disappointment and serious loss may result.

The horse that has been brought through the winter on a straw and hay diet needs gradual improvement in his rations for two weeks at least and a little exercise, by easy stages being advanced to a light day's work, before the real business begins. His stomach cannot after months of poor diet handle increased quantities or stand a sudden change, moreover, if he could digest the extra food, he must have some exercise to help him properly to assimilate this, to use it in his muscles and not have injurious accumulation in his system. The gradual work is necessary also to strengthen muscles, harden shoulders and all places where the harness may gall his skin. Horses will lose much less flesh, spirit and vim when the long hours of steady pull come, if they are fairly well hardened before being put at the first full day in the field. There will be nothing lost by doing three hours work the first day, half a day the second and three-quarters the third — all the better if the fifth day brings a Sunday's rest.

A horse in good flesh, having done little or no work for some time needs careful handling also. His muscles are softer than a novice would suppose from observing him capering about the barnyard when out on fine days. If put to work on full time and full feed at the start, serious loss of flesh and general health, attacks of azoturia and galled shoulders may be expected. The latter ill is very seldom given the important place among those things to be carefully avoided that it deserves. Any pain suffered while at work is a handicap to the animal's effectiveness—causes him to lose flesh and strength unnecessarily. In course of years it will shorten the number of seasons that he will be available as a good work horse. As in all ailments an ounce of prevention is worth a pound of cure. Everytime a horse comes from the field, take off his harness, give him a rub down with a wisp of straw and let him roll. Five minutes' grooming at this time is worth ten at any other time. Bathe all parts chafed by harness with salt and water, drying carefully with a cloth. If the horse flinches when any such part is touched, you may

know trouble is threatening and that you have managed badly in some way.

Where horses last longest at real hard (which is probably in Suffolk, England,) these points are regarded as necessary as feed. The rich would observe them from pride in their outfit possibly; the man of good business does so for he knows it pays; the poor man because he cannot afford to neglect it. Yet in that country no horses encounter the menacing danger of months of enforced idleness that is such a common risk in Western Canada.

In buying new teams, there is enhanced cause for every precaution. The danger of putting a new bought late imported team at full day's work is very great. The hurry and worry of seeding season furnishes many a man's excuse for recklessness at such a time, the very time he should, if prudent, carry the least possible risk of an idle man or a standing implement. The imported sale horse is usually as fat as possible, fed up and idle. The buyer does not know what he has been fed to get up his flesh and put on a shining coat. He has not been pulling a seeder for ten hours a day, that's certain. Have ten days at least to bring such a horse into shape for doing a fair day's work. Don't expect as much of him as from a beast that has been a matter of years in the country and is in working shape.

Saturday night is a good time for a partial change of feed. Lessen the oats, increase the bran and scald some flax seed, say a pint for half a dozen horses to mix with the evening meal. Feed less grain by one third at least on Sundays if horses are standing all day.

**Testing for Germination**

The seeding season will very shortly be upon us and this last work before the busy time will reach our readers in time to remind them of this important precaution against disappointment at harvest time.

The germination test can be made by anyone who will pay attention to the directions below given, and may enable one to make discoveries impossible without it.

Appearances are sometimes deceptive and some fine, plump seed weighing well, and of good color fails to sprout when rains, sun and culture have been duly expended upon it. Nothing but a practical test can give one positive assurance that the seed will do its part for the season from which you expect a satisfactory return.

**Directions**

Any vessel that is watertight and shallow will serve your purpose. It needs to be about a foot square at least so that space may be given to observe each seed and its sprout. On th bottom place some damp sand, not wet enough to have water running out off it about one third of an inch deep.

**Do You Realize That SHARPLES Tubular Cream Separators Save You What Other Separators Lose?**

That explains why farmers all over Canada—and all over the world—are discarding other machines for Tubulars. That explains why Tubulars are probably replacing more common separators than any one maker of such machines sells. That explains why the manufacture of Tubulars is one of Canada's leading industries. These facts will set you thinking.

You can't afford to use a common separator that loses cream which a Tubular would save. Cream is money to you. It is cheaper to throw away a common machine, if you have one, and put a Tubular in its place than it is to keep on losing cream.

Tubulars save what others lose because Tubulars are later than and different from all others. Tubulars produce twice the skimming force, skim faster, and twice as clean as others. That is why Dairy Tubulars neither need nor contain disks or other contraptions. The simplicity and efficiency of Tubulars prove them The World's Best. Tubulars wear a lifetime—are guaranteed forever by the oldest separator concern on this continent.

You can own and use a Tubular for less than any other make. Then how can you afford to waste time or risk anything on any "peddler's" or other inferior machine? Our local representative will be glad to show you a Tubular inside and out. If you don't know him, ask us his name. Write to us now for our complete catalog No. 330.

**THE SHARPLES SEPARATOR CO., Toronto, Ontario, Winnipeg, Manitoba**



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For use on irrigated or dry farms the "ACME" is the best tool on the market, because it **packs the soil** under and leaves the top soil moist, which attracts and **conserves all the moisture** for the growing crop. Where the "ACME" is used there are no air spaces between the furrows, nor are any bumps or voids left. The "ACME" thoroughly pulverizes the soil, making a perfect seed bed. This Harrow

**Cuts, Crushes, Turns and Smooths**

breaks up, pulverizes and prepares perfectly plowed soil or stubble on one operation. On summer fallow work the "ACME" keeps down the weed growth and conserves moisture. The action of the coulters is such that all trash that has been turned under by the plow is left beneath the surface. Made in sizes from 3 to 17½ feet wide. Suitable for every farm. Guaranteed against breakage. Send for our combined catalog and book. — Preparation of the soil — free, written by the highest authority, and shows how to raise the largest crops; also illustrates and describes the "ACME." Ask your dealer about the "ACME" Harrow, or write John Deere Plow Co., Ltd., Calgary, Winnipeg, Regina, Saskatoon, Edmonton.

**DUANE H. NASH, Incorporated 115 Division Ave., Millington, N. J.**



Sow the seeds in this, spreading a covering of same material, also dampened over the seeds. Each seed should be carefully placed at equal distance from the next one. The cloth must be kept damp all the time and the whole thing kept in a warm place where the sun can shine upon it. Do not let it get chilled to anywhere near freezing point as that is not giving your seed a fair chance. Don't let it get hotter than, say 90 degrees. You will be surprised to see how soon the little white shoots will show and roots spread. Barley is particularly quick. When shoots are well started, say a quarter of an inch long, remove top covering. Allow your seeds to sprout well and compare them with one another, for, though all may grow, some may be better than others. Let 100 seeds do for your test. If two or a dozen are very strong, fifty are weak and forty don't shoot at all, you may make up your mind that you have a poor sample for sowing.

A small sample, an average of what you intend sowing, if sent to Agricultural College, Winnipeg, will be tested by the staff there and report as to its worth and percentage of germination will be sent you by post, gratis.

Up to within a few years, this rest was not often made, but the system of working it and demonstration of its great usefulness are one of the good works of our Agricultural Colleges.

Everybody should make their own tests, for it is very simple and easily done. When tried a few times it is so easy that one will feel ashamed to send seeds away and will have more confidence in his or her own work than that of any other person.

**Dairy Jottings**

In many parts of the United States the subject of preventing the sale of olio as butter is agitating the producers of the genuine article. A Nebraska man suggests a law with restrictions which he particularizes. Remarking on the suggestions, an editor says: "Such a law would protect the purchaser from fraud and deception, but we want to protect the person who eats in restaurants, boarding houses, etc."

The same need is a crying one with us. The city of Winnipeg is continually condemning large quantities of food as unfit for human consumption, but the butter which is bought, good and bad, by the country storekeeper and mixed, shipped by him to the wholesaler after lying in a foal cellar till a good quantity accumulates, finding its way through the retail man to the restaurants, etc.; that is the stuff inspectors should pounce on, when it is on the table. The work will be finally well done only when this method makes the owning of bad butter utterly unprofitable and compels all those who handle the article to conduct

**HOW TO BUILD RURAL TELEPHONE LINES**

... as branch wire can be run from the main line to the building and then across wire and simplify the construction. Reference to Fig. 4, in which a, e, etc., represent the building to be connected on the main line and a and b the branch wires, will make the point clear.

**POLES**

Poles twenty-two or twenty-five feet long of any good stock, cut when green, should be used. Cedar and chestnut are particularly desirable on account of their lasting qualities. The poles should be reasonably straight and well proportioned. The diameter



Fig. 4—Diagram of Building on Main Line  
Fig. 5—Diagram of Building on First Cross

**THE NORTHERN ELECTRIC & MFG. CO., LTD.**

... of the top of the pole should be about 5 or 6 inches. In order to prevent the top of the pole and add to their attractiveness, all the bark should be removed, knots removed, and the butt cut off square. The top of the pole should be treated as shown in Fig. 5.

**POLE FITTINGS**

Where only one or two line wires are to be mounted on the poles, oak brackets fixed with glass insulators are fastened to the pole as indicated in Fig. 5 for straight lines, or as shown in Fig. 6 at corners. The brackets should be attached to the poles before the poles are raised.



Fig. 6  
Fig. 7  
Fig. 8

**BRACKETS**

Brackets Figs. 7 and 8 are usually made of oak and given two coats of metallic paint and have a thread on the upper end to which is fastened a glass insulator, a type, as used in telephone work, is shown in Fig. 12.

They should be about 18 inches apart. The upper bracket should be 8 inches from the top of the pole.

**WE Send this VOLUME FREE BUT ONLY ON REQUEST**

**THIS** book consists of 100 solid pages of carefully compiled information on the building of rural telephone lines. It is well printed, profusely illustrated and handsomely bound in stiff, cloth-covered binding. Apart entirely from its actual cost of printing and binding, the preparation of the technical matter in it has run into a great deal of money. That is why we ask for the coupon—we want to be sure that you are interested in the subject, before we go to the expense of sending you this book dealing with

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The two pages shown above give you an idea of how thoroughly this book covers every detail. Every other page in the book is just as full of information as the pages shown. Among the matters dealt with in this volume, is the organization of mutual-companies, of stock-companies, line construction, equipment, costs of construction, companies already organized, their history and what they have accomplished,



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government regulations on the subject—in fact, every detail you could possibly think of or need to know. If there is no telephone system in your community today, it is only a matter of time until there will be one. Farmers are organizing community-owned systems all over the country. Some day one will be organized in your locality. You owe it to yourself to know the facts, for knowing the facts may mean money to you. Send for the book—use the coupon NOW.

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(each his part of) the work as it ought to be done.

Denmark imports fodder grains bran and oil meals to the value of \$30,000,000 a year. Practically all the kinds of this fodder are grown in Western Canada. By exporting these fodders we get ready money, break more land, let Denmark get the soil fertility and ship butter and undersell the Canadian made article in England? Oh no, not at all, in Western Canada. Denmark exported 188,000,000 lbs of butter in 1910. Here is food for thought for our soil-robbers.

To all those who are milking cows or pasturing any animals the suggestions to put in some brome grass for pasture is timely. The ground must be prepared well and in fine tilth. Don't try to raise a nurse crop with it. Don't be discouraged if you see very little result the first year. It will take three to ten acres of prairie to give the pasturage that one acre of good brome will give. All seeds men have the seed. It is the

first thing green in the spring, the last in the fall and stands drought well. At Brandon Experimental Farm two steers were kept in fine shape all season on one acre of brome with no other feed. If wanted for hay it is a more valuable crop than timothy, taking yield into consideration.

**Who Will Save This Energy?**

The conversion of head into power as relates to the internal combustion or gas engine, has for its basic unit the British thermal unit, the symbol for which is B. t. u. A British thermal unit represents the amount of heat required to raise the temperature of one pound of pure water, is at about 39 degrees Fahrenheit, through one degree Fahrenheit. There are 42.4 B. t. u. in one horse power of energy. There are something like 19,000 B. t. u. in a pound of gasoline, consequently the heat energy in one pound of gasoline represents something like 450 horse power. Consequently if it were possible

to convert all of the heat in a pound of gasoline directly into power, for use in driving machinery, the question of fuel expense would certainly be one of small consequence.

The basic unit for horse power determination is the foot-pound. And the foot-pound represents the work required to raise a weight of one pound one foot high. And in order to reduce this to a time basis, sufficient energy must be exerted during one minute of time to elevate the weight one foot high within that length of time; 33,000 of these foot-pounds equal one mechanical horse power.

This shows that there is an energy in a B. t. u. equal to 773 foot-pounds. It also shows that man's best plan of converting heat into power, which is through the medium of the gas engine, is extremely wasteful, and has a long hill of improvement before the goal of perfection is reached. At present the thermal efficiency of a real good gas engine is only about 30 per cent., which repre-

sents 70 per cent. loss, while the mechanical efficiency of a good standard gasoline motor is only about 80 per cent. of the 30 per cent. of heat or fuel consumed actually available for power.

**New British Aluminium Alloy**

A Birmingham firm has discovered and patented a new alloy of aluminium, which is called *clarus*. It is claimed that this alloy is at least 6 per cent. stronger than ordinary aluminium, and that its weight is one-third that of brass of an equivalent volume; that it will take a very high polish, equal to that which can be obtained with silver; that atmospheric surroundings do not cause it to tarnish; that castings are not brittle, but can be bent cold; that it is suitable for castings of any size, and that in all circumstances such castings have been found to be sound and free from blowholes and other defects.

It is claimed that the new alloy is excellently suited for automobiles, and for electric railroad, railroad car and aeroplane fittings. The manufacturers state that it has been made into sheets, drawn into a wire and into tubes and rods; that they have spun it and stamped it and that they have made hand-hole brackets for the underground electric railways of London, for railway fittings, for carriage furnishings, street car fittings and automobile and motor bus fittings.

They assert that it is very little more costly than pure aluminium. Inasmuch as in aluminium alloys much spelter is used to reduce the cost, the cost of production of this alloy would be greater probably than that of alloys with heavy percentages of spelter, etc. The alloy *clarus* is made from aluminium of 98 to 99 per cent. purity.

**Rule for Estimating Hay.**

Hay is often sold in the mow or stack, where the weight has to be estimated. For this purpose, 400 cubic feet of hay is considered a ton. The actual weight of 400 cubic feet of hay will vary according to the quality of the hay, time of cutting, position in the mow, etc. For making an estimate in a given case, multiply together the length, breadth, and height of the mow or stack in feet and divide the product by 400. The quotient will be the number of tons.

**True Fence Economy**

Too many purchasers of wire fencing do not look far enough beyond the first cost. If they would only realize that what they are buying is so many years of fence protection and not so many feet of wire, they would see that first cost has little to do with fence economy. Saving a few cents a rod on the cost of a fence may

mean knocking several years off the length of service. Lighter wires and poorer galvanizing must naturally be expected in a cheap fence, and these succumb more quickly to rust. Therefore, if the object is to purchase a fence which will last the longest instead of one whose first cost is the lowest, it is well to select carefully.

The Banwell Hoxie Wire Fence Co., Ltd., makers of Peerless Fences and Gates, have brought their product to a very high state of perfection. Here are the reasons they give for the endurance of Peerless Fences: the character and quality of the steel from which their wire is made; the evenness of distribution of zinc used in the galvanizing; the weight of zinc carried by their wire, and the weight of the wire.

The Banwell Hoxie Wire Fence Co., Ltd., have offices and factories both in Winnipeg, Man., and Hamilton, Ont. A request sent to either of these addresses will bring their descriptive booklet.

Never let a ewe run with the flock. When this is permitted and twins are born, the first born wanders away and becomes mixed with the flock before the mother has a chance to own it, and the chances are that later she will refuse to have anything to do with it.

The latest and best optimist—He who can enjoy a sweet lemonade made from lemons that have been handed to him.

A city child visiting a farm naturally has many questions and this one was no exception. Conscious of her position she said, "Just one thing more Mr. Bullock, I want to ask may I?"

"Fire away," said her host good naturedly.

"When you've got all the milk you want from a cow, how do you turn it off?"

"How do you intend to pay for these goods?" said the credit man to Abram Levinsky, who was purchasing cloths for his factory. "I vil gif it you: my note for three monts." "Is your note good? Will it sell on the street?" "Mine cracious no! If it would I would make it notes and not clodings."

Read the article on champion oats from Lloydminster and write opinion asked for by Canadian Thresherman. There is money in it for somebody.

The city young lady spent the afternoon at the farm. Delicacies in profusion loaded the table and the girl had tested generous samples. "Try some of our own farm honey Miss Asphaltum." "Oh, thank you, Mrs. White-clover. So you keep a bee, do you?"

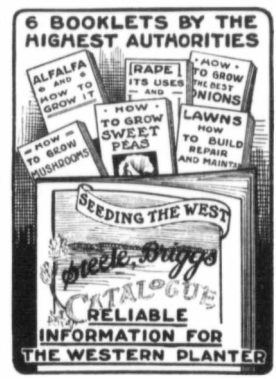
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- " 3. "How to Grow the Best Onions"
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- " 5. "How to Grow Sweet Peas"
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**MARQUIS WHEAT**  
The Wheat for the Western Farmer

First in Earliness and Yield—Equal to Red Fife in quality. The following are from the reports of the Experimental Farms.

**EARLINESS, 3 YEARS' TEST.**

At Brandon—Average days maturing, Marquis, 110; Red Fife, 121.  
At Indian Head—Average days maturing, Marquis, 121; Red Fife, 131.

**PRODUCTIVENESS, 3 YEARS TEST.**

At Brandon—Average yield per acre, Marquis, 45 bushels; Red Fife, 40 1/5 bushels.  
At Indian Head—Average yield per acre, Marquis, 40 bushels; Red Fife, 34 bushels.

We strongly advise every grower to sow all the Marquis Wheat he can obtain. Every bushel will be wanted for seed next year and the following year at high prices. There is no better investment in sight. Our stock is the GENUINE, being endorsed by Dr. Chas. E. Saunders. PRICE, \$4.20 PER BUSH-EL, bags included. Write us for full descriptive pamphlet.

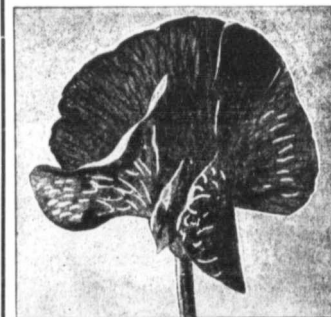
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We have both, at \$27.50 and \$27.25 respectively, per 100 lbs.; bags included.

Also GENUINE MINNESOTA-GROWN GRIMM'S ALFALFA, at \$11.00 for 20 lbs.



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Brilliance, Beauty, Sweet Perfume, Profuse Lasting Bloom, in the garden or as cut flowers.

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### Dual Purpose Cattle.

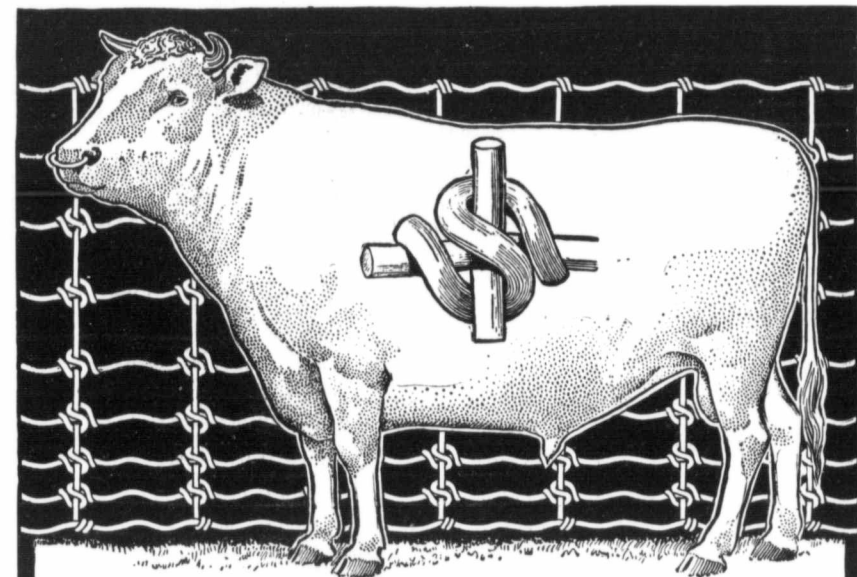
It was suggested at the meeting of the Canadian Red Polled Association that some of the members write to the different papers any facts which would be likely to bring the great breed of dual purpose cattle, namely, Red Polls, before the farmers of Manitoba and the Western Provinces. Many people no doubt will ask the question, what are the advantages of the dual purpose breed over the special dairy or beef breeds, and I wish to say right here that if these highly specialised breeds are given the requisite feed, shelter and care, they will give better returns than the dual purpose breed. The average farmer, however, has neither the time or the inclination to give these higher specialized animals the proper care they require, and prefers an animal, which from a standpoint of nature is more evenly balanced. This is the place that the dual purpose cow fills. She is a fairly good milker and has good fleshing properties, so that a steer from her makes a good beef animal, and as a rule, dual purpose cows are less liable to disease. The question arises, are dual cows profitable? My experience is that they are. We hand milk all our cows, and test and weigh the milk occasionally, and our cows average not less than 300lbs butter fat per year. We try and have them drop their calves in the fall if possible, so that the cows are dried off during the busy time of harvesting, and the calves are ready to turn out in the pasture about the 1st of June.

In connection with the Red Polled Cattle Club of America, a record of twelve cows was kept from March 1st to November 21st, 1910, and the highest score was 10,897.75 lbs. of milk, and 515.25 lbs. of butter fat. Below are the figures, etc.:

Name of Animal	Dates Inclusive	Milk, Lbs.	Butter Fat, Lbs.
Liza, H. B.	Nov. 17/09 to Nov. 17/10	10,807.75	513.25
Pear	Apr. 9/09 to Apr. 9/10	9,183	445.45
Jane	Apr. 1/09 to Apr. 1/10	9,838.35	420.11
Ruby Rose	Oct. 16/09 to Oct. 16/10	9,051.75	405.40
Lilette	Sep. 13/09 to Sep. 13/10	8,563.9	387.37
Lillian	Dec. 18/09 to Dec. 18/10	8,836.9	383.10
Ruth	Nov. 21/09 to Nov. 21/10	8,699.8	367.50
Alice B.	Nov. 6/09 to Nov. 6/10	9,389.5	363.81
Helen	Oct. 1/09 to Oct. 1/10	8,140.8	349.31
Davy	Mar. 1/09 to Mar. 1/10	9,841.75	329.22
Diana 2	Nov. 6/09 to Nov. 6/10	7,082.6	316.58
Lady	Oct. 6/09 to Oct. 6/10	8,370.7	313.78

These figures show that the Red Polls are both milkers and butter makers. Last year at the Smithfield Show in the slaughter test, Red Polls showed as much daily gain in live weight as any of the beef breeds, and the per cent. of live weight was about the same.

We know that some strains of shorthorns as they exist in England are good dual purpose cattle, but where can they be had in this country in a sufficient number to satisfy the needs of the farmers who require them. Some herds of Red Polls are being bred more and more to beef, but recently more attention is being given to breeding for the dual purpose type. In conclusion I would say that dual purpose cattle are suitable for those farmers who do not think they can give as much



### Is Anything On Your Farm Stronger Than A Bull ?

**YES!** If your fences are "IDEAL" Woven Wire, made of large gauge No. 9 HARD STEEL wire, heavily galvanized and with the verticals and horizontals clamped together with the Ideal Lock—that CANNOT SLIP. Bull-strong; hog-tight; horse high—a REAL Fence.

**NO!** If you have wire fences of the ordinary kind—fairly good for a few years, but with no reserve strength to stand hard usage—because poorer wire makes them, and stretching them taut takes the utmost of their little strength to start with.

### All Large Gauge Number 9 Hard Steel Galvanized Wire

From top to bottom Ideal Fence is all the same—large gauge No. 9 hard steel wire, heavily galvanized and therefore rust-proof. Note lock and its uniform smooth curve—no sharp turns to weaken the strength of the lock and yet a most positive grip—in FIVE different places. This is the fence that has ample springiness, immense strength, and the ONE LOCK THAT'S GOOD. Drop us a card and get our catalog telling all about the many styles and merits of IDEAL FENCE. Sample lock comes with it. Write us today.

IDEAL FENCE COMPANY, LIMITED, WINNIPEG, MANITOBA

in fact, wherever ignition is desirable. Mr. Charles T. Mitchell, the well-known electrical contractor, who recently severed his connection with the Mitchell-Gray Electrical Co., is the manager of the new concern. The

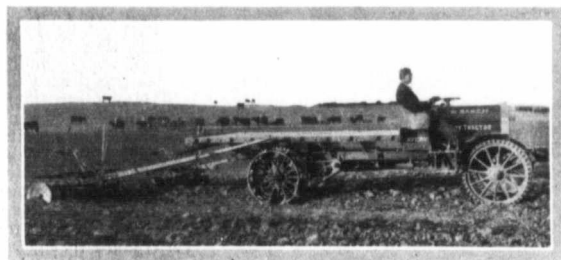
company is composed of Winnipeg men, who have been in the electrical trade for a number of years and realise the necessity of having a high class dry cell in order to supply the great demand of this Western country.

time and attention to his stock as either the higher specified dairy or beef breeds require.

Geo. Swales,  
Myrtle, Man.

### Bull Dog Dry Cells.

We are pleased to note that another manufacturing enterprise has been added to the list for Western Canada in the form of a Dry Cell Manufacturing Co. While the cells are comparatively new to the Western public, it is understood that the company have in their employ an expert with a reputation of high standing. The dry cells manufactured by this company are made exclusively for gasoline ignition purposes, and for use on gas tractors, automobile, motor boats, and



The following regarding the Avery Farm Tractor was written by George Fitch, and is herewith published with permission. It tells the story well.

The tractor on the farm arose  
Before the dawn at four  
It drove up the cows and washed the clothes  
And finished every chore.

Then forth it went into the field  
Just at the break of day  
It reaped and threshed the golden yield  
And hauled it all away.

It plowed the field that afternoon,  
And when the job was through  
It hummed a pleasant little tune  
And churned the butter, too;

And pumped the water for the Stock  
And ground a crib of corn,  
And hauled the hay 'round the block  
To still its cries forlorn

Thus ran the busy hours away,  
By many a labor bust,  
And yet, when fell the twilight gray,  
The tractor had no rest.

For while the farmer, peaceful eyed,  
Read by the Tungsten's glow  
The patient tractor stood outside  
And ran the dynamo.

**A Statement of Plowing.**

Below is given a statement of plowing costs from Mr. Donald McInnis, McDonald, Man.

In the fall of 1909, Mr. McInnis purchased a 30 H. P. Sawyer-Massey threshing and plowing engine. Mr. McInnis kept a very close tab on the cost of operating his engine and reports as follows:

He plowed sixteen days of eight hours each, or a total of one hundred and twenty-eight hours. During that time he broke 320 acres. He used 15 tons of coal and 48 tanks of water, each tank containing 375 imperial gallons. He used one gallon of cylinder oil every three days, one gallon of ordinary oil every three days, and three pounds of greases per week.

Figured out on the basis of a ten hour day, we find that 128 hours gives 12 4-5 days; 320 acres broken in 128 hours is equivalent to 25 acres per day of ten hours.

His expenses were as follows:	
Engineer	\$3.00 per day
Tankman and team	5.00 per day
Plowman	2.50 per day
Oil and grease	.55 per day
Depreciation	5.00 per day
Coal	7.62 per day

Total \$23.67  
\$23.67 divided by 25 gives the total cost of 95 cents per acre.

The engine travelled 252 miles to do this work.

Mr. McInnis has promised to supply us next month with a statement of what his operations cost him for the year 1911. It will be interesting to watch this to see just how it works out.

**Manitoba Purebred Cattle Sale.**

The rules and regulations governing the annual cattle sale of the Cattle Breeders' Association of Manitoba, to be held in Brandon, May 31st, have been issued, and may be obtained by writing the secretary, A. W. Bell, Winnipeg. With the phenomenal prices obtained at the Saskatchewan Sale last week, it augurs well for this event. Up to the holding of this sale, the Manitoba Sales held record as far as high prices were concerned, and anyone with a good serviceable bull should have no difficulty in disposing of him to the best possible advantage. This year the committee have added to the age limit allowing bulls calved between July 1st, 1904, and June 1st, 1910, to be entered. Entries to be made not later than April 23rd.

**Learn to Farm Right**

Continued from page 90  
ister of Agriculture of the Dominion Government, says: "I am glad Canadians are agreed that it is necessary to help and improve the agriculture of this country. This is true of Canada more than of any other country. We must get a higher average of production. To insure permanent agricultural prosperity there must be more careful and scientific husbandry."

"At present the western farmers with unimpoverished and easily

tillable soil to cultivate are reaping harvests from the simple scratching of the land and sowing grain each year. Where the land has been worked some years a need is being felt for more scientific methods to preserve and renew the fertility."

If, therefore, the agricultural colleges, doing splendid work will not, as Professor Pritchett, of the Carnegie Foundation says, "Will not in a hundred years reach the men who must be taught farming, working as they are to-day," other means must be found. Numerous suggestions have been made, some have advised teaching the young farmer at the local school house or by means of centrally located high schools. But the difficulty confronted here is the securing of a sufficient number of capable instructors to supply so many schools. Therefore, it seems that the organization of the Correspondence School of Scientific Farming has come at the right moment, in the fullness of time. This method enables the farmer in the remotest part of the country to have at his hand in all seasons the instruction of the best men in their several lines and that by a very small outlay in comparison with the cost of travelling and attending a college.

The business management of the school is in the hands of a strong board of directors composed of progressive business and professional men of Western Canada, who, interested in the development of this country have seen the possibilities of this course of lessons and have willingly supplied the necessary money to market this course. The president of this School is Mr. E. C. Scythes, one of Winnipeg's brightest business men, while the manager is Mr. E. B. Reynolds who has been for several years identified with the Manitoba Free Press. With the business arrangements in these hands and the instruction in the hands of the men who have made this course there is every reason to believe that this institution will in a short time become one of the big successful and useful bulwarks of Western Canada.

Two Americans were disputing as to which had experienced the greatest cold in winter. Said one:—"In the part of Iceland where I was last summer the ground is frozen so hard all the year round that when they want to bury a man they just sharpen his feet and drive him in with a pile hammer!" The other replied:—"Yes, I know that place. Didn't stay there long—found it not bracing enough for me. Went on to a small town further north. The hotel where I was staying caught fire. My room was on the top storey. No fire escapes or ladders in that primitive settlement. Staircases burned away. Luckily kept my presence of mind. Emptied my bath out of the window and slid down the icicle!"

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Our New Climax Driller  
Get into the well-drilling business, right now. Buy a Waterloo Outfit. They pay for themselves. Demand for drilled wells is growing everywhere, on the farms and in the towns right around you. People are afraid of the old-fashioned dug and bored wells that cause typhoid fever and other terrible diseases. The drilled well is always clean, sanitary—and it does not go dry. Well drillers are scarce. The business is yet in its infancy. Don't miss this fine chance for big money. Get in touch with us. We will show you how to get all the work you can do—how to advertise—how to manage your Waterloo Well-Drilling Machine—and furnish you contract blanks. A

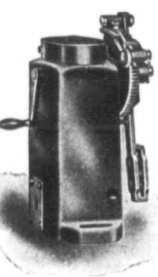
**Waterloo Well-Drilling Outfit**

means a profit of thousands every year. It means being your own boss, with a solid growing business. We have scores of letters from men in all parts of the United States and Canada who are reaping a harvest of dollars with Waterloo Drillers. You can have a Waterloo Outfit for any locality—good in any kind of earth or rock. Our machines have been perfected by 44 years of continuous manufacture.

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**YOU HAD LUBRICATOR TROUBLES LAST WINTER Then You Didn't Have a MADISON-KIPP**

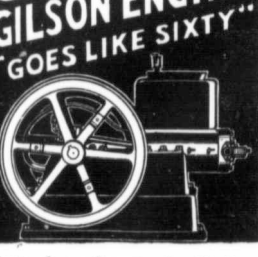


The present Madison Kipp construction is the result of years of actual experience in oil pump manufacture. The pawls are all drop forgings, forged from open hearth steel and hardened in the most modern hardening ovens. The plungers are a special grade of steel, case hardened as hard as the hardest glass and steel hardening are ground as smooth as a mirror. Our style B force feed lubricator is especially recommended for use in temperatures where the oil will not remain in a liquid state.

**OVER 50,000 PUMPS IN ACTUAL USE**  
Our shop is devoted exclusively to the manufacture of oil pumps and force feed lubricators. All our energies are expended in this line. The highest grade of mechanics and skilled workmen are employed by us, and our shop equipment consists of the most modern machine tools, jigs, fixtures and limit gauges. This combination, together with our knowledge of knowing how to combine and use the best known materials, enables us to furnish a pump that will meet every requirement, and will work for years without any expense.

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WRITE FOR CATALOGUE  
TRAPPERS GUIDE FREE TO THOSE WHO SHIP TO US.

**Begin Now for Next Winter's Stock.**

By J. R. Cote, Chatham, Ont.

Now that the winter is almost over and with spring rapidly approaching it should be the aim of everyone interested in the poultry business to begin at once to produce birds for next winter's layers, when eggs will again be at a premium.

You must have wished you had good layers this winter, as the price for eggs was well kept up during the entire season, and in some of the large cities eggs were selling pretty near so much apiece, not by the dozen. In order to have your spring hatched birds mature early, and thus be useful as well as ornamental during the coming winter, it is necessary that you begin mating at once, provided, however, you have not done so already.

In order to bring your chicks to early maturity and yet at the same time not to force them too much, great care should be exercised and only those foods strong in protein be fed.

In supplying this feed, wheat and oats in much larger quantities than corn should be given. If confined supply plenty of beef scraps from the table, as well as a liberal supply of green food, and do not forget to supply the growing chicks with good oyster shell. Now this is something which is too often omitted. Poultrymen will pay half a dollar or a dollar for a small box of some tonic for poultry, which by the way is not worth your trouble to send for, and those same people will think it expensive to use liberally of oyster shells. Yet if there is one thing needed more than the oyster shells I would like to know what. Oyster shells should be kept before the growing chicks at all times. Start them when out of the shell with grit, and you will find how fast they will grow, without any bowel trouble and no white diarrhoea. I have been experimenting for several years, and I find that you can raise 50 per cent. more chicks by feeding oyster shells than without them. Then the birds are much finer. I have then tried a lot of the shells. The price is nothing; it is the quality that counts. I find the Belle brand the best, and if you cannot get it from your dealer I can let you have some of mine, as I always buy a carload at a time and always have a few bags to spare. So all you have to do is to write me and I will help you in that respect.

A very good method for feeding the growing chicks will be found in the following: For the morning meal give wheat and oats, equal parts, at noon, feed either a dry or wet mash, consisting of 2 parts bran, 1 part middlings, 1 part meal, 1 part beef scrap and 1 little linseed meal. If this be fed wet, it should be in a crumbly state and not sloppy. At night, give equal parts of wheat and cracked corn.

This is considered a fairly well balanced ration which has been

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ALL I ask is that you send me your name and address so that I may place a copy of this book in your hands. I believe you will be greatly interested in the facts it contains about roof-cost and roof-value. It is not over-enthusiastic, nor extravagantly worded. It does not promise anything to get you to buy my roofing. I have purposely been very careful to confine myself to stating plain facts in their logical order. I leave it to your own good judgment to decide what kind of roof you want after reading my book. I am personally answerable for every statement it makes—as much so as if I were giving sworn evidence in court. That's why it is important you should send for this book of mine—because it contains "the whole truth and nothing but the truth" about the roofing question.

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IT may seem hard to believe. Yet that is exactly what you are to expect of an Oshawa-shingled roof. For Oshawa Steel Shingles, made of tough, heavy steel, thoroughly galvanized, make a roof that will not need replacing or repair in a century from the time it is first put on. My book tells why you can be sure of this. Also tells about my guarantee, in proper legal form, to replace at our own cost any Oshawa-shingled roof within twenty-five years from the day it is put on. Do you know of any other roofing which is guaranteed in writing for any period? I don't.

SURELY you are interested in a roof that is so fire-proof that fire insurance companies quote much lower rates on buildings it protects. A roof that is positively light-proof, wet-proof, leak-proof, rot-proof, wind-proof. A roof that makes your house or barn warmer in winter, cooler in summer. A roof that needn't be painted, nor patched, nor tinkered with to keep right. The only roof that is GUARANTEED to be a perfectly satisfactory roof in every respect for twenty-five years.

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Clip out this coupon and put it in an envelope addressed to our place nearest you. (See addresses below.) A copy of "Roofing Right" will then be sent you immediately.


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No. 35

Now, don't say you "Haven't time to bother with it." I'm trying to save you "bother" and expense. I make it easy for you to get reliable information you ought to have—maybe save you many dollars of roofing expense. Just be curious—critical, if you feel like it. But don't fail to send for my book. Do it now, before you forget it.



In the immense Pedlar factories at Oshawa, Ontario, we make various building materials in sheet steel, of great value to anyone who is going to build or repair a house or barn. Beautiful Pedlar Art Steel Ceilings and Side-walls; for instance, that take the place of unsightly, unsanitary, short-lived plaster. Also Pedlar Steel Siding for outside walls—that make a frame house or barn look as if it were built of stone or fancy cement blocks or brick. Actually cheaper by 20%. Fire-proof, too. Ask for full particulars and learn how you can make your money build a better building by "Pedlaring." My large, finely illustrated book showing some of the 2,000 designs mailed free.



