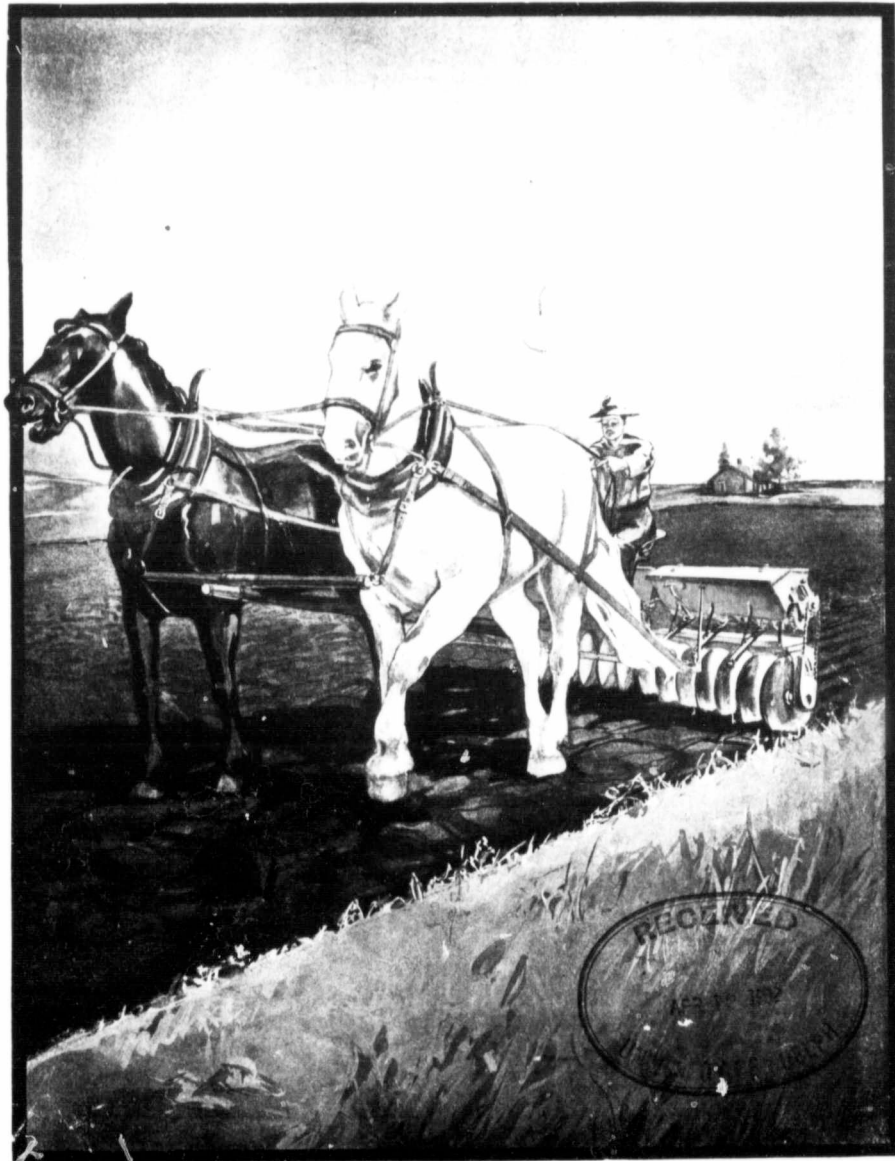


THE CANADIAN THRESHERMAN
and FARMER

CANADA'S FARM MACHINERY MAGAZINE
WINNIPEG · CANADA

MAY, 1911



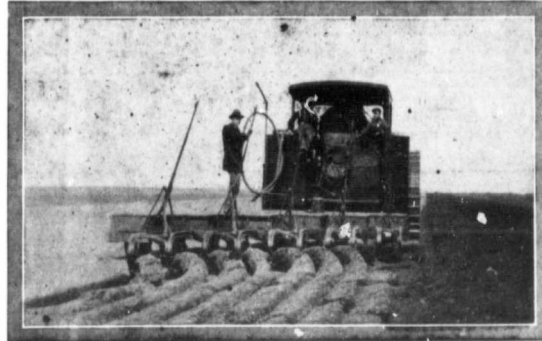
E.H. Heath COMPANY Publishers

John Deere Engine Gang

FOR PERFECT WORK

Labor most advantageously employed is the most productive. The men operating the engine plowing outfit shown here, will do from fifty to one hundred per cent. more work than ten 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 attached to frame in pairs, each pair



4, 6, 8, 10, 12 Bottoms

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

John Deere Engine Plow

Quick Detachable Share

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

JOHN DEERE PLOW CO. LTD.