G. A. Pedlar

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416 ADDRESS CUT NEAREST WAREHOUSE. WE WANT AGENTS IN SOME SECTIONS. WRITE FOR DETAILS. MENTION THIS PAPER.

productive of good results in bringing the pullets to maturity, which is the beginning of the egg laying career.

Then of course one has to look for the breed. The breed that lays is the breed that pays. I am not much particular on the color, but still I fancy a white bird. So whenever I try a breed I always have the white variety. I have had white rocks. Have had them for four years. I had at one time over two thousand laying hens. I discarded them and had S.C.W. Leghorns, and after experiments I went for White Wyandottes, and I am going to stick to those until I can find a better breed. Of course the birds I have are all mostly prize birds and birds that have been picked from choice matured birds. Every bird of the pen has been carefully selected in order to build up a strain of prize winners and bread winners, and I guess if you do the same you will be making money.

Whatever you do, do it now, and start right. Get good eggs for hatching.

**Harrow while you plow with a**

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The Kramer is the one absolutely reliable plow attachment on the market. It levels, pulverizes and makes a mulch of newly turned soil, which is impossible after it dries and "sets". The Kramer is so light running that your team will never notice the slight additional draft. Are made in prices and styles to suit every farmer. It is sold by implement dealers everywhere on easy and reasonable terms.

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The man uses The Kramer Rotary Harrow Attachment

Save all this slavish work By using a Kramer

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SEE SPECIAL DOLLAR OFFER ON PAGE 91



## The Brandon Winter Fair

By E. HUGHES.

On 11th March the Winter Fair was opened at Brandon. Judges were kept busy, the town was full of people and the citizens of the place were effectively assiduous in their efforts to attain success up to the close on the 17th, Friday.

Brandon showed enterprise in providing first-class buildings when this Winter Fair was first instituted and thereby procured the permanent location. The people have done well to accommodate a yearly large increase in demands for space and for the housing of stock. All facilities in connection have been cause for surprise and admiration on the part of visitors and exhibitors. It has always been a strenuous job to make things go smoothly at best of times, but this year such a demand was made upon the resources of the management as few such bodies are compelled to face. After providing a permanent building with most creditable appointments the necessity arose, on short notice, to duplicate and add to all this for the 1911 exhibition.

The unfortunate fire which destroyed the asylum last fall left the helpless patients without a roof above their heads. The winter fair building was immediately thrown open for their accommodation. It was a most creditable act on the part of somebody, but there is little doubt that no one foresaw an occupation of several months, one extending over the dates of regular fair time. However, this was the result. A new building was erected at the summer fair grounds that supplied admirable quarters for the live stock and the seed-grain and poultry were accommodated elsewhere. It was most fortunate for the government that such a building was at hand and still more so that they found it in charge of a committee of men prepared so cheerfully to extricate the authorities from their dilemma. This was at a cost of much personal inconvenience and inevitable pecuniary loss. The situation was a desperate one and when the arrangement for rental is at an end, the government must make a very substantial contribution, above rents and damages, to the institution that so relieved them. The fair suffered in having to send people out of town in a quite irremediable way—officials, every exhibitor and every spectator.

The Canadian Northern were paid well (\$100 per day) for carrying passengers to the fair grounds, trains to run at intervals of 15 mins. To this last part of the agreement the company did not live up; sometimes intervals of an hour or an hour and a half, and at busy hours, such as

dinner time, being chosen for these aggravating lapses.

### Horses.

The horse is always the animal that draws the crowd of spectators at a fair, and more than in most fairs he is prominent at this one. In an agricultural country of course the heavy animals are quite indispensable, consequently furnishing the bulk of the exhibits, with the Clydesdales the most numerous in the entries. Percherons, Belgians and Shires made great strides in numbers of entries and in quality as well.

It would never do to suggest that every draft breed should conform to one standard. The votaries of every breed would be in arms at once, but the time will come when breed conformation *per se* will be compelled to submit to the acid test of utility—when a judge will not account for the best horse not winning by saying he was weak in breed type. As long as there is a breed type and even fashionable color these will facilitate sales—will get rid of many a pedigreed wastrel that, in an unfashionable color would never be sold as a breeder.

Year by year the automobile and the traction engine are pioneers that, instead of replacing the horse, seem to be simply cutting out more work for him. While the former are revolutionizing farming on the prairie, as we hear, the latter are getting better, scarcer and higher.

Light horses were few in number, but many good specimens were on view. The rapid growth in popularity of the Hackney is remarkable, or rather it is strange he was so long coming into his own. Hackney breeding must be remunerative. This results from the manner in which the family was long ago formed. He was supposed to pull a fair load quickly over roads that would be considered bad to-day and to do it for many hours at a stretch. This required the best of legs and feet. That the efforts to establish this trait were not made in vain has often been proved. In one year in England thirteen hundred Hackneys were shown and less than a score were found unsound.

This article is no tout for any breed but the above is simply a suggestion for the horse-breeding farmer who wants an alternative to the heavy horse. The Hackney that is rejected for the most stylish of high priced drivers will make the finest of expressers, and expressers bring high figures now. The express horses in Winnipeg to-day, as carriage horses, would eclipse the best to be had in the city ten years ago, and the best of them



# SPEED

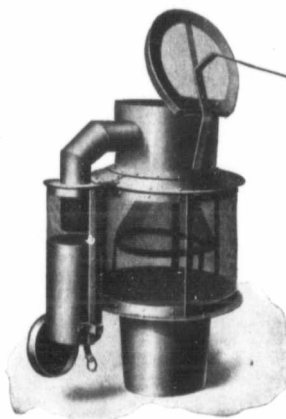
MEANS MORE WORK IN LESS TIME

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to get a **United States Spark Arrester** to prevent fire than to pay for the damage a fire does.

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Manitoba

are Hackneys, Hackney crosses or Hackney type.

**Cattle.**

It is noteworthy that the spectators spend more time among the cattle than they did a few years ago. It used to be that the horses took up most of the time of those not interested in breeding. When that was over the fattest of the hogs claimed the balance of the time given to live stock inspection. At this fair a great proportion of visitors know a Shorthorn and an Angus when they see it and when they see the milking cows they don't all ask "What did they give that skinny thing a prize for?"

To-day it is not necessary for a farmer to go out of the west to get the foundation of a herd in any breed of beef cattle. This was proven in the most indisputable manner at Manitoba's winter fair; for many imported animals were beaten in the ring by those raised in the west.

Just why the dressed carcass competition and judging was omitted from the prize list cannot be explained here. That is the final test and a most useful, instructive portion of older shows. It is to be hoped that the committee were not prevailed upon to drop this to suit the plans of some individuals. If so they have been guilty of serious dereliction of duty. The sooner it is resumed the better for the public and the Manitoba Winter Fair. The demonstrations of Prof. Grisdale on the carcasses of animals that have been judged alive by him are most instructive lectures and the most practical of all possible agricultural subjects.

The Cattle Breeders Association held their annual meeting which was well attended by the foremost breeders of the West. Regret was expressed over the export of females that should have been kept here for breeding. This was largely owing to the drought of the past summer.

The sale of pure bred cattle last summer met with well-merited patronage and the directors received every encouragement to repeat the venture in 1911.

The high prices realized for beef was the subject for self-congratulation and will prove an incentive to the extension of beef raising. It seems strange that cattle should be raised in the west, shipped east, there fattened and returned west for consumption. This is a country that boasts of its cereals, the height to which grains grow; this means length of straw and lots of feed, yet we allow Ontario to finish beef for our home market, thereby making a profit which with two freights the west has to pay for before the beef goes to the market stall. The farmers should not allow this situation to exist for one single year longer. This gives the association president's jubilation over the "broad" market being opened by reciprocity somewhat the character of a humorous sally.

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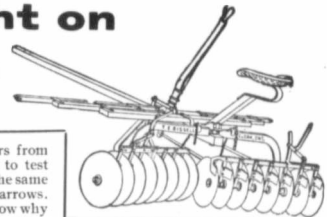
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The International Stock Food Co., Toronto, Ont.—Gentlemen: I feel in honor bound to offer you my testimonials in favor of your Stock Food. I have used it faithfully this summer and proved its invaluable worth. It made my pigs grow, the results were simply marvellous. It would not be without it for anything. My horses got a very nasty distemper cough in the spring, but the food cleared it completely out of their system and they went through the spring work fine and came out of it rolling fat. Please duplicate my last order. Mrs. Cox requests me to tell you that your Poultry Food is excellent, that feeding your Poultry Food doubles the quantity of eggs, in fact, it could not be better for egg production and keeping the fowl healthy—Yours sincerely, Mrs. A. B. Cox

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The Abattoir Commission have formulated a plan for St. Boniface stock yards and there is some prospect of the national disgrace so long existing in the west end of Winnipeg being somewhat abated. The Canadian Pacific Railway, after oppressing the cattle business of the country almost out of existence, demands half the stock of the new concern, leaving the C.N.R. and G.T.P. to divide the other half. The Great Northern seem to be out of it entirely. There is an area of 250 acres in the new yards and a four-storey brick building

with cold storage will be erected. The capacity will be three hundred animals per day. It seems as if the cattle raising business may receive an impetus this year that will raise it to a position more in keeping with the grain-growing industry as, without the former, the latter will have a short life, though so very merry it is to-day.

**Sheep.**

While agricultural colleges, noted farming authorities of the purely practical order and the assembled wisdom of all whose

opinion is valuable, commend the sheep to the Manitoba farmer, the animal is neglected in our economy of husbandry. It is impossible to blame the sheep men, for they have displayed more than average aggressiveness in their work. Some have, through good and evil report bred, sold and preached some meritorious breed since first they tilled the western soil. The premier and other speakers at the open meetings advocated mixed farming and one could hardly expect that any adverse opinion as to the sheep's

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### LESSON VI.

#### Determining Compression, Power, Etc.

D. O. Barrett

Having described the construction of the indicator and some of its uses in Lesson I, we wish again to turn to the subject of: first, determining the actual compression, without the indicator, then with, also the entire indicator card for the engine and studying the conclusions that may be drawn therefrom.

In the ordinary small engine factory the indicator is not used, due, either to lack of knowledge as to its operation or to the first cost of the instrument. A steam gage is usually used for this purpose which, while not as reliable or as satisfactory as the indicator, if used properly it gives fairly accurate results.

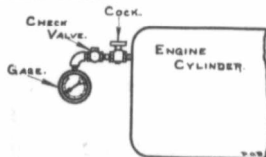


Fig. 1.

In fig. 1 is shown a method of connecting up the gage. This is an arbitrary method as it must be arranged according to the opening into the combustion chamber, which is usually found on all engines of any size. The three essentials are: the gage, check valve, and stop-cock, and all pipe connections should be as short as possible. The gage and fittings should be filled with water or a light oil.

In determining the compression allow the engine to come up to its normal speed, or even higher, then throw out the ignition switch, or shut off the gasoline supply so that no more explosions can occur. Immediately after, open the cock slightly allowing the hand of the gage to come up three or four pounds at each compression stroke. After the hand becomes stationary, open the cock fully so as to be certain that the maximum pressure was obtained. In case the engine slows down considerably before the maximum pressure is reached, close the cock and allow the engine to come up to speed, after which repeat the process. In no instance, however, should an explosion be allowed to take place in the cylinder while the cock is open. A gage suitable for determining the compression should read to one hundred pounds per square inch.

For determining the maximum explosion pressure developed in the cylinder, the same method may be employed, using, however, a gage reading to 350 or 400 pounds per square inch.

Fig 2 shows the card obtained using the indicator to determine the compression. This method was explained in the latter part of Lesson I. The ignition or

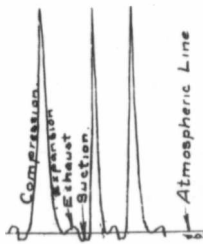
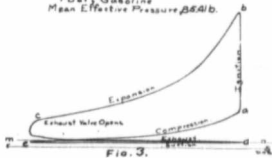


Fig. 2

fuel valve is shut off, the indicator cock opened, and the pencil allowed to trace the paper on the drum which is, at the same time, rotated. Rotating the drum faster of course places the compression strokes farther apart on the paper allowing a closer inspection of the other strokes. The card shown was taken with a 60 pound spring, that is, with a spring which allows a vertical movement of the pencil of one inch for each 60 pounds per square inch pressure in the cylinder. These cards were taken from an engine operating on natural gas. The compression pressure was 105 pounds per square inch. The maximum explosion pressure could be obtained in the same manner, using a heavier spring, preferably one having a scale of at least 200 pounds.

For making a complete study of the conditions existing in the cylinder of an internal combustion engine, the above method of using the indicator has little practical value, because while pressures are accurately measured, yet it is impossible to determine at what position in the stroke the piston is located corresponding to any given pressure.

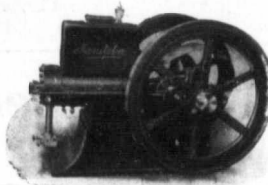
Scale of Spring, 200 lb.  
Compression, 50 lb. A  
Explosion Pressure, 340 lb.  
Fuel, Gasoline  
Mean Effective Pressure, 68 lb. B



In fig. 3 is shown a typical indicator card. However, the word typical is used advisedly, for the average engine will not give as perfect a card as the one shown. The engine from which this card was obtained was operating on gasoline. The bore of the engine was 12 1-2 inches; the stroke 18 inches, and the speed 225 revolutions per minute. It must be remembered that in speaking of

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the four-cycle engine, that it requires four strokes to complete one cycle, so that there will be four distinct and separate parts to the indicator card. In fact, there will be five, as it simplifies matters somewhat to consider the combustion or burning of the gases in the cylinder separate from the other operations.

Turning to the card, the line "mn" is called the atmospheric line and is drawn by rotating the drum of the indicator while the cock is closed; that is with atmospheric pressure only acting on the piston, but since this is the same on both sides of the piston we may consider it a normal position. For comparison the line "rs" is afterward drawn on the card, and represents zero pressure. It is drawn a distance below the atmospheric line corresponding to the pressure of the atmosphere at the time the card was taken. This pressure is usually 14.7 pounds per square inch and must be laid off to the same scale as that to which the card was drawn, in this case 200 pounds per inch. If this pressure is desired accurately it may be obtained from the reading of the barometer.

We will take up the cycle in the following order: suction, compression, ignition, expansion, exhaust. Starting at "d", the beginning of the suction stroke, the line "de" is drawn at a slight distance below the atmospheric line. The reason for this lowering of the suction line is that the gases are "sucked" into the cylinder, the pressure being lowered due to the tension of the admission valve spring, the shape and size of air passages, etc. These factors were fully discussed in Lesson IV. As the piston starts back on the compression stroke, the pressure reaches that of the atmosphere, as shown where the line "ea" crosses the atmospheric line.

At "a" the maximum compression is reached, in this case 80 pounds per square inch. Here ignition takes place, or more properly the ignition should occur just before the end of the stroke, so that the maximum pressure as at "b" shall occur just as the crank starts over the center and the piston starts on the power stroke. When the ignition occurs, the pressure in the cylinder suddenly rises to "b", this maximum pressure was 340 pounds per square inch.

The expansion line shows the drop in pressure as the piston moves forward. This pressure falls quite rapidly, as will be noticed from the shape of the curve. At "c" while the piston is near the end of its outward stroke the exhaust valve opens, the pressure in the cylinder still being from 40 to 50 pounds per square inch. This pressure in the cylinder forces a large portion of the exhaust gases out through the exhaust valve, while the remaining portion is driven out by the piston on its back stroke. Due to the high velocity and resistance met with through the exhaust



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valve, exhaust pipe, muffler, etc., the pressure of the gases is slightly greater than that of the atmosphere. This completes the cycle, the piston being at "d" at the beginning again of suction stroke. Due to the heavy spring used in the indicator the exhaust and suction lines are drawn quite closely together. To make a more thorough examination of these strokes a lighter spring must be used.

Let it now be desired to obtain the horse power developed in the cylinder from the combustion of the gases. The area of the card is measured by means of an instrument called a planimeter, or by laying out squares of known area on the card and estimating the entire area enclosed. The area thus obtained is then divided by the length of the card, which gives the average height of an area equivalent to that of the card. This height is then multiplied by the scale of the spring, which gives the average pressure. This pressure is called the mean effective pressure and is denoted by m.e.p. This means that if a pressure equal to the m.e.p. acted upon the piston throughout the complete stroke the same power would be developed as that by the actual pressure on the piston, varying as it does from 340 pounds per square inch down to 50.

The area of the card was found to be 1.22 square inches, the length was 2.85 ins. The average height then was 1.22 divided by 2.85 or .427. Multiplying .427 by 200, the scale of the spring, the mean effective pressure is found to be 85.4 pounds per square inch. This pressure is assumed to fol-

Continued on page 98



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Runabout, \$1,200.00. Completely equipped.  
Roadster, \$1,200.00, 3-passenger.  
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## Questions and Answers For Gas Engine Operators

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

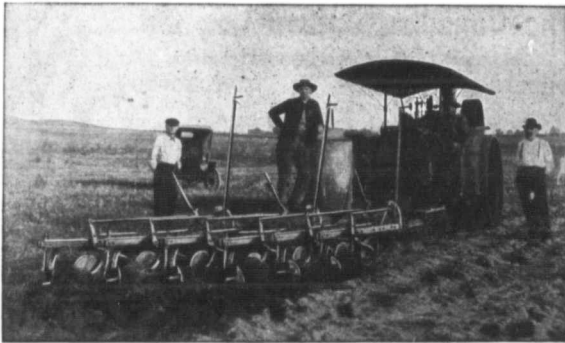
**Q.** I am thinking of purchasing a medium size tractor, and notice that several are advertised to use kerosene as fuel. Do these require any special apparatus beside what is used for gasoline? Could kerosene be used in a regular gasoline equipped engine?

R. P.

**A.** At ordinary temperature it is almost impossible to vaporize kerosene, and for this reason it is necessary to start these en-

non-adjustable and the pin and connecting-rod bushing would have to be replaced if badly worn. On some others there is an adjusting bolt which draws the two halves of the bearing together and yours may have one of this type. You will probably have to use a socket wrench. Also see that the setscrews holding the piston-pin are tight.

**Q.** I should like to know the cause of my 15 H. P. tractor



[A J. I. Case Engine Gang doing a first class job. Six bottoms controlled either in pairs or individually

gines on gasoline, and after running a few minutes the fuel may be changed. One of the tractors widely advertised as a kerosene engine simply uses a carburetor or mixer with dual connections so that one fuel may be cut off and the other turned on at the same time. A water mixer is also provided, the use of water tending to carry off the carbon deposits which would otherwise be left in the cylinder.

leaking compression at the piston. It has been in use about one year and has burned from 2,000 to 2,200 gallons of gasoline. The rings are new, but they do not do any better than the old ones, they appear to fit the cylinder good. The front two grooves on the piston are not worn although the back two are a trifle. Do you think the cylinder needs reboring, or does it need a new piston?

C. E. A.



An Ohio Gas Tractor pulling a Cockshutt Engine Gang near Melita, Man.

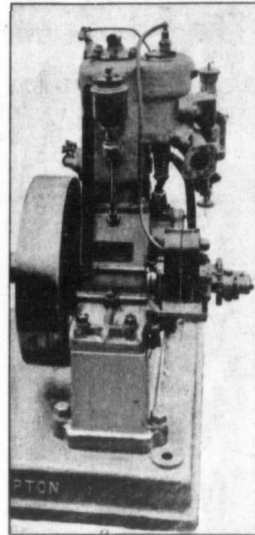
Kerosene may be used in the regular gasoline mixer by starting and running on gasoline for a few minutes. The ordinary engine will, however, use considerably more kerosene than gasoline for the same power delivered.

**Q.** My 3 horse-power vertical engine has a knock when running that seems to come from the piston end of the connecting rod. Is this bearing adjustable? N. A. M.

**A.** On the smaller sizes of engines this bearing is usually

Ans. Considering the length of time your engine has been running it hardly seems probable that either the cylinder or the piston are worn sufficiently to demand either a reboring or a replacement. In all likelihood the rings do not fit the cylinder perfectly. The piston and rings should be removed from the cylinder and the high spots on the rings carefully scraped or filed. The engine should then be run awhile and the rings again looked

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<u>Wood Bbls.</u>	15	19	19 3/4	21 3/4
<u>Bulk</u>	12	16	16 3/4	18 3/4

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High Test and Very Powerful

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Branches: CALGARY, REGINA, SASKATOON

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WHEN YOU SEND IT IN, GIVE US YOUR GAS ENGINE TROUBLES ALSO

after. Also see that the rings are not too tight at the sides of the groove or that they are bound by carbon deposits. We should advise the use of graphite for lubrication of the cylinder, as it fills the pores of the iron and produces a smooth glossy surface. The graphite, either flake or powder may be mixed with cylinder oil. A small quantity of this may be poured in the in-let pipe occasionally. There is a trade preparation on the market by the name of Aquadag, a graphite, which remains suspended in oil, and may be used directly in the cylinder lubricator.

Q. On my portable engine the oil in the lubricators becomes so stiff during the cold weather that it refuses to run. Is there any remedy for this. E. M. K.

Ans. The oil may be diluted with kerosene sufficiently to enable it to remain fluid; the proper proportions can be determined by trial.

Q. Will you please give me a definition of the term horse power? J. N.

Ans. A horse power is the ability to do 33,000 foot-pounds of work per minute; this is an arbitrary definition given by James Watt as the average rate of work of a London draft horse. A foot-pound is the work done in lifting one pound one foot, so that the horse-power is the ability to lift 33,000 pounds one foot in one minute, 16,500 pounds 2 ft. in one minute, 5,500 pounds one foot in one second, etc.

Q. I have a — engine, 6 inches x 8 inches, running at 350 r.p.m., with make and brake ignition. Would it be possible to change this to jump spark? G. F. D.

Ans. In all probability this could be easily and satisfactorily done. The spark plug could be screwed into a plate the same size and shape as the igniter and replacing same. The contact points could be located, no doubt on the cam gear, the point, of course, on the engine frame being insulated from same.

### The School Question.

Writing of the abandoned farms in New York state a college professor remarks: "This land was cleared, it did produce the very best crops, it did make the very best farms, it did hold a very large proportion of prosperous farmers. And now these men are gone and these farms are desolate. Why?"

A local paper answers: "The professor is a living answer to his query. He is one of the sixty pupils who went to the old red school-house thirty or more years ago, who left this region of prosperous farms to seek a livelihood with his coat on. The teachers of that day and even those of the present day are educating their pupils away from the farm."

This is getting down to bed rock. This is the correct answer in about nineteen cases out of

twenty throughout the eastern states and Ontario. An Education is provided for the growing generation, first and foremost, to fit the youth to take his place in the community as a useful member of it. He has a practical knowledge of the farm and is fitted thus far to succeed in this calling. The most effective education is that which will teach him the best methods and the most recent results of agricultural research, the why and the whereof of every procedure. That and that alone should be the business of the "old red school-house." That alone is more than the "old red" has ever yet accomplished; because it has neglected its business grossly. The fitting of the youth for any other walk in life should be the business of other institutions not supported by the rural school district.

The agricultural college should supplement this education and specialize to any extent within its means; and there should be a

curriculum in the school recognizing an efficiency to qualify pupils for admission to the college. Under such a system would be saved for both institutions, the labor of both harmonized and simplified.

This was the aim of the late Minister of Education. This is the aim of our present minister. We hope to see his work prosper and his successors in office supplement and extend it.

### Municipalities Buying Gasoline Tractor.

Information is at hand to the effect that the Sawyer-Massey Company have been successful in securing an order from the Municipality of Indian Head for a 70 Brake Horse Power British Colonial Gasoline Tractor; otherwise known as the Marshall Oil Engine.

We understand that competition was very keen regarding this

# "EVERITT" Quality

Pays you dividends of service from the day you buy

**\$1450**

Gets you a COMPLETE car and assurance of PERFECT service.

**\$1450**

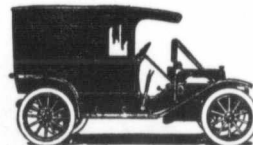
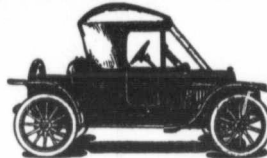
Behind the "Everitt" factory, in which every part is jig-manufactured for accuracy, with new machinery, stands the Tudhope name, known for 57 years. And

the Tudhope policy is this: "You are protected after you buy your "Everitt." This means that minute care, 5 to 50 inspections, and a two-year guarantee go to making your "Everitt" right. From the day you buy, this responsibility to you starts. No better value in the market than the "Everitt."



Deml Tonneau, \$1,450.

Torpedo Roadster, \$1,450.

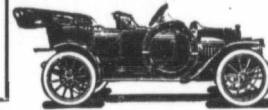


Light Delivery, \$1,450.

We sell at U. S. price and save you \$450 duty.

**EXTRA TIRE GOES WITH**  
The "Special Tudhope Equipment."  
**2 YEARS' GUARANTEE**

"Everitt" models have 34-inch wheels, double drop side frames, long-stroke gasoline-saving motor, spiral gear valve drive, Bosch quick-sparking high-tension magneto, automatic motor oiling, aluminum clutch; nickel-steel non-crossing, safety, selective transmission housed at rear axle, wide rear seats, low hung body, high road clearance. These mean dependability.



Fore Door, \$50 Extra.  
All Prices F.O.B., Orillia.

## TUDHOPE MOTOR CO. LIMITED

### ORILLIA.

Secure Catalogue 13  
Tudhope, Anderson  
Co., Ltd., Winnipeg  
Agents



Standard 5-Passenger "Everitt, \$1,450 at Orillia.

### The MANITOBA Air-Cooled PUMPING ENGINE

will Pump the Water, Run the Cream Separator, Fanning Mill, Churn, Grindstone or any hand power machine.

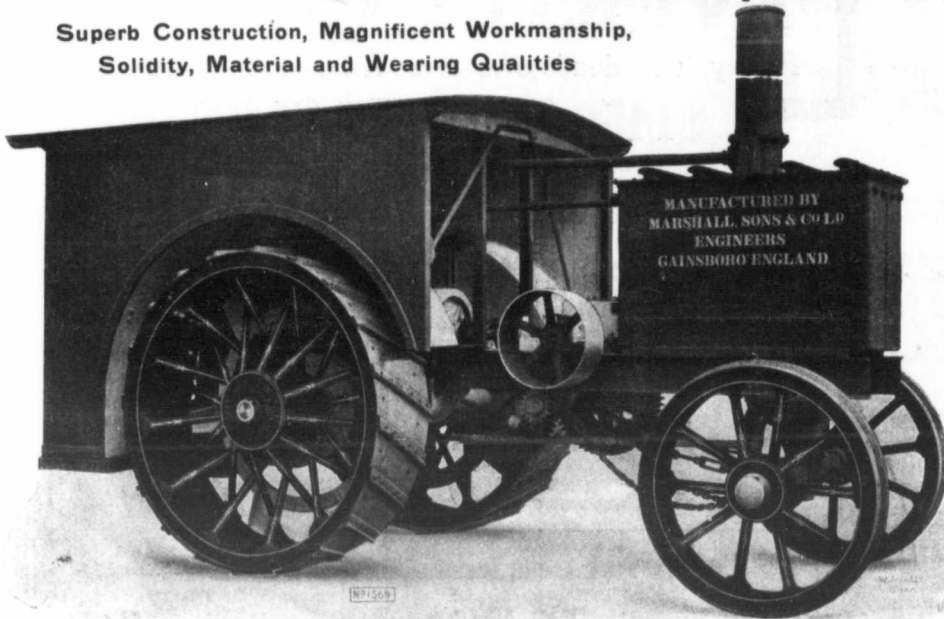
Write today for catalogue giving full description, guarantee and price.  
The Manitoba Windmill & Pump Co., Ltd.  
BRANDON, MAN., & CALGARY, ALTA.

piece of business, and Sawyer-Massey and their men are to be congratulated on landing it.

Of Interest to Dairy men and Farmers—See the big De Laval offer on another page of this issue. It means money to you. Be sure and look it up.

# WE SUBMIT TO YOU THE OLD ADAGE: That the Best is the Cheapest in the End

Superb Construction, Magnificent Workmanship,  
Solidity, Material and Wearing Qualities



THE BRITISH  
COLONIAL TRACTOR  
IS THE UNDISPUTED  
LEADER.

BUILT IN TWO SIZES  
35 and 70 B.H.P.

SEEING IS BELIEVING

When other Engines are  
in the scrap heap, this  
Tractor will still be on  
the job.

When every hour means  
Dollars to you, your  
Plowing Gang will be  
earning you money.

Study this out carefully,  
then see the Engine, and  
tell us if we don't state  
facts.

Many are now in use  
throughout the West.

Indications are that many  
more soon will be.

Write for Particulars,  
Prices and Terms.

THIS SHOWS A 70 B. H. P.

## Sawyer-Massey Company, Limited

611 Union Bank Building

Winnipeg, Manitoba

### Expansion of Deere & Co.

Parent Concern and all subsidiary Houses merged  
in \$50,000,000 Corporation  
Dain Plants in Consolidation

Moline, Ill., March 27.—Re-organized and re-incorporated under a ninety-nine year charter with an authorized capital of \$50,000,000, the great implement house of Deere & Co. hereafter will embrace the various Deere factories and branch houses which up to this time have been separately incorporated, but owned or controlled by Deere interests.

In addition the reorganized company has acquired the Dain Manufacturing Company, of Ottumwa, Ia., and Welland, Ont., and certain interests in the Marseilles Company, whose plant recently was removed from Marseilles, Ill., to East Moline.

The change represents a merger only as far as the Dain Company and the Marseilles Company are concerned, for all of the other nineteen concerns already were parts of Deere & Co., the stock in same being owned by the stockholders in the parent house. The new corporation will embrace the following concerns:

#### Factories

Deere & Co., Moline, Ill.  
Deere & Mansur Company,  
Moline, Ill.  
Moline Wagon Company, Mol-  
ine, Ill.  
Marseilles Company, East Mol-  
ine, Ill.  
Kemp & Burpee Company,  
Syracuse, N. Y.

Fort Smith Wagon Company,  
Fort Smith, Ark.  
Dain Manufacturing Company,  
Ottumwa, Ia., and Welland, Ont.  
Branch Houses  
Deere & Webber Company,  
Minneapolis, Minn.  
John Deere Plow Company,  
Kansas City, Mo.  
John Deere Plow Company,  
St. Louis, Mo.  
John Deere Plow Company,  
Indianapolis, Ind.  
John Deere Plow Company,  
Dallas, Tex.  
John Deere Plow Company,  
New Orleans, La.  
John Deere Plow Company,  
Omaha, Neb.  
John Deere Plow Company,  
Portland, Ore.  
John Deere Plow Company,  
Spokane, Wash.  
John Deere Plow Company,  
Denver, Colo.  
John Deere Plow Company,  
Oklahoma City, Okla.  
John Deere Plow Company,  
Baltimore, Md.  
John Deere Plow Company,  
Winnipeg, Man.  
John Deere Plow Company,  
San Francisco, Cal.  
John Deere Plow Company,  
Syracuse, N. Y.

Stockholders in each of the  
twenty-two concerns have surren-  
dered their stock certificates to the  
First Trust and Savings Bank of  
Chicago. In return they will re-  
ceive stock in the new corporation  
as soon as a charter to continue  
business under the new name is  
secured.

As soon as possible employees  
of the company will be given an  
opportunity to acquire stock in the  
corporation on favorable terms.

Services of Haskins & Sells,  
one of the leading firms of ac-  
countants in America, were en-  
gaged several months ago to aid  
in the work preliminary to the  
merger. They enlisted the ser-  
vices of the American Appraisal  
Company, of Milwaukee, Wis.,  
and the work of appraising the  
value of each of the plants and  
branch houses has been completed.  
Their figures have not yet been  
made public, though they have  
been submitted to Haskins &  
Sells. It will be on a basis of  
actual worth of the various plants  
that stock will be issued. For ex-  
ample: The holder of ten shares of  
stock in the old Kemp & Burpee  
Company will be entitled to the  
value of said shares in the stock of  
the new company. New stock will  
be issued for old solely on the  
basis of appraised value of each  
plant.

The business of Deere & Co.—  
the parent concern—has been car-  
ried on under the fifty-year char-  
ter which expires in 1918. The  
necessity of continuing this char-  
ter has brought about reorganiza-  
tion. The plan is to secure a 99-  
year charter covering the business  
of the merged concerns, though  
each plant will be continued un-  
der the present management — in  
short, the old business will be con-  
tinued in the old way.

Combined capitalization of  
the manufacturing concerns and

branch houses listed is about \$20-  
000,000, at the present time. The  
new corporation is placed at \$50-  
000,000, a one and a one-half time  
increase which speaks eloquently  
of anticipated growth and expan-  
sion.

Acquisition by the Deere cor-  
poration of the Dain interests  
causes the Deere dream of a com-  
plete line to blossom into flower.  
The Dain Manufacturing Com-  
pany has plants in Ottumwa, Ia.,  
and Welland, Ont. It manufac-  
tures hay-making tools and other  
farm implements. Other of the  
affiliated concerns—the Kemp &  
Burpee Company, the Marseilles  
Company, Deere & Mansur Com-  
pany, Moline Wagon Company,  
and Fort Smith Wagon Company  
—manufacture still other distinct  
lines. At the head of the list will  
stand the John Deere steel plow.

Adjoining the Dain plant in  
Welland, Ont., there is an exten-  
sive factory site. The site has  
been purchased by Deere & Co.  
The city council of Welland has  
granted Deere & Co. permission  
to close certain streets. All legal  
matters have been attended to.  
Deere & Co. are ready to build—  
what? Indications are it will be a  
big addition to the Dain plant and  
that the output will be harvesters  
for the Canadian trade.

All of the above lines have been  
handled to a greater or less extent  
by Deere and Co. for some time in  
the past so that the present con-  
solidation means nothing more  
than a grouping of all within one  
organization. It will at the same

# SILVER STAR

# Engine Kerosene

THE BEST FUEL FOR

## Oil Burning Engines

Price at Branch Stations  
On Basis of Winnipeg Price  
Plus Carload Freight

# 12c

Per Imperial Gallon  
In Steel Barrels or Bulk  
F.O.B. Winnipeg

If Ordered in Wood Barrels Price will be  
3c. per Gallon more

\$1.60 Allowed for Empty Wooden Barrel  
Returned to Winnipeg

ALSO

## Distillate Fuel Oil and Engine Gasoline

Carried in Stock at 200 Tank and Warehouse Stations in Manitoba, Saskatchewan, and Alberta

For Prices at our Branch Station nearest you, Write to Office of

# THE IMPERIAL OIL COMPANY, LIMITED

Winnipeg, Regina, Moose Jaw, Saskatoon, Calgary, Lethbridge, Edmonton

time permit of the handling of a full and complete line of goods with the one travelling staff and a consequent reduction in the sales expenses. "Deere Quality" will be contained in all the lines as all will bear the "Deere" stamp.

### Spread of the Rural Telephone Movement

The movement for communication among farms and for better connection between rural and city districts has increased wonderfully within the past few years. To those who are ignorant of the real statistics, these figures of the latest telephone census in the United States are amazing.

To the Canadian farmer these figures, indicating the possibilities for the growth of the rural telephone in this country, are very interesting.

For the period from 1902 to 1907 the number of rural telephone stations in the entire country increased 449 per cent. In 1902 there were but 266,966 rural telephone stations in the United States; five years later there were 1,464,733.

Then census figures show that the South has a great share in this development. The increase in the South Atlantic States was 469 per cent., and in the South Central States it was 367 per cent. The actual figures, however, mean more than percentage, showing steadily increasing telephone development in all the States.

Wherever the telephone has gone it has brought with it better living, an increase in the productivity of the farms and money-making opportunities for the agriculturist that were not dreamed of before. But when one considers that in this five-year period the number of rural telephones jumped from 94 to 5,073 in Maryland; from 270 to 24,874 in Oklahoma, and from 159 to 12,403 in Arkansas, the manner in which telephones were popularized and raised from the station of a rich man's luxury to that of an everyday necessity of all the people can be readily understood.

The census, though its results have only recently been published, does not bring the actual conditions quite up-to-date. No figures are available for the year and a half since December 31st, 1907, but the increase in the number of rural telephone stations has been more marked than in the five-year period to which the statistics refer.

The reasons for this growth are not so hard to find. Life on the farms used to be irksome—distances were so great. The telephone is the annihilator of distance. As one farmer expressed it, "I am next door to everybody I want to talk to. That telephone puts my isolated farm in the heart of things." Roosevelt's Country Life Commission designates the telephone as one of the foremost influences making for the solution of the rural problem.

When it is considered that the average farmer can install this advance agent of development at a cost less than the present return from thirty bushels of wheat, it is not difficult to understand why the rural telephone is making great strides throughout the entire country.

The part which the farmers themselves have taken in the telephone movement makes it one of considerable importance. It is a fact that for very small trouble and expense a group of neighboring farmers can buy, build and maintain a serviceable telephone system. Equipment conforming with the best recognized standards is at the disposal of progressive rural citizens for their telephone building.

It is not an unusual sight to witness gangs of farmers at work on the roads, erecting poles, stringing wires, and installing the instruments in the farm-houses along the countryside. The work is usually done on a co-operative basis.

Often some sort of an organization is formed. Sometimes six or eight neighboring farmers start the movement. In case there are as few as this, no switchboard is necessary. Construction and maintenance are of the simplest nature. A single pair of wires will suffice, and the "party line" system is found the most convenient and useful. As demands grow and the little rural companies branch out, extensions are made and, usually, connection

through trunk lines with the rest of the world.

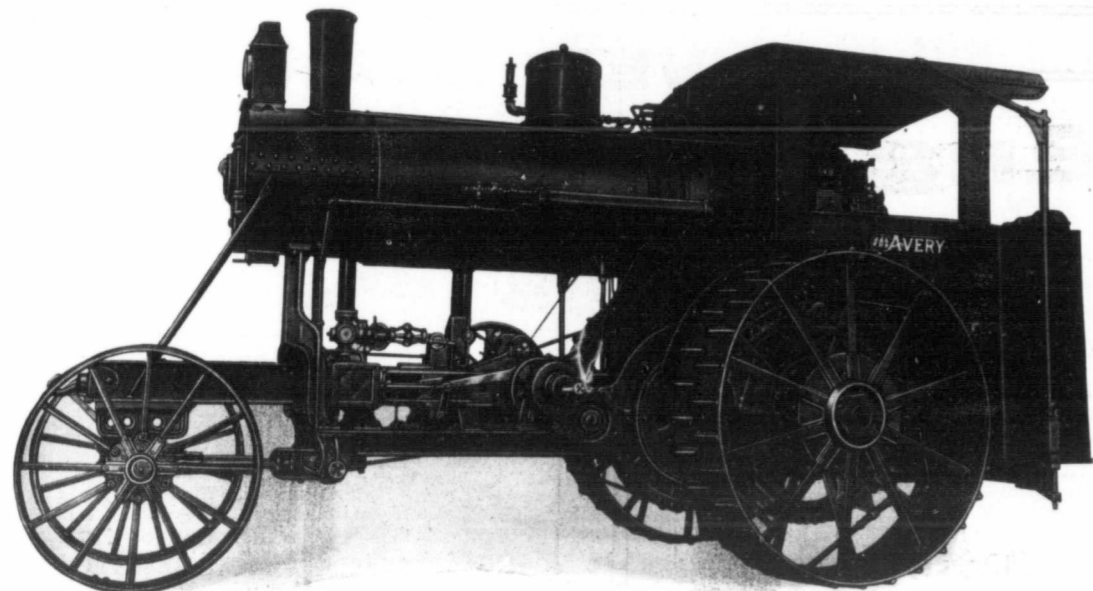
It is interesting to note that the adoption and development of the telephone in a rural locality is attended by a minimum of expense. Of all the agencies that help to bring greater opportunities to the farms—the good roads movement, railroad extensions, the rural mail delivery, and the farm telephone—the least costly, and because it reaches the largest number, the most important is the telephone.

The Northern Electric and Manufacturing Co., Ltd., whose advertising appears in our pages, publish a book entitled "How to Build Rural Telephone Lines." This publication treats the subject in a simple and comprehensive way; it is profusely illustrated in a way which enables any one with ordinary intelligence to construct a practical telephone line of a limited number of stations.

Tommy had been to his first circus. Returning home he found his mother entertaining the minister, his wife and afternoon callers. In rushed Tommy, his face aglow with enthusiasm. "Oh, mother! you just see one circus and you'll never want to go to prayer-meeting again!"

**Of Interest to Dairymen and Farmers**—See the big De Laval offer on another page of this issue. It means money to you. Be sure and look it up.





## Why You Should Get An Avery Undermounted Plowing Engine

### BECAUSE IT WILL GIVE YOU POWER THAT YOU CAN DEPEND UPON

The Avery Undermounted Engine is a Steam Engine. It can be depended upon to do the work right along. You can increase the power when it comes to a hard pull, and decrease it when the plows pull lighter.

The construction of a steam engine is simple. Anyone can operate it. There are very few parts to break or get out of order, and it does not take an expert to keep it going or keep it in repair.

### BECAUSE THE AVERY ENGINE IS UNDERMOUNTED—PATENTED—A DESIGN THAT IS MUCH SUPERIOR FOR PLOWING PURPOSES

In the first place it lasts longer than others because all the machinery is mounted on an independent frame work, and the boiler is relieved from all pulling strains.

You have no loose brackets, leaky bolts, or other such troubles with this engine.

In the second place an Avery Undermounted Engine has two cylinders, which is the only correct construction of an engine for heavy work such as plowing. Besides this the pull of the cylinders through the gearing and back to the load is in a straight line on this engine, while with other styles it is down from the top of the boiler at an angle.

In the third place the Avery Undermounted Engine is much more convenient to handle because of the fact that all of the machinery can be reached while standing on the ground, without having to climb around over a hot boiler.

### BECAUSE IT HAS THE BEST BOILER OF ANY ENGINE BUILT AS PROVEN BY THE HIGHER STEAM PRESSURE IT WILL CARRY

Complies fully with all the requirements of the Canadian laws. And besides having the best constructed boiler, it is also free from loose brackets, and leaky bolts, and is not weakened by being punctured all full of holes for attaching brackets as in the case of topmounted engines.

Power That You Can Depend Upon

### BECAUSE THE AVERY UNDERMOUNTED ENGINE IS BACKED UP BY THE STRONGEST WARRANTIES EVER PLACED ON ANY ENGINE BY ANY MANUFACTURER

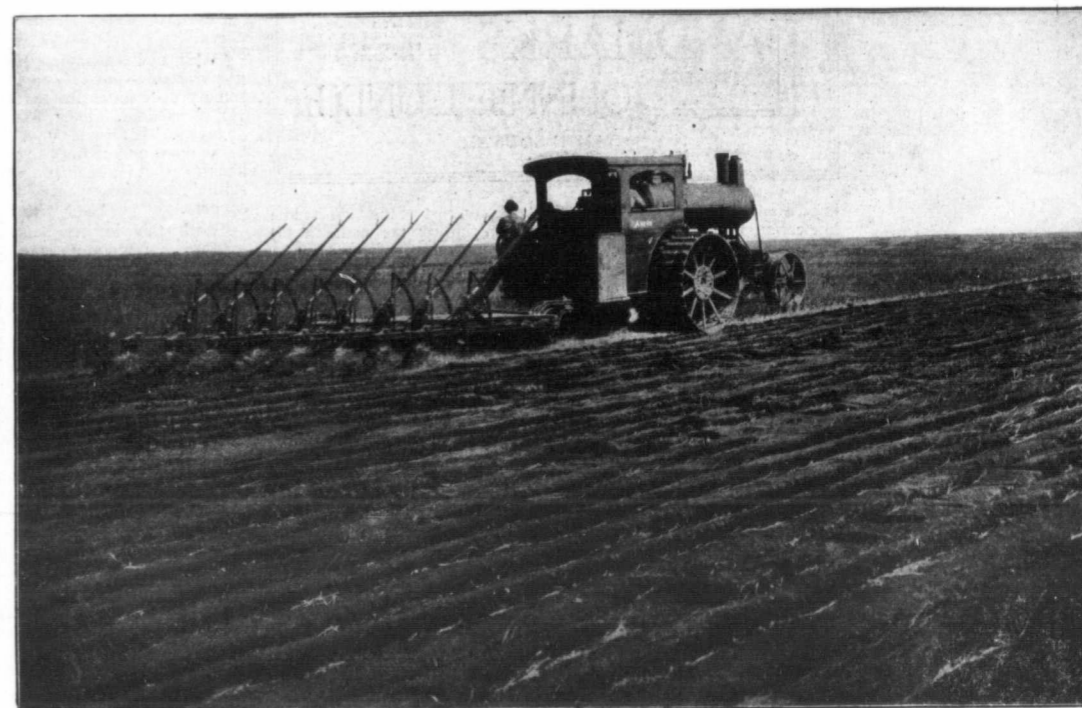
Write for a copy of these warranties. We guarantee this engine for one year or LONGER against leaky bolts attaching any brackets to the boiler. We guarantee all shafting and gearing for one year against breakage.

### YOU SHOULD FIND OUT ALL ABOUT THE AVERY DOUBLE UNDERMOUNTED ENGINE

About the engine that is built Undermounted. The only one that is like a Railroad Locomotive. An engine that will last longer, pull harder and handle easier than any other.

For all-around work, plowing, hauling or belt work of any kind, there is no engine built today that can compare with the Avery Undermounted Engine. The only engine of its kind on the market. This engine is built in two sizes, 20 and 30 horsepower and will burn coal, wood, straw or crude oil as fuel.

Send your name on a postal or a letter for complete catalog and our special Double Undermounted Engine Circulars.



## This is the Kind of Work An Avery Undermounted Plow Engine Does

Haug Bros. & Nellerme Co., Winnipeg, Man.

Meunster, Sask., Jan. 5th, 1911.

Gentlemen:—The Avery rig I bought from you last year, I must say, gave good satisfaction and I am very well pleased with same, 30 H. P. Undermounted engine and separator 42-70. Trusting that you have received payment which I sent you sometime ago and thanking you for previous favors I remain, Yours truly,

MATTICE STAMMEN

Haug Bros. & Nellerme Co. Ltd.,

Killam, Alta., Dec. 3rd, 1910.

Dear Sirs:—My 30 H. P. Avery Undermounted has fulfilled all expectations and more. I have used it for breaking wild prairie, pulling eight plows and two disc harrows, plowing five inches deep and it pulled them with perfect ease and no trouble to keep up steam, and for threshing it is a cracker-jack.

In regard to the separator, will say it is the best separator I have seen and I have used several different makes, having threshed for eight years. If I ever buy another outfit it will be an Avery.

NELS T. CLEVEN.

Haug Bros. & Nellerme Co. Ltd., Winnipeg, Man.

Govan, Sask., Jan. 4th, 1911.

Dear Sirs:—In regard to the Undermounted Engine I bought from you last summer, must say that it has given me entire satisfaction. I use nothing but straw for

fuel in threshing, and I never saw an engine so easy to keep up steam and do the work so easy, and I have had quite a lot of experience with a number of different makes, but I have not found any of them that would compare with the Avery Double Undermounted for an allround engine. Yours truly,

A. F. NELSON.

Wilcox, Sask., December 12, 1910.

Haug Bros. & Nellerme Co. Ltd., Winnipeg, Man.

Gentlemen:—We wish to say a few words in regard to the Avery 20 horse Double Undermounted engine and 32-60 inch separator, purchased of you this season.

We find the Yellow Fellow to be unexcelled as a grain saver and cleaner and the engine is equally satisfactory in the belt and with the plows; her power is wonderful; your locomotive reverse quadrant is a fuel saver and your patent steering device makes engine driving a picnic. In short, we believe the Avery the "only" outfit on the market. Very truly,

RUMBLE BROS.

Mirror, Sask., Jan. 4th, 1911.

The threshing outfit consisting of an Avery Double Undermounted engine and 42 x 70 separator with all attachments which my father, brother and I purchased of you last July has given us complete satisfaction.

Although the grain around here was considerably frozen and the straw was very rotten from getting very heavy rains after harvest, it made a first class job.

We put through 750 bushels of oats in 50 minutes one evening and we could not find that it was putting any grain at all over.

The cylinder teeth and concaves in this machine are by far the best we have ever seen. We accidentally put through a bundle of bags, the center board of the feeder and a pitch fork and a chunk of iron in our fall's run and we never broke a concave or bent a tooth.

The engine ran like a top and I believe it has power enough to run two of these separators. We intend to use it next summer breaking with a ten bottom plow.

Yours truly,

EWEN McLEOD.

Netherhill, Sask., Nov. 21, 1910.

The thirty horse "Alberta Special" Avery engine you sold to me has been very satisfactory to date.

It is capable of pulling ten plows, fourteen inch breaker bottoms in the heavy land of this Eagle Lake district on the high speed gear which however is too fast for good work. It does fine work with ten on the low gear.

S. J. McDONALD.

Avery Company, 675 Iowa Street, Peoria, Ill., U.S.A.  
Haug Brothers and Nellerme Co., Ltd.  
Canadian Jobbers, Winnipeg, Manitoba



YES SIR, that same man has a history that any chap might be proud of. In fact he hadna' a chance but what he made for himself -- 'cept it was the candy and the counsel he

got from old widow Gibson and her lassies. It's a story that knocks the bottom out of some of your dime scorchers. Like to hear it?"

There was no response, but the speaker was not to be discouraged. Hitching himself another point into his corner seat, he lit a fresh cigar and proceeded while his audience maintained a solid front of impenetrable silence.

It was the smokers' reservation of the Brandon Local. Outside a small blizzard was gathering momentum and the local was running behind time; but while the dining car was open for business, it mattered not to that little company of drummers and the garrulous old hay-seed who sought to entertain them when they reached their destination.

The subject of the old fellow's yarn was that of a tall, purposeful man who had passed through the car as he spoke, and who, as the Honorable John Lundie, was

## LANDMARKS IN THE LIFE OF JOHNNIE LUNDIE

By JAMIE SOUTAR

Stories in the making of a great manhood from a poor start; told in the "Brandon Local," and elsewhere

known and respected by all who knew him from Halifax to Victoria, and from the pit of Chicago's Grain Exchange to the confines of the Hudson's Bay.

"I tell ye, gentlemen, when that boy (Johnnie Lundie) first piped his little chanter to the world, he got about the coldest reception that ever waited on a bairn, even in east-windy-west-endy Scotland. He wasna wanted, ye see; his mither was never mairrit.

"No, I didn't know his father, but I understand he was a worthless blackgaird; although he posed as a sanctified apostle among the 'Plyms,' and it was in one o' his holy humors, I suppose, that he took advantage of the lassie. Anyhoo he cleared oot and left her without sae much as a silver groat, and God knows what became o' him.

"The wee boy's mither (Annie Dickson) was a dainty little lass, the oldest o' 8 fatherless bairns. Her mither had a hard struggle. She had been left a' but penniless wi' that handfu' of craiters tae provide for the best way she

could, and just as the poor boddie was beginning tae make a bit headway, this terrible calamity came and another helpless bein' was added to her burden.

"Annie and the twa next tae her were the only help she had in earnin' the little bit o' money they could scrape thegither, and the poor lassie's plight played havoc wi' the whole family—for a time at onyrate.

"That dour, sanctimonious, self-righteous community turned up the whites o' their een at Annie's misfortune, and some o' them made it a hard day for the lass the first time she had the courage tae be seen on the street again. She had tae come oot, poor girl. Poverty and hunger and the sight o' her-frail, broken-haired mother and a' thae little moos tae fill made her desperate.

"But by jove, lads, there's aye a wee sprig o' 'balm in Gillead.'

"Weedow Gibson and her daughter Maggie kept a bit shoppie (a "store" ye ca' it oot here) and they sold everything frae thimbles and tripe tae corduroy breeks and kippered herrin'."

"D'ye follow me, boys?"

"Every word, Jamie — go ahead."

"Well, as I was sayin,' the first day she cam' oot it was to get some proveeshions for that starvin' household. They hadna a penny in the world until they broke open one of the bairns' tin bankies that contained just a shillin' and fowerpence—all in coppers.

"With this in her hand she screwed up courage tae face weedow Gibson, but ye can imagine it took all her pluck as she and her folk already owed the boddie something like seventy-five dollars—an account that had been on her books for nearly twa years.

"Well, sirs, I was in weedow Gibson's shoppie when the poor lass cam' in. I got my tobacco there, and was sittin' on a sack o' pitawtas by the cheek o' the door and can see her face noo as plain as I see you chaps sittin' there—although it's nearly forty years since that day.

"I kent by her scared look she was a' tremblin'; but by gosh! if ever a poor sow! was liftit oot o' her meesery, that decent woman liftit Annie Dickson oot o' hell that mornin' afore I had time to licht a spunk (match)."

"Hello Annie! Is that you lass?" she said sae coothie (kindly) like; and at the same moment the daughter, Maggie, cam' trippin' ben frae the back kitchen and treated the lassie as if she had

### Something New For Every Thresherman. Clipper Belt Lacing Outfit



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

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

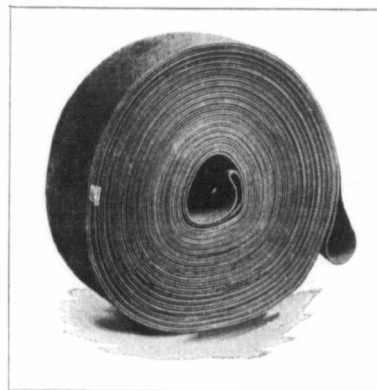
The General Supply Co. of Canada, Limited

OTTAWA

TORONTO

Woods Western Bldg.,  
Market Street E. WINNIPEG

### "Dreadnought" Sewn Canvas Thresher Belt.



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

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

Dealers wanted in every locality.

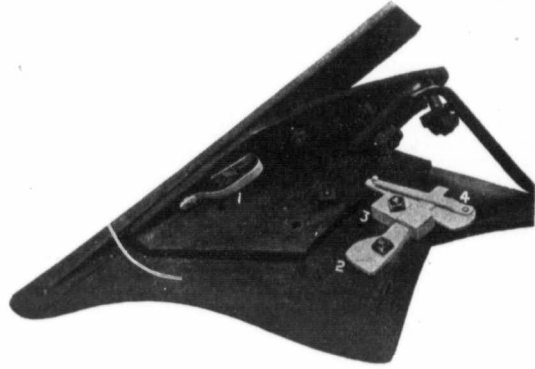
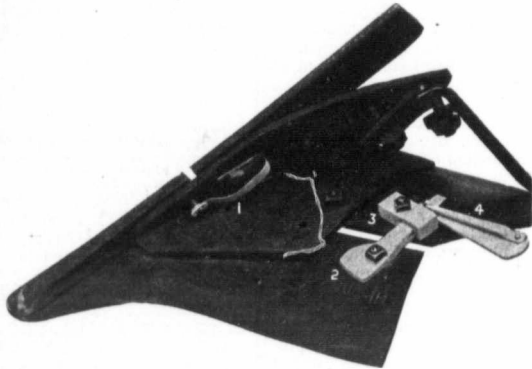
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# Plowshare Fastener

Saves Money  
Saves Time

Cheaper Than Bolts—As Strong

1. Spring Bolt 2. Coupler 3. Lock Bar 4. Wedge Key



THE PARKS-COUGHLIN PLOWSHARE FASTENER (Patented)

## The Most Talked of Agricultural Device in Western Canada

EVERY PLOWMAN WANTS IT!

**Because**

It eliminates burr and bolt troubles.  
It eliminates sprung share troubles.  
It works satisfactorily on engine plows as well as others.  
It eliminates the need of eight men to change shares on engine gangs.  
It eliminates the need of hammer and punch to force holes in share into line with those in the frog of the plow.

IT HAS STOOD EVERY TEST!

It holds the share on with an iron grip, in spite of gumbo, rocks or stumps, and yet permits it to be removed so easily that your boy can do it.

CHANGE SHARES IN FORTY SECONDS!

Simply lift the plow out of the ground, loosen the wedge key by tapping it at the point with your wrench, remove it, unsnap the spring bolt and lift the share off. Place the new share into position, insert the wedge key, secure the spring bolt, and drive the wedge key in with your wrench.

IT FITS YOUR PLOW!

The fastener is easily attached and need not be removed until the plow is worn out. The value of time and bolts saved, not to speak of shares and the better grade of work done by changing shares often, will more than pay for a set in a year. One set lasts a lifetime.

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been her best freind back frae a lang holiday.

"Boys, it's ower lang a story to tell ye what a' them twa wimmen folk said and didna say tae that girl. They asked hoo a' was gettin' on at hame, but frae beginnin' tae end no livin' sowl would hae suspected that ever a cloud had come into Annie's lift (sky).

"My word! say what ye like aboot wimmen folk, I tell ye that when it comes tae a doonright show of rale good hairtiness at an awkward moment, a woman's tact makes blitherin' idiots o' chaps like you and me.

"I tried tae put in a word, but, hach! I was fair tongue-tied; forbye there wasna the ghost o' a chance for the weedow and her lassie were that busy a' the time wi' their tongues—jist like the flippers o' a fannin' mill.

"As Annie took oot her bit bawbees tae pay for the things she had gotten, Maggie put in her word that kindly like: 'Hoot, no, Annie; we'll jist pit it doon. Ye'll need it maybe for ither things, and dinna be feared tae come in for anything ye want.'

"Then the mither backed this up wi' a dizen new laid eggs and a pound o' butter. 'That's frae me, tae yer mither, Annie,' she said, 'and tell her that Maggie and me are comin' up the nicht tae see the wee boy when we've put on the shutters.'

"Well, boys, I left that shoppie wi' my hairt in my moo. Thae twa wimmen folk had gi'en me a lesson that I shudna need tae hae

learned, and I said tae mysel' 'Dagoned if I dinna dae something too tae help that lassie.' I went straight hame and consulted the wife, and tae my surprise (it was a record for her) she fell plump intae the scheme as if she had been waitin' for it.

"(Did ye ever notice hoo a kindly humor sometimes tak's the form o' an epidemic?)

"But I'm wandering frae my story.

"Well, frae that day things began tae take a turn for the better for Annie. She used tae work at Mains o' Gannochie, hyowin' neeps (hoeing turnips) and helpin' wi' the dairy and hoose work generally, but the Mains was three miles oot o' the toon and she was anxious tae get something near by. Her mother and ane o' her sisters were quite able tae look after the bairn, but ye can understand her mither's hairt wouldna take kindly tae bein' away days at a time frae the wee chap.

"Well, sirs, I was makin' tracks for mair tobacco some days later when I met Sandy Glegg, the seedsman on the same trail.

"'Aye Jamie,' he said tae me, 'Mrs. Gibson sent up word by ane o' the boys that she wanted tae see me parteeckler. I hope there's naething wrang wi' the last lot o' tatties I sent her. Fegs it's no a cheerful business gettin' a tongue dressin' frae that same lady. By jove there she is at the doot!'

"'Come in, Sandy,' she cried,

and her face tell't him it was a' richt wi' the 'tatties.'

"Well, after a little bit o' jovial banter, her ladyship suddenly squared up tae the seedsman and said: 'Sandie! I want ye tae fin' a place in your warehouse for Annie Dickson.'

"Sandie winced; no sae much at the threatenin' aspect o' that business-like lady, but as he reflected on what it micht mean if he took that lassie in beside his other girls. (Ye see he employed a lot o' wimmen folks makin' up his seed packets, and there's nae doot it looked a bit awkward for him as the hale troop o' them knew a' about Annie. Some o' them, probably, would gie her a welcome while ithers nae doot would turn the cauld shoulder on her).

"I would be vera glad, Mrs. Gibson,' Sandy stammered, 'but under the circumstances I'm no sure hoo it would work wi' the girls I have in the place noo.'

"'Circumstances! The girls in the place! My certie, Sandie Glegg, if ye're no maister o' your ain business, I should like to ken who is! Dae ye consult the lassies every time ye take on a new hand or when ye gie the sign boord a new coat o' paint? I tell ye if ane o' them objected tae work in the same place wi' Annie Dickson I'd get a besom and sweep the limer bag and baggage oot o' the shop. Anyhoo, if that's a' the obstacle, I'm surprised at ye, man, and I tell ye richt here and noo that if you'll no help the

bit lass in her trouble, I'll never sell anither pennyworth o' your truck across my coonter.'

"That settled it. Sandie squared her at once by agreein' tae tak' Annie. Ye see Mrs. Gibson was ane o' his best customers, and few o' them paid him so regularly. O aye; touch Sandie, hoover gently around the neeborhood o' his pocket and ye've got him body and sowl.

"Well, sirs, in coorse o' time, the little side-tracked stranger grew up to be a nice attractive laddie, the very image o' his mither, but it looked as if he was tae tak' something o' his father's size, and he was a six-feet-three chap.

"His mother and her mammie scraped and saved so that however plainly he fed or was clad, he wad get as good a chance at the school as they could gie him.

"Almost as soon as he was able tae trot, he used tae run bits o' errands for Mrs. Gibson and Maggie, and they were as kind and as firm wi' him as if he were their ain bairn.

"His first start in life was in Sandy Glegg's office, and his first rale battle was focht on the last day he was at school. A chap nearly half as big again said some naisty back-handed thing aboot Johnnie's mither and himself' that he had heard nae doot frae the gossips at hame.

"Johnnie didna grant him sae muckle as a sportsman's opportunity, but went for him on the spot like a pole cat, and till this

day (if he still lives) the brig o' that chap's nose is as flat as the face o' a horned owl.

"Johnnie was hauled up afore the dominie and confrontit wi' his enemy whose face looked like a picter o' the death's head on a tombstone. The dominie was a sensible kind o' a Chris-ti-an man that believed in fair play takin' precedence o' a'thing in creeds, and having heard a' that could be said on baith sides, dismissed Johnnie wi' a caution—on "suspended sentence," as they say.

"As for you, Muchalls," he said, 'if Johnnie hadna gi'en ye what ye deserved, I'd hae taen the horse whup tae ye; and it would have been your last day at this school. Be thankfu' your heid's on your shoulders and that you are able tae use your wind-pipe."

"I never saw a boy so proud as Johnnie was the day he got his new suit (it was a present frae Weedow Gibson) tae start in Glegg's office.

"Johnnie was terribly ambitious to be earnin' something for his mither, but Glegg, the auld skin-flint, wanted him to begin at nothing a week for a whole year. Madame Gibson put in her spoke again and shamed the seedsman boddie intae giein' him four shillins a week, just about an even dollar in Canada, but ye can get a bigger dollar's worth there than here.

"Johnnie shot ahead like a rocket from the first day he entered Glegg's employment until an incident happened that came near bringin' a blacker stain upon him than anything else in his family history. It's mighty, chaps, hoo a wee bit o' success and popularity makes enemies for a man. No man in this world can assert himself or get a wee bit ahead o' his neebors in the popular esteem without stirrin' up a stew like a byke o' bees (hive of bees) in rebellion; and Johnnie, even at that early day in his life, didna escape the penalty o' the man that can do things a little better than somebody else, and is weel likit.

"Johnnie had been about a year at his job when one day things seemed to be completely upset throughout the whole establishment. They had been takin' stock and it was discovered that quite a lot o' valuable bulbs and seeds were amissin'; at any rate what was left didna tally by a long way with the sales that had been during the year. Furthermore, Sandy had been suspicious for some time that his petty cash and been tampered with, and when the shortage in the stock was discovered, he became convinced that a robber was in or had access to the place. Everybody got to know about the seeds and bulbs disappearin', but Sandy kept the cash affair tae himself, and quietly stepped down tae the jail and consulted Peter Mathieson, the chief constable.

"Peter made little fuss but tell'd Sandy that he would mark some coins and keep track o' them. The followin' day it was found that one of the marked coins had been

taken since the previous night (I remember it was a half-crown) and as soon as this was discovered everybody in the place was ordered into the office and Peter Mathieson was sent for.

"The chief was up in a jiffy. Sandy explained to the staff what had taken place and asked everybody individually whether he or she had any knowledge of or suspicion as to the guilty party. Everyone present gave a seemingly honest 'no.' Then the chief asked if they had any objection to bein' searched, and without an exception, everyone consented.

"Johnnie was next to the last one to undergo the operation and the missin' coin was found in the outside breast pocket of his jacket.

"I'm told there was a real feelin' o' pained surprise at the discovery on the part of everybody in that room, for Johnnie was a general favorite and had been looked upon as the very last one to be guilty of the theft of sae much as a split pea.

"Johnnie himself was in an awfu' state and earnestly protested that he knew naething about it. He cried and sobbed as if his little hairt wad break, but there he was with the most damning evidence, caught red-handed as it were.

"Peter Mathieson was a great, big, soft-hearted fellow and was as genuinely concerned as anyone. He sat and looked at Johnnie in silence for a few minutes, and then the rest o' the employees were quietly told to go back tae their work, but Peter cautioned them all at the peril of their position in that establishment, they were to say nothing outside about what had occurred. To their credit be it said not a single person failed to keep silence until the whole thing came to light through the police court proceedings.

"Peter took Johnnie doon tae the jule but he didna lock him in a cell. Na; the chief, if he was a 'terror to evil-doers,' kent when he had an innocent man in his hands, and he pledged his reputation that Johnnie had as little knowledge of the theft as he had himself, and, in the face of all precedent in his capacity as a police officer, sent him home. Rather he took him home and quietly acquainted his mither and grannie with the whole circumstance, but added: 'I'm satisfied your boy is not a thief, but I want him to be at hand as I might need his help at any moment.'

"Peter Mathieson was the most unlikely lookin' fellow ye ever saw for a policeman, but I tell ye, boys, Scotland Yard never turned out a smarter detective or one who made so little fuss when he was busy on a job.

"For the first week he seemed to be asleep and went about as if nothin' o' the kind had occurred, or he had forgotten about it, but a' the time the sly auld rascal had been diggin' up information.

"He made up his mind that the pilferer of the bulbs and seeds was the same party that handled

the cash, and on the following Saturday night, he walked in among a little bunch o' chaps who were having a quiet game o' cards in Sally Bissett's public hoose, and asked one o' them to step outside as he wanted to speak to him. The fellow grew as white as death the moment Peter appeared at the door and fairly staggered as he rose to follow the constable.

"This fellow was a brither o' the chap that Johnnie pasted so finely the day before he left school and was employed by Glegg as a sort of local traveller. He had a horse and rig, and drove about the country takin' orders and deliverin' goods and up till then was absolutely trusted by Sandy, and apparently no other person had the least suspicion o' him.

"When Peter got him outside and separated from the lads, he charged him at once on suspicion of having stolen certain goods and cash from his employer, Alexander Glegg. The fellow boldly protested his innocence and came it strong on the indignity he was being subjected to.

"My dear fellow," said Peter, 'ye'll have tae pocket your 'dignity' in the meantime and step down wi' me tae the police station, and if we've made any mistake we'll make the fullest reparation.'

"Can I not see my friends first?' whined the suspect.

"No, ye canna,' Peter firmly replied. 'I'll see them or send them word in due course, but we've certain formalities that must be complied with first; but I promise ye that you'll have every consideration and opportunity to defend yourself. In fact, if you have any difficulty in gettin' a lawyer tae deal wi' your case, we'll see that you get every help in that direction; in the meantime, I caution you that anything you say will be produced in evidence against you.'

"It happened that the prisoner's brither (Johnnie's old friend of the broken nose) was within easy distance of where the incident of the arrest occurred, and one of the prisoner's companions acquainted him of what was taking place. The news stunned him for a moment but he quickly recovered and made a dash for the lock up. He overtook Peter with his brither in charge, and watchin' a favorable opportunity, crept up closely to the prisoner and whispered something in his ear that his custodian didna hear. Peter warned him off and almost at the same time the prison door was closed upon the suspect.

"Three weeks later the case was to be tried before the Sheriff, and them three weeks I can tell ye was a busy time for a' concerned, as it was understood that the prisoner's counsel (a raw young birkie) had determined to put up a strong fecht. He made a great fuss about Johnnie no bein' in custody as well as his client, seein' that the incriminatin' coin was found in his possession, but auld Peter Mathieson kent his buik as well as the lawyer chap although he had never



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R. F. D. No. 2, Marshalltown, Ia., Dec. 10, 1910. Troy Chemical Co., Binghamton, N. Y.: My contract No. was 6218. I used your remedy a couple of weeks and was kicked on the back, the whole joint enlarged. It was the size of a child's head. He would not put his foot on the ground. His hip was swollen to skin and bone. One of the state veterinarians there said he would not wish a son. I gave a pig and 50¢ for him and used the bottle of "Save-The-Horse" as directed, and now he is sound. It is wonderful stuff. W. S. HAYNES.

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been tae college. (Thae auld fashioned folk had a common sense w'y o' dain' things, and if they sometimes made what was ca'd a "technical error," the higher powers were satisfied if the spirit o' the act had been complied wi'.)

"Well sirs, I was in the coort frae beginnin' tae end o' the trial and I have never seen human nature wi' the paint off as I saw it while that chap was on his defence. (Goodness me what will an unprincipalled scoondrel no attempt and perjure himself' tae accomplish in tryin' to damn a man he wants oot o' his road or that he has an ill-will to!)

"They put the prisoner Jabez Muchalls intae the dock and Johnnie was there tae follow him if the prosecution failed. He pleaded not guilty and tried to put on a bold front but we could a' see that he was ill at ease and was in the hettest hell o' his life.

"The prosecution had a' their cairds up their sleeve, and whatever evidence they had collected had been carefully secreted against the trial, and not a scrap o' what was in the wind had ever got the length o' the friends o' the defence.

"Poor Johnnie was in a sad way for some days until the chief set his mind at rest, but warned him that if he opened his moo if it were only tae ane o' his ain rabbits, Peter swore he would "ca' aff his heid." That big saft lump o' a man fairly became a father tae that boy from the next minute after he found the half-crown in his pocket.

"I heard Peter say sometime after a' thing was settled that he read the truth in that boy's face the instant he denied his guilt, and if fifty marked coins had been found on him, he would as soon hae doobed the word o' the Al-michty Himself'.

"Yes sir, if ever in my life I've been guilty o' hero worship, Peter Mathieson is the man that has claimed my homage afore any earthly potentate I have ever known or read aboot. He deserved tae be canonized for what he did then and since for that boy o' Annie Dickson's. Ane o' Peter's assistants at the jile that saw and heard him on the sly tell'd me it wad hae melted the hairt o' a demon tae see the way he took that boy tae his heart when he cross-examined him in his office on the day that money was found in his pocket.

"Sandy Glegg was there and was inclined to be some doobful aboot Johnnie and a wee bit hard upon him, and thought that Peter was too hasty in makin' up his mind on the spot, as it were.

"The chap who told me aboot this said it was most michty tae see Peter get up and almost threaten Sandy if he didna get intae a better frame of mind at once. 'I tell ye, Sandy, that I would back up that boy's honesty wi' every penny I've got, and my wife is o' the same opeenion and she never makes a mistake—at least so she says! No, no my friend; we've struck the wrong

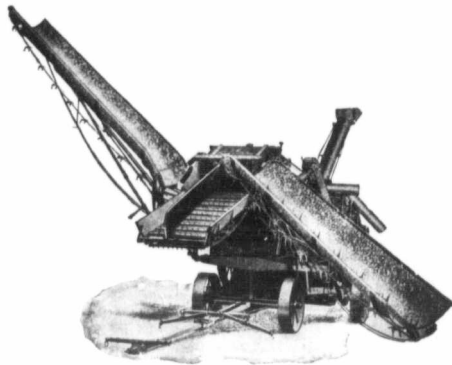
# Hart-Brown Wing Carrier



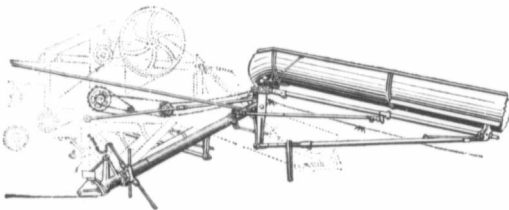
# Hart Universal Thresher Rack

The Hart-Brown Wing Carrier fits any separator with any feeder, it attaches to the main frame of separator, putting no strain on feeder.

The Wings may be swung about and raised and lowered as is most convenient. In stack and barn threshing they save from four to six pitchers, and in shock threshing when used with our Thresher Racks save all the field pitchers and half the bundle wagons.



For Stack, Shock, Barn and Headed Grain Threshing



Detail View—notice the simplicity, strength and neatness of construction.

There are no overhead derricks or bails to catch in trees or wires or hinder the free movement of the grain.

DO NOT OIL—The Hart-Brown Wing Carrier has oilless bearings that never require oil.

No Derricks, chains, gears, sprockets, pulleys or other complicated devices for unloading—no machinery means no bother.

The Hart Universal Thresher Rack unloads instantly by a pulloff gate and goes straight back to the field for another load, there are no delays, no time lost in unloading. Our Hart Universal does the work of two ordinary racks and the driver pitches his own load in the field, consequently we save 5 to 7 teams and 8 to 12 men under ordinary shock threshing conditions or



\$30 TO \$50 A DAY



Racks Ready for Unloading ASK FOR CATALOG

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- American-Abell Engine & Thresher Co. Limited, Toronto, Canada.
- Aultman & Taylor Machinery Co., Mansfield, Ohio.
- Avery Company, Peoria, Illinois.
- A. D. Baker Co., Swanton, Ohio.
- Buffalo Pitts Co., Buffalo, N. Y.
- The John Goodson Thresher Co., Limited, Sarnia, Ontario, Canada.
- Huber Mfg. Co., Marion, Ohio.
- International Harvester Co. of America, Chicago, Ill.
- Minneapolis Threshing Machine Co., Hopkins, Minn.
- Nichols & Shepard Co., Battle Creek, Mich.
- Northwest Thresher Co., Stillwater, Minn.
- Port Huron Engine & Thresher Co., Port Huron, Mich.
- Reeves & Co., Columbus, Ind.
- Robinson & Co., Richmond, Ind.
- M. Rumely Co., La Porte, Ind.
- The Russell & Co., Massillon, Ohio.
- Sawyer & Massey Co., Limited, Hamilton, Ontario, Canada.
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**HART GRAIN WEIGHER CO., Peoria, Ill., U.S.A.**

scent; we've got to find the villain elsewhere, but we'll nab him yet and before very long, I feel sure. Meanwhile, mum's the word; and mind ye, Johnnie Lundie is far frae bein' self-condemned, even if your money was found in his possession. I've seen a' sorts o' games in my time and this is no a new one; so away back tae your neep (turnip) seed, Sandy, and I'll keep my eye on him.