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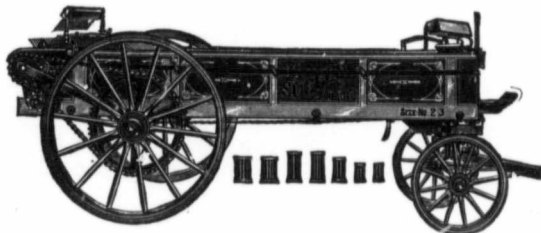
Saskatoon

Lethbridge

The Success Manure Spreader

TAKES ANOTHER STEP IN ADVANCE

Seven Sets of Roller-Bearings settle the matter of Draft.



Frame Made Entirely of Hard Wood — Not Pine



"My Boss has the SUCCESS Spreader"

FOR many years the "SUCCESS" has been considered the typical manure spreader. It was first in the field. It had choice of necessary features. It tested and proved and patented for its own exclusive use all of the worthiest devices. And now it takes another step—a most important step—in advance of all other spreaders.

By its equipment with seven sets of roller-bearings—one set in each wheel, one at each end of spreading cylinder and one in cylinder driving mechanism—there is no question but that the Success

Runs a Horse Lighter than any other Spreader

All 1911 "SUCCESS SPREADERS" will be equipped with these roller-bearings. It is a feature we have been working on for years and its value to spreader users cannot be over estimated. The cold-rolled steel roller-bearings at the same time

Save the Horses and Save the Machine

The roller-bearings do away with all friction and wear in the working parts; they lessen the shocks and strains from driving over rough, uneven ground; the entire machinery runs with less power, consequently with less breakage; they cause the Spreader to run almost as smoothly and evenly as a stationary machine.

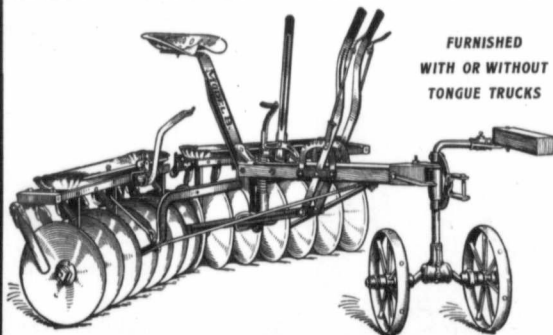
WRITE FOR CATALOGUE



"My Boss has the other fellers"

DISC HARROWS

Deere Model B Disc Harrow



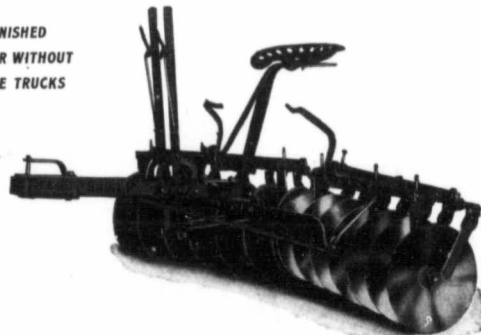
FURNISHED
WITH OR WITHOUT
TONGUE TRUCKS

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

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, crossbars 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

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

JOHN DEERE PLOW COMPANY, LTD.

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The Fleury Pulverizer

Pulverizes and Packs the Soil

How a Pulverizer Helps

A good seed bed is composed of a fine mellow soil well packed to ensure capillary connection with the subsoil.

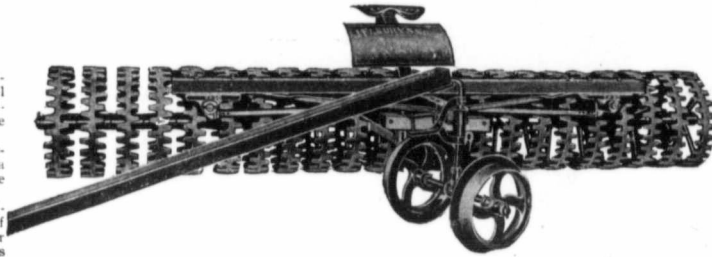
Such a seed bed will produce better crops than a lumpy one of the same chemical composition.