"Well, boys, if Peter Mathieson had one witness at that sherriff-coort, he had forty. Like a great, speechless bloodhound, he had tracked the business single-handed and silently till he got at the throat of the criminal; and even then he would hae been merciful but for that dastardly feature o' the case in which the scondrel exercised his wits in every way he could work them to the ruin o' a poor lad, and, as it has turned out, one of the best and greatest men that ever was bred on the place.

"Gosh! isn't it wonderfu' boys, hoo 'the best laid schemes o' mice and men gang aft agley' when they start out in opposition tae the Almighty?

"No, lads, I'm no a preacher, but I tell ye if I was tae draw on my ain experience for something that tell'd me there was a Providence that wad see fair play to every craiter, it is a case like Johnnie Lundie's.

"Here was a bairn flung intae the world in a way that almost robbed him o' the common richt o' every human bein'—the means o' helpin' himsel'. The kirk and what is called 'Society' join hands in ostracisin' an occurrence o' the kind.

"We a' hang thegither, say what ye like, and if the kirk and 'Society' combine in tryin' tae damn a man, he makes his start wi' a devil o' a handicap. But that's jist where Providence steps in; gets a haud o' a bit o' His ain handiwork that some bunglin' eediot had twisted a' oot o' shape in his clumsy attempts to fashion things tae suit himsel'. Na, He never taks but He gies, and the law o' compensation is as safe and invariable in His hands as the law o' gravitation itsel'.

"Johnnie Lundie's case is ane o' the maist remarkable examples o' thin I ken o', and what he had tae warstle wi' (wrestle with) tae get at where he is, if ye'll hae patience tae hear me tae the end, I'll gie ye a plain statement o' fact as full o' interest and the dramatic as ye ever saw in the glare o' the footlights or read between the yellow brods (covers) o' a society novel.

"The first witness called was a farmer's wife who testified that on several occasions she had bocht flower seeds and chicken feed from the prisoner while on his rounds for his employer, and produced her receipts made oot on Sandy Glegg's billheads for the ready money she paid him.

"There was no statement of these transactions in the ready money sales of the firm, and this woman's evidence was exactly repeated in the case of three others

called. That cleared up the shortage of the stock. The fellow had been trusted, ye see, and generally helped himsel' when he loaded his van tae start oot on his daily rounds and was supposed to square up every nicht on his return tae the store.

"We were wonderin' hoo the Fiscal was tae bring hame the money charge when a frail, little, fair-haired lassie was put in the witness box. She seemed very nervous as she stepped up, but the sherriff soon put her at rest wi' a kindly word and ordered them tae gie her a chair.

"Your name is Mary Forrester?"

"Yes sir."

"And you are employed in the seed warehouse of Alexander Glegg where your sister is also engaged?"

"Yes sir."

"You know the prisoner Jabez Muchalls?"

"Yes sir."

"And you also know a boy named John Lundie who is employed in the same warehouse?"

"Yes sir."

"Now, my girl, will you tell us of something that happened to you on the morning of Saturday, the 5th of March?"

"I was sick and my sister wanted to take me home but I didn't wish to go. I said if I could lie down for a few minutes I would be better. My sister took me to the bulb store and made me lie down under one of the counters and she covered me up with her shawl."

"While you were there did anyone come in?"

"Yes sir. Jabez Muchalls came in."

"Yes. And what did he do?"

"He went up to where John Lundie's coat was hanging and put a silver coin in one of the pockets."

"How do you know it was a silver coin?"

"I saw him look at it for a long time before he put it in. The first pocket he put it in must have had a hole in it as it dropped out on the floor. He picked it up and then put it in the outside breast pocket."

"How did you know it was John Lundie's jacket?"

"It was the only boy's jacket there, and I knew it by the faded blue ribbon that was sewed on near the top button hole."

"Did you mention what you had seen to anyone?"

"Not at that time, sir. When my sister came for me about half an hour afterwards I was feeling so sick I asked to be taken home. The doctor came in the afternoon and I was taken to the hospital as he said I was sickening for measles."

"Well, boys, to cut it short, there could be no defence. That young scamp got his deserts and Johnnie Lundie was a marked man from that day. He was to enjoy the best opinion that every kindly disposed person in the place could hold of a man, and at the same time he was to be the target for the very worst that the

# CONGO ROOFING

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Congo on Armour's Fertilizer Works, Buena Vista, Va.

## Guaranteed Till 1921

THE year 1921 is a long way off, but a Congo 2-ply Roof laid in 1911 will be still in good condition then.

We don't merely say that Congo will last ten years; we guarantee it.

Our guarantee is not a mere formal "We say so"; it is a genuine Surety Bond issued by the National Surety Company of New York.

We can't do more than to assure you that Congo really will last ten years.

When a man buys Congo he buys 10 years of protection.

Congo is easy to lay. Nails, cement and rust proof galvanized iron caps free in centre of each roll.

Copy of 10-year Guarantee Bond and further information on request.

**Congoleum.** We should like to send every reader of this paper a sample of Congoleum for Flooring and Wainscoting. It is fitted for use in homes, stores and offices. It is a perfect imitation of light and golden oak. Its surface has a high polish. It is unusually durable. The price is very low. Samples and further details mailed free on request.

**UNITED ROOFING & MANUFACTURING CO., Philadelphia, Pa.**

Miller-Morse Hardware Co., Winnipeg; E. G. Prior & Co. Ltd., Victoria; Crown Lumber Co., Calgary.

## Five Million Trees

Consisting of all classes of FOREST TREES

- Standard Apples
- Crab Apples
- Plums
- Compass Cherry

And all kinds of small fruits that have proven hardy in this country, besides a great variety of flowering shrubs, perennial flowers and bulbs, all grown on our nursery grounds at Brandon.

Parties wishing to plant for 1911 drop post card for price list.



## Spring Park Nurseries, Ltd.

B. D. WALLACE - - Manager

implacable hatred of that Muchalls family could do for him."

"Next stop Winnipeg; all change."

"By gosh, are we there already boys? My, I'm sorry as I'd like you to know something more about that man. Any of you stoppin' at the Royal Alec?"

"All of us except Tommie Spicer, but he's coming to have a smoke with me after supper, Jamie."

"Right you are; we're likely to get together again. There goes the Honorable John; I believe he's making straight for the Royal Alec, too."

**Of Interest to Investors.**

Two valuable books, one called "Pointers for Invention" and the other "Pointers for Patentees," are about to be published, the first dealing with methods successfully employed by inventors to raise money to patent their inventions, and the second dealing with the methods successfully employed by patentees in either selling, or manufacturing under their patents. Copies of these books can be obtained when received from the publisher, at a nominal charge of 25 cents each in stamps upon remitting this amount to Egerton R Case, Temple Bldg., Toronto, Ontario.

There has been prepared in the provincial department of Agriculture at Regina a bulletin on growing flax in Saskatchewan. The bulletin is now on the press and will be available for free distribution within a few days. It discusses in simple language the preparation of soil and of seed, the time at which to sow, and the methods of harvesting flax, the outlook for flaxseed in the markets of the world, the prospects of some use being made of the straw, and a number of other phases of the question — all from the standpoint of Saskatchewan.

Any person, whether resident in the province or not, who is interested in the growing of flax — a crop that has attracted great attention in Saskatchewan of recent years — should address a postal card to the Department of Agriculture, and request a copy of Bulletin No. 24, entitled "Hints for Flax-growers." The bulletin is designed and prepared more particularly to meet the needs of the great army of homesteaders and other settlers that have taken up land within the last three years on the open prairies of the western and south-western portions of Saskatchewan.

**Rigged Engine for Plowing**

Cont. from page 46

from someone that has tried it in regard to arranging the hitches. I calculate to pull about five eight-foot disc harrows.

As my experience in traction plowing is very limited, I will not take up any more of your valuable space, but if this letter es-

**THE CANADIAN LIGHTNING ARRESTOR AND ELECTRIC COMPANY**



**MR. FARMER**

Did you ever consider the great amount of damage done to buildings by Lightning? The season is close at hand when you should consider protecting your life and property. It takes years of hard labor to build up a nice home and family. Lightning will destroy it in a few minutes. Now is the opportune time to protect your property from lightning with the

**Townsley System**

Manufactured in Winnipeg

We sell through retail dealers. Write us for our free booklet at once for information.

**O. W. Townsley, Manager**

**OFFICES & FACTORY  
199 MAIN ST.  
WINNIPEG · MANITOBA  
CANADA**



**More Work with Less Help**

The threshing season is a short one—every minute must be used. Help is scarce and high-priced—every man must be "on the job" every minute to make you money.



**The Nelson Wagon Dump Rack**

Keeps your machine busy, a steady grind all day long, and eight teams instead of twelve to do the work—a saving of \$17 a day or \$340 in a 20-day run.

We can prove these figures. Write at once for circulars and name of nearest dealer.

The Nelson is the all-year-round rack. Can be used for any hauling purposes. Designed and constructed by a practical thresherman after carefully investigating all other makes.

Equip your outfit with a set of Nelson Dump Racks and increase your profits.

Dealers—get in line and have the Nelson Wagon Dump Rack agency. If you want information, prices, etc., write at once. DELAY will mean loss of business.

**J. C. NELSON, Box 3079, Winnipeg, Canada**

**The Modern Way of Threshing is the NELSON WAY. IT MEANS DOLLARS TO YOU  
WARNING—Infringements on my Patents will be prosecuted. The user is as liable as the seller**

capas the waste paper basket I will after another year's trial at it give an account of my success. Wishing the Canadian Thresherman and Farmer and all its

readers a very prosperous year, I remain,  
Yours very truly,  
Swante Lind.  
Moose Jaw, Sask.

**Of Interest to Dairymen and Farmers—See the big De Valal offer on another page of this issue. It means money to you. Be sure and look it up.**



# Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



### A LITTLE BIT OF LOVE.

Do you know the world is dying  
For a little bit of love?  
Everywhere we hear their sighing  
For a little bit of love;  
For the love that rights a wrong,  
Fills the heart with hope and song,  
They have waited, oh so long,  
For a little bit of love.

From a poor and suffering mother  
For a little bit of love,  
Hands are reaching out, my brother,  
For a little bit of love,  
Some have burdens hard to bear,  
Some have sorrows we should share,  
Shall they falter and despair  
For a little bit of love?

Down below their burdens falling,  
For a little bit of love,  
Many souls in vain are calling  
For a little bit of love,  
If they die in grief and shame,  
Some one surely is to blame  
For not going in His name  
With a little bit of love.

While the souls of men are dying,  
For a little bit of love,  
While the children, too, are crying  
For a little bit of love,  
Stand no longer idly by,  
You can help them if you try;  
Go then saying: "Here am I  
With a little bit of love."

### WHEN A MAN'S DISCOURAGED.

When a man's discouraged, then  
He needs grass and trees and sky  
More than he needs fellow men  
Who give him sigh for sigh;  
Needs to see that fortune's things  
Have no influence on things.

Trees, and roses in the dew,  
Vines that chuckle into bloom  
Lift the man that's feeling blue  
Right out of the depths of gloom.  
Show him that the hand of fate  
Loosens, if we only wait.

Life has lessons for us all,  
But the greatest ever learned  
Is, no matter what befall,  
Things keep growing unconcerned;  
Things that have to grow, they grow  
In the meanest winds that blow.

Lily, pink or buttercup,  
Though you crush it with your heel  
In an hour is looking up—  
Hasn't got the time to feel  
That the world's against it! No,  
It knows that it has to grow.

Even weeds turn to the sun  
Just as other things that grow.  
Looking up for light and fun  
And forgetting care and woe.  
And they never look in vain,  
Spite of driving wind and rain.

When a man's discouraged, he  
Don't want folks that sympathize;  
What he wants is grass and tree  
And the courage of the skies,  
Things that have to grow, they grow  
In the meanest winds that blow!

—W. J. Nesbit.

### Dear Readers:—

I am very much pleased with the correspondence I have received this month. I am sure it will help all of you. You know what you want discussed on these pages better than I do, therefore, will you write letters to our department and help one another in this way? A farmer's wife wants help from

another farmer's wife. We all have our problems; I had mine last month when the careless printers made fourteen errors in my article on The Household Science Convention. Printers have a fearless way of murdering manuscript and when such errors occur I feel like giving somebody "a piece of my mind"—the same as you do when your cake falls or the bread does not rise.

Our women readers are very sincere in their demand for the dower law. If our lawmakers could only feel that a suffering womanhood is pleading for help and mercy, they might be persuaded to come to their rescue. These very women on lonely homesteads who work like slaves and yet do not murmur, are the very bravest and best women in Canada. They, a thousand times more than the lawmakers, are building this great new country. With bleeding hearts and aching bodies they are laying the foundation of Canada's future. Is not the sacrifice too great? But do not be discouraged, my dear women; women will have this law. When all the women move towards a definite purpose they succeed. Our best and most clever Canadian women are working for a law to protect the property rights of women. They have pleaded this winter before men in charge of the government, and they have in part succeeded in getting some rights. I believe the Saskatchewan government, through the work of Mrs. Arthur Murphy, has promised a change in favor of granting more rights to women. Make your wants known through the pages of our papers and magazines and good results are bound to come. I am pleased to receive these sincere letters because they prove that our women are awake to their needs and to their rights. Let us have more letters. I should like to have more letters on gardening and also letters on butter making, beekeeping, cooking, in fact on any subject that interests you. Let us have more letters on the dower law. This is your department. Make it yours. Some women say they would write if their names would not be published. I promise to publish no names. I should like to have your names but I shall not publish them. —P.R.H.

### Dear Editor:—

I am a reader of the Canadian Thresherman and Farmer, and I like it very much, especially the Woman's Department. I am interested in the dower law. I am sure it would be a great benefit to many farmers' wives. I know it would benefit me. We are in a sense worse than servants. We only get our food and the clothes we wear and we do not wear many clothes in the country. Our life is too busy for us to go out driving or visiting. In fact women do the biggest share of the work on the farm.

If they do raise chickens, instead of getting that little bit of money to themselves they have to use it to buy the groceries. If the farmers were poor—but, no, they are all pretty well off—quite in a position to make things easier for their wives. I see in this woman's department, women are willing to help each other. Can you answer next month this question? What is a farmer's wife's position if there are no children and her husband dies without a will? Will some one please write in about flowers? I want to grow them indoors as house plants.

A Farmer's Wife.

Fortier, Man.

Sask. Valley

### Dear Editor:—

I wish to thank you for your kind invitation and sympathy and for the space you allow us in your valuable magazine. Let us women take advantage of the opportunity and write to this department. Dear readers join hands for the dower law. It would help so many unhappy women to their rights and would make this life so much easier for many poor women that are treated worse than even a hired girl or a dumb animal. This law would indeed be a God's blessing for the western ladies. There are many farmer's wives that are treated cruelly and looked down on by their husbands.

A servant girl is far ahead of the mistress of the house for she can quit her job when she likes. But a wife and mother cannot. There is love and there is always hope in her heart for the better, but if we cannot get this law it will get worse and not better. Soon it will be as bad as the southern states' slave law years ago. It really is that way now as the wife has to take everything—hard work, unkind words and abuse. When your little ones are ill or cross and your dinner five or ten minutes late you would get a raking down about being lazy for not trying to take a bit of interest in his solid comfort, etc. If you should say: "If I had a girl to help me with the house work," he would answer: "I cannot afford it. You haven't any more to do than you can do if you only try." Even if you have from six to ten hired men and three or four or more little ones to keep house for, and as a rule have to live in a small house or shack 12 x 16 or something like that, still you are supposed to keep things going, keep still about your own body and soul. If you are ragged and sick and unable to work you will still have to bear up and go on. Yes, I fear for the very worst. When your "dear hubby" can take a few days off to go to town and spend a bunch of rolls, have a good time, treat his friends and neighbors, and spend his money in foolishness, go to the bank and borrow more on the land and then go to it again as long as it will last in this way, it is all right with him. It will, however, some time run short. If his good wife should ask her better half for a dollar, maybe he will answer: "Won't twenty five cents do?" or "What do you want that for—to buy some more pins to throw around the house?" or "You don't need it." "I have no dollars to throw at the birds." But maybe some day he will come home with a sorrowful face and break the news to his faithful wife that she will have to pack up their few household goods to be moved from their home. Yes, maybe it is sold. Then you see, dear friends, you will be homeless, friendless, and hopeless. As for example, a young farmer here sold his homestead and left his wife and child to whatever may happen.

Now if we had a different law such things could not happen. She would at least get a little to keep her and the little one from starving till she could get aid or a situation somewhere. The dower law should be granted us, as there are many weak-minded men that will not think of any one but themselves.

Of course it would be an awful thing for a man to have to beg his wife to sign the papers in order to be able to get a drink of whiskey over the bar in town.

Another thing we ought to work for is the Temperance Law. If your hus-

band should come home loaded with whiskey, don't scold him. Be kind and look pleasant. Leave him to himself. Do not get cross with him. Do not start crying in his presence. If he should use hard and unkind words to you, keep your tongue and nerves at ease and be calm. It is hard but it pays you well in the end. Keep your children away if possible. If you have little troubles of your own, keep them to yourself. Try to be your home's sunshine and you will win out at last, for remember men have always a weak spot in their hearts. Please show your tender spot to make a real help-mate. Remember your daughters and be a mother worthy of your own in love and devotion. Hoping to see this letter in print and many more, and with best wishes to all, I am,

A Woman Reader pleading for the Right.  
When I read this letter, tears came to my eyes because I know it comes straight from the heart. This writer who lives in Saskatchewan understands what she is writing about.—E.D.

Editor Woman's Department Canadian Thresherman and Farmer.

### Dear Editor,

I just read your appeal for correspondence on the Dower Law. I, for one of many, think there must be some law to protect women's rights, or serious trouble in the homes will take place. Men have got to be made by law to do the fair thing by their wives or only a very few of them are going to do it.

Women are rebelling within themselves, if not to the public, of their wrongs. A time always comes in a woman's life when she feels poverty stricken if the law does not allow her a share of what she has often done, the "home share" in gathering together, if not in openly earning, in denying herself of what belonged by hard labor to her, to allow the husband the money to buy land, implements and stock or to pay needless debts made by him, without even consulting her before making them.

If we wives and mothers are not allowed the Dower Law, then, the only way to do is to demand and get by fair means or foul a share in our own names of what belongs to us as we go along. The great trouble with a lot of women is they do not train themselves in doing business to know how to meet the men on their own ground. They think they are the better able of the two to manage all the business part of the deal and the women let them.

How much more heart and strength a woman would have to meet every-day trials and labor if she could feel there was cash or the value of it when done?

Men make a great mistake when they do not take into partnership, in a business way, their wives. They would often deny themselves many things and do more towards adding to the purse, if they knew they would have returns in the end for it.

I know men who feel so rich because they own everything, they do not make as great an effort to earn and make money as they would if they knew the wife and family had a right by law to have what they had earned. There would only be a very small share left to him, he would feel he had to do or die as the saying goes.

All the "women's rights" uprising is because the women have been kept out of what belonged to them. It has taken years of wronged feelings to cause it.

I think the majority of blasted homes is caused by men's selfishness as regards



# The Patmore Nursery Co.

Established 1883

Brandon, Man.

Established 1883



CITY HALL SQUARE  
BRANDON

is the oldest Horticultural Establishment in the Canadian West, with 27 YEARS' REPUTATION. Products from our Nurseries are growing in all parts of the West, sheltering and beautifying many a Home.

## Our Nurseries

contain all the hardiest varieties of Fruit Trees, Raspberry Plants, etc., Ornamental Trees and Shrubs, Rosebushes, Paonies, Perennial Plants, Evergreens and Trees for Shelter.

**CURRENT AND GOOSEBERRY BUSHES @ \$1.50 & \$2.00 PER DOZEN**  
WE OFFER THIS SPRING:—

50,000 Maples, 4 yrs. old, 4 to 6 ft., @.....	\$10 00	per 100
100,000 Maples, 3 yrs. old, 2 to 4 ft., @.....	5 00	per 100
100,000 Maples, 1 year old, 12 inches @.....	1 00	per 100
50,000 Ash, 2 yrs. old, 2 to 4 ft., @.....	5 00	per 100
20,000 Willows, Laurel (the best for Alberta), 2 to 3 ft., @.....	5 00	per 100
20,000 Willows, Golden, 2 to 3 ft., @.....	5 00	per 100
30,000 Caroline Poplar, 3 to 4 ft., @.....	5 00	per 100
50,000 Caragana for Hedges, 2 to 3 ft., @.....	5 00	per 100

### RELIABLE SEEDS OF THE CHOICEST VARIETIES

Timothy .....	\$14 00	per 100 lbs.	Seed Potatoes—Best varieties
Western Rye .....	\$12 00	“ “ “	Best varieties, Bovee (early) .....
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Fodder Corn  
North, Western Dent, \$2.00 per bus.      North Dakota Flint, \$2.25 per bus.  
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Reliable Lawn Grass Seed.      Special Agents for Suttons & Sons, World Famed Seeds

WRITE FOR CATALOGUE, TO

# The Patmore Nursery Co. BRANDON MAN.

the money value of their wives and families.

What encouragement have wives and children to do their best to make a home and keep it if they feel there is no assurance of not even a dollar after years of hard toil and denial of even necessities to keep things going? No person half alive in this world can, or will, do their best under such circumstances and a man is not wise to his own interests when he does not have the hearty help and interest taken in his welfare his family would give if they had a lawful assurance that they had what they had justly earned.

A farmer can allow his wife and family a share in the stock and land if they belong to them, if he does not have the money. Some would say they would squander it if they had it. Not any more likely than him. If they did, it belonged to them and they would have to suffer for it.

Ever so small a child, as soon as he knows anything calls a copper his and hangs on to it when given him; it does not grow less as he grows older.

Do you think I do not know what I am writing about? I do, from actual experience, and hear wives' and children's wrongs told the fathers and husbands little dream of.

There are few who can be just if allowed too much power, either men or women.

I am afraid the porchouses will be overflowing soon with women left penniless if they do not get help.

I would like to know how many women in Ontario who are signing away their all to come out here where they have no protection would come if they knew?

People would be surprised if they knew how many women out here do not know what the law is. We would hear more if more women read and got to understand just where they are.

I know of homes where there are discontent and discord because the wives know they are only poverty-stricken objects with not a cent they can call their own and in terror of want in their old age.

The men would not hear of the tables being turned and trust to a woman's honor and generosity for support in their old age, and they are just as trustworthy on the whole as the men.

Let us hear from more of the women. The men often read these letters and they might be made to see the injustice of it.

A Lover of Right.

Dear Editor:—

As you asked for a description of our garden, and the way we work it, I am taking the earliest opportunity of answering your request.

We live in the Dauphin district, where, for the most part, the soil is very fertile and seems particularly suitable to all garden produce. The house and garden occupy about one acre of land, and we are surrounded on three sides by a bluff, consisting chiefly of white poplars, which affords a splendid shelter in the winter. The garden extends from the house to the road on the south, and, on the east side, to the bluff. My husband is very fond of the garden, and the hired man, who has been with us nearly two years, is very much interested too, so that we generally manage to have an abundance of flowers, fruit and vegetables.

Directly in front of the house is a short stretch of what was once rank grass but white clover was sown a few years ago, which is making rapid progress and pushing out the grass. There are three round flower beds here which are raised about one foot above the ground and built up with white stones. One of these is filled entirely with sweet williams, which, for the most part, have sown themselves and what a blaze of color they afford about the middle of July. The second bed is made up of candytuft, marigolds and some more sweet williams but I propose taking out the last-named this spring to make room for other plants. Red and white poppies and bachelor buttons occupy the third bed.

I should have said that the farm buildings and yard are situated to the west of the garden and separated from it by a wire fence and a row of poplar trees.

Running parallel with this row of trees is a narrow path leading from the house to the road, which terminates in an Old Country stile. The remainder of the garden in front of the house is divided into five rectangular plots, separated from one another by fruit bushes in the following order: Two rows of wild gooseberries, one of black currants, one of raspberries and tame gooseberries, among which are also three Siberian crab apple trees, another row of raspberries, and lastly a row of white currants. We always have good success with tomatoes, the soil seems to suit them and the shelter of the bluff protects them so that frequently they ripen on the vines.

The ground east of the house is inclined to be damp, so we have sown out there the last two or three years to be used for the calves.

We start our cabbage, tomato, cauliflower and celery plants in a hot bed, which is always made in the most sunny spot to be found. The bed consists of horse-manure brought direct from the stables, with a few inches of good soil on the top. It is left for about ten days to heat before the seeds are sown. The upper part is surrounded by a wooden frame, over which cheese cloth is stretched, in place of glass, which has proved sufficient to protect the plants at night. The same kind of vegetable is never grown on the same plot two years in succession; where turnips, carrots, etc., are sown one year, potatoes are planted the next.

Besides being profitable, we derive much pleasure and enjoyment from our garden. Hoping I have not wearied you with the description of it.

Yours sincerely,  
A Reader.

I met the writer of this letter at the Household Science Convention and she very kindly consented to write of her experience in gardening. She and her husband have made a success of it and I am sure this letter, which is so full of interest and instruction, will prove an inspiration to other women readers and they will profit from it. I thank the writer.  
P. R. H.

## MOTHER'S CORNER

### MOTHER.

Mid life's commotion—dismal fears,  
Mid cares and woes, and floods of tears,  
How sweetly breaks upon the ear  
Some word of comfort or of cheer,  
Yet of our friends there's not another  
Who speaks as gently as our mother.

Here disappointments crowd each day,  
Our brightest hopes soon fade away  
And friends long trusted oft deceive;  
We scarcely know whom to believe,  
Yet, though we fear to trust each other  
We are not afraid to trust our mother.

Yet here where there's so much deceit,  
Some friends we have we love to meet;  
There's love we know that will endure,  
Nor sordid, selfish, but all pure;  
But though beloved by sister, brother,  
There's none that love us like our mother.

Among the names to mortals given,  
There's none like mother, home, and heaven;

For home's no home without her care;  
And heaven, we know she will be there;  
Then let us, while we love each other,  
Remember and be kind to mother.

—E. L. Cassanova.

## Send us 75c.

Receive by return mail, post paid this beautiful little dress made with a little waist joined to a full pleated skirt with a half belt to front panel; neck trimming, belt and cuffs are of a plain, dark red material, while the dress is of a dark red tartan plaid, in ages 8 to 12. It is worth double; we send it as an advertisement for our children's dresses for only 75c, add 12c postage. In age 14, 15 and 16, price \$1.25.  
Order dress #311.  
STANDARD GARMENT CO.  
11, Coote Block. - London, Ont.



### THE MOTHER'S CHARGE.

"And say to mothers what a holy charge is theirs, with what a kingly power their love  
Might rule the fountains of the newborn mind.  
Warn them to wake at early dawn and sow  
Good seed, before the world has sown its tares."  
—Mrs. L. H. Sigourney.

"Always leave the home with loving words, for they may be the last."  
"Character, good or bad, has a tendency to perpetuate itself."

"Only what we have wrought into our characters during life can we take away with us."

"The brightest bow we only trace up on the darkest skies."

"There never was a great man, unless through divine inspiration."  
"Best men are moulded out of faults."

Dear Readers:—Some of my readers have written me personally for advice. There are many new mothers who live so far from a doctor that they cannot get help when they need it. I am so glad for these letters asking advice in matters concerning the care of children. I hope I may receive many letters of this kind. If you want to write me personally on any subject and do not want the letter published, I will gladly answer any personal letter and will not publish it if you mention that it is personal only. I want to help my readers who are mothers because I am interested in their welfare. I have an article on "Helps for Expectant Mothers" that I will send to any woman reader who requests it. I shall not publish the article, but if any woman write me personally asking for it, I shall be pleased to send it. Let us make this a real Mothers' Corner.  
Sincerely, P. R. H.

### FOR THE NEW MOTHER.

A crying baby, in nine cases out of ten, is suffering from indigestion. No two babies are alike; some can take more food than others. It is better to give too little food than too much as a baby's stomach is very tiny. There is always a risk of overfeeding, which causes distension of the stomach and gripes. Sometimes pain from disordered digestion is due to the food being cold. The best way to warm food is to put the required amount in the bottle and then to place the bottle in a basin of hot water until it is comfortably warm for the child. Sometimes the baby will cry, not from colic, but from thirst, and a occasional sip of slightly warm water from a bottle helps to keep the mouth cool and to assuage thirst. Regularity in food is one of the most important points to attend to. During the first three months the child should be fed every two hours by day and every three hours by night. The intervals should gradually increase until the baby is fed every three hours during the day and once during the night between ten and six o'clock.

If baby's feet are always warm there is little danger of colic. Sour milk, dirty bottles, and irregular feeding are common causes of colic. When colic is severe, a teaspoonful of castor oil should be given. A warm bath will sometimes give instant relief but one must be careful to guard against after-chill by wrapping in warm clothes and a blanket. Sometimes a hot linseed meal poultice over the abdomen is very useful. Chill will sometimes cause colic, therefore a woollen binder should be worn round the abdomen to keep the body warm. If the mother massage the baby's stomach with olive oil it will strengthen the muscles of the stomach. Barley water with milk helps to cure constipation.

In making barley water, wash 2 tablespoonfuls of pearl barley in cold water; put into a saucepan with a pint of cold water; bring it to the boil, stirring occasionally. When the barley is soft, strain and add a little more water if it is at all thick. I have great faith in cow's milk and barley water for babies' food because I have seen sickly babies grow into healthy children on this food. It is much better than the patent baby foods that are on the market, besides these patent foods cost a small fortune. A nursing mother should eat plenty of

stewed fruit, oatmeal porridge, and vegetables. Baby's colics are another cause of anxiety. He should not be handled by visitors who are suffering from colds. Kissing by strangers is a custom that should not be allowed. I know I have offended people by not allowing them to kiss my little one, but my little girl's health meant more to me than the friendship of such acquaintances.

A baby should never be allowed to nurse an empty bottle as it causes colic. See that the baby is getting milk when the bottle is in his mouth. Last summer I saw a mother give her baby an empty bottle and the poor little pale infant sucked nothing for half an hour. When a baby is allowed to do this an excess of gas is formed in the stomach and intestines. Just a word about cleanliness of bottles—Baby's bottles must be kept absolutely clean. The food should be made morning and evening. The bottles should be kept in an enamel basin filled with cold water. To keep them clean they must be washed in hot water with the aid of a bottle brush. Then the bottles and nipples should be placed in clean, cold water and boiled, one basin being kept for this purpose. After boiling, the basin is taken off the fire and the bottles left untouched until the water is cool, otherwise they may crack. Then they are placed in cold water and used alternately. At night they are again washed in hot water, but not boiled, and the water in the basin is renewed for use in the night. A clean jug is filled with the night's allowance of food. By such care, baby is kept healthy and free from digestive ailments which many times are due to dirty milk, jugs or dirty bottles. It is only by boiling the bottles that one can be certain that all harmful germs are destroyed. Next month I will give a "talk" on teething and baby's care during this critical time.  
P. R. H.

Some mothers like to put a little sugar in the baby's food. If sugar be required use the sugar of milk which is a powder put up in packages. The ordinary granulated sugar is not pure and sometimes produces fermentation in the stomach.

### THE SELFISHNESS OF GRIEF.

By Carrie May Ashton.

Darkened houses, closed pianos, hushed households, mourning garments and long faces all testify to the selfishness of grief. By none of these things are we helping or in any way benefiting our loved ones. In what better or truer way can we show our love and loyalty to our loved ones who have left us than by passing it on freely and generously to the lonely saddened ones who are everywhere about us? In sending a ray of sunshine or good cheer into some lonely life we are making our own heartache a little lighter.

The mother who has lost her own dear baby is far happier and less selfish in taking into her desolate home some other homeless little one whose life can be made brighter and sweeter and more wholesome.

"Motherless baby and babyless mother. Bring them together to love one another."

Why do thoughtful people still cling to the custom of wearing sombre mourning garments, which always cast a gloom and bring back unhappy memories? Selfish mourning and brooding over the inevitable is worse than useless and must be the greatest source of regret to our friends who have crossed the bar if they can look down upon us.

Why should we save all the sad and silent reminders of sorrow and suffering to bring constantly before us visions of all we have lost? How often we see heartbroken mothers wasting away to a mere shadow, shutting themselves away from their friends and neglecting their families all on account of their selfish grief. Day after day and week after week they open a trunk or bureau which contains the little garments and playthings which belonged to their darling when he was in health. Better a thousand times give all such things away than to brood over them. There are plenty of little ones who need such things and we do not.

Our orphan homes are full of bright, interesting children of all ages whose little hearts are hungry for the love of parents and the advantages of a home

## New Friends Every Day



Grocers tell us Blue Ribbon Tea makes new friends every day. Customers who bought other tea before, now ask for Blue Ribbon. They hear from friends how good it is and decide to try it. And in any case if it is not found fully satisfactory the packet can be returned and the money refunded.

# Fairweather

OUR DISPLAYS OF LADIES' OUTER APPAREL AND HATS FOR SPRING ARE MORE THAN AN INTERESTING EXPOSITION OF WHAT THE NEW STYLES HAVE BROUGHT FORTH.

THEY ARE PRACTICAL AS WELL AS FINE.

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BRANDON,

MAN.

Why not pick up your burden bravely and with hopeful courage and earnest desire to lighten some other person's load and ease some other heartache? Surely there is no better way to forget our own troubles than in doing something for someone else.

We ask God to forgive us for our evil thoughts and evil temper, but rarely, if ever, ask him to forgive us for our sadness.

**HOME CONVERSATION.**

Encourage the children to cultivate the art of conversation. Not a haphazard rush of words and jumbled statements, but require of them a comprehensive account of interesting incidents and scenes. In a certain family one evening each week is given to a family conversation party in which each member tells the most interesting thing he has seen, heard or read during the week. Five minutes is the time limit. The evenings are always hailed with delight, for they are interesting and instructive. Without any rivalry each child in the family finds himself stimulated to do his best.

**LACK OF BODY POISE TIRES.**

In many cases it is not the hard work done about the house which wears women out, but that they do not know how to do it. They never study the human body nor take a thought as to its care, and perform their household tasks with an utter disregard to the development of the body and the conservation of health. Watch some women as they dry the dishes. They stand so their back lops in, the abdomen is thrust out bulgingly, the shoulders droop and one hip is lower than the other, a most uncomfortable, tiresome and unhealthy position. The majority of women do this very thing. The work would tire them less and their powers of endurance would be all the greater if they would only stand correctly on the balls of the feet, with the abdomen drawn in, the hips straight, the shoulders in correct position and then take deep breaths as they work.

**SAFE ADDRESSES FOR COUNTRY GIRLS.**

Since I have received a request asking for a safe address for a girl who contemplates coming to the city, I will send the following list in order to give the country girl an opportunity to select the one she prefers. In the first place let me warn country girls to be sure to have a safe address when they reach the city. I warn you thus because well-dressed women with smooth tongues hang about the stations ready to approach girls just as they come into the station. They ask a girl if she is alone and if so, they promise to take her to a good place. The girl is pleased to find a friend so quickly, and she accepts the offer and goes with the lady. Their destination? It is in a house of vice. Sometimes I wish I might warn country girls in every number of our magazine. I do wish girls would consider carefully before they leave the old home to seek employment in the city. But if they do decide to come, let them be sure to have in their possession a safe address and let them be very careful from whom they inquire for information. Representatives of the Travellers' Aid, who wear badges, meet the trains. I would advise girls to inquire of no other woman but this one who wears the badge. Men are not so dangerous as the women agents of the White Slave Traffic.

Mrs. A. M. Fraser, a woman greatly interested in young women who are away from home, initiated a movement that resulted in the formation of the Winnipeg Women's Friendship Band, the purpose of which is to extend a helping hand to girls who are alone in the city. At a banquet given to nearly six hundred girls, a leaflet was placed at each plate for the benefit of girls who are away from home. I am giving the list here for the benefit of country girls who are planning to come to the city. All of the following addresses are safe. I trust the list may be of great help.

The ladies whose names are given below desire to be the friends of young women in Winnipeg, specially those who

**"UNBLEACHED YET WHITE AS SNOW"**

**FIVE ROSES FLOUR**

**ALWAYS GOOD AND GOOD ALL WAYS A TEST IS PROOF**

**GOOD BREAD GOOD CAKES GOOD PIES**

**LAKE OF THE WOODS MILLING CO. LTD.**

MANITOBA HARD WHEAT CANADA  
LAKE OF THE WOODS MILLING COMPANY  
REGISTERED  
**FIVE ROSES**  
98 125

are away from home, and strangers to the city, and any girl who is lonely or in difficulty and needs a good friend is welcome to visit, or call up by phone, or write to any of them at any time.

Mrs. A. A. Shaw (Pastor's Wife First Baptist Church), phone Main 7699, 190 Edmonton Street.

Mrs. J. L. Gordon (Pastor's Wife Central Congregation Church), phone Garry 1169, 366 Hargrave street.

Mrs. J. J. Roy (Pastor's Wife St. George's Church of England), phone Garry 1589, 68 Isabel street.

Mrs. W. A. Cooke (Pastor's Wife Zion Methodist Church), phone Garry 2125, 629 Furby street.

Mrs. C. W. Gordon (Pastor's Wife St. Stephen's Presbyterian Church), phone Sherbrooke 19, 567 Broadway.