This is why a good pulverizer should be a part of your equipment. Other things being equal it insures better crops.

It is often necessary to plow land when it will break up into large chunks or clods. In such a case, a pulverizer is indispensable for fining the soil.

The fact is, almost any soil is benefited by being pulverized and packed after plowing, regardless of its condition.

Light, loose soils are kept from drifting by being treated in this way.



The Fleury Does the Business

In the first place it is sufficiently heavy for its work—there is no necessity for weighting.

The sections are so constructed that they pulverize all lumps and pack the soil so it is in good seed bed condition. At the same time, it helps to produce a surface mulch which holds moisture.

It does the work of both a pulverizer and a land roller. Also, this pulverizer is sufficiently flexible to accommodate itself to rolling land.

Besides this, it is very durable. It has bushings that take the wear instead of the wheels. The ends of the wheel hubs are chilled, which reduces the end wear on the wheels.

READ WHAT A FARMER SAYS OF THE FLEURY PULVERIZER "TONGUE TRUCK"

John Deere Plow Co., Winnipeg, Man.

Hamota, July 8th, 1910

Dear Sirs:—Yours of the 5th inst. to hand re tongue truck for pulverizer, and beg to say it is entirely satisfactory and much easier on the horses than the old style. My man drove the old style pulverizer last year, and he says that the tongue truck makes a wonderful difference to the horses; it apparently is perfectly strong and I think there is not much room for improvement. We packed about 175 acres with it and you can hardly tell it has been used, and I would not buy a pulverizer without a tongue truck at any price after using it with one.

Yours truly,

WM. WRIGHT

These are a few of the excellent features of the FLEURY PULVERIZERS. Ask us for further information. Fleury Pulverizers are made in the following sizes: 16 Section, 1 pole. 22 Section, 1 pole. 22 Section, 2 pole. 24 Section, 2 pole. 22 section, 2 pole, pulley hitch, with double trees. 24 section, 2 pole pulley hitch, with double-trees. 22 section with tongue truck.

WRITE FOR CATALOGUE

NEW DEAL WAGON

New-Deal Wagon

Is made of air-sea-sored lumber.

Is equipped with double collar skein.

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

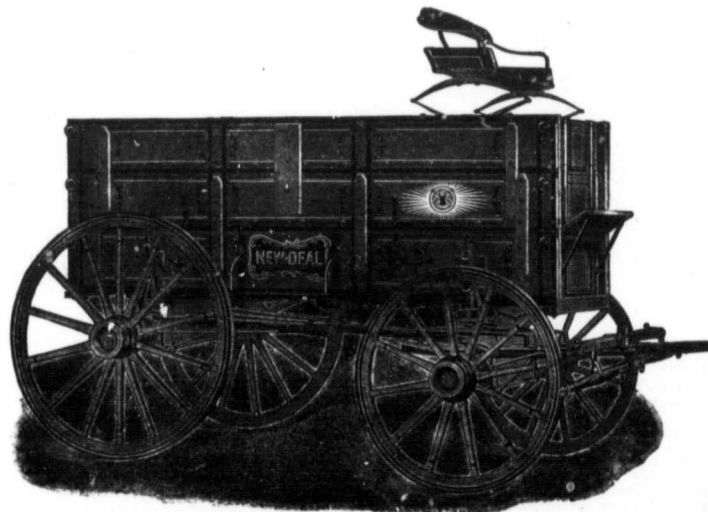
Skeins are heavier; bell is longer and larger, taking more axle.

Has riveted grain cleats (not nailed or screwed).

Bottom of box is reinforced both front and rear.

Has clipped gear, both front and rear.

Box is made flax tight



New-Deal Wagon

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

Steel bolster stake plates on side of box.

Neckyoke 48 in. long (not 42 in.)

Has trussed tongue, cannot break or warp.

Has a channel iron reach really indestructible.

Is extra well painted, striped and finished

Possesses a great many distinctive features of merit.

JOHN DEERE PLOW CO. LTD.

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LIGHTNING

Hear the Voice of Wisdom


OVER 2000 fire insurance companies urge people to protect their buildings from lightning by the Dodd System of Lightning Control. They grant lower rates of insurance to induce people to secure this protection.

It is to their interest to do so. Their statistics prove to them that three out of four of their country fire losses are caused by lightning.

Benjamin Franklin, Originator of Lightning Control




West Dodd Who Perfected Lightning Control



The same statistics show them that all the tens of thousands of insured buildings that are protected by the Dodd System, they have never had one dollar's loss to pay.

Make this a personal matter now. You have insurance on your house. Get protection on that home and for your family. Get both insurance and protection for the cost of insurance alone. The reduced cost of insurance shortly pays for the lightning protection. Don't trifle with fate. The investment is wise. It adds but little to the cost of your buildings. The Dodd System is a real system—the one universally endorsed. It is in charge of trained, school men only. Every building a separate problem, solved according to conditions. Guaranteed. Money Back or Damage Made Good. Our fine Lightning Book, 120 inch pages, with vivid lightning scenes and the whole lightning subject, FREE. Where shall we mail your copy? Address

DODD & STRUTHERS
451 6th Avenue, Des Moines, Iowa.



To the Threshermen of Canada.

TALK No. 3



Be a Specialist

During the past decade many changes have taken place in the threshing business. Within the life time of many now living there exists memories of the flail, of the old low down horse power, of the horse power mounted on wheels that finally developed into the portable engine, which at the time of its introduction was considered a wonder, but which to-day is entirely out of date.

At first the outfits were small. They were so of necessity because the amount of power that was provided to drive them was limited. With the introduction of the steam engine, power knew no limit comparatively speaking; consequently there was a considerable increase in the size of the separators. From the small twenty-four and twenty-eight inch machines there developed the thirty inch, thirty-two inch, thirty-six inch, thirty-eight inch, forty inch and forty-four inch machines, all of which we have with us to-day.

The idea has been to get as much work done as possible in a single day. It pleases the farmer and if properly run, it makes money for the thresherman. But like everything else, we reach a limit. To the man who has watched the threshing proposition carefully, there is evidence of a change. That change will not be towards larger outfits and while we can reasonably expect that the larger outfit will be manufactured and sold for a considerable time to come, nevertheless the small outfit owned by one, two or three farmers for their own individual use is rapidly becoming popular.

This change has been brought about by the advent of the gas tractor and the introduction of a system of power farming. The tendency at the present time is towards a power plant on every farm. At first the farmer saw in it something that would enable him to turn over a large tract of land in the shortest possible time. He soon, however, found that it was rather an expensive proposition to keep two outfits, viz., an outfit of power machinery and an outfit of horses. The result was that he began to devise ways and means whereby he could get rid of his horses and substitute mechanical power. The gas tractor has been able to do this probably more than any other single thing

and when you consider the fact that from the first of January until the first of April approximately one and three-quarter million dollars' worth of these machines have been sold in Western Canada, you can see that there is something to do.

Now, what does this mean in so far as the threshing proposition is concerned. It means simply this: that the man with the small gas tractor is not going to have power lying idle on his farm during the threshing season and wait for a threshing outfit to come and take care of his grain. He is going to buy a separator of his own. If he has sufficient work to do he will thresh only his own grain but if he has only a small amount of work he will doubtless take care of that of two or three or his neighbors, thus solving the help problem to some extent.

This change in condition, however, need awaken no alarm among those who already own large threshing outfits. The number of gas tractors in Western Canada to-day in proportion to the number of farmers that are here is not one in twenty and the rapid increase in the number of farmers each year is much greater in proportion than the number of gas tractors that will be sold; or more strictly speaking, greater in proportion than the number of tractors that the various factories now in existence can turn out for the Canadian trade. The time may come when the supply will meet the demand, but that is a considerable time hence.

There is one thing, however, that these individual outfits will do in so far as the thresherman is concerned. They will give the farmer who owns and operates one some idea of what it costs to maintain a threshing outfit, and will, therefore, have a tendency to increase the price of threshing per bushel, rather than diminish it. It will also have a tendency to keep those out of the business who have no right to be in it viz., the man who has no idea of what it means to run a threshing outfit. In consequence, only the real thresherman will engage in the business, the man who knows how and can make money out of it, for threshing is a business if there ever was one. It is a manufacturing plant that takes sheaves and turns them into good, clean grain and the man who can do this at a minimum of cost and at the same time render a maximum of service with a good clean product can always get plenty of work to do and get his price for it. Don't let the advent of the gas tractor scare you. In fact, it will prove to be the greatest boom that has ever come to your business.