Mrs. Charles H. Stewart (Pastor's Wife St. Paul's Presbyterian Church), phone Garry 3599, 688 McDermott ave.

Miss Louise Duren, Deaconess of Scandinavian Baptist church, phone Garry 3872, 406 Ross ave.

Mrs. G. L. Otto, Deaconess of German Baptist church, phone Garry 926, 871 Bannatyne ave. Address after May 1st, 807 Alverston ave.

Miss K. D. Young, Deaconess of Central Congregational Church, church phone Garry 1044, Home Sherbrooke 441, 501 Victor street.

Deaconess E. A. Hurlburt (Church of England), King Edward Settlement House. Rooms with Board for Working Girls. Phone Main 3575, 791 Selkirk ave.

Mrs. Greenstreet (Church of England City Missionary), Laurel Block, Osborne street, Fort Rouge.

Miss P. Smith, Methodist Deaconess Home, phone Main 4473, 85 George st.

Miss Cameron, Presbyterian Deaconess, phone Fort Rouge 688, 350 River ave.

Miss H. F. Ormond, Presbyterian Deaconess, phone Main 4469, 546 Burrows ave.

Miss Gunn (Deaconess), Free Kindergarten, phone Garry 3646, 296 Ellen st. Miss Elliott (Secretary), Young Women's Christian Association headquarters and boarding house, phone Garry 4212, Ellice ave.

Branch Homes of Y.W.C.A., Miss Munro, boarding home, phone Main 5896, 95 Hallett street.

Miss Finlay, boarding home, phone Main 1318, 35 Hargrave street.

Miss M. Gilmour, Travellers' Aid Agent to help young women on their arrival in the city, 34 Campbell Block, cor. Main and James, phone Garry 1495.

Adjutant Mrs. McElheney, Salvation Army, phone Garry 4491, 577 Elgin ave.

Miss Cassell, Girls' Welcome Home, phone Main 502, cor. Austin and Sutherland.

Mrs. Laura Crouch, Home of the Friendless, 590 Furby street, phones Sherbrooke 2586 and 1860.

**Try it one week for all baking at our risk**

**Your money back if it disappoints**

**"More bread and better bread"**

**PURITY FLOUR**

**38**

Mrs. Harding, the Strangers' Rest Mission for Foreigners), 1051 Main st., north.

Mrs. De Sherbinin, phone Sherbrooke 3550, 191 Walnut street.

Dr. Mary Crawford (Physician), phone Main 1533, 233 Kennedy street.

Dr. M. Ellen Douglas (Physician), phone Sherbrooke 521, 136 Sherbrooke st.

Mrs. R. J. Buchanan, phone Garry 3889, 405 Kennedy street.

Mrs. John Dick, phone Garry 4301, 384 Kennedy street.

Mrs. Farquharson, phone Sherbrooke 1992, 638 Broadway.

Mrs. A. M. Fraser, suite 409, Bon Accord Block, cor. Main and Logan, phone Main 238.

Mrs. G. N. Jackson, phone Sherbrooke 674, 331 Langside street.

Mrs. Julius (Icelandic), phone Garry 399, 668 Alverstone street.

Mrs. C. H. Kemp, suite 1, Prince Rupert Court, cor. Ellice and Edmonton, phone

Main 3496, address after Oct. 1st, 250 Bell ave., Fort Rouge.

Mrs. A. D. Mackay, phone Sherbrooke 599, 150 Sherbrooke street.

Mrs. Matthews, phone Sherbrooke 2768, 182 Colony street.

Mrs. W. R. Mulock, phone Fort Rouge 659, 557 Wellington Crescent.

Mrs. D. W. F. Nichols, phone Sherbrooke 1246, 198 Colony street.

Mrs. W. L. Scott (Zion Methodist Church), phone Garry 4638, 43 Qu'Appelle ave.

Mrs. C. E. Sugden, phone Garry 3934, 391 Kennedy street.

Mrs. E. H. Taaffe, phone Sherbrooke 2737, 21 Waldron Court, Broadway.

Mrs. J. M. Reid, phone Sherbrooke 857, 102 Sherbrooke street.

Mrs. E. W. Hamilton (Pearl Richmond Hamilton), suite 5, Avoca Block, corner Sargent and Kennedy streets, phone Garry 511.

**WHAT WOMEN ARE DOING**

**INVALID A SALESWOMAN.**

There is a woman in Richmond, N.Y., who is a helpless invalid, confined to her bed by a case of incurable inflammatory rheumatism which renders her unable even to use her hands, but who nevertheless represents two or three large dry goods houses and is agent for one of the large New York perfumery firms. She has her samples spread on her bed and her customers choose from the stock. While she cannot perform the actual labor of making out orders, her mind is keen and she directs the selling of the goods herself.

**KEEPING TAB ON SERVANTS.**

The servant girl question in Germany is not the difficult one it is in this country. That government has done more to eliminate the troubles of the servants than any other country. Rules have been worked out so a housewife is sure to get an honest girl and furthermore has a complete history of the girl before hiring her. If a woman in Germany wants a servant she goes to an employment bureau and files an application. The servant appears with her official service book that shows when she began to work and which gives a personal description and history of herself. It shows the names of the persons for whom she has worked and the reason for the leaving.

**A PROGRESSIVE PRINCESS.**

The newspapers have been commenting very largely for several months about the attitude of the Princess Victoria, daughter of Emperor William of Germany, who is said to be a young woman of broad mind and very keen grasp of world conditions. Her ideas are quite in accord with that of the modern woman movement, and she is taking a very active interest in the progress of women in the business world, especially in those who have to make a brave struggle for a livelihood. Unless her royal father ceases his admonitions about the nursery and kitchen being the only place for women, he may find himself in a house divided against itself.

Mme. Lillian Nordica is noted for her sweetness of disposition. It is said that she has never been known to lose her temper. In fact, the diva gives as her recipe for the preservation of youth and beauty, "Keep good natured." Her own adherence to that motto was strikingly shown at her concert in Washington recently. There was a small sized riot at the theatre, owing to there having been more standing room sold than the law would allow, and when Mme. Nordica arrived, an excited group of women surrounded her as she stepped from her carriage and volubly entreated her to see that have got "their rights." The diva was helpless for a moment, then a brilliant thought struck her, and she smilingly invited them all in at the stage entrance and there, disposed in the wings, they enjoyed the concert; and there is now a small colony of female enthusiasts in this city ready to champion any cause Lillian Nordica may advocate.

**RECIPES**

**Bacon with Egg Batter.**

Fry bacon a nice brown, and while sizzling spread over it a batter made by beating an egg well and thickening it with a teaspoon or more of flour. As soon as set, turn and spread batter on other side of bacon. Brown both sides and serve hot with well-browned fried potatoes.

**Bread Cake.**

One cup sugar, two-thirds cup shortening, one cup bread sponge, one cup Thresherman Woman's Dept Galleys D raisins; spices to suit taste; flour to make stiff dough; grease pan, pour in, let rise one hour and then bake.

**Doughnuts.**

One and one-half cups of sour milk, one and one-half cups sugar, one or two eggs, lard size of walnut, one teaspoon soda, pinch of nutmeg, flour enough to roll. Roll and cut, let rise one hour; fry in hot lard.

**Chocolate Pie.**

Beat the yolks of three eggs with one cup of sugar, add one cupful of milk; one and one-half tablespoonfuls of corn-starch dissolved in one-half cup of milk. Let this come to a boil then add two tablespoonfuls of chocolate. Let boil a few minutes, cool slightly and add one teaspoonful of vanilla, pour into the baked crusts and add the beaten whites. This will make two pies.

**Potato Salad.**

Diced or cubed potatoes; two medium onions; two or three boiled eggs; sprinkle of salt and celery seed. Mix well. Use this dressing: Two scant tablespoonfuls flour, three of sugar, one teaspoonful of mustard; add the yolks of three eggs and one cup of vinegar. Stir well while boiling and garnish with grated egg and chopped beet.

**Prunes and Rice.**

Stew prunes until tender, pit and chop. Boil one cup rice soft and dry; put alternate layers of each in buttered pan with rice for top layer; dust with sugar, bake in hot oven, serve with cream and sugar.

**Ethel's White Cake.**

One and one-half cups sugar, one-half cup butter, one cup milk, two and one-half cups flour. Whites of four eggs, two teaspoons baking powder.

**Escalloped Corn.**

Cover bottom of baking dish with canned corn, sprinkle with salt, pepper, a little sugar, and bits of butter. Cover with layer of crushed crackers, proceed in this way until dish is almost full. Pour over all thick cream and bake in slow oven until brown. It is well to cover dish at first to avoid too quick browning.

**Quick Coffee Cake.**

Here is a good coffee cake recipe, one that you can make quickly for breakfast or if you have unexpected company: One-half cup sugar, one teaspoon butter, or more if desired, one egg, one-half cup milk, two cups flour, two teaspoons baking powder, pinch salt. Put in greased pan and sprinkle sugar and cinnamon over the top. When done put little pieces of butter over the top and allow the cake to remain in the oven until the butter is melted. If chopped peanuts or almonds are sprinkled over the top this cake is especially delicious.

**Cold Slaw.**

Shred cabbage very fine, sprinkle with salt and allow to remain in cold place several hours. When ready to serve use the usual sour cream and vinegar dressing or the following dressing: A pinch of mustard, salt, pepper, small lump of butter, two beaten eggs. Cream together, add vinegar, boiling water, and stir constantly while cooking. Cool before using.

**Rhubarb Pie.**

Stew rhubarb and add the grated rind and juice of one lemon, yolks of two eggs, sweeten, bake in two open crusts. Beat the whites of eggs to a stiff froth, add three tablespoonfuls sugar, flavor with vanilla, put on pies and brown.

**Prince Albert Cake.**

One cup brown sugar, two tablespoonfuls molasses, one-half cup butter, one-half cup sour milk, one cup raisins, yolks of three eggs, two cups flour, one teaspoonful soda in one tablespoonful water, spices to suit the taste.

**Salmon Salad.**

For two cans of salmon use five cents worth of crackers crumbed fine, mix well together, then put the following dressing over: Two eggs, one teaspoonful butter, two-thirds cup of vinegar, a little salt and sugar.



*The kind that pleases the people*

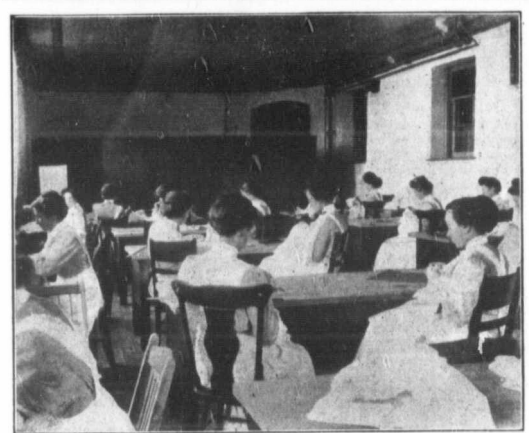
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**W. J. BLACK, Principal**

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**Shaw Correspondence School**  
391 YOUNG ST., TORONTO

W. H. SHAW, Prin. College Building.

**GET THE FARMERS' HOME JOURNAL**

**EVERY MONTH FOR A YEAR - TEN CENTS ONLY**

J. R. Cote, who contributes the poultry articles in this paper, is the owner and editor of The Farmers' Home Journal, published monthly. It is a paper for farmers and poultrymen, edited by a man who is in constant touch with the work he talks about.

The Farmers' Home Journal is published monthly and will be sent to your address for a whole year upon receipt of ten cents in stamps or a dime. All you have to do is to send ten cents and your address, write very plainly giving your initials and your post office and county. Send it to the paper's office at Chatham, Ont., and the paper will be mailed to your address for a whole year.

Address The Farmers' Home Journal, Chatham, Ont., Canada, and mention this paper.

**EGGS FOR HATCHING**

I am not offering eggs in large quantity. I only keep a few pens for my experimental work, and I will be able to spare a few settings. Of course they are the best birds that anybody can have, and if you desire to start right you might as well get the best.

Write me for prices and particulars, and by the way you had better write at once if you desire to get a setting or two, as I always have a larger demand than what I can supply when it comes towards the hatching season.

**Address: J. R. COTE, Poultryman, Chatham, Ontario, Canada**

# When You Dream of Easter Hats Think of the McCall Line

There is a style for every age and condition, for every purse and purpose. We have surely one that was made for just you.



1000.



1001.



1007.



1012.



1008.



1002.



1006.

Not the kind you send your money away for and take what comes. Your own store keeper can supply you right at home, that is, if he is up-to-date; otherwise try the other one. It is generally the live merchant who has the McCall line.

**The D. McCall Co., Limited,** Manufacturers and Importers of Millinery (Wholesale Only)

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375 Hargrave Street, Winnipeg, Man.

Ottawa

Toronto

### Corn Fritters.

One-half can of corn, one egg, two tablespoons of milk, two tablespoons of flour, one-half teaspoon of baking powder; season and dry.

### Ginger Cookies.

One pint molasses, one cup sugar, one cup lard, one cup buttermilk, two eggs, one tablespoon soda, one tablespoon ginger, flour to make a very soft dough. The secret of good cookies is to make the dough very soft using plenty of flour to roll.

### Home-made Dutch Cheese.

Set a quart of milk on the back of the stove where it will sour quickly. When curdled skim off the cream (for use later) and gently heat the milk until it begins to whey. Do not scald. Drain in a cheesecloth bag. Remove to a bowl, add salt, cayenne, a teaspoonful melted butter, with the sour cream. Press the mixture through a potato press and set away to cool.

### Mahogany Cake.

Grate one-third cake of chocolate, cook with one-half cup of sweet milk till thick; let stand until cool; add to this one and a half cups of sugar, one-half cup butter, three eggs, one-half cup sweet milk, two cups flour, one teaspoonful baking powder and a little soda. For icing take one cup of sugar, two-thirds sweet milk; cook until thick, then whip until white.

### Vegetarian Roast.

For those who would like to use the vegetarian substitutes for meat, the following recipe for a "roast" is given: Two cups browned bread crumbs, one cup peanut butter, a small onion chopped finely, a cup of mashed potato, a dash of sage and also of summer savory, two eggs, salt to taste. Beat the eggs, mix all the ingredients together, form into a roll and bake slowly for one hour. Serve hot or cold just as a meat roast would be served.

### Largest Bakery in the World.

The largest bakery in the world is located at Essen, Prussia, the home of the great Krupp gun factory. It is a vast building, in which seventy workmen, divided into two shifts, work night and day. Everything is done by machinery. A gigantic screw turns unceasingly a kneading trough, into which are poured some water and ten sacks of flour of two hundred pounds each. This machine makes about 40,000 pounds of bread each day, in the shape of 25,000 small loaves and 25,000 large loaves, produced by 230 sacks of flour of 200 pounds each. All the operations of bread-making are performed in this colossal bakery. The wheat arrives there, is cleaned, ground and brought automatically to the kneading trough by a series of rising and descending pipes. There are thirty-six double ovens, and the workmen who watch over the baking of the bread earn from eight to ten cents an hour, making an average of ninety cents a day, for eleven hours on duty. They have coffee and bread free, also the use of a bathroom, for they are required to keep themselves spotlessly clean, and must wash their hands eight times a day.

### EXPERIENCE EXTRACTS

#### Rhubarb as a Medicine.

Rhubarb is one of nature's medicines. It not only cleanses the stomach but it has a beneficial effect on the liver and rids the body of uric acid.

Start an asparagus bed. It thrives on a sandy soil.

#### Poisons.

When poisons are taken by mistake, the only hope is to make the patient vomit at once. This can be accomplished by thrusting the finger down the throat, or administering an emetic, such as mustard and water, etc.

The holes for your new trees must be made larger and deep enough to receive the entire root system without crowding or cramping.

Woolen blankets should be aired and wrapped in sheets or packed in wooden boxes lined with newspapers. Place gum camphor or turpentine among the pieces. Furs and beaver hats and ostrich plumes should be packed in boxes with camphor. Before storing furs sprinkle a little camphor on a brush and dust the pieces thoroughly. Sweet lavender also is used.

#### Watering Plants.

All plants like to have their leaves sprinkled, but to sprinkle the soil about them as a means of giving the root a drink does very little good, and a thorough soaking once a week is infinitely better than a slight daily wetting. When flowers or vines are planted near a house they are in especial danger of suffering from lack of water and should have much more than in other situations. Among the plants which are heavy drinkers are dahlias, heliotrope, forget-me-nots, Japanese iris. Nasturtiums and poppies, both will starve and go thirsty contentedly, only blooming the better.—Harper's Bazar.

Two years ago we butchered a large quantity of meat late in the winter; sugar cured it and laid it out on boards in cellar where it could not freeze while taking the salt and draining. When it was sufficiently cured we hung and smoked it. I bought heavy unbleached muslin and made sacks for each piece. Sacked it up and tied securely, then hung it in a dry, light garret room over kitchen and our meat kept until September without a particle of mould on any part of it.

Before that time we had always kept meat in smoke house and it invariably moulded.

To Clean Black Woolen Skirt. Five cents worth of soap tree bark

will clean a black woolen skirt. Put the bark into one gallon of water and set it on the stove, letting it boil ten minutes, then strain and pour the strained water into a tub containing sufficient warm water to wash the skirt. Rub the skirt thoroughly in this water. Do not use the board, but rub the skirt between the hands. Put the bark strainings back on the stove with cold water and heat it just warm enough for rinsing water. Rinse the skirt in this and hang it out to dry. When it is nearly dry take it from the line and iron it on the wrong side while it is still damp.

**CORRUGATED  
PORTABLE  
GRANARIES**

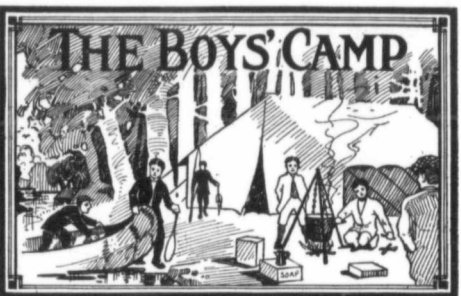
**Fire, Lightning  
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**Protects the grain—absolutely vermin proof.**

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Western Canada Factory:  
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Agents wanted in some sections.



## THE Girls' Cozy Corner

### OUR MOTHER.

Our mother's lost her youthfulness;  
Her locks are turning gray,  
And wrinkles take the place of smiles—  
She's fading every day.  
We gaze at her in sorrow now,  
For though we've ne'er been told;  
We can but feel the weary truth,  
Our mother's growing old.

Our mother's lost her youthfulness;  
Her eyes grow dim with tears;  
Yet still within her heart there shines  
Some light of other years.  
For oft she'll speak in merry tones,  
Smile as in youth she smiled,  
As o'er her heart some memory steals  
Of when she was a child.

Our mother's lost her youthfulness;  
The light step has grown slow.  
The graceful form has learned to stoop,  
The bright cheek lost its glow.  
Her weary hands have grown so thin,  
Her dear hand trembles now;  
"Passing away," in sad, deep line,  
Is traced upon her brow.

Our mother's lost her youthfulness;  
Her smiles are just as kind,  
Her tones to us are soft as erst,  
Where should we dearer find?  
But as we note the trembling tongue,  
And mark the stooping form;  
A sad voice whispers to our hearts,  
"Ye cannot keep her long."

### MOTHER'S COMFORT.

I know a little girl,  
With loving eyes of blue,  
And lips just made for smiling,  
And heart that's kind and true;  
She wears no dainty dresses,  
No jewels does she own;  
But the greatest of her treasury  
Is her little self alone.

Her name is "Mother's Comfort."  
For all the livelong day  
Her busy little fingers  
Help mother's cares away.  
The sunshine loves to glisten  
And hide in her soft hair,  
And dimples chase each other  
About her cheeks so fair.

Oh, this darling little girl,  
With the diamonds in her eyes,  
Makes in mother's heart a sunshine  
Better far than floods the skies!  
But the name that suits her better,  
And makes her glad eyes shine,  
Is the name of "Mother's Comfort,"  
This little treasure, mine.  
Friend for Boys and Girls.

Dear Cozy Corner Girls:—It is very lovely of you to say so many nice things about our magazine. We appreciate it. It was very difficult for me to award the prize this month. I studied hard before I decided. Finally, I put Ada Williams' letter, Sylve's and Janet's in front of me, and I read and re-read. I wanted to give all three a prize. Ada's is very neatly written, and is good all through. Sylve's is full of the breath of the West, and I like it, but Janet's reference to

a bit of Canadian history rendered the decision in her favor.

Your good wishes for our success mean much to me. I wish every one of my girl readers the best possible success in everything she does.

I am pleased with the interest the girls are taking in cooking, and I thank you for the recipes you sent in. I wonder if the boys would like some of your cakes and candies in their camp. Boys have a weakness for cake and candy, you know. Perhaps your mothers take a peep into our cupboard. Ask your mothers to write to the Woman's Department, please. The Canadian Thresherman is for the whole family. With love to every girl, I am, sincerely,  
Cousin Doris.

### GIRL'S PRIZE LETTER.

Cut-Knife, Sask.

Dear Cousin Doris:—This is my first letter to your club. My father takes the Canadian Thresherman and Farmer. I will be twelve years old in March, and am in the fourth grade. I suppose the readers of the club have heard about the famous Cut-Knife Rebellion that was fought in the year 1885. It was fought on the Poundmaker Reserve. The prairie is level, so we can see the hill where it was fought quite plainly. We live six miles from the hill. There was a picnic at the hill a year ago last summer. My mother and two brothers, two sisters and myself went to it. There was a post on the hill, and there were many names carved on it. I have four sisters and two brothers. We girls have a little pony called Trixie. She is blue gray, and is not much bigger than a Shetland pony. Two of my sisters and I rode her to school for a while. One day when we were coming home from school, she fell down and we all fell off, and she rolled on my leg. Another night when we were coming home from school, the saddle turned and all three of us fell off. I like to sew very much. I am now making two quilts for my little sister's doll. I like to cook, but it is hard to get the oven right. I will close as my letter is getting long. Hoping to see my letter in print, I remain, Janet Munsell.

Are there not more cousins who live near historical places? I should like to have you write as much about Canadian history as possible. I am pleased, Janet, to have your description.—C.D.

### HONORABLE MENTION.

Rawdonville, Alta.

Dear Cousins:—I am a stranger to the Cozy Corner, but may I come in for a few minutes' chat? As others are describing what they look like, I will tell you a little about myself. I have curly auburn hair and brown eyes, am fourteen years old, and 5 ft. 5 ins. tall. I am very fond of music, reading, riding, cooking, gardening, and animals. I have many pets, among which is a good collie dog name Mollie. Also a little pony, and many a good gallop we have together. I go to school and am in standard five. My studies are geometry, algebra, agriculture, physiology, geography, history, arithmetic, reading and drawing. Cousin Doris was asking for games. Here is one called the "Goose walk." Only a few should be told the secret; the others are brought in, one by one, shown the course over which they are to walk, with obstacles placed in the path: a stool, a bottle, or a basket to be

stepped over, a box to walk around, etc.

The player is then blindfolded, told to avoid the obstacles and started on his course. In the meantime, the obstacles have all been removed, and the efforts to avoid things which are not there are truly ludicrous. I noticed a letter from Clara, asking for a recipe for pulled taffy. Here is one:—3 cupsful granulated sugar, 1 cupful of vinegar and water in equal parts, butter the size of a walnut (one third vinegar and two thirds water) may be used if the vinegar is very strong. Boil all together until half done, then add the butter, stirring only enough to incorporate the butter thoroughly, and boil until done. Drop a little of the candy now and then into cold water, and test by pulling it apart. If it snaps it is done. Pour into buttered pan to cool. Flavor with vanilla. When cooled sufficiently to handle, it may be pulled and cut into small pieces. I will close with my best regards to Cousin Doris. Ada Williams.

### HONORABLE MENTION.

R.R. Bridge, Vic Co.

Dear Cousin Doris:—I think the Cozy Corner is just the very cutest name for this interesting club. I hope every girl likes it as well as I do. I like so much to read the letters from the boys and girls of the West, if they would only tell more of their experiences. Am very fond of horseback riding, snow-shoeing, skating and shooting, but I have only got a 22 rifle. A 32 would be lots nicer, I think. Now, don't think because I like play that I do not like to work, because I can make cakes and some candies too, and I have kept house alone. I have a little white rabbit for a pet. His eyes are pink, so I call him "Kelly." I used to like to snare rabbits with my brother, but since I have had Kelly I think it would be cruel as they are so cute, and cannot do any harm. I have four sisters and only one little brother, but he will answer for half a dozen. He always wants someone to tell him bear stories, and he keeps the house in an uproar all the time, building camps, etc. Everybody likes reading, I guess. My favorite author is Bertha Clay. As Cousin Doris is so kind as to have a club for the boys as well as the girls, should think they would patronize it more. Well, I will sympathize with those who do not like long letters, and close, but I should like to write more. I am, your true cousin, Sylve P Cronkite.

I wish you would write us a long letter, Sylve, and tell some of your experiences. I do like to see girls enjoy out-door sports. It makes them strong and happy. Usually those who like good healthy play are the best in their work.—C.D.

Birch Hills, Sask.

Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. I go to the Birch Hills school; my age is fourteen. I am in the third reader. My studies are reading, writing, spelling, arithmetic, drawing and composition. My teacher's name is Mr. C. G. I live on a farm two miles from town. I have four brothers and five sisters. We have thirty head of cattle and five head of horses. In our town we have a creamery, hotel, restaurant, bank, post office, drug store, railway station, two dry goods stores, confectionery store, two hardware stores, two butcher shops,

church, manse, hall, Orange Hall, school house, two livery barns, two elevators, two blacksmith shops, lumber shed, crusher and feed flour shop, curling rink, skating rink, and about nineteen dwelling houses. I think I will close now in hopes to see my letter in print. I remain, Mary MacDonald.

## THE Canadian Boy's Camp

### Success.

"Don't wait until the iron's hot,  
But make it hot by muscle;  
Don't wait for wealth your father's got,  
Take off your coat and hustle."

The men who lead affairs to-day,  
Have not advanced by luck;  
Their secret of success, they say,  
Is hard work, grit and pluck.

To reach the niche you wish to fill,  
No matter how remote;  
Take hold and labor with a will,  
And "sit steady in the boat."

—T. L. Wheeler.

### A List of Forfeits.

It is usual to call upon unsuccessful players to pay a forfeit. The following list may help in sentencing unfortunate ones:

- Act in pantomime the visit of a doctor.
- Make a fool's cap and place it on the head of the most dignified person present.
- Deliver an oration.
- Sing "Mary Had a Little Lamb" in operatic style.
- Draw a picture of any animal called for.
- Tell a pathetic story.
- Sing a comic song.
- Sing a lullaby to a soft pillow.
- Compose a limerick or a four-line verse.
- Tell a funny story.
- Give an imitation of a small boy being sent to bed.
- Sneeze in five different ways.
- Laugh in five different ways.
- Auction off an umbrella.
- Name the things you would do with a million dollars.

Dear Campers:—You cannot know what a hard time I have had to award the prize this month. I have four before me that deserve the prize. I wish the editor would allow me to give four prizes. I would award them to Merlin Arnott, Kenneth Allison, Blue-eyed Ben and Peter Friesen. They all deserve it. When you read the letters you perhaps would award the prize differently. Merlin's letter is splendid and so are the others. Peter's letter is very neat in penmanship and order. Well, boys, this is positively the very hardest month I have had in awarding the prize. I really wish I could have you award it. The boys are good trappers, I learn, and hunters. I want you to tell us your experiences. You know you must imagine you are sitting around the camp fire telling stories to one another. What a splendid camp we have! They are brave boys and ambitious. Write to Cousin Doris and tell her all about your experiences. Sincerely, Cousin Doris.

## BOYS' PRIZE LETTER.

Rosthern, Sask.

Dear Cousin Doris:—As I saw so many letters in print from the girls and so few from the boys, I thought I would write also and try for the prize as I'm very fond of reading good story books.

My father takes the "Canadian Thresherman and Farmer" and I'm very fond of reading the boys' and girls' letters. I have six sisters and one brother; my three sisters are going to school, which is a mile away. My father has owned a "Case" threshing outfit for three years. It is a very good machine. We have had very fine weather now in February but it was very cold in January. We have plenty of snow here; more than a foot on the level.

Now I will tell you about a cyclone which we had here last summer. It was on the 3rd day of July, a fine warm day and so a friend of mine and I determined to go to the river and fish. We fished quite a time but it was not a good day for fishing and we just got a few. Suddenly we heard the peels of thunder and to our great fear we saw that the sky was already clouded over. We immediately started for home but the storm overtook us and we were completely soaked by the rain and hail which came down in torrents. At last we reached my friend's house and there we went in till the rain stopped and then I started for home.

Before I reached my parents' house I saw that our neighbor's roof was blown off and their stable was completely ruined to pieces and the shingles of the roof were nearly scattered one-half mile. Curious to say, their horses were not harmed at all and were running into the fence.

There were some people killed by that cyclone but not around here. Our buggy was turned upside down and one hay rack was smashed to pieces.

Our grain was all destroyed so that we just threshed 137 bus. of wheat from 110 acres and our neighbors just got several hundred bushels and the wheat was so poor that it was not fit for sale. I hope that we may have a better year this summer, with more rain.

I'm very fond of fishing and hunting and own a small 22-calibre rifle with which I have killed more than four hundred gophers and many other animals.

As my letter is getting long I think I must stop. Hoping to see this letter in print, I remain, your cousin, Peter P. Friesen, Jun.

## HONORABLE MENTION.

Hyder.

Dear Cousin Doris:—As I have not written to this paper for over two years I thought I would write again. The name

has been changed since I last wrote and I like the present one much better. The winter has been very cold and stormy. The snow is very deep on the prairies.

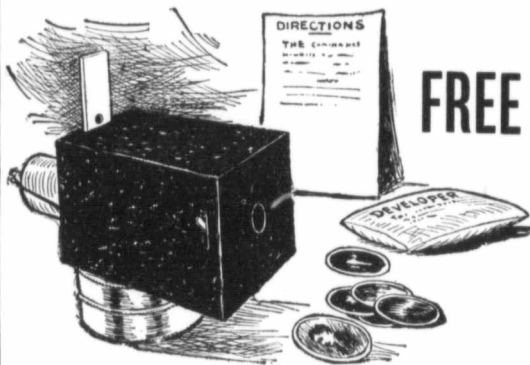
I have been going to school nearly all winter and like it fine. Nearly all the big boys go in the winter time. My studies are algebra, arithmetic, Canadian and British history, literature, grammar, botany, drawing, music, spelling, composition and writing. I went to Killarney high school and passed the first part third examination last summer. I would like to be a doctor when I grow up.

I am a great lover of running and try to run all the races I can. I got second in a two-mile Marathon at Killarney. It was a hot day and running made it much hotter. The time for two miles was eleven minutes and thirty-five seconds. The boy that was first won the championship of Manitoba under sixteen at the Winnipeg fair. The race was conducted by the Central Business College. I hope to run in it next year, so if there are any members of the "Boys' Camp" here I hope they will holler for this one. I have run a half mile in two minutes and twenty-five seconds and one hundred yards in eleven seconds. I am also fond of baseball and all outdoor sports. I play on the senior and junior teams of this place. Skating is my favorite after baseball.

I like gardening and we have a pretty good garden every year. Last year we took four firsts for pumpkin, citron, marrows and watermelons respectively and second for muskmelons at the Killarney fair.

Last fall men were very scarce so I went firing on a threshing outfit. It was my first experience at working out and I liked it fine. The engine was a Sawyer-Massey, twenty horse power. It was an easy engine to fire when the straw was dry but a brute when it was wet. We threshed for nearly a month, at the end of that time I was pretty well onto my job. I never threw the belt once in starting the engine. One day when we were moving, the engine started with a jerk and I fell back on the straw rack and broke it off. Another time I was trying to move the engine and it would not start. I then saw it was on "dead centre" and got up on the engine to turn the fly wheel. I laid right down on it and started to push when it started and threw me over the flywheel on to the ground.

We have a ploughing outfit and this fall I fired and ran the plows part of the time. We fired with coal and it is harder to keep steam up with than straw. At the end of the field I would take the six plows out of the ground and then jump back onto the engine. When

The "Duz-it-all"  
Photo Button Camera

Press the Lever—Push the Slide—The Picture is finished

It sounds too simple to be true, doesn't it? But that is all there is to it, just the same. If you will answer this "Ad" to-day, and be prompt, we will give you one of these outfits absolutely free. First of all, you put a Green little Button Film in the magazine at the back of the Camera, then get your "customer" to "look pleasant." Just press the lever, then the slide, and in one minute the pretty little Button Picture is finished all ready to mount into a locket, a brooch, or in any way you like. You can make easy money selling these pictures to your friends at 10c. to 25c. each. The winter is the very best time to get really good Pictures and we want to get these Photo Button Cameras introduced into every section of the country, and in order to do this quickly, are going to give away 25 gross (3,600) of them absolutely free. Now act quickly, because you want to be the first, around your vicinity, to get one of these and have some fun and make some money with it as well. Now, all we ask you to do in return for this grand present, is that you introduce among your friends, only 24 of our fast selling, size 16 x 20, multi-color, Olograph reproductions of Famous Paintings, the originals of which cost hundreds of dollars, and include such popular subjects as "The Village Smithy," "Can't You Talk," "Home Again," and many others. These Pictures sell in Art Stores at 50 cents each. They are all suitable for framing and at our price of 15 cents each, you can sell one or more to every person you show them to. Especially as we will send you a Prize Coupon, to give with every Picture, which will entitle the holder to receive an extra present from us, absolutely free. When sold, return us our money, \$3.60, and this grand Camera, with supplies, will be sent to you at once.

**SPECIAL OFFER.**—In the regular way, you would have to pay express or postage charges on your Camera, but in addition to giving you this splendid outfit absolutely free, we are going to prepay the charges on it ourselves, direct to your town, provided you will be prompt and return our money inside of four weeks. (10 days extra allowed to places west of Winnipeg.) Write to-day. We will send the Pictures by return mail, postpaid. Then the rest is easy.

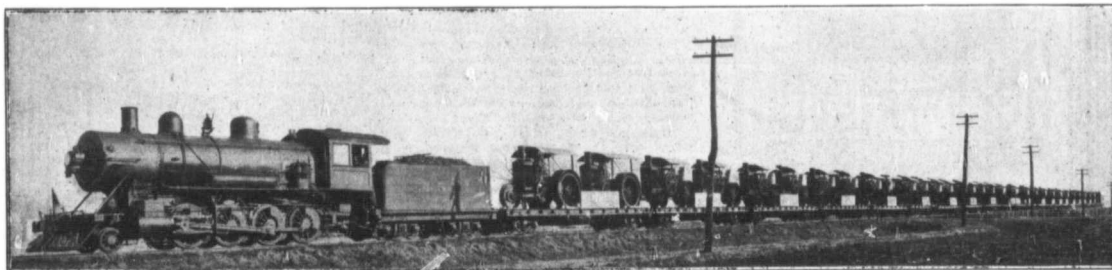
Address, COLONIAL ART COMPANY, DEER 55, TORONTO, ONTARIO.

the engine was turned around I put the plows back on again.

I generally spend my evenings reading, studying or shooting rabbits. I shot a rabbit one night with a revolver, in the moonlight. We generally use the shot gun for rabbits. On Christmas our school had a Christmas tree. There were quite a few there and we all had a good time. The Government put in telephones in this district last summer; they

are very handy. As my letter is getting long I shall have to close, wishing this paper every success. I remain, yours sincerely, Merlin Arnott.

**Of Interest to Dairymen and Farmers**—See the big De Laval offer on another page of this issue. It means money to you. Be sure and look it up.



The above represents a trainload of twenty-two cars of "Modern Farm Horses" as they left the factory at Charles City, Iowa, for Western Canada. Each car carried two tractors besides a large shipment of repairs that went forward to stock up the Portage La Prairie Branch for spring business.

The entire value of the shipment was over one hundred thousand dollars. The actual plowing horse power of this trainload is in

excess of one thousand and represents sufficient mechanical power to turn over eight hundred acres of virgin prairie every day. As to the amount of land these tractors will turn over during the summer, we will leave it to you to figure number of days that they are out. It all depends on the number of days they are used.

The Hart-Parr Gas Tractor, popularly known as the "Modern Farm Horse," was one of the first successful gas tractors put on the market, if not the first. During the past seven years thousands

have been sold to farmers on both sides of the line, and hundreds more have been sent to foreign countries. It is about six years since this engine first entered Canada, and at the present time it is hard to find a locality where mechanical power is at all used for plowing purposes, and not find a "Modern Farm Horse."

The train left Charles City, via the Chicago, Milwaukee and St. Paul Railway. It was transferred to the Great Northern and St. Paul, and the Canadian Northern Railway took it over at Emerson,

carrying it to Portage La Prairie via Winnipeg.

This is the first solid trainload that the Hart-Parr Company have shipped to Portage La Prairie, and they expect to have at least two more trainloads as large as the above enroute for Portage La Prairie inside of the next two weeks.

A rhymingly inclined individual was heard to remark the other day that "oil would conquer the soil," and we cannot help but feel that there is more truth than poetry in his remark.

# THE FUNNY WORLD



The matter on this page lays no claim whatever to originality. The one idea is to amuse, to provoke a smile. If it fulfills this mission we shall feel amply repaid for the time and labor expended in its preparation. Have you read or heard something that has made you laugh? Has it chased dull care away for a time? Then pass it along for publication in our Funny World. Such contributions will be greatly appreciated.