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

Why not make yourself an Expert Engine Operator?

You can do it at home in your spare time.

The Heath School of Traction Engineering

(by Correspondence)

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

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

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

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

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

E. H. Heath Co. LIMITED

WINNIPEG MANITOBA

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

Name

.....

.....



The above is a reproduction of a cup donated by the International Harvester Co. for the best corn grown in the United States of America.

Say, Brother! Speaking of Plowing Engines, How About a Sawyer- Massey?



YOU, or any man with your push and energy, can make real big money operating a Sawyer-Massey Engine.

YOU will not only make a big profit this year, but next year, and year after year, for Sawyer-Massey Engines are built to last. This is but one of the reasons why you should have one. Hundreds of men who know will say this if you ask them.

WHY? Because they have proved this statement to be correct.

YOU get everything you need in the Sawyer-Massey Engine, for it is mechanically correct in design, and the material used in its construction is the best that money can buy.

YOU have work to do—we have the engine to do it, at the right price, too.

THE owners and operators of Sawyer-Massey outfits are successful men. Don't lose any more time or money thinking it over. Spring is here and you should be at work. Get busy—do it now. There is no time like the present. Send in your order at once, or write us for more particulars if you want them. You can't know too much about the Sawyer-Massey Engine. All questions are cheerfully answered, and information gladly supplied.

AND when it comes to Separators—you need a "Great West" to make your outfit complete. The owners of Sawyer-Massey rigs are successful and happy. Better join the ranks. You'll never regret it.



"I started with another line but I'm now using a Sawyer-Massey"

WRITE FOR PARTICULARS. IT WILL PAY YOU.

SAWYER-MASSEY CO.

Winnipeg, Man.

LIMITED

The Largest Engine, Thresher and Road Machinery Manufacturers in Canada

A MAGAZINE
FOR

THE FARM
AND HOME



THE CANADIAN THRESHERMAN AND FARMER

Vol. XVI.

WINNIPEG, CANADA, MAY, 1911.

No. 5.

Three Years' Work on a New Farm

By E. W. JONES.

First Prize Essay, 5th Year Student, in the Canadian Thresherman and Farmer Contest, by Students of the Manitoba Agricultural College.

In view of the fact that successful farm management encompasses almost numberless details and methods which only actual experience can teach to each individual suiting his particular case and condition, there are still two very important factors which apply to any state of environment that a farmer may be placed in, namely, making money and the retaining of fertility. In a very large number of cases and I am sure in far too many cases, the beginner on the land disregards the question of fertility for the former mentioned factor. This, I consider, is due to the fact that we young Canadians have the ambitious get-rich-quick spirit of the West and like to see the bank account swelling even at the expense of the store of plant food in the soil. Thus we have to repeat that so often used, but certainly true term, "soil robbers," for such we have been and perhaps still we are, although now beginning to understand and that the essential man in the community is constructive rather than destructive in his farming operations.

With these two main factors on an equal footing, and the ambition to be successful in both, I will start out on my farm which is situated eight miles south-east of Carman, four miles east of Graham station on the Great Northern and seven miles north-east of Roland, Man. The land

is a clay loam, level and no scrub, being drained marsh land and worth in the neighborhood of \$20 per acre in the raw state. Of the \$6,400 which will be seen to be the value of the 320 acres, \$4,000 is still unpaid and is in four one thousand dollar yearly payments, one becoming due Feb. 1st of each year, with interest at 6 per cent. Apart from the \$2,400 which is paid on the land I have \$1,600 in cash, making altogether

4 horses at \$250 each but 8 per cent. off for cash—\$45 off—\$955; harness, fall terms, \$60; hay for 3½ months, 3 tons at \$12 cash, \$36; oats for 180 days, 405 bus. at 35c., cash, \$141; plow, fall terms, \$80; wagon, second hand, cash, \$50; seed for 20 acres oats, 2 bus. per acre, 40c. cash, \$16; fitting up shanty, etc., cash, \$60; curbing for a well 3 ft. x 3 ft. x 20 ft. deep, cash, \$10.

This would be about all the expense at the commencement so

oats are in, the breaking must be resumed and besides the amount I will be able to do with my own outfit I will hire 50 acres broken by a power outfit, there being several in the district for this class of work. Now on the 50 acres hired done and on the 50 acres I would be able to do myself, flax will be sown, putting 30 lbs. to the acre and costing three dollars per bushel, \$150.

From this time up to July 1st I will do my best to get 50 acres more broken and also hire 50 acres done with the outfit doing the power plowing in the district. In this way 200 acres will be in good condition for wheat the following year. However, here let me say that the farm yard is something that must not be neglected and the first year is the proper time to establish certain rules as to the size, shape and equipment of it. I certainly will leave the breaking for a day or two about May 25th and plow a few furrows where I expect to plant trees the following year.

Trees should be planted on the north and west sides of the buildings to furnish a wind break. Windbreaks and other improvements which add to both the attractiveness and comfort of the home repay many times for the expenditure of time and money put on them.

After July 1st it is too dry and late to break, as the sod does not get a chance to rot, so for a couple of weeks the horses would



A crop the third year. Something for every farmer to look forward to.

an aggregate of \$4,000, the extent of my capital.

About April 1st I will, endeavoring to follow the enumerated plan which I will give as closely as possible, purchase enough lumber to build a stable with accommodation for four horses, 12 ft. x 16 ft. with bent roof and for a shanty, 16 ft. x 20 ft., together costing \$150, for which cash will be paid. Perhaps right here I may better give a list of further expenditure necessary, which will be somewhat as follows:

with this outfit I intend getting the buildings up and well dug by the time the land is ready for spring work. Just as soon as fit I will start breaking and keep at it till the season has so far advanced that there would be no more frosts, then sow the 20 acres all ready for crop to oats, hiring a drill for the day's work from a neighbor. This 20 acres would also require a considerable amount of harrowing, for which a hired harrow would be the implement used. As soon as the

get a chance to gain in condition and rest up, just doing what little trucking around there might be to do. Perhaps doing a little fencing and straightening up around the buildings.

About July 15th or 20th I would cut what hay I could on the unbroken land and then hire a man for three months at the going wage which is about \$30 per month; buy a mower, \$45, fall terms; rake, \$28; make a home-made stacker, material of which costs \$18, and go to the hay marsh six miles east. Hay permits may be gotten from speculators holding this land and it yields exceptionally well. The haying season lasts for at least three weeks and as there are about three tons to the acre two men can put up a very large amount of hay in a short time. In the three weeks we would, with good management, get up two hundred tons. The stacker is certainly a great help when it comes to putting up a large quantity. We generally hire a tent for this work; most times three or four farmers going together.

This hay is pressed, drawn to Carman in the winter and shipped to Winnipeg where an average of \$13 per ton is realized. Thus a fair revenue would be forthcoming, which is so necessary in the first few years and it would not deplete the soil of any fertility.

After haying, the horses would be put onto the plow again, back-setting until the oats and flax were ready to cut and also during odd periods when it might be too wet to cut during harvest. Having a few days work before harvest and with the little done during wet days, I think thirty or forty acres might be turned back. The rest I would get done with a power outfit, say sixty-five acres at \$2.75, \$178.75; leaving this one hundred acres in the pink of condition for a bumper crop of wheat the following year.

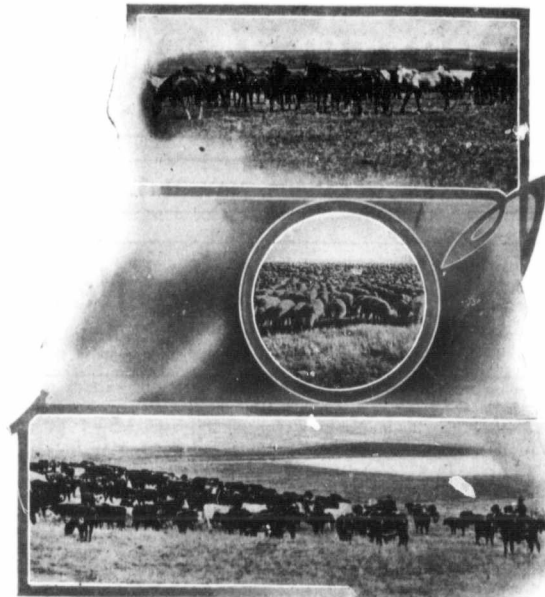
Next order of business will be to purchase an eight-foot binder, \$160 fall terms, and 250 lbs. cord, \$25.00 fall terms. This allows two lbs. per acre for the flax and two and one-half for oats. When the cutting is done four portable granaries of 600 bus. capacity, costing \$60 each will be built. This being done while the grain is getting ready for threshing. I will endeavor to get as much threshed from stook or in other words will not stack any more than possible. The grain will be run directly into the granaries from the separator, thus eliminating a great amount of labor which would otherwise be required in hauling to an elevator or even to a central elevator.