"When Mark Twain came to Washington to try and get a decent copyright law passed, a representative took him out one afternoon to Chevy Chase," said a correspondent. "Mark Twain refused to play golf himself, but he consented to walk over the course and watch the representative's strokes. The representative was rather a duffer. Teeing off, he sent clouds of earth flying in all directions. Then, to hide his confusion, he said to his guest: 'What do you think of our link here, Mr. Clemens?' 'Best I ever tasted,' said Mark Twain, as he wiped the dirt from his lips with his handkerchief."—Washington Star.

Dear Sir,—I received de stove which I by from you alrite. But for why you dont send me no feet? What is de use of de stove when he don't have no feet? I am loose to me my customer sure ting by not having de feet, and dats not very pleasure to me. Wat is de matter wit you? Is not my trades money as good like another man's? You loose me my trade and I send you back at wunee your stove tomorro for sure, because you are such blem foolish peoples.

Yours respectfule,

Jean La Fleur.

P.S.—Since I rite this letter I find de feet in de haven, excuse to me.

George Stewart tells the following: It was after the riot in Birmingham, and he was visiting a friend in that city. While they were talking over the events of the night before, the negro stableman came in and was asked as to his whereabouts the night of the trouble.

"Why, sah, I was jes watching de crowd, das all."

"Were you there, Sam, when the shooting commenced?"

"Yah, sah."

"What did you do then?"

"Well, sah, to tell you de trufe, I run."

"Did you run very fast, Sam?"

"No, sah, I didn't run very fast; but I passed some niggers who was running like de debil dough.—A.H.A.

"We keep our own cows," explained the hostess proudly. "So we're sure of our milk."

"Well," interrupted the small son of the guest, setting down his cup, "Somebody's stung you with a sour cow."

Gladys.—Mamma can't see anybody today; she's upstairs with the baby. You see, they sent her a girl when she'd ordered a boy, an' she's so disappointed she's sick.

Pat, on duty in the Philippines, was sent to the front for active service. Taken ill, he became extremely emaciated, and was finally ordered home. As he landed in New York he met an acquaintance, who said:

"Well, Pat, I see you're back from the front."

"Faix," said Pat, "is that so? I knew I was thin, but I didn't know I was as thin as that."

For miles the clutch had been working stiffly, and somebody had forgotten the oil, so at the first cottage the car pulled up.

"Hello, kiddis!" cried the chaffeur to the small child who stood at the door. "Run in and ask mother if she has a drop of oil. Any kind will do—even castor oil."

After a short interval she returned, stammering, "Mother says she's got no castor oil, but will you step in, an' she'll give you a dose of salts."

A hardware dealer in our town tells a story about a prim old lady who came into his store the other day to purchase a carpet sweeper. She gazed here and there about the store as she entered, and finally going up to the dealer she looked at him quizzically over her glasses and asked, "Do you keep carpet sweepers?"

"Yes, madam," replied the dealer, and naming the two kinds which he said he had in stock, asked which she desired.

"Well," said the lady, "you may show me both kinds, if you will."

"Just a moment, madam, until I get them from the rear of the store." And with that he went to an obscure corner to take down the carpet sweepers from their hooks upon the wall.

It happened that in front of one of the makes which he desired there was a lawn mower so hung that he had to move it. He took it down from the hook, and as he did so, it rolled along the floor with a grinding rattle.

Before he had time to turn around he heard the old lady shout from the front of the store: "That makes more noise than my old one, and I don't care to look at it," and so saying she whisked out of the door, leaving the dealer to wonder whether the joke was worth the loss of the sale.

The professor of law was quizzing his class. Singling out a somnolent student in the rear of the room, he addressed a question to him. Confused, the student rose, and bent his ear to catch the stage whispers of his friends seated about him.

"Well, you ought to be able to answer," snapped the professor, "with all the aid you are receiving back there!"

"Professor," came the quick reply, "I could, but there's a difference of opinion back here."

"What's become o' that half bushel measure?" asked the hired man.

"You'll have to git along without it," replied Farmer Cornstossel. "Mandy's trimmed it up fur a hat to wear to meet-in' tomorrow."

Two telephone girls were talking over the wire. Both were discussing what they should wear. In the midst of this important conversation a masculine voice interrupted, asking humbly for a number. One of the girls became indignant and scornfully asked:

"What line do you think you are on, anyhow?"

"Well," said the man, "I am not sure, but, judging from what I have heard, I should say I was on a clothes-line."

The new pastor was a stickler for ceremonial observances. He could read his share of the responses with one eye and watch the congregation with the other. Each member was expected to take part in the reading, and the person who shirked that responsibility was detected sooner or later and brought to account. On the first three Sundays of the new parsonate he noticed a man in a front pew who sat silent throughout the service. The third Sunday evening, although in a hurry to reach the bedside of a sick parishioner, he took time to let the delinquent know he had found out.

"I am sorry to see," the pastor said, that you have never read the responses."

"F-f-f I had d-d-d-done th-th-that," said the silent man, "ab-b-bout what t-t-time d-d-do you sup-p-pose you'd have g-g-got through p-p-preaching?"

He was a twentieth century hustling builder, and under his auspices cottages and buildings seemed to spring up like mushrooms.

One of his foremen, rushing up to him one morning in a state of excitement, said, "One o' the new houses has fallen down in the night!"

"What!" he roared. "You mean to say that one of my well-built, desirable residential houses has come to grief? Ah, I suppose you took the scaffolding down before you put on the wallpaper?"

"Yes, sir."

"Well, what can you expect, you rank idiot? Call yourself a foreman? Get off the job. You're discharged."

A hungry customer seated himself at a table in a quick-lunch restaurant and ordered a chicken pie. When it arrived he raised the lid and sat gazing at the contents intently for a while. Finally he called the waiter.

"Look here, Sam," he said, "what did I order?"

"Chicken pie, sah."

"And what have you brought me?"

"Chicken pie, sah."

"Chicken pie, you black rascal!" the customer replied. "Chicken pie? Why, there's not a piece of chicken in it, and never was."

"Dat's right, boss—dey ain't no chicken in it."

"Then why do you call it chicken pie? I never heard of such a thing."

"Dat's all right, boss. Dey don't have to be no chicken in a chicken pie. Dey ain't no dog in a dog biscuit, is dey?"

Biblical knowledge, according to some Lawrenceville, New Jersey, examination papers:

"Elizabeth, the mother of John the Baptist, had grown to quite an old age, and had never had a child. This troubled her as she had lived a Christian life."

"Elizabeth his wife was a baron."

"Cubit was the name of the goddess of love."

"They locked Peter up and put shekels on him."

"John was finally hanged on an olive branch."





# GOOD GOODS WIN

The "Good Goods Win" slogan of this Company is not an idle dream but the very soul of a clearly defined and ruggedly rooted business policy



## Lion Rubber Endless Thresher Belts and Maple Leaf Endless Thresher Belts

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

### The Winnipeg Rubber Company Limited

Winnipeg

NOT IN ANY TRUST OR COMBINE

Calgary

## Kill-Em-Quick Gopher Poison Saved \$100 for This Man Last Year

Here is all the surest proof, for you, of the value of Mickelson's Kill-Em-Quick Gopher Poison is the testimony of your brother farmers. Here is a sample of the letters I receive every week. O. C. Strassheim, of Turtle Lake, N. D., writes: "I used your Kill-Em-Quick Gopher Poison on my farm, and at the present time a live gopher could not be found on it. I know that it has the old strychnine beat in a hundred ways. I know that it has benefitted me to the extent of \$100.00."



On many farms gophers cause more damage than rust or hail. On all infested farms, gophers are a serious problem. You should rid your fields of every gopher. You may plow and harrow and sow and cultivate with exceeding care. You may select the best seed. You may farm scientifically and intensively in every way. Yet you cannot hope to reap 100% crops if you allow gophers and other field pests to feast upon the seed and tender shoots of grain.

box of Kill-Em-Quick will kill 4,000 gophers. As each gopher costs you fully 10c, one box of Kill-Em-Quick means \$400.00 in increased crops.

#### Don't Use Strychnine

An ounce of strychnine, which should sell for \$1.00, has the power to kill 2,632 gophers. But strychnine is very insoluble and a great quantity of water must be used to dissolve it and likewise a great amount of grain must be added to absorb the liquid mixture. Its strength is so reduced that it takes an average of 20 grains to kill one gopher. But, as strychnine is excessively bitter, only about one-third of the gophers eat enough of it to kill them; so extensive experiments have proved that the dead gophers, from \$1.00 worth of strychnine, number only about 874.

On the other hand it has been proved that a 75c box of Mickelson's Kill-Em-Quick actually kills 2,000 gophers. In the

first place, it is full-strength on every grain. In the second place, its odor and taste are attractive to gophers. In the third place, the minutest atom taken into the stomach is enough to kill a gopher.

#### Read These Letters

Mr. Wm. Hepler, Volga, S. D., writes: "I have just tried Kill-Em-Quick Gopher Poison and can say it is all right. It is away ahead of strychnine. I will recommend it to all of my friends and neighbors."

And Mr. Carl Schaffer, of Mercer, N. D., writes: "Your Kill-Em-Quick Gopher Poison that I used this past summer was the best that I have ever used, and I have tried every preparation on the market but none were its equal. I put it on my fields, and went out to see its effect about two hours afterward and found dead gophers nearly every step I went over the field. I recommend it very highly to all of my neighbors."

#### Money-Back Guarantee

Mickelson's Kill-Em-Quick Gopher Poison complies with and is guaranteed under the Food and Drugs Act of June 30th, 1906, Serial No. 28089. That is a guarantee against misrepresentation. Back of this is the personal guarantee of our Company, on every box of Kill-Em-Quick. If, after using Kill-Em-Quick according to directions, you are dissatisfied in any way, address a letter to me personally, enclosing the outside label and stating how and when used, the amount paid for and from whom purchased. I will immediately refund the amount paid.

#### Send Coupon Now for All the Folders

I want to send you some more interesting facts that show you beyond doubt the superiority of Mickelson's Kill-Em-Quick Gopher Poison. I have issued several little folders that I want you to read because I know it will pay you well.

#### What Gophers Cost

After many years of careful experimenting and testing, I have found, and proved to thousands, that every single gopher costs at least 10c to keep. And that there are from 500 to 1,000 gophers in a 40 acre infested field—and that every pair of gophers raised from 25 to 30 more each season.

#### Mickelson's

#### Kill-Em-Quick

is the simplest, surest, quickest and most economical Gopher Poison. Simply soak the grain over night—drain water off and mix with Kill-Em-Quick which adheres to the grain—so it comes into immediate contact with the stomach tissues of gophers, causing death instantly. Its peculiar odor attracts gophers; they can't resist it—and they eat it in preference to the tender shoots or the seed, and the poison is so strong that the merest atom kills a gopher. A \$1.25



ANTON MICKELSON, President

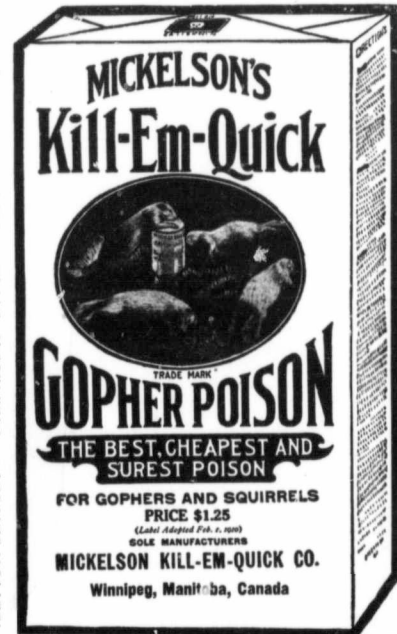
TRADE MARK

Send Me the Coupon Now

## Mickelson Kill-Em-Quick Company

Dept. C.

Winnipeg, Manitoba, Canada



MICKELSON'S Kill-Em-Quick



TRADE MARK  
**GOPHER POISON**  
THE BEST, CHEAPEST AND SUREST POISON

FOR GOPHERS AND SQUIRRELS

PRICE \$1.25

(Label Adopted Feb. 2, 1907)

SOLE MANUFACTURERS

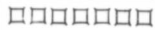
MICKELSON KILL-EM-QUICK CO.

Winnipeg, Manitoba, Canada

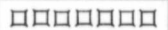
Anton Mickelson, President,  
Mickelson Kill-Em-Quick Company, Winnipeg, Manitoba, Canada  
Washington Ave., No.,

Dear Sir:—Please send me the folders you speak of in your advertisement. I am interested in Mickelson's Kill-Em-Quick Gopher Poison and the other Mickelson products.

Name.....  
Address.....  
State..... R. P. D.....



# Learning to Farm Right



Considerable interest is being taken in agricultural circles in a new institution which has just been established in Winnipeg, which aims to place within the reach of every farmer in Western Canada a course of lessons in scientific agriculture, especially prepared for those who are unable to avail themselves of the opportunity to attend an agricultural college.

It cannot be said that the idea of imparting information and



PROF. THOS. SHAW  
Who Deals with Dry-Farming Problems

training by mail is new by any means. In every walk in life young men and women, and for that matter old ones too, are met, who owe the enjoyment of lucrative posts wholly to the training they have received from some correspondence school.

This is unquestionably the age of correspondence schools. Originated within the last two decades, the plan of teaching by mail has developed to such an extent that to-day practically every course of instruction which is given in the class room is available for the student of a correspondence school, and hundreds of thousands of engineers, architects, mechanics, book-keepers, stenographers, etc., who have been unable to attend the university or business college owe their position and earning ability to the knowledge secured through the correspondence school.

And now to the long practical list of subjects taught by correspondence there is added that of scientific farming. It seems strange that it was not thought of before. The farmer is in a better position to profit by and through a correspondence course than anybody else. The farmer is the least likely of any one to afford the time to get away from his work and attend agricultural colleges, but he does have time to study and learn, and the correspondence course when it comes to the farmer comes to one who can make the greatest use of it.

There is no question about this new institution supplying a great need for it is a well known fact that less than two per cent. of the farmers of Western Canada

are able to avail themselves of the instruction of an agricultural college. In most cases it is very difficult for a farmer to absent himself from home for any length of time required to take this study. Happily in Western Canada the question of cost rarely enters in. It is a question of convenience. To leave the farm means in many cases the hiring of doubtful help, often involving a probable lack of attention to stock and interests, things very naturally the farmer hesitates to jeopardize. Thus the great advantage of securing a training of this kind by mail is at once obvious in so far as it does not require the student's absence from his work. He can, so ably and compactly are the lessons prepared, study without any loss of time, and the results of the study put into practice at once.

This institution which is known as the Correspondence School of Scientific Farming of Western Canada, Limited, makes it very clear that it in no way competes the agricultural college, in fact, in the literature issued by the School young farmers are urged if at all possible to train at the colleges. The splendid staff of trained agriculturists maintained at the agricultural college make the instruction available there of incalculable value to the one who can afford the time and the money to attend. There are perhaps no institutions at the present time doing such valuable work, with influences spreading out so far, as our agricultural colleges, and they are worthy of the whole-hearted enthusiasm and support of every farmer in every constituency in our great prairie provinces. The new School of Correspondence is



MR. R. E. DRENNAN, B.S.A.  
Who Contributes the Live Stock Lessons

offering to the students of their course, who rank highest in each province, a free course of tuition, to supplement the correspondence course, in any agricultural college in Western Canada, with all expenses paid.

The directors of the School have lined up a staff of men, many of whom are known in the two countries and all of them well known throughout Western Canada, to

supply this unique correspondence course in scientific farming. At the head of the list stands Professor S. A. Bedford, for many years Superintendent of the Brandon Experimental Farm, and now head of the Field Husbandry Department at the Manitoba Agricultural College; Professor Thomas Shaw, late of the Ontario Agricultural College, now at St. Paul, Minn.; (Professor Shaw is putting his life into dry farming problems, having charge of all the stations sustained by the Great Northern Railway); Mr. R. E. Drennan one of the best known judges in important stock classes in Western Canada; Mr. James



PROF. S. A. BEDFORD  
Who Supervises the Course

Murray, until a few months ago, Superintendent of the Dominion Experimental Farm at Brandon, Man.; Mr. Norman Ross, chief of the tree planting division of the Indian Head Nursery Station; Mr. Arch. Mitchell, whom Dean Rutherford of the Saskatchewan Agricultural College recommended as the best man to deal with the subject of eradication of weeds; Professor H. L. Bolley, Dean of North Dakota Agricultural College; Professor W. H. Hay, of the Ontario Agricultural College, the leading authority in Canada on problems of drainage; Professor C. H. Lee, of the Manitoba Agricultural College; Mr. W. H. Fairfield, of the Dominion Experimental Farm at Lethbridge, and others.

These constitute the principal contributors to this work and it is not overstating the case to say that it would be difficult to find in any one college a staff of men enjoying such outstanding reputations in the agricultural world as the men who have combined and produced this course.

As an indication of the up-to-dateness of this course, it is observed that lessons dealing with dry farming problems are written by Professor Thomas Shaw and Mr. W. H. Fairfield, of Lethbridge. From January first to August thirty-first there was a rainfall of only two inches at Lethbridge whereas the average precipitation is seventeen inches. In the face of these abnormal conditions Mr. Fairfield obtained wonderful results by dry farming methods of cultivation, taking off a crop of 17 bushels per acre.

For a school of this character there appears to be plenty of scope in Western Canada. Our

yield per acre on the virgin soil is high, but as the Hon. W. R. Motherwell, Minister of Agriculture in the Province of Saskatchewan, said in addressing the Fifth Annual Dry Farming Congress at Spokane: "Where approved methods of tillage have been practised, the results have been most gratifying, the yield in many localities running from twenty-five to forty bushels of wheat to the acre, while the provincial average on acreage sown will not exceed approximately 15 bushels. Had the principles of scientific farming been observed throughout the whole province, it is believed that the total yield of wheat for this year, instead of being approximately seventy millions, would have bordered around the one hundred million mark."

In North Dakota and some other States of the Union unfortunately the yields are much lower, and unless Western Canada farmers sit up and take notice of their methods, they too will, in a short time be securing similarly low yields.

Professor J. W. Robertson, the head of the Royal Commission on Technical and Industrial Training, and one of the prominent members of the Royal Commission on the Conservation of Natural Resources, in a recent address before a Canadian Club said: "It took the great Lord, I think, 50,000 years to make the top foot of soil rich enough to grow good crops of wheat with all the economies and with all the tremendous possibilities of the universe at His back and service, to manipulate and grind up the rocks, if you will, His mills, and make the soil, to have creeping things grow bigger; and bigger and debouch it until the little things grow bigger and bigger things grow and have their bodies buried until the top soil be-



MR. E. B. REYNOLDS  
Secretary, who has Charge of the Business Arrangements

comes black and rich enough to carry crops and make possible human habitation at its best. Some son of Canada comes along and in less than fifty brief years denudes all that the Great Giver prepared in 50,000 years for the race, by his wasteful farming and by letting weeds grow all over his place."

The Hon. Sydney Fisher, Min-

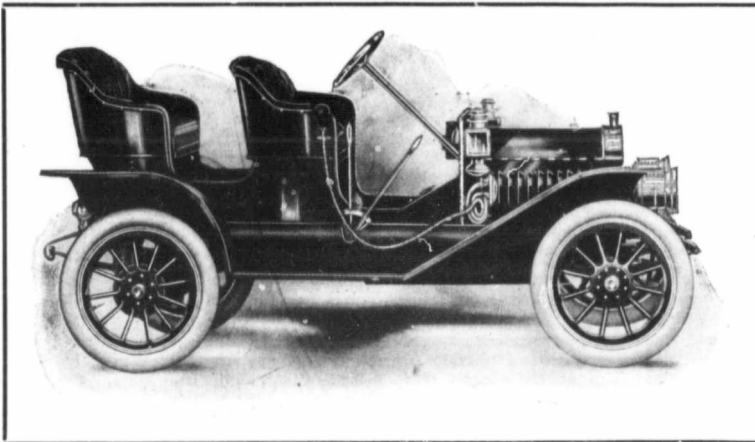
Continued on page 62B

# You Need This Magazine

For it contains authentic information on both Gasoline and Steam Tractioning that is worth many Dollars to you

**This Automobile Free**

\$1.00 pays for a whole year's subscription, includes a premium and three estimates on our Wheat Guessing Contest.



**This Automobile Free**

\$1.00 pays for a whole year's subscription, includes a premium and three estimates on our Wheat Guessing Contest.

### PREMIUMS

Your choice of one of the following premiums, along with twelve months' subscription for The Canadian Thresherman and Farmer and three estimates on the Wheat Guessing Contest—for \$1.00.



For \$1.00 we will send you The Canadian Thresherman and Farmer for twelve months, allow you three estimates on our wheat guessing contest, and send you postpaid this "Self Pulling Cork Screw," for mending harness, shoes, horse collars, etc.



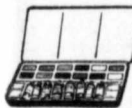
For \$1.00 we will send you The Canadian Thresherman and Farmer for twelve months, allow you three estimates on our wheat guessing contest, and send you postpaid this "Self Pulling Cork Screw."



For \$1.00 we will send you the Canadian Thresherman and Farmer for twelve months/allow you three estimates on our wheat guessing contest and send you postpaid this shaving brush.

For \$1.00 we will send you The Canadian Thresherman and Farmer for twelve months, allow you three estimates on our wheat guessing contest, and send you postpaid this straight stem briar pipe.

For \$1.00 we will send you The Canadian Thresherman and Farmer for twelve months, allow you three estimates on our wheat guessing contest, and send you postpaid this Children's Pain-Box.



## Get it Now OUR SPECIAL OFFER

Twelve months' subscription for The Canadian Thresherman and Farmer, three estimates on our Wheat Guessing Contest and a premium. All for \$1.00

Pin a dollar bill to this coupon, and if you are not more than satisfied back goes your dollar

ONE DOLLAR will bring you twelve numbers of THE CANADIAN THRESHERMAN AND FARMER, a premium and three estimates on our Wheat Guessing Contest. Or better still, send \$2.00 for two years' subscription. Remember every additional year subscribed for gives you more estimates in our Wheat Guessing Contest and increases your chances of winning the Automobile.

E. H. HEATH CO. LIMITED, Winnipeg, Canada.

Dear Sirs: Enclosed please find \$..... for..... years subscription for THE CANADIAN THRESHERMAN AND FARMER and..... to be sent to address below. Premium

My estimates on the number of kernels in 12 lbs. No. 2 Northern Wheat are:

.....  
 Name.....  
 Address.....

Our Wheat Guessing Contest this year is on the number of kernels in twelve pounds of No. 2 Northern Wheat. To the person first guessing nearest to the number of kernels, we will give this McLaughlin Buick Automobile, valued at \$1200.00. Each subscription includes three estimates; however, by subscribing for two or more years, or sending in additional subscriptions, you can secure extra estimates as shown in the table below.

### THE AUTOMOBILE

will be delivered to the winner F. O. B. Winnipeg, all complete with oil tail lamp, oil side lamp, two gas head lights, generating, horn, repair outfit, jack, and pump. This is the 1911 Model "9" Four Passenger "Tourabout" McLaughlin-Buick Automobile with detachable rear seat.

THE CONTEST started November 1st, 1910, and closes June 30th, 1911. The contest is open to everyone in Canada except residents of Winnipeg. To secure estimates, all you have to do is to send in either new or renewal subscriptions for The Canadian Thresherman and Farmer. This is the third year we have put on a wheat guessing contest, and the fair and square manner in which these have been conducted in the past is sufficient guarantee that you will have the same chance as anyone else when putting in your estimates this year. In fact we guarantee to forfeit \$2,000.00 to any charitable institution if anyone can prove that our Contest is not conducted in a fair and square manner.

THE WHEAT is a fair clean sample of No. 2 Northern and was procured from the Dominion Grain Inspector's Office, Winnipeg. The wheat and bottle were taken direct from the Grain Inspector's Office to the Dominion Weights & Measures Office, and exactly twelve pounds of the wheat was weighed out and poured into the bottle. The bottle was then immediately sealed up by the Asst. Inspector of Weights & Measures in the presence of two witnesses. The bottle was then photographed and deposited with the National Trust Co. to remain in their vaults until the contest closes June 30th, 1911, when it will be taken out and counted by a board of three judges, none of whom are in any way connected with The Canadian Thresherman and Farmer.

THE SUBSCRIPTION PRICE of The Canadian Thresherman and Farmer is \$1.00 a year in Canada and Great Britain, and \$1.50 a year in the United States and Foreign Countries. All subscriptions are positively discontinued when they expire unless renewed. Extra subscription blanks, sample copies, etc. to assist you in forming a club, sent free on request.

### LOOK

\$ 1 pays	1 year's sub.	1 prem.	and 3 estimates
\$ 2	2	2	7
\$ 3	3	3	11
\$ 4	4	4	15
\$ 5	5	5	19
\$ 6	6	6	23
\$ 7	7	7	27
\$ 8	8	8	31
\$ 9	9	9	35
\$ 10	10	10	40



# Home Environment and Cultivation of the Soil

Delivered before the Farmers' Institute in Headingly Agricultural Hall, March 10th, 1911, by G. L. Dodds.



The fascination of establishing a home in the spring time or indeed in any other season of the year is beyond compare.

When the Great Architect of the universe placed our first parents in their home we are told that the environment was all that could be desired, even to an orchard, and a garden called Eden, and a delightful place it must have been.

There are a few who are fortunate enough to have a fine home given them but the majority of people who cast in their lot with us in this Western Canada of ours have to design their home themselves, and what a variety of designs we have.

Regarding the building of the house, we will have but little to say, because the size depends largely on the amount of means a man possesses. We would suggest that the house where the man and his best friend (his wife) are to spend their happy days should have some artistic design, such as are found in the Ladies' Home Journal and other publications, that show designs of cottages.

But the plot of ground on three sides of the house is part of the subject of this address and we do not mean to fix this plot of ground up so nice that the family will not be permitted to walk upon the grass, or not go into the garden, or upon the lawn only on special occasions, as some people use their parlor.

One condition must be complied with if anything approaching the ideals I wish to attain, viz., a well built woven wire fence that will be proof against cow, dog, hen and hog; quadrupeds and flower-beds are not in the same class. This is the reason we

recommend three sides of the main building, the home and grounds to be fenced, leaving only the kitchen accessible to dogs unless they go through the parlor (not even pet dogs).

Golden oriole and other singing birds are all the feathered tribe we can permit in a garden decked with flowers, vegetables and shrubs.

The lawn is the first on the list after the fence with the emphasis on "fence." Of course, there must be a front gate and a gate wide enough for a team to enter for the purpose of running the lawn mower and cultivating, mulching, bringing in vegetables, etc., but with the best of fastenings.

There are no shrubs or vines or other decorations that will take the place of a spacious lawn. Time will not permit me to explain the system of plotting to grass, will merely suggest that you make it large enough for one or more lawn tennis courts. Make the ground rich with muck and work in well and deep with level surface before seeding or sodding.

I prefer seeding unless water is plentiful. Run the mowing machine over the plot often and let the cutting lie on the ground.

For the beautifying of the plot between the lawn and vegetable plot, which will be found to be a good fence against a big store bill, if a little attention is given to the vegetable plot. Plant sweet peas, marsh-mallow, marigold, petunia, geranium, pansy, verbena, lobelia, carnation, pinks, asters, phlox, daisy, sweet william, ageratum, sun-flower, poppy, etc. Flowers all do well on the soil along the Assiniboine river.

Do not be afraid to cut the flowers after they open and give them to your friends. Keep fresh

flowers on the table, like John Bunyan said "There was a man whose neighbors thought him mad but the more he gave away, the more he had," and this theory holds good with most flowers. Do not let them go to seed.

And Mrs. Hample, Mr. Buchanan and your humble servant reap a harvest of joy, that the ordinary mortal knows not of, in giving away the sun-kissed flowers in their youth, to our friends and visitors. So many refined people are delighted to receive a bouquet of flowers that I am prepared to recommend that the plots set apart for flowers be quite a large one.

Trees and shrubs should be in evidence, shrubs on the front of the lawn and along the walk and may consist of Tartarian Honeysuckle, Canada Honeysuckle, a few Charles apple trees, transcendent or other hardy fruit trees, then on the outer portion of the ground set out the white elm, white spruce, ash, oak and linden, or any other tree of your choice; the same will apply to the shrubs.

I venture to say that any young man who has a home such as we refer to, with a few virginia creepers, or our native wild grape vine, creeping along the window casing and about the cornice of his cottage; it will be his fault if a honeymoon trip is not easily arranged.

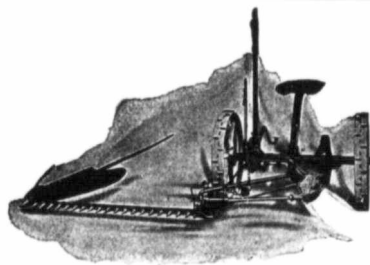
## Cultivation of the Soil.

I promised your committee that I would say a few words on cultivation of the soil and do not propose to take you away from home because the Assiniboine, as well as the Red River Valley, possesses all the elements for the successful production of the finest

grain, grass, corn, vegetables, small fruits, flowers, beef, pork, poultry, milk and honey second to no other district in the West.

Now, Mr. President, every farmer in the land does not have even a percentage of these good things on his table during the week, and not a great plenty on Sunday. What is the reason? Simply because the farmer does not ask the question of the soil in the proper way. When we ask the land to give us wheat, oats, barley, potatoes or corn, we must consider the condition upon which we have the right to ask for such food. If we go to the store to buy pork or eggs we have to pay a consideration in money; if we go to the field we have to pay the consideration in intelligent work. On our river lots we must in the first place take into consideration that the land has been tramped and packed down for a thousand years by the hundreds of thousands of buffaloes and for the last fifty years by the dairy cattle of the plain, until the land with all its fertility is beaten as hard as the Portage avenue highway, and before such heavy hard soil can be prepared for even an average crop, power must be applied at the proper time and place; the breaking must be done early and light, turned over as thinly as possible without making too many skips, better to have a few than to break too heavy—early back-setting is just as necessary as early breaking. This time bring up two or three inches of the soil below the first breaking and work it well with disc, cultivator and harrow during the balance of the season. Land is like the heifer we heard about last meeting here, "we want the land to get into the

Continued on page 97

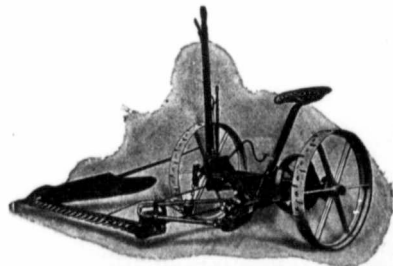


The Noxon No. 3 Mower

# The Noxon Mower

- Vertical Lift
- Deflected Cut
- Automatic Gear Shifter
- Wood or Steel Pitman
- Roller and Bronze Bearings

**The Most Compact,  
Durable and Service-  
able Machine Made**



The Noxon No. 3 Mower

WESTERN AGENTS

**The Tudhope Anderson Co.**

LIMITED

Winnipeg Regina Saskatoon Calgary

# Both are Satisfied with the Rumely Outfit



### Said the Grain Owner:

*"Mr. \_\_\_\_\_ has this day finished my threshing with a Rumely Ideal Separator purchased this year. He has done the best job of threshing we ever had done on the place."*

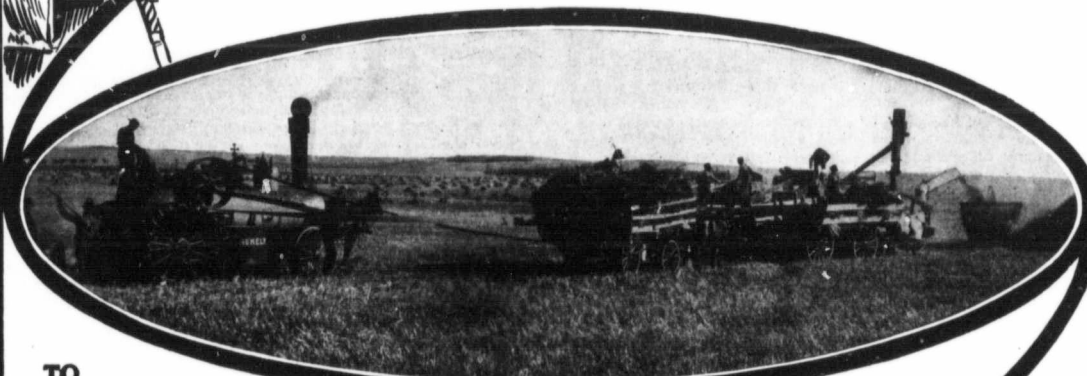
Mr. \_\_\_\_\_  
Parker, S. Dak.

A successful threshing outfit has only two parties to satisfy, the grain owner and the operator.

### TO SATISFY THE GRAIN OWNER—

The work of a separator must be steady, fast, thorough and dependable. The work of the Rumely separator is that exactly, because of the simplicity in construction, strength of working parts, great capacity, and the principles of the design that are followed out in the construction.

The moment a kernel is loosened from a head, it is at once separated from, and not again permitted to mingle with the straw. After passing over the chain rake, **19 out of every 20** kernels have fallen into the grain pan. Once in the grain pan of the Rumely Ideal Separator, it only remains for the grain to be thoroughly cleaned—the lipped chaffer, the adjustable sieve, the adjustable wind deflector, the smooth even throw of the entire shoe—all insure the grain reaching the sack in a clean, **ready-for-the-market** condition.



### TO SATISFY THE THRESHERMAN—

The work of a Separator must not only be steady, fast, thorough and dependable, but the Separator must be built strong and rigid, of honest materials, to insure freedom from costly waits and expensive repair bills. It must be designed to economize in power and to reduce delays to a minimum—it is the little delays that cut the threshermen's profits.

### RUMELY IDEAL SEPARATORS

save time, power and do away with delays because the feeder is automatic and positive in its action, cylinders large and of excellent suction, side plates rigid, bearings extra long, reducing the possibility of overheating.

All bearings that need daily attention are on the outside—daily oiling is an easy matter. All parts requiring adjustment so arranged as to permit of adjusting while the machine is in operation.

The satisfied operators of Rumely Separators number into the thousands, their customers into the hundreds of thousands. Are you one of them? If not write for

**1911 CATALOGUE**

It means success for you.

### Said the Thresherman:

*"I am more than pleased with the Rumely Ideal Separator purchased from you, as it is all you ever claimed for it. The Separator will clean and thresh wetter grain than any other I have ever seen, and I have threshed for 10 years."*

Mr. \_\_\_\_\_  
Parker, S. Dak.



**M. RUMELY COMPANY**  
1942 Rose Street Regina, Saskatchewan

NAMES OF BOTH THESE PARTIES UPON APPLICATION

### The Brandon Winter Fair

Continued from page 65

usefulness existed. Then what is the matter with the sheep interests? We think the trouble lies with the individual largely. General slovenliness and the craze to mine out the fertility of the soil, sell out and go farther west and do the same again is too common an ambition. But what is the matter with our fair boards? The reason for their being and the purpose of granting them public and private money is to encourage good farming habits and the improvement of live stock. The horse-breeding end is surely on its feet and the pure-bred cattle interests have enough wealthy and influential advocates to keep their end up; yet the Winter Fair prize list contained forty odd sections for horses; thirty odd sections for cattle and for sheep, how many? A paltry eight. No breed classes at all. Freely admitting the wisdom of boards making their programmes as attractive as possible, also admitting the bullock and the horse to be the popular animals with fair frequenters, still it does seem that the educational features which every show should embody, are being grossly slighted, the teachings of our agricultural colleges being ignored and the maxims of the eminent and successful among farmers made light of by the too glaring neglect of the sheep by those whose obligation of office is not a light one. Why should not prizes be given for the wethers and ewes of the different breeds of sheep and their grades? Why not give prizes for rams of all breeds possible of representation? A large proportion of Manitoba farmers do not know a single breed of sheep when they see a specimen. The fair does most good which educates where teaching is most needed and which helps to success that interest which is a direct necessity. Let the fair boards do the best they can till our mutton replaces that of Australia on the hooks of Manitoba butcher shops.

Some excellent specimens were shown at Brandon and the Sheep and Swine breeders met the federal government sheep commission. As soon as sheep are raised in reasonable numbers the fight against weeds will be less unequal and the market for wool will add to the income of the farmer at a time when a little ready cash is acceptable. At present the quantity to be got here is so small and the quality so various that it does not pay buyers to give much attention to the output. Wool that sells now at 10 cents a pound would be worth 30 cents in eastern markets if procurable in quantities.

### Swine.

In the parlance of the race track a horse that runs away from his field, romps home an easy winner one day and wins nothing most of the time is called an "in and out." His unreliability makes him of small account. The term

applies well to the many farmers in Manitoba who raise hogs for a few years and then quit it. When prices are low they sell out and drop hog breeding because they say it does not pay. First thing they know prices are up, as at present, and they all go into it again, having to get their breeding stock from the steady breeders who is "Johnny on the spot" with a string of young and old sows.

At Brandon these "Johnnies" were in great evidence with good goods. In the economy of mixed farming the hog plays an important part and when the time comes for a display, and the stock of the present breeders is well distributed over the province, the different bacon breeds should recruit as fine specimens in this country as can be found anywhere. At present the supply is so uncertain that a steady business is still done in Chicago pork products of all kinds.

### Poultry.

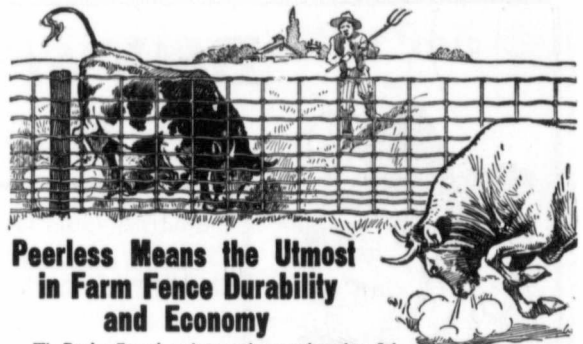
The Manitoba hens have their winter outing at Brandon now and the family millinery opening draws a large concourse of their best customers. The entries were numerous and noteworthy. Too much of a feather show it was to do much good as an educator for the poultry raiser who wants to market good meat and fresh eggs. When these shows give prizes for the birds that will produce the best carcasses, put on the most meat where it is of best quality and dress out with the least offal; when they have fowls judged alive, then killed, plucked and dressed before an audience hungry for information, then the poultry show will be rendering the service to the farmers which is being paid for now by public grants and private subscriptions and donations.

### Seed Grain.

The growing interest in this department is all that could be expected and the improvement in the specimens from year to year show the earnestness of those engaged in the improvement of our seed grain. The wide spread of the work is demonstrated by the number of prize winners and the remoteness of their homes one from another. The judging classes of the government departments in all three provinces have worked wonders in this line and the good seed they have been sowing in the minds of those seeking knowledge is now producing an abundant harvest.

### Household Science.

From nothing, a few years ago, the efficiency of the work done proves the great need there has existed for the efforts put forth and the worthiness of those into whose hands the leadership of the enterprise has been committed. It is to somebody's everlasting credit that the lessons taught have become not only class-room lectures but really social topics. Tea and tomato catsup, macca-



## Peerless Means the Utmost in Farm Fence Durability and Economy

The Peerless Fence is made to stand wear and weather. It is made of carefully selected, fully galvanized, spring steel wire. Stays springy and strong, always taut, never sags. Put a Peerless Fence around your farm and you'll get real service.

### Read what users have to say about the Peerless!—

Concerning the quality and galvanizing of your fence, I think it perfect. I have compared it with other makes and every person where I put up your fence is well pleased with it and will not have any other fence in the place. I was at a farmer's not long ago and he stated that he was going to have three hundred rods of it in the Spring. I put up ninety rods for his neighbor four years ago and there is no sign of rust or slackness yet. The wire in your fence is tempered so as to suit the cold and warm weather and I have never had to go back to tighten one rod of fence that I have put up yet. I could mention different makes of fence, from firms well known, that their fences have rusted badly inside of three years. The Peerless is the farmer's favorite around here. —P. FUGAL, Cedar Valley.

Whenever I have seen Peerless Fencing that was erected five years ago there was no sign of rust and it seems to be as good as the day I put it up and I know of other fences that have been only two or three years that are very badly rusted. This I am prepared to prove to anyone who wishes to see the fence for themselves, as the fences are here for inspection. I am well pleased with the material that you have used in your fences. —O. M. PASTORIUS, Harrow.

I have been comparing some of the Peerless Fencing that I put up the first year I sold fence and every wire is just as bright as ever, while some other makes put up about the same time have from one to three rust horizontal wires running through it. I have always found the wire in Peerless Fencing first class. —EZZA FOX, Kingsville.

In regard to the durability of the Peerless Fence for the length of time it is up, I find on examination by myself and the parties I have put it up for, it surpasses any other wire fence for not rusting. Also the people I have dealt with give the Peerless Fence the preference before any other and if they were buying again would buy no other. —W. H. Van ALSTYNE, Atkinson.

Peerless Fencing is the best galvanized fence and when put up properly is the best fence on the market today. I have some Peerless Fence, put up some four or five years ago, which is as bright as ever and tight, standing O. K. —HOWARD BRUSH, Pitts Ferry.

Farmers speak well of your fence and I know of no fence that looks better for the years that it has been erected than the Peerless. I have never heard a farmer say that the Peerless showed any sign of rust yet. —GEO. DAVIS, Clinton.

The best fence for you to put around your farm is the Peerless—it will last longest, give you the most satisfaction and save you money. Write for particulars. Agents wanted in all unoccupied territory.

### THE BANWELL HOXIE WIRE FENCE CO., Ltd.

Makers of Farm, Poultry and Ornamental Fence and Gates of exceptional quality  
Dept. V, Winnipeg, Man., Hamilton, Ont.

## We Keep a Lot of Men Busy

representing those who are fighting the Gould Balance Valve, answering inquiries sent to them asking if our valve is a "beat." They are forced to admit in their replies

**THAT IT IS, AND THAT IT WILL DO WHAT WE SAY IT WILL DO;** but they say that it will wear sufficiently in a brief period of time to become leaky; that it is all right when first put in the engine, but the wear upon the valve will cause it to leak later in life. They have told this fairy tale so often that they have begun to believe it themselves. The facts are

**THAT A GOULD BALANCE VALVE WILL NOT WEAR DURING THE LIFE OF THE ENGINE A SUFFICIENT AMOUNT TO CAUSE ANY LEAKAGE BETWEEN THE VALVE AND VALVE COVER.**

"The only wear that possibly could occur would be on the rings, and LESS THAN ONE-HALF OF ONE PER CENT OF ALL THE VALVES SOLD 'N 1907, 1908 AND 1909 HAVE EVEN HAD THE RINGS REPLACED, and we have thousands of letters from these customers telling us that the valves fulfilled the warranty in every respect as well during 1910 as they did when they were first placed in the engines, showing no leakage whatsoever.

**THERE CAN BE NO WEAR ON THE VALVE OR VALVE COVER, AND BY BEING RELIEVED OF THE ENORMOUS PRESSURE TO WHICH A "D" SLIDE VALVE IS SUBJECTED THERE IS NOT EVEN A FRACTIONAL PART OF THE WEAR ON IT THAT IS ON A "D" SLIDE VALVE.**

"We will furnish, free of charge, all of the rings necessary to replace any rings that show even evidences of wear. The Gould Balance Valve if properly fitted on a smooth, even valve seat, will never leak during the life of the engine.

Send for our catalog, which tells you all about it. Agents wanted.

### GENERAL AGENCIES

JOHN M. BRANT CO., Bushnell, Ill.  
KENNY MACHINERY COMPANY, Indianapolis, Ind.  
MOTT IMPLEMENT CO., Columbus, Ohio.  
CRAMPTON & SON, Covington, Ohio.  
PEDELY THRESHER CO., Mason City, Iowa.  
SACHE-BURN & CO., Cherokee, Iowa.  
ELLSWORTH & BULLOCK, Norfolk, Neb.  
HAUG BROS. & NELLERMOR CO., Winnipeg, Manitoba.  
BASKERVILLE & DAHL, Watertown, South Dakota.  
GEO. WHITE & SONS COMPANY, Ltd., London, Ont., Manufacturers in Canada.

**Gould Balance Valve Company**  
Kellogg, Iowa, U.S.A.

# Don't Cuss when a Belt Breaks IT'S YOUR OWN FAULT

:: BUY ::

## Red Cross Thresher Belts AND KEEP THE TEN COMMANDMENTS

PERFECTION



DURABILITY

**Elevator Belting** ONE OF OUR SPECIALTIES

# Goodyear Tire and Rubber Co. Limited

150 PRINCESS ST. - WINNIPEG, MAN.

New Address will be 41 PRINCESS

rooms and macaroni, picture hats and pea soup, salted almonds and salting pork, are now interestingly and intelligently discussed at those tea and talk gatherings, so dear to lovely woman, yet so lately dubbed, and not without reason, "gabble, gobble and git parties." The efforts of many are now enlisted, but to the tact and talent of a very few leading personalities is due the prominent place taken in this country by household science subjects. It would not take long to name most of the very few of course, but as names have not previously been mentioned in this article it were invidious to make exception now.

### Hitches for Traction Cultivation

Continued from page 14

of the foot-board supports, so as to clear the levers. Harrows or packers can be put on. If packers use draw from front of drill. If harrows use foot board, only be sure to have harrows not closer than 18 in. from the centre drill wheel. With this hitch it is not necessary to cut any of the poles as they do not interfere in any way. The length of it depends on the number of articles you intend to pull.

To anyone not understanding the explanation of the hitch I will be pleased to explain any points not clear to them. It is exceedingly simple and perfectly satisfactory.

All who have seen it have asked me to build one for them.

Yours sincerely,  
John L. Henderson,  
Adanac, Sask.

### Hitch for Cultivators.

In your recent letter you ask for ideas and experience with hitches for drills and harrows. We have not had much experience with seeding work, but I will try and describe the one we had for cultivating as perhaps some of your readers could make use of it.

Seeders and cultivators need much the same hitch, that is if drawn by horses, and with as little stringing out as possible.

Our hitch was as follows: We put our centre cultivator on the lead, with two iron braces bolted to the back of the frame and brought to meet out about two feet in front of the cultivator. A plank 2 x 8 inches, twelve feet long was clamped to these cross-ways, just far enough in front to clear the wheels. This plank was fastened to the frame by means of a brace at each end of the frame so that this cultivator had the right tilt when the first two iron braces were fastened to the draw-bar of the engine. This strengthened the frame of the centre cultivator and also strengthened the plank. We then arranged a standard on each end of the plank to hold the tongues of the outside cultivators at right tilt and fastened a clevis and chain from the end of the plank back to the draw bolts of the outside cultivators.

The plan we found to work very successfully. We tried two or three hitches previous to this, but none worked nearly so satisfactory. I will give you a rough sketch and probably that will help to explain it.

The pole of the centre cultivator was taken out and a short one put in its place. To attach harrows in front of these put a long pole in centre cultivator, bracing again from the outer ends of the plank to the end of the pole and put harrows underneath.

Yours truly,  
W. A. Cohoe,  
Giroux, Man.

### Brandon Company Spreads Out

Word comes from Brandon that Mr. G. F. Williamson, Manager of the Manitoba W. & P. Co., has just returned from Calgary where he completed arrangements for opening a branch house for his Company at that point, where all Alberta goods will be shipped from the Company's business for their windmill and gas-engine lines has grown so fast that they are forced to open this branch in order to be closer to their western customers. A full stock of Manitoba goods will be carried there which will no doubt prove a great convenience to not only their local agents but their many past and prospective customers among the farming and ranching community.

Mr. C. W. Northcott, who has for several years been sales man-

ager at the Company's head office at Brandon, has been promoted to the management of the Calgary branch, and with his intimate knowledge of the requirements of the trade together with his long experience in this line, we venture the statement that he will make good from the drop of the hat.

Mr. A. J. Britton, for many years in the Company's service and one of the best known rustlers on the road, will be the Company's travelling representative for southern Alberta. Mr. Fowler, until recently with the Ontario Wind Engine & Pump Co., will represent them in Central Alberta with headquarters at Wetaskiwin, while a third traveller will look after Northern Alberta with headquarters at Edmonton. Mr. Williamson has also arranged to carry a transfer stock at Lethbridge.

The Manitoba people have a very complete line of their popular Manitoba vertical and horizontal gas engines, windmills, feedmills, wood saws, wood and iron pumps, etc., and will this year handle one of the best known and longest manufactured well drills on the market. It would be well for both dealer and customer to remember the "Manitoba line" has been manufactured in the West now over nine years and is considered by the trade generally to be among the top-notchers, having the advantage of being designed to suit a special market, viz: the Northwest.



# Farmer Up-to-Date—Farmer Good Intention

Their Farms adjoin. Both of the Farmers live in your neighborhood. You know them and they know you. Are you one of them? If so, we sincerely hope you are the right one.

FARMER UP-TO-DATE	APRIL 1911	FARMER GOOD INTENTIONS
Father:—April let and Saturday at that. Isn't it a beautiful day? Spring is surely here. Guess I'll go to town today and bring home that new plow I ordered some time ago. You boys had better finish cleaning that seed wheat as we will need it any day now.	<b>1 Sat.</b>	Father:—April Fool and Saturday at that. No use in beginning anything today. I am going to town to see how this reciprocity is coming. Don't expect I'll get home until it is quite late. You boys had better get all some manure down where the cattle drink at the creek. A beifer slipped and broke her leg there last week.
Mother:—Father, how nice it is that you got the buggy all fixed up last winter. We can all go to church today and enjoy it. Lucky we got our new spring bonnets so early. You never can tell though how early spring is really going to be.	<b>2 Sun.</b>	Mother:—Father, Charles, George, come get up. Breakfast all ready and it is after eight o'clock. The stock is ready to stampede for something to eat. We can't get ready for church now, but what's the difference I have nothing fit to wear.
Father:—John, you'd better get out the disc sharpener as we must begin to disc just as soon as the frost is out. We want to preserve all the moisture possible from this winter's big snow.	<b>3 Mon.</b>	Father:—Boys, you'd better look over the seed grain and see if we are going to have enough. We sold pretty heavily out of it and we may run a bit. It is pretty dry, but we'll open up the drill a little wider so as to make up for it.
Mother:—Father, may the girls and I have a team today to go to town? The hens are laying so good lately and eggs are a good price, so I think we will take them to get a due bill. They are bound to come down later.	<b>4 Tues.</b>	Mother:—Just one egg apiece for you men for breakfast. Those pesky hens don't lay at all. But then how can they when they must roost all winter on the binder and plow?
Mother:—When I was in town yesterday I asked the Raymonds to come out tonight and they are going to bring some of their friends. I thought a little pleasant evening would be a good thing before the hard spring work begins.	<b>5 Wed.</b>	Mother:—Charles, what makes you stay out so late nights? You never are ready to get up in the morning. Charles: If a fellow can't have any fun at home he must go where he can get it. We never have anything but work around this place.
Henry:—Say, John, mother is certainly a trump to think of having a party at this season of the year. I feel as if I could fairly eat up the work when we get into the fields.	<b>6 Thur.</b>	George:—Father, do you suppose I could count upon attending Agricultural College this winter? Father: No, we can't afford it. We never had such things when I was a boy and I have got along all right. Besides they only put silly ideas into your head up there.
Father:—If this weather keeps on we can disc that north eighty in a few days. Boys, you had better hitch up the colts and drive them a bit today. We want them in good shape when work begins.	<b>7 Fri.</b>	Father:—I am going to town today to see how busy the blacksmith is and see if he can fix up the plows and discs. Next year I mean to have a shop of our own, then we can do our own work.
Father:—I am not going to town today. I think we had better distribute those fence posts around the new hay pasture. Jones will bring the mail. I want to see how our farmers are progressing on that reciprocity deal.	<b>8 Sat.</b>	Father:—I did not get to town yesterday. I stopped at that auction sale yesterday and did not get away until it was too late. I bought a sow there yesterday and you boys had better drive over today and get her. We must at least raise our own pork this year.
Mother:—Four eggs apiece for breakfast this morning. My, how those hens do lay. Mrs. Good Intention says she doesn't get hardly any. I can't understand it with all this nice weather.	<b>9 Sun.</b>	Father:—This spring weather surely does make me tired. I am going to stay home today as we must get ready for the fields tomorrow. Our harness is in bad shape and must be fixed up before we can begin work.
Father:—(Coming in to breakfast) Boys, what do you think? That old sow has a litter of eight nice pigs. It is a good thing we fixed her up so comfortable last week as the wind is a bit raw and it does not take much to chill those little fellows.	<b>10 Mon.</b>	George:—Well there is another calf dead in the barn this morning. That makes the second one. It's no use trying to raise calves and have such an old leaky barn as that. It makes me disgusted every time I go into it. I am going to quit this business and get a job in town in some store.
Mother:—Father, can't the boys carry out those ashes from the furnace room today? I want to get at that cellar and get it cleaned. Dirty cellars, you know, make many a doctor's bill.	<b>11 Tues.</b>	Father:—Guess we will make a start in the field soon. I see that Up-to-Date has been looking things over. There is no use in being too early. The grain is very likely to get frosted.
Father:—John, you had better start discing today on the north eighty. I was over there yesterday and it seemed in good shape. Take the horses easy on the start, but keep them going.	<b>12 Wed.</b>	Father:—Hang it all any way. That new disc harrow we bought last year was left out in the field and somebody ran over the tongue and broke it. Just my luck, when I was all ready to begin work. I shall have to go to town and get a new tongue.
John:—I never saw a piece of ground in better shape than that I disc'd yesterday. You remember how dry it was last fall when it was plowed. Those traction plows are certainly the real thing in a dry season.	<b>13 Thur.</b>	Charles:—Father, why can't we have a traction engine this summer and get our work done like other people? I know I can run it and then we won't have to bother with so many horses during the winter. Father: Some of your new notions again. You want too much.
Father:—Jones asked me yesterday to go with him to Searth's auction sale, but I don't believe I will. Auction sales are not in my line. The Grain Growers have a meeting tonight that I don't want to miss. Such meetings are a good place to talk things over and you don't waste any time. Hello! Hot Cross Buns. I forgot it was Good Friday.	<b>14 Fri.</b>	Father:—I find we have no collars that will fit those colts. We might fill up with those big Scotch collars with sweat pads. I can't afford to buy a new set just now. We will try them anyway.
Father:—Henry, you'd better begin plowing on the south forty today. Use the colts along with the old black team, but give the colts a little advantage for a day or so. Hold them in but keep them moving.	<b>15 Sat.</b>	Mother:—There is a meeting of the local branch of the Women's Farmers' Institutes in town this afternoon and I would like to go. Father: Can't spare any of the teams today as we must get all of the machinery rounded up for a good start on Monday.
Mother:—Easter Sunday. Everybody must go to church today. It is a good thing we got that auto as there is no excuse for staying home now on Sunday on account of tired horses. You can all have as many eggs as you want. The hens have provided a good supply.	<b>16 Sun.</b>	Mother:—I just can't wear my old dress any longer. Every woman at church today had on something new but me today. I don't see why I can't have some new clothes like Mrs. Up-to-Date. Just think of its being Easter and no new clothes to wear.
Father:—Everybody to the field this morning. Two more new calves in the barn and they are beauties I can tell you. That bull I bought last spring came high, but we are getting results I can tell you.	<b>17 Mon.</b>	Father:—Now boys for a start. We will not bother discing but we will sow right on the fall plowing. It will save a lot of time and, perhaps we can find time to disc and harrow afterward thoroughly.
Mother:—I was reading in the Canadian Thresherman and Farmer the other day about hatching chickens in an incubator. I am going to write for a catalog and see just what it all means. I don't want any more setting hens around than I can help.	<b>18 Tues.</b>	Charles:—Here is a letter from The Canadian Thresherman and Farmer asking for a subscription. I would like to take that paper. Father: You haven't any time to read during the summer and I haven't a dollar to waste just now.
Father:—The Traction Cultivation number of The Canadian Thresherman and Farmer has a very good article on hitches for drills, disc harrows, etc. I am going to make one and put our engine to work seeding.	<b>19 Wed.</b>	George:—Those colts are all in this morning. They don't seem to be able to stand the work. They haven't got any grain in them and they can't be expected to stand up with hay for a back bone.
Henry:—Father, I see by the Canadian Thresherman and Farmer that there is a correspondence course in scientific farming being offered by a concern at Winnipeg. I am going to write for it. As an Up-to-Date one can never know too much. It will also be good work for the rainy days.	<b>20 Thur.</b>	Mother:—Father, Charles is talking seriously about going to town to work in a store. Father: Just my luck. Give a boy a good home and plenty to eat and he'll soon want you to give him the farm to spend as pin money. I know he spends over a dollar a month just on nothing.
Father:—I am all ready with that new hitch for our traction engine and I am going to try it out today. Lucky for us we got our drills into shape last winter. The north eighty is now ready for seeding and if all goes well I will have it done in two days' time.	<b>21 Fri.</b>	Father:—The work does seem to drag this spring. The horses don't seem to be able to stand it. Another year I will not sell so much oats and will feed a little more. I believe it pays.
Mother:—Mrs. Good Intentions was over to see me yesterday and she said that Mr. Good Intentions was kicking dreadfully about their last month's grocery bill. Funny, but my hens more than take care of ours. In fact I have a big due bill over.	<b>22 Sat.</b>	Mother:—I called on Mrs. Up-to-Date yesterday to see if I could borrow some potatoes as we were all out and she tells me her hens far more than keep the house. I don't see how she does it. I can't.
Mother:—The minister is coming to dinner today so I will stay at home and you and the boys can go to church. Father: No you don't. What is good enough for us is good enough for any minister.	<b>23 Sun.</b>	Charles:—This is my last day on this old farm. I am going to work for Smith & clerk in his store. I am to begin tomorrow. I will at least have a few dollars that I can call my own.
Father:—I see the wheat is up nicely and such an even stand. Seeding with an engine and three drills is certainly a dandy proposition. It enables you to get all of your wheat in at practically the same time.	<b>24 Mon.</b>	Father:—It beats all how early a spring can be just when you expect it to be late. My wheat is only just sprouting and Up-to-Date's is covering the ground. However we may get a heavy frost yet.
Mother:—How many potatoes do you want for seed this year? We have quite a lot left over and they are a good price right now. I believe we can sell some. Father:—I want enough to plant at least three acres. It will at least give the boys and me something to do during the summer.	<b>25 Tues.</b>	Father:—I must go to town today and look for a hired man. We are getting behind with our work. I don't see why that fool boy couldn't stay at home.
Henry:—It is remarkable how those colts are standing the spring work. They have not had a sore shoulder and are getting fat. I can tell you that a little care goes a long way towards getting them in shape for spring work.	<b>26 Wed.</b>	George:—Well, father, we have got the sow left yet that you bought, but the pigs are all dead. They got away from her in the night and were all killed in that mud hole in the pen.
Father:—The season looks as if it might be dry. I believe we had better harrow pretty thoroughly so as to make a good mulch in order to conserve all possible moisture.	<b>27 Thur.</b>	Mother:—Father, you had better see about getting some potatoes both to eat and for seed. You will have to pay a big price for them as I see they are now over \$1.00 per bushel.
John:—Father, don't you think we can turn the cattle out to pasture? Father: No, keep them in a while longer. Let the grass get a good start and it will keep ahead of the stock the rest of the summer. Spoil it at the start and it will never amount to anything.	<b>28 Fri.</b>	Father:—The cows are getting rather thin on the grass just now, but they will pick up later. I couldn't afford to feed them any longer. They will fatten up before fall.
Father:—Mother I believe we will both go to town today. I want you to select that new set of parlor furniture you have been wanting for some time. The roads are good and the auto is just chugging for a spin.	<b>29 Sat.</b>	Mother:—I must have a new hat before tomorrow or I can't go to church. Father: We can't afford it just now. We already owe a bill of over \$100.00 at Brown's and the interest is due next week.
Mother:—Everybody to church today and the horses to the pasture. A good dinner when we get home and after that will enjoy some good reading. Father of course will want his Canadian Thresherman and Farmer. He always does.	<b>30 Sun.</b>	George:—The hired man tied the hay mare too long last night and I found her nearly dead this morning. I don't believe she will be fit for work again for a week or so.



# CANADA CEMENT COMPANY LIMITED

## Annual Report of the Board of Directors

### TO THE SHAREHOLDERS:

Your Directors beg to present herewith the annual statement of the affairs and financial position of the Canada Cement Company, Limited, as of the 31st December, 1910.

In presenting the Balance Sheet, we call attention to the Company's strong financial position as disclosed by the large amount of cash on hand, and other quick assets, and the comparatively small amount of current liabilities. After providing for interest on our Bonds and Dividends on our Preferred Stock for the year, we have been able to set up reserves for depreciation, extraordinary repairs and renewals, bad debts, etc., and carry forward a substantial balance to Surplus Account.

The consumption of cement during the past year was not as large as anticipated. Our business also suffered on account of the Railways not being able to meet our full requirements for cars during the heavy shipping season; consequently, we carry over from last year 781,116 barrels of cement.

Early in 1910 the price of our product was fixed at a lower price than cement had ever been sold for in Canada, excepting for a short period in 1909, but your Directors are pleased to state that the anticipated savings in manufacturing and distributing our products were such that they were able to still further reduce this price.

We trust, when you consider the above mentioned conditions, and also the fact that during 1910 our plants were only operated to 57.6 per cent. of their capacity, the profits shown will be satisfactory to the Shareholders.

During the current year, we look for a larger natural demand, which demand will be stimulated by continuing to manufacture a strictly high grade article, and by selling it at the lowest possible price. This anticipated increase will enable us to operate our plants to better advantage than in the past, but we do not expect that the demand will be sufficient to enable us to put into operation either of the two plants which have been idle since the organization of this Company. However, it is confidently expected that the increased demand, and increased output, will result in further savings in the cost of manufacture and distribution, and it is the policy of your Directors to give your customers the benefit of these reductions.

The Shareholders' profits will depend on the increased volume of the Company's business, the policy of the Company being the maintenance of such a stable position as will insure regular and uniform payments of interest on its bonds and dividends on its Preferred stock, and at the same time be in a position to withstand any unforeseen emergency that may arise consequent on business depression or otherwise, which condition naturally necessitates the accumulation of, and the maintenance of, a large cash reserve.

It is also the policy of the Company to equalize the price of cement throughout Canada in so far as the physical conditions make such possible, and in furtherance of this policy, your Directors have arranged to purchase a site near Winnipeg, on which they will erect, this year, a mill to grind clinker, which clinker will be shipped from one of our western mills. The buildings, machinery, etc., will be planned so that, should it at any time in the future be advisable, a Burning Department can be added, and the clinker produced on the property.

And further, an agreement has been entered into whereby this Company expects to acquire, in the near future, a property at Exshaw, which, added to our Calgary plant, and the projected plant at Winnipeg, will put us in the position of anticipating any extraordinary growth in the consumption of cement in the Great West.

With the view of educating the public, and popularizing the use of cement, in addition to the ordinary advertising, the Company has published a small book illustrating some of the many uses to which cement may be put, for which book there has been a great demand, 25,000 applications for same having been received during the past six months.

For the purpose of stimulating interest in the Company on behalf of the Employees, both in efficiency and cheapening production, as well as creating a feeling of mutual goodwill, your Directors deem it expedient to introduce a system, already adopted by several large industrial corporations with beneficial results, viz., to enable employes to become the possessors of Preferred and Common Stock at prices which will be attractive to them, the employes paying a fixed amount per share per month out of their earnings, and the Company carrying the stock for them, charging a rate of 5% interest. If the plan is put into effect, all dividends will be credited to the employes applying for the stock. Said stock will be held in trust for the employe for a term of five years, excepting in exceptional cases, such as death, when his heirs will receive what benefit a deceased employe has derived from subscribing to the stock.

Your Directors feel that the policy, as herein outlined, will, as nearly as possible, make the interests of the consumers, the employes, and the shareholders identical, and will inure to the most enduring and beneficial results for all concerned.

All of which is respectfully submitted.

On behalf of the Board of Directors,

WILLIAM C. EDWARDS,  
President.

### Home Environment and Cultivation of the Soil

Continued from page 92

habit of growing a good crop from the first."

This land is now ready for wheat, potatoes or other crop, having had the rainfall of the season, it was brought under cultivation, conserved and with the rainfall of the crop season grain will be obtained.

For the land that has been under cultivation for some years, I would have a disc run over the land early in the spring and get the weeds started to grow, then put four good heavy horses, mules

carry away the surface water in spring. Land can only take in so much moisture and the balance lies on the surface, first to scald the young plant, or if the water soaks away then the crystal pot-ash in the soil becomes poison to the plant and kills it, then the weeds grow up and the farmer's average yield falls off and he wonders how it is that farming don't pay.

Now this pot-ash is necessary to the production of wheat, oats and many other farm plants, and when the pot-ash is all out of the soil then we will grow corn, no more hard wheat, but it will be


or a traction engine, with plenty of power to turn all the surface over six or seven inches deep, and follow such a plowing up with a standard packer. It is safe to say that likely this is the first time that this land has been properly plowed, as the horses have not been raised on this plain that are equal to plow the depth the land requires to be plowed.

Messrs. Howell & Sons have put up a standard of plowing the past summer that will be watched with much interest. The only weak point is that the work was not done early enough and there are not enough dead furrows to

a long time until the plain alkali is out of the Assiniboine soil because you can go down thirty-five feet and bring up the clay, spread it about and provide proper drainage and the wheat that will grow on the clay will surprise you.

Do not be afraid to do your mining for wheat considerably deeper than you have searched yet. The cultivation three inches deep, with its surface beneath like the top of a stove, hot and dry, will not give you a crop that will stand the test when the dry summer overtakes you, or the hot summer winds from the south arrive.

**A New Horse or Kendall's Spavin Cure?**



Warren, Ont.  
Feb. 11th.  
"I had a horse that had a Spavin for a long time and I had tried nearly every kind of medicine when a neighbor told me to use Kendall's Spavin Cure, which I did and it acted wonderfully."  
M. ROSENTHAL.  
Kendall's Spavin Cure is so untried experiment, but is the world's standard remedy for all Swellings, Soft Bunches and Lameness in horse and man.  
Used the world over for 40 years.  
Every farmer, stockman, expressman, livery proprietor and horse owner generally should keep it always on hand.  
\$1. a bottle—6 for \$5. Ask your dealer for free copy of our book "A Treatise On The Horse"—or write us  
DR. B. J. KENDALL CO. 56, Enosburg Falls, - Vermont.

**Course in Gas Engineering**  
Continued from page 67

low the piston the entire stroke, 18 inches.

From this data, it is an easy matter to calculate the horse-power developed in the cylinder, or as it is known, the indicated horse-power, or i.h.p. Since power is merely the rate of doing work, and a horse power is equivalent to the work of 33,000 foot pounds per minute, it only remains to determine the work which is done in the cylinder by the expanding gases on the power strokes.

Now, work is defined as force times distance through which it moves, and in this case the force is in pounds; if we determine the distance through which this force acts in feet we shall have the work expressed in foot pounds. It is necessary with the hit-and-miss engine to determine the number of power strokes per minute. In the case under consideration, the engine was taking every explosion possible, or in other words, was delivering its maximum horse-power. The speed of the engine was 225 revolutions per minute, so that there were 112 1-2 power strokes. The piston then moved 1 1-2 times 112 1-2, or 173.75 feet each minute under the pressure of 85.4 pounds per square inch. Now, the area of a 12 1-2 inch piston is 122.7 square inches, so that there was a total pressure of 84.4 times 122.7, or 10,438 pounds acting on the piston. The work done per minute, therefore (force times distance), was 10,438 times 173.75, or 1,813,600 foot pounds. Dividing this by 33,000 to obtain horse-power, we have 54.9 indicated horse-power developed in the cylinder.

A formula which embodies the above principles and which is usually used to determine the i.h.p. is this: "Plan" divided by 33,000 equals i.h.p. "P" is the m.e.p. developed in cylinder, "l" is the length of the stroke in feet "a" is the area of the piston in square inches, "n" is the number of explosions or power strokes per minute.

Of course it is understood that this power is not the power which is developed at the pulley of the engine, since a certain amount of the power developed in the cylinder must be used to overcome the friction of the moving parts of the engine. The method of determining the horse power developed by the engine at the pulley or the d.h.p. will be discussed later.

**What Power Means to the Future**

Continued from page 11

time come in this "Last West," but the large farm will come first. It will take a considerable time before the farmer can be convinced that someone can make more money for him than he is now making on land that raises 20 bushels of 80 cent wheat per acre, which only cost him originally \$10.00 per acre.

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**Men Who Make No. 1 Hard**

Continued from page 53

end of the grade, the drivers started gradually to slip and finally stopped. We backed a little and uncoupled, placed a few sticks in front of the drivers and pulled out to higher land, where we left it that night. We returned next morning, looked the ground over, decided to leave the separator there, taking all the loose parts off and went home with the engine and started seeding.

We made good at the seeding, also breaking, pulling seven Cockshutt plows with ease, burning straw most of the time. We broke in all about 400 acres, when our straw gave out. Coal was hard to get, and we were obliged to use many different kinds, but found the best we could get was troublesome with the clinkers, for we couldn't get any steam coal at the time.

After the breaking season, we prepared for threshing. As we were in a district where the majority of the people were bachelors, we decided to build a cook car, 22 feet x 9 1-2 feet wide, building it in combination for sleeping accommodation for 20 men and folding table to wait from. We built it mansard roof. It left the walls low and still lots of head room. This enabled us to make the bunks swing up, as in a passenger sleeper, the bottom bunks folding up against the wall with table swung out from under side of them, and the benches came up as bottom bed went into them as they lay on edge. They could also be folded back to the wall when the table leaf was down or up. We furnished the car with a six lid steel stove and cooking utensils, placed the car on truck waggon and any ordinary team could draw it anywhere, being built of light material and well put together, which makes it handy in moving.

Then we picked up our crew, and as our neighbors wanted a few oats threshed, they brought over about half a dozen loads. We set and started a little work, had a little fun, as our separator man was green but after a while we had a splendid running outfit. We got in 40 days with few mishaps. A pitchfork went through once, but few accidents occurred, considering the green bunch.

The next year we traded the 25 H. P. for a 32 H. P. With the new engine we seeded 300 acres, disc'd 1,000 acres, broke 1,185 acres, backset 115 acres spring plowed and seeded 45 acres, graded 3 1-2 miles of road and threshed 20 days, besides moving some buildings.

Last fall we started out with an excellent crew, most of them from our old town of Ailsa Craig, Ont. We did some good quick work. The separator ran fine, and as for the engine it could have run two of them. We had 12 teams and 24 men. In stack threshing the separator man timed us on different sets. I was not aware he was doing this until afterwards, or we

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might have done a little better as I run my own engine. On a 60 rod move, from the time the last went into the machine till more went in, it was seven minutes. In a double set we could make it in three minutes. We always threw the belt to move.

There was once I had a little joke on the eastern boys. We had set a little out of line on account of a little side wind, but before we finished the set the breeze almost died away and the belt ran in a little on the fly wheel, which had a 16 inch face, and as the chap who always threw the belt come down with his fork, slipped it between the belt and slipped the tines of the fork on the rim of the front wheel in an attempt to pull it off. I slowed down, but was unable to bring the belt to the edge of the wheel. So two other lads came to help, but all three failed. So down came the separator man with a rush, slipped his arm through, giving a mighty heave, but found himself picked off his feet, and let go in time to miss the driver. So they all got forks and proceeded to pull, all seven of them, but were unable to pull it half way off. Just as they were doing their best, I reversed the engine to full stroke and at the same opened the throttle. The men went rolling in all directions. Of course I could have backed the engine a little and slackened the belt, but we all must have a little fun.

One day we were threshing in the wind. We were working on a double set of stacks, having finished the first set and about half the second, when the straw stack caught fire. So we cleared a road for the separator and laid out the cable all ready, but kept on threshing until the stack was burnt out.

We do not find much money in threshing, as wages are high. For men we pay \$2.25, teams \$4.25 to \$4.50, and as we board the crew and have much moving to do, the country being new and jobs far apart, 9 cents per bushel for wheat, 7 cents for oats in shock is not enough. We have about enough land of our own to keep the rig going, although we might do a few of our neighbors' threshing. The only kind of custom work we find profitable is breaking. We make nearly double the clear money at it that we do at any other kind.

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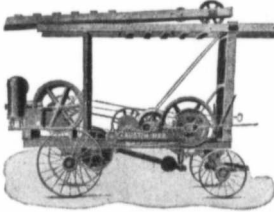
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mer's Friend plow. I have had this rig just two years but have threshed here three years and several years in North Dakota.

Last fall I threshed 32,000 bushels in all: 9,000 bushels of wheat, 21,000 bushels of oats and 2,000 bushels of barley in thirty days. We get 3 cents a bushel for threshing oats and 4 cents for wheat and barley. The farmer boards the crew and furnishes the wood already cut for engine. In shock threshing he also supplies the bundle waggons.

We have always used wood for firing here, but as it is getting harder to get, we will likely have to burn straw this fall. One thresher near here used it last fall and got along very well.

My crew consists of five pitchers, an engineer, tankman and myself as separator man. I try to have a system and find it works pretty good. Two men look after the belt, run it out, roll it up, help put it on the engine, etc. Two others have the feeder and grain elevator to look after, while the other one attends to the blower. So, just the minute we stop each man knows what to do. In stack threshing we can pull up, reset and be working again in short order.

On windy days I put three men pitching against the wind. Any other time I change the odd man from one side to the other and find it a great help to the other men. It is hard work for two men on a side to keep sheaves to the machine, while three is generally too many. So I find the odd man evens things up about right.

I mentioned that we got 3 cents and 4 cents a bushel for threshing. This is not by weight. We have to set the weight so that two dumps fill a bushel measure. Other machines around here only have baggers and give a grain sack full for two bushels; so I have to do the same to get the threshing. I do not think this is right, but apparently can't help myself. The country around here is rough and rolling, so that there are not many large fields. On that account they are sometimes few and far between. I have just figured it out, that outside of moving in the field, I have travelled 100 miles on the road this last fall. So I think I did very well with my rig last fall, taking everything into consideration. A dry year, poor crops, long hauls and poor water all tended to keep a person back.

My best threshing was 5,500 bushels in two and a half days; 1,400 bushels of wheat and 4,100 bushels of oats. We did not thresh over ten hours a day as it was late in the season and got dark early. These oats weighed 45 pounds to the measured bushel.

A year ago last fall I threshed 2,750 bushel of oats in one day, moved and set seven times, threshing 14 large stacks. This was a summer-fallow crop and very heavy straw. I do not know the number of acres there was in this.

I might mention one incident that happened last fall. One night

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**WILLIAMS BROS., ITHACA, N. Y.**

we were moving after dark and had to climb a big hill. When about half way up, the pinion on the fly wheel shaft broke and was stripped off the cogs. The engineer shut off the steam, but as we had no control of the outfit, it started to back down the hill. The separator cramped and ran crossways of the road. The engine naturally struck the separator pole, breaking it square off near the braces. The broken piece fell to the ground and blocked the engine wheel, which stopped it; no other damage being done. I usually have two blocks along, but it seemed there was no time to use them as it all happened so quickly.

I did some breaking last summer, pulling a four bottom P and O engine gang. I did very well, but think a larger engine which could pull more plows would be more profitable, as the same help could run it and turn just that much more land every round. I built a larger platform on my engine and then built a three barrel tank on one end of it. On the other end I rigged up a wood rack, which will hold enough wood to run a mile. In that way I did away with using a tender both for plowing and threshing.

The price usually paid here is \$4.00 an acre for breaking. On account of the rough land and brush, there has been very little steam plowing done in this community.

I have a saw now and cut my own wood with it. I also have a twelve inch burr feed mill and do all my own grinding. Besides, I also do custom grinding every Friday, and have done well at it this winter. The water is easy to get, and as I had lots of spare time, I didn't have much expense. I charged 8 cents a sack and ground 150 to 200 sacks a day.

I think this will include about all I have to tell, so will quit. Wishing your paper every success,

Yours truly,  
 Fred Facey,  
 Warwick, Alta.

**In the Quill Plains District.**

The district we thresh in is known as Big Quill on the Quill plains. Our outfit consists of an American-Abell or Cock O' the North line, 26 H. P. engine and 32 x 56 separator. We have threshed three seasons with the above outfit and it has given satisfaction.

Last season was very short up here as crops were short, which enabled us to clear the land quickly, and there were a lot of outfits pulled in here to catch the first of the threshing, leaving those in their own neighborhood until the last, which hardly looks a square deal; but as the thresher has his payments to meet it is up to him to get all the work he can. So we must pardon him even if he does trespass.

We started to thresh on September 14th and finished October 8th, having only fifteen days' run, with an average of 1,500 bushels

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One Injector that fits all connections. The New Desmond Model "U" starts low, at from 20 to 25 lbs. It works high from 175 to 190 lbs., lifts water 25 feet, handles water at 130 degrees, and delivers it to the boiler at almost 212 degrees. It is absolutely automatic. It will not 'back' or 'break' under the most severe and continued jars. We rigidly test every Injector and guarantee it fully to work under all conditions.

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**OUR LINES OF WINDMILLS, STICKNEY ENGINES and WELL DRILLS are COMPLETE.** Consult us before you buy.

Ingleisle, Man. (Near Portage la Prairie), Nov. 22, 1910.

Gentlemen,— I beg to advise that I have plowed twenty acres per day of ten hours in breaking with 14 inch bottom plows, and plowed from 4 to 5 inches deep. The engine can pull from six to eight bottoms according to the depth we plow and the conditions of the soil. We have plowed 800 acres this season and I have made a net profit over and above all expenses of \$800.00, which is practically 20% of my investment. I would have been able to have done considerably better had the ground not frozen up so early this fall as I had a lot of contract work still on hand to be done when the freeze up came.

Regarding comparisons between cost of repairs and operation of my "Flour City" Gas Tractor compared with my Steam Tractor, I find that it is only about one-third the cost of operating a steam engine.—Yours truly (Sgd.), J. J. GRANT.

**Ontario Wind Engine and Pump Co., Ltd.**  
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**CALVES** Raise Them Without HMR.  
 Booklet from  
 Steele, Briggs Seed Co. Winnipeg

of wheat. We had to depend upon the farmers for stook teams, so had to thresh for those supplying the teams. Sometimes we had three teams, some days six or seven. We had great difficulty in getting pitchers. The most we ever had was three and some-times only one. We paid pitchers \$2.50 per day, but couldn't get them at that price. Then they would only work ten hours, and if we threshed ten minutes' overtime, they would stick their forks in the ground and walk to the caboose. So we were entirely under the control of the gang, and would like to have someone give a remedy.

I would suggest, pay by the hour and a commission on the number of bushels threshed.

However, we had a very good season, although short, no breaks to replace. We carry a complete set of taps and dies and can do most of our own repairing. We always give everything an inspection noon and night, and I find it a good plan to always be on the alert.

Wishing the threshermen every success, I remain,

J. L. Hatton,  
 Copeland, Sask.

**An interesting Report,**

Published elsewhere in this issue is the Annual Report for the past year of the Board of Directors of the Canada Cement Company, as read by the President to the Shareholders, at the Annual Meeting held in Montreal on the 21st of February.

The frank statement of the policy and the general attitude of fairness evidenced by this address, are such as to warrant more than passing comment. Any lay member of the community reading the report must surely feel disposed to echo the hope expressed by the President, that the increased demand and increased output in the year to come will result in further savings in the cost of manufacture; and it further cannot be but felt by the public at large that any such reductions that may be obtained will, according to the broad-minded policy of the Company, be used as an advantage to the customers of the Company—the concern depending for their profits upon increasing volume of business.

Another noteworthy feature of the Report is the provision made for employes to become possessors of stock. This is, as pointed out, a policy already in force in some of the largest institutions, and shows that the Canada Cement Company are quick to appreciate any means of stimulating interest and confidence upon the part of the staff.

The strong financial position of the company is well known, and all that is necessary to ensure the continued success of the concern is continued prosperity of the country, together with an increased realization of the importance and economy of cement as a building material.

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 1-20 H. Northwest Engine, New.  
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 1-25 H. Northwest flat spoke Engine Rebuilt.  
 1-25 H. Northwest round spoke Engine Rebuilt.  
 1-34 H. Hy. C. G. Northwest Engine Rebuilt with side tanks.  
 1-34 H. L. C. Northwest Engine Rebuilt.  
 1-18 H. New Giant Engine.  
 1-20 H. Sawyer Massey Engine.  
 1-16 H. Advance Engine.  
 1-18 H. John Abel Portable Engine.  
 3-71 Northwest Separators and attachments complete.  
 1-41 Northwest Separator and attachments complete.

All the above engines and separators, are or will be thoroughly rebuilt and repaired and warranted to be in first class shape and working order, and will be sold cheap.  
 Write for particulars.  
**NORTHWEST THRESHER COMPANY**  
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**WANTED**—First class blacksmith on plow outfit, near Lethbridge, Alta. Can. must give reference. Address Kessler Bros., 1513 North Main Str., Dayton, Ohio.

**STEAM ENGINEER WANTED**—Experienced Engineer and Plowman wanted to run large Case Plowing Outfit. S. G. Sims, Argyle, Man.

**STEAM ENGINEER WANTED**—Experienced Engineer and Plowman wanted to run large Rumely plowing outfit. A. B. Zimmerman, Oakville, Man.

**FOR SALE**—30 H. P. Rumely Engine only run one season, two tanks and pumps. All in good order. Strap and easy. Apply Campbell and Woodcock, Normanton, Sask.

**EXPERIENCED PLOWMAN WANTED** to operate Hart-Parr plowing outfit. Must be experienced, competent man. J. A. Graham, Box 212, Regina, Sask.

**FOR SALE**—22 H. P. double cylinder Waterloo engine runs three seasons in splendid shape. 32x150 McCloskey separator with Perfection hopper, side fan wind stacker and Ruth feeder (only used 25 days). Also 60 foot steel cable, 150 foot 7 in. 5 ply rubber belt used two seasons, tools, etc. This outfit is nearly as good as new. For terms, etc., write to Charles & Rodger, Macdonald, Man.

**1400 BUYS COMPLETE NORTHWEST OUTFIT**—25 H. P. Simple return Flue Engine, 40 x 64 Separator, Feeder, Weigher, Blower, Tanks, Tender, Cook Car, etc. Good condition. Outfit at Gull Lake, Sask. Address Aukes Diebold, Wimbeldon, N. Dak.

**STEAM PLOWING ENGINEER** wants position on plowing outfit the coming season, has long experience, sober and of steady habits, do own repairing, hold second class certificates for Manitoba, Sask. and Minnesota. In answering please state size, make and age of engine, also wages. Address A.C. Kastner, 188 Logan Ave., Winnipeg.

**WANTED**—Position as engineer on Hart-Parr, considerable experience, state wages. Apply J. H. Nugent, Caron, Sask.

**FOR SALE**—30 H. P. Rumely Engine. Only run one season. Two tanks and pumps. All in good shape. Strap and easy terms. Apply Campbell & Woodcock, Normanton, Sask.

**EXCHANGE**—For good land, good second hand Steam Threshing and Plowing outfit near Winnipeg. Box 14, Lake Winiton, Murray County, Minn. U. S. A.

**FOR SALE**—Practically new 25 H. P. Case Plowing Engine, with rima, cab, headlight, tools, and tank wagon. \$2500.00. In best of condition. Has been carefully hauled. C. C. Goodwin, Govan, Sask.

**FIREMAN**—Wishes position. One year's experience. Can make good on a Plowing Outfit. H. O. Lovelady, Waseca, Sask.

**WANTED**—A position as fireman on steam plowing outfit. Four seasons' experience in firing. Graduate of The Heath School of Engineering. Herbert L. Binkley, Souris, Man.

**WANTED**—Persons to grow mushrooms for us in waste space in gardens, yards, sheds or cellars, \$15 to \$30 per week. Send for illustrated booklet and full particulars. MONTREAL SUPPLY COY., Montreal.

**AGENTS**—To sell lubricating oils, belts, hose, paint, varnish, to factories, mills, stores, threshers, outside large cities. Exclusive territory to right party. Experience unnecessary. Manufacturer's Oil & Grease Co., Cleveland, O.

**FOR SALE**—10-14 inch Cockshutt independent engine plows breaker bottoms. Only plowed 1500 acres. In good shape. Have no further use for them as farm is all broken out. Fairview Land Co., Osaug, Sask.

**ENGINEER**—Wants position on a plowing engine. Will be willing to take it on for threshing; have had 3 years experience, can do own repairing. Also graduate of The Heath School of Engineering. Chas. B. McMain, Summerberg, Sask.

**FOR SALE**—One J. I. Case, 20 H.P. Traction Engine, only used a short time in good shape; one 32-54 J. I. Case steel separator in good shape, will sell outfit for \$1800.00. Will take stock in part payment or will trade it on a gasoline tractor. Apply Box 10, Laurier, Man.

**BE AN ENGINEER**—The Heath School of Traction Engineering (by correspondence) offers you a thoroughly practical course in Traction and Stationary Steam Engineering for spare time home study. Send for prospectus and full information to E. H. Heath Co., Limited, Winnipeg.

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**FOR SALE**—One Gould Balance valve for 22 or 25 H. P. Gaar-Scott engine. J. Reynolds, Yellow Grass, Sask.

**WANTED**—Position as engineer on steam plowing outfit the coming season in Manitoba or Saskatchewan, or Traction Engine work of any kind. R. H. Hargess, McLean, Sask.

**EXPERIENCED Practical Engineer, Fireman and Traction Plowman** desires position. Licensed for Saskatchewan and Alberta, also Graduated Student of The Heath School of Traction Engineering. Apply H. L. Bushell, 448 Elgin Ave., Winnipeg.

**CERTIFIED ENGINEER and Machinist** with fifteen years' experience wishes position on steam or gasoline plowing engine. Can do own repairing. Apply D. Mark, Manville, Alta.

**FOR SALE**—30 H. P. Flour City gasoline traction engine, price \$2400.00, plowed 400 acres. As good as new. For terms, etc., write to Charles & Rodger, Macdonald, Man.

**WANTED**—Position as engineer, strictly temporary; have had considerable experience and can furnish references. State wages and make of engine. Address Andrew J. Johnston, Killarney, Man.

**FOR SALE**—Small separator complete with all attachments. \$400 cash. Box 13, Welby, Sask.

**WANTED**—Engine gang six or eight bottoms; must be in good repair. Box 70, Morse, Sask.

**COMPLETE PLOWING OUTFIT FOR SALE**—45 H.P. Hart-Parr with six-14 in. Cockshutt Engine, Hart Plow with Breaker Bottoms. Everything good as new. Only run one season. Price \$2500. J. F. Crosby, Hanlan, Man.

**160 ACRE FARM FOR SALE OR TRADE**—For Traction Plowing outfit. Land is quarter mile from town of Ladysmith, Man. Andrew Deata, Hanlan, Man.

**STEAM ENGINEER MACHINIST**—Open for position on large ploughing outfit, Ontario certificate, fifteen years' experience, three in West, six building, three traveling machinist, abtainer, and pusher, have Alberta and Saskatchewan applications, papers. W. Z. Bayley, Hamilton, Ont., 35 Smith Ave.

**WANTED**—To exchange Sawyer & Massey eight horse power, mounted on trucks, complete with level jack, sweeps, tumbling rods, etc., for portable gasoline engine small portable steam engine. Will guarantee machine in first class order. A. W. Smith, Lunenburg, Alta.

**"A SNAP"**—FOR SALE—John Deere engine gang, 8 breaker bottoms, 1910 make, in first class condition, broke 300 acres. Apply to Neil Wright, Box 155, Wellwood, Man.

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**WANTED**—Position on steam plowing outfit; firing preferred, experienced. Frank Campbell, Marquette, Man.

**ENGINE OWNERS** write me for terms on re-fusing and stay bolt repairing. I can save you money. I am also open for engagements during the plowing season. Chas. Fenwick, Licensed Engineer, Warilla, Sask.

**WANTED**—Position as engineer on steam plowing outfit, 7 years' experience in Ontario and one for Saskatchewan. Hold a provincial certificate for Saskatchewan. Will take engine through threshing if desired. Address E. F. Sharpe, Maple View, Ontario.

**WANTED**—Position as Engineer on a steam traction outfit. Fully experienced. Can furnish references. Address J. E. Peatoh, Clava, Man.

**WANTED**—Position on steam threshing engine for fall of 1910. Am a graduate in the Heath School of Engineering. Also a graduate from short course of engineering given by the University of Minnesota. Apply stating wages and kind of engine. Address Ellery S. Post, Woodmore, Man.

**ENGINEER**—Wants position on engine for threshing, good practical running and shop experience. Diploma from Heath School of Traction Engineering; do job repairing. State size and make of engine. E. Coleman, 46 Kato, W. Winnipeg.

**FOR SALE**—One 4 H.P. Fairbank-Morse Gasoline Engine, in perfect order, complete with all attachments, has been used one week. Owner having no further need of same. Apply The Winnipeg Fur Co., Limited, 181 Bannatyne Ave., East.

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15 Horse Case Simple Portable Engine.....	20540
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20 Horse Simple Traction Engine.....	17721
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32 Horse Simple Traction Engine.....	19019

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 One American Advance Separator, 36x50, with all latest attachments. One 15 inch Vossott Grinder. One 2 wheeled Engine Tender; 3-3 furrow Job. Deere Engine Gangs. The above property for sale cheap. F. W. Hunter, Storowall, Man.

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 One 15 H. P. Case Traction Engine, with or without 2850 separator. For sale or exchange with a Gasoline Traction Engine.—William Brayshaw, Kelso, P. O. Man.

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 Two 25 H.P. Simple J. I. Case engines.  
 One 15 H. P. Simple J. I. Case engine.  
 One 15 H. P. Command J. I. Case engine.  
 One 32x54 Wood Case separator.  
 One 28x50 steel Case separator, with wind stacker, self feeder and lighter.  
 J. I. CASE THRESHING MACHINE CO., Calgary, Alberta.

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 1-32 H.P. Port Huron engine, rebuilt and in first class shape.  
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 1-Minneapolis Separator 44x72, rebuilt. With all connections.  
 1-32x54 Avery Separator, complete, just rebuilt.  
 1-36x60 Avery Separator to be rebuilt complete.  
 2-Avery 30 H. P. double undermounted engines.  
 1-30 H.P. Northwest engine, not rebuilt, cheap.  
 1-J. I. Case steel, 42x60 separator complete with all attachments.  
 1-42x70 Avery separator, will be rebuilt in time for next Fall's work.  
 If you are interested in second hand goods, please write and let us know what you want as we are making deals almost every day, and feel sure that we can fix you out with almost anything you want, either in new or second hand goods.

**HAUG BROS. & NELLEMOE Co. Ltd.**  
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**WANTED**—Experienced man to run separator, also an engineer for season's threshing. Apply stating experience and wages to W. N. Carney Haseldine, Sask.

**WANTED**—By holder of second class certificate position as engineer; have also good knowledge of gasoline engines. Address care of Box 145, Oxbow, Sask.

**FOR SALE**—22 H.P. Port Huron traction engine, 35x54 Port Huron separator complete with self feeder, high weather, wind stacker, rubber, caboose all in good running order. Easy terms or will exchange for land. S. Ploitt, Redvers, Sask.

**ENGINEER** wants position on breaking outfit this season. Holds certificate for 50 horse power in Saskatchewan. References given, strictly temperate. Apply Mark Ketteringham, Box 43, Foxwarren, Man.

**BARGAINS**  
 Give these bargains your attention.

Four Case Portable Engines at \$1500. Two Minneapolis Traction, \$200, 18 and 20 H. P. one Advance Traction \$600.  
 1 Case 20 H. P. Traction Engine \$800.00  
 Several good Separators and the above engines. See our farmers Pet separator.  
 All our engines fitted with Gould Balance valves.  
 Write us about them.

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**FOR SALE**  
 One 25 h. p. direct flow, Simple, heavy gear traction engine.  
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 Also several others of our own and other makes. We also have several rebuilt separators of our own and other makes.  
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30 H. P. American-Abell Sim. Trac.....	\$2500
26 H. P. American-Abell.....	1700
22 H. P. American-Abell.....	1200
22 H. P. American-Abell Sim. Trac.....	1500
22 H. P. American-Abell.....	1200
22 H. P. American-Abell Simple.....	1500
22 H. P. American-Abell Simple.....	1500
18 H. P. American-Abell Simple.....	1000
18 H. P. American-Abell Simple.....	1000
18 H. P. John Abel.....	900
18 H. P. Advance Comp.....	1000
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18 H. P. American-Abell.....	800
30x60 Tor. Adv. Segr.....	575
30x60 Tor. Adv. Segr., 36 inch Parsons feeder, 56 inch Magn. W. L. & W. L.....	700
40x60 Advance Segr., 40 inch Advance feeder, Advance Well W. L. & W. L.....	550
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These goods have been thoroughly rebuilt, painted and put in first class condition throughout and will stand up to the high reputation that our rebuilt machinery has acquired in the past. The prices quoted are f. o. b. Winnipeg.  
**AMERICAN-ABELL ENGINE & THRESHER CO., LTD., WINNIPEG.**

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6 H.P. Fairbanks-Morse.  
 24 H.P. Bates & Edmunds, Vertical.  
 12 H.P. Marine.  
 5 H.P. Howe Horizontal Engine, formerly used in elevator.  
 8 inch Stover Grinder.  
 Send for complete bargain list to Canadian Fairbanks Co. Limited, 92 Arthur St., Winnipeg.

**BOYS AND GIRLS**—Send us your name and address on aboriginal card. We will show you how to earn \$10 and up every month, after school hours. Avaline & Co., Inc., 2037 E. Addison Ave., Chicago, Ill.

**FOR SALE OR EXCHANGE FOR LAND**  
 Good second-hand Portable Steam Engine, 26 H.P. double cylinder separator and plow. Terms and price would be made most interesting to threshermen. Calvin Young, Mapleton, Minn. Apply to Manitoba Bridge and Iron Works, Winnipeg, Man.

**FOR SALE**  
 Two four bottom Moline engine gangs with beaker bottoms and extra shares, price, \$100.—J. Hansford, Fairlight, Sask.

**We can sell your Threshing Machine on other property.** Send description and price. Northwestern Business Agency, Minneapolis, Minnesota.

**FOR SALE**  
 Complete Threshing Rig for sale, consisting of 1 Waterloo Manitoba Champion 40x62 separator, with side flow blower, Hartley 40x26 weigher, 12" heavy feeder, run about 60 days, 130 H.P. buffalo Pitts engine in good shape, also two water tanks, rubber belt, set 8 in. trucks all for \$2000. Andrew Farlow, Box 12, Ridgville, Man.

**FOR SALE**  
 We have on hand at present a very full line of Rebuilt and Second-hand Engines and Separators, which we are offering at attractive prices. Write us fully what you are thinking of buying, when we shall be pleased to let you what we have and quote prices. All our rebuilt goods are sold under some guarantee as new ones and of course are carefully repaired and look exactly like new. If you write us at once we are almost sure to have the size you want.

We also have a thoroughly Rebuilt Saw Mill Outfit consisting of 20 H. P. Saw Mill Engine and Portable Saw Mill with carriage and track complete. Can hardly be distinguished from new goods. Will be sold at a bargain.

**SAWYER-MASSEY COMPANY, LIMITED,**  
 Winnipeg, Man.



WESTERN CANADIAN IMPLEMENT DIRECTORY

EXPLANATION.—First find the Implement Wanted and the Number opposite will be the Number of the Concern, in the first column, that handles it.

**ALBERTA PORT HURON CO.,** Calgary, Alta.

**1—AMERICAN-ABELL ENGINE & THRESHER CO.,** Winnipeg, Calgary and Edmonton.

**2—AMERICAN SEEDING MACHINE CO.,** Winnipeg.

**3—BAILEY SUPPLY CO.,** Winnipeg.

**4—BEEMAN MFG. CO.,** Winnipeg.

**5—BELL B. & SONS,** Winnipeg.

**6—BELL ROBERTS ENGINE & THRESHER CO.,** Winnipeg.

**7—BRANDON MACHINE WORKS,** Brandon.

**8—BRANDON PUMP & WINDMILL WORKS,** Brandon.

**9—BRANDON & ROBERTSON,** Brandon.

**10—BUFFALO PITTS CO.,** Moose Jaw, Sask.

**11—BURRIDGE-COOPER CO.,** Winnipeg.

**12—CANADIAN FAIRBANKS CO.,** Winnipeg, Vancouver.

**13—CANADIAN MOLINE PLOW CO.,** Winnipeg.

**14—CANADIAN PORT HURON CO.,** Winnipeg.

**15—CANADIAN RUBBER CO.,** Winnipeg, Vancouver.

**16—CANADIAN STOVER CO.,** Brandon.

**17—CARRBERRY IRON & OD WORKS,** Carberry.

**18—CARRBERRY STACK CO.,** Carberry.

**19—J. L. CASE T. M. CO.,** Winnipeg, Regina, Calgary.

**20—CHAPIN CO.,** Calgary.

**21—COCKSHUTT PLOW CO.,** Winnipeg, Regina, Calgary, Edmonton, Saskatoon.

**22—CRANE & ORDWAY,** Winnipeg.

**23—DEERE, JOHN PLOW CO.,** Winnipeg, Regina, Calgary, Edmonton, Saskatoon.

**24—DE LAVAL SEPARATOR CO.,** Winnipeg.

**25—GOODYEAR TIRE & RUBBER CO.,** Winnipeg, Regina, Calgary.

**26—EMPIRE CREAM SEPARATOR CO.,** Winnipeg.

**27—GAAR, SCOTT & CO.,** Winnipeg, Regina, Calgary.

**28—GAS TRACTION CO.,** Winnipeg, Gray-Campbell Co., Winnipeg, Brandon, Moose Jaw, Calgary.

**29—HAMILTON PULVERIZER CO.,** Winnipeg.

**30—HAUG BROS. & NELLERMOE,** Winnipeg and Calgary.

**31—HARMER IMPLEMENT CO.,** Winnipeg.

**32—HART-PARR CO.,** Portage la Prairie.

**33—HELGESEN, H. T.,** Winnipeg.

**34—HERO IMPLEMENT CO.,** Winnipeg.

**35—INTERNATIONAL HARVESTER CO.,** Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Brandon.

**36—LOUEN HDWE. & SPECIALTY CO.,** Winnipeg.

**37—MANITOBA HAYES PUMP CO. LTD.,** Morden.

**38—MANITOBA IRON WORKS,** Winnipeg.

**39—MANITOBA WINDMILL & PUMP CO.,** Brandon.

**40—MASSEY-HARRIS CO.,** Winnipeg, Regina, Calgary, Edmonton, Saskatoon.

**41—MAW, JOS. & CO. LTD.,** Winnipeg.

**42—MCKENZIE, A. E.,** Brandon.

**43—MCLAUGHLIN CARRIAGE CO.,** Winnipeg.

**44—MORAE, ALEX.,** Winnipeg.

**45—MELOTTE CREAM SEPARATOR CO.,** Winnipeg.

**46—NEEPAWA MFG. CO.,** Neepawa.

**47—NICHOLE & SHEPARD CO.,** Regina, Winnipeg.

**48—NORTHWEST THRESHER CO.,** Brandon.

**49—ONTARIO WIND ENGINE & PUMP CO.,** Winnipeg.

**50—PARIS PLOW CO.,** Winnipeg.

**51—PARSONS-HAWKEYE MFG. CO.,** Winnipeg.

**52—PETRIE MFG. CO.,** Winnipeg, Calgary, Vancouver.

**53—RAYMOND MFG. CO.,** Winnipeg.

**54—REEVES & CO.,** Regina.

**55—REGENT TRACTOR CO.,** Regina.

**56—RENNIE, WM. SEED CO.,** Winnipeg.

**57—RIBBERRY PUMP CO., LTD.,** Brandon.

**58—RUMELY, M. O.,** Winnipeg, Calgary, Saskatoon, Regina.

**59—SAWYER & MASSEY CO. LTD.,** Winnipeg.

**60—SEARLES SEPARATOR CO.,** Winnipeg.

**61—STEELE-BRIGGE SEED CO.,** Winnipeg.

**21—STEWART & NELSON CO. LTD.,** Brandon.

**22—STEVENS, JOHN & CO.,** Winnipeg.

**23—STUART, JAMES, ELECTRIC CO.,** Winnipeg.

**24—SUB-SURFACE PACKER CO.,** Winnipeg.

**25—SYLVESTER MFG. CO.,** Brandon.

**26—TUDHOPE-ANDERSON CO.,** Winnipeg, Regina, Calgary.

**27—VIRNIDEN MFG. CO.,** Virden.

**28—YULCAN IRON WORKS,** Winnipeg.

**29—WATERLOO MFG. CO.,** Winnipeg, Regina.

**30—WATEROUS ENGINE WORKS,** Winnipeg.

**31—WATSON, JNO. MFG. CO.,** Winnipeg.

**32—WHITE, GEO. & SONS, Brandon**

**71—WINNIPEG RUBBER CO.,** Winnipeg.

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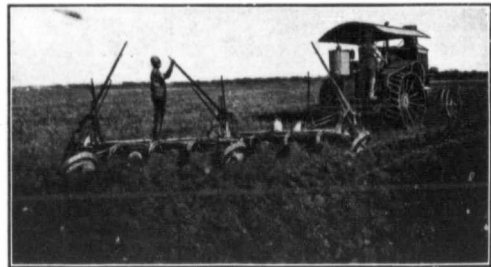
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# The ORIGINAL KEROSENE TRACTOR

## PLOWING



Is it a Question of Plowing? Then it is but a simple matter for the Hart-Parr Gas Tractor to pull its eight 14-inch plows in soil that a horse could scarcely walk over and in which a steam tractor is practically helpless. It will plow its twenty-five to thirty acres per day regardless of ground and never get sick or tired. Does an early planted crop mean anything to you? If so, you can easily figure out what the Hart-Parr can do in your case.

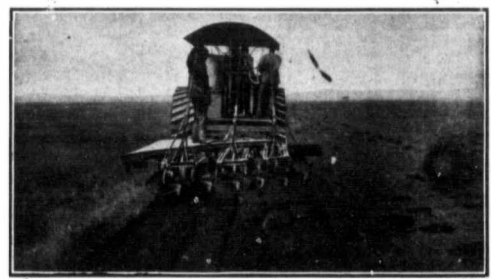
## SEEDING



CARON, SASK.

When the ground is plowed it is a horse killing piece of work to get it seeded as the modern wide-cut drill is no easy load. The Hart-Parr will pull drills to the tune of forty or fifty acres per day and at the same time will not injure the land in passing over it any more than horses will. It will in a great many cases by doing such a large amount of work in a short time put much grain in the field to sprout and grow that would otherwise remain in the bin on account of a spell of wet weather that extends over a week or two in seeding time. It is the early seeded grain that invariably yields the biggest crop, a week or two in the spring often times meaning from five to ten bushels per acre when the crop is harvested.

## BREAKING



You as a farmer in Western Canada have doubtless had more or less experience with the breaking of raw prairie and you know what a slow, heart-rending process it is when horses are used. You who have tried it also know what it means to have your big steam tractor laid up for weeks on account of rainy weather that makes the ground so soft that your steam engine mires. No such troubles with a Hart-Parr; the hotter the weather the better it works and soft ground is not the 'Jonah' of a Hart-Parr owner. It is always ready to break its fifteen to twenty acres in any kind of weather and any kind of soil.

### FIRST IN THE FIELD FIRST TO BUY KEROSENE First in the Estimation of Users

## The Modern Farm Horse

Farming with a traction engine is no longer an experiment—the advantages over horses—the results accomplished are so great that the question now is, not does it pay to own a tractor, but which one shall I buy. Gas and kerosene tractors have proven themselves to be the practical power, their advantages over steam are many—no danger from freezing, no trouble about impure or scant water supply, no expense of men and teams to draw water and coal, no boiler feeders to choke, no danger, as explosion is impossible. The fireman and expensive licensed engineer are eliminated. A kerosene tractor is ready to start any time—no two or three hours' firing beforehand. The convenience in moving on account of having no coal or water supply can hardly be overestimated. Only one man required to operate a Hart-Parr Gas Tractor. There is no work now successfully done by steam tractors that cannot be done as well or better and more economically by a Hart-Parr Kerosene Tractor. Hart-Parr Tractors are being successfully used in all parts of the world. They are being successfully used for threshing, hay baling, well drilling, feed grinding, running saw mills, plowing, discing, seeding, harvesting, freighting, operating road graders, moving buildings, etc. Hart-Parr Tractors have been aptly named "The Modern Farm Horse." No up-to-date farmer who works considerable land can afford to be without one. Farming with a Hart-Parr Tractor is not an experiment. We can refer you to thousands of farmers who are making more money with "The Modern Farm Horse" than they could with horses. In fact, they are doing what would be impossible with horses. You can run the Hart-Parr Tractor night and day. When your work is done, you can earn several hundred dollars plowing for neighbors.

## Lowest Operating Expense

The Hart-Parr burns kerosene. This is acknowledged to be the cheapest fuel for an internal combustion engine. Burned in a Hart-Parr engine designed for kerosene (it will burn gasoline equally as well) the cost of operation is reduced as low as possible. It gives no trouble. It puts money in your pocket on account of its low cost. The enormous demand for gasoline has kept the price constantly increasing and at the same time its quality has greatly deteriorated. With this cheap kerosene, our engines develop the same power and run just as clean as with gasoline; and the quantity of kerosene used per day is no greater than of gasoline. By the use of kerosene for fuel, we reduce your fuel bill from one-third to one-half compared with gasoline.

### One Price to Everybody—\$2,800.00 F.O.B. Portage la Prairie

DON'T DELAY. SEND FOR CATALOGUE TODAY. DO IT NOW. We want you to write for our free Hart-Parr catalog. This catalog will tell you all about the Hart-Parr Tractor. It shows in detail the entire construction. It also gives a lot of information regarding actual operating cost, actual daily results accomplished, results of severest tests, etc. This book tells all about the Gas Tractor proposition, fully illustrated cross-section, views, front, side rear views, also views of the various parts. This catalog also shows photographs of the Hart-Parr—threshing, road grading, plowing, discing, seeding, etc. We are vitally interested in the farm power question. We can help you. We will if you give us a chance. Don't think it necessary for you to give us an order if you write us. Just drop us a postal card. It places you under no obligation whatever. Let us show you.

# HART-PARR CO.

30 Main St., Portage la Prairie, Manitoba

The Chapin Co. Agents for Alberta

## DISCING



The Hart-Parr as a power for discing is limited only by the number of discs that can be attached behind it, at the same time furnishing such a tractive power as to compel the discs to pulverize thoroughly. If you are doing spring plowing when the ground is apt to clog up, place the discs behind the plows in the best possible condition for with once going over the ground, leaving the soil in the best possible condition for there is no better time to make a nice seed bed than when the ground is first plowed.

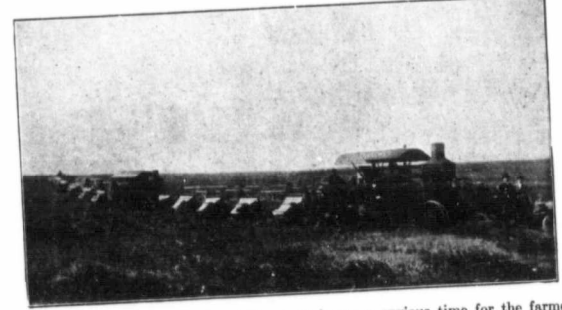
## More Hart-Parr Tractors in Use than all Other Makes of Gas Tractors Combined

In 1903 the first Hart-Parr Tractors were put on the market. The Hart-Parr original Kerosene Tractor. During these eight years we have constantly improved the tractor until today it represents the very greatest efficiency in tractor power. Every part of the Hart-Parr Tractor has gone through the severest tests. We have watched every engine we sold—any defect was promptly rectified and improved. Every weakness was strengthened. It was only through the grueling test of actual operation of thousands of engines under all conditions that some weakness was discovered. It was impossible to discover it in any other way. Where we found a weakness of the Hart-Parr Tractor that could be improved, we improved it. If we had a tractor to tell you of our experiments, our tests, the thousands of dollars we spent to improve one little part of our tractor, you would understand our success today. This tractor religiously adhered to for eight years enables us to offer you a tractor that represents all that experience, brains and money can build.

## Easy to Operate

A Hart-Parr Tractor is easy to operate. We will gladly demonstrate to your satisfaction and show you how to run it. If you farm 320 acres or more it will pay you to own a Hart-Parr Tractor. You cannot make big money farming unless you farm right. You can do it with a modern farm horse. Hundreds of others are doing it and what it has done for others it will do for you. We would like to show you what others are accomplishing with Hart-Parr Tractors; lack of space prevents printing here letters from present Hart-Parr owners. We have hundreds of letters showing in detail just what farmers are doing with our tractors. We will be glad to send you this book of experiences and records free, just for the asking. Write for this complete book and read for yourself what the farmers say about our tractors. Some of them have been operating the same Hart-Parr tractor continuously for five years—they know.

## HARVESTING



Harvesting in Western Canada has ever been an anxious time for the farmer. Hot weather places a low limit upon the endurance of horseflesh and the farmer longs for the power that can be driven to its limit every hour in the day. The Hart-Parr is that power and with four or five 8-foot binders attached behind and travelling at a rate of 2 to 2½ miles per hour, it is but a matter of simple calculation to see what you can do. Remember, you keep going all the time. There are no stops.

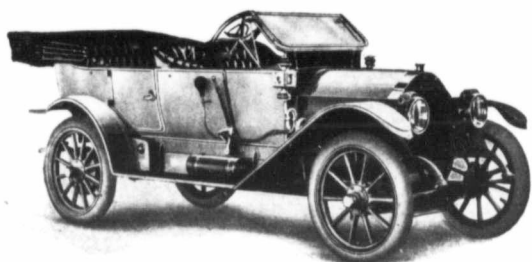
## THRESHING



Power for threshing is a strong feature of the Hart-Parr. Twenty miles from water is no terror for the outfit that is run by a Hart-Parr. In the belt it develops a large amount of steady power that will drive a threshing machine to a record day's run, as is evidenced by the thousands of letters on file in our office from those who have used Hart-Parr Gas Tractors for threshing purposes. It is results that count with the thresherman and it is results of a profitable kind that the Hart-Parr always gives.



# CASE



**CASE**  
**FORE - DOOR**  
**Five Passenger**  
**TOURING**  
**CAR**

PRICE  
**\$1750.00**

WITH MOHAIR TOP  
 AND GLASS WIND SHIELD

**\$1850.00**

F.O.B. Racine  
 Wis.



## THE CASE

FORE-DOOR TOURING CAR  
 IS THE ALL AROUND CAR  
 CONTAINING THE FAMOUS ENGINE

THIS CAR CONTAINS FEATURES NO OTHER  
 TOURING CAR POSSESSES. ONE OF THE FEATURES  
 IS THAT IT IS BUILT STRONGLY FOR COUNTRY WORK

WRITE FOR OUR AUTOMOBILE CATALOG NO. 68 WHICH WE WILL SEND FREE.

OUR OTHER CARS ARE THE

Four Passenger **TORPEDO** Five Passenger **TOURING**  
 Four Passenger **SUBURBAN** Two or Three Passenger **ROADSTER**  
**CASE LIMOUSINE**

**J. I. CASE THRESHING MACHINE CO.**

INCORPORATED

**RACINE, WISCONSIN, U. S. A.**

CANADIAN BRANCHES, TORONTO, WINNIPEG, REGINA, & CALGARY