I will endeavor to engage an outfit having stook teams and also, if possible, cooking caboose. For this small amount of grain such a system would be far more satisfactory than to go to the trouble of getting in extra help and generally fixing up for the accommodation of men at meals. However, failing this system, as we sometimes do, the next re-

granary would be to get the men boarded at a neighbor's as is the custom of a few bachelors in our district. These neighbors generally charge twenty cents per meal, so for this small crop \$12 should pay the board bill. Again, as machines furnishing stook teams are not always available, I in this case would have to change work with one or two neighbors

until freeze up anyway. The one outfit will manage the plowing of the 120 acres in good shape before the freeze up takes place.

While the hired man is plowing in the fall I will build a drive shed to shelter the binder, mower, rake, wagon, etc., and make it large enough to accommodate the drill and other machines I



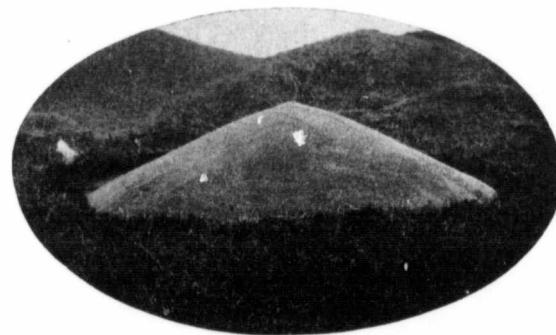
The live stock on a thousand prairies.

to get the required help. However, with the use of the portable granaries both my teams would be furnishing for drawing stooks.

The twenty acres of oats would on an average year yield, this being breaking and having all its fertility, 65 bus. per acre, 1,300 bus., and the 100 acres of flax, 11 bus. to the acre, \$1,100 bus. Thus the threshing bill would equal \$12

will necessarily have to purchase within the next few years.

This building will be the first one built of a permanent structure, built of corrugated iron and a part at one end for work and blacksmith shop. The cost of this building will be about \$500. The stable and shanty will also require an extra covering of boards and paper between. This



Bins full to overflowing.

for board of the men; \$1,300 bus. of oats at 4c. per bus., \$52.00; and 1,100 bus. flax at 12c. per bus., \$132.00; also \$50 for entire expense which cannot be itemized but which can always be relied upon to occur.

As soon as the threshing is finished the plow must be started, letting the grain remain in the

market reaches a higher level. The 150 tons, less \$2 per ton for pressing and 50c. per ton for shipping will return still the amount of \$1,125. Now this appears big but nevertheless fact will stand and I have known it to be done more than once. I am here taking an average of \$10 per ton while the present market of Winnipeg quotes \$13 for the same class of pressed hay.

If there isn't much demand for seed flax, the elevator will get it as soon as the snow comes. Last year's price was \$2.60 per bus. and the demand very brisk. However, I will take an average of \$2.30 and sell 900 bus. at this time, \$2,070.

There is always a demand for seed oats from breaking and so I will just let them lie there till near spring. The horses require 150 bus. each year for feed, 600 bus.; also 100 bus. for seed, so will have 650 bus. for sale, make it 550 bus. at 40c. per bus., \$220. Now my expenses for the year amount to a large sum of money, yet with the income I have given a very, very good rise in capital is manifested. After I had paid the \$1,000 payment and interest on \$4,000 at 6 per cent., \$240, altogether \$1,250, I still have a good supply to start the next year.

In the first place I had . . . \$1600.00	
Bought 4 horses, cash	\$ 955.00
Harness	60.00
Hay	36.00
Oats	141.00
Plow	80.00
Wagon	50.00
Seed oats	15.00
Shanty and stable	150.00
Fitting up shanty	60.00
Curbing for well	10.00
Seed Flax	150.00
Getting 100 acres broken	275.00
Fencing, etc., around buildings	25.00
Wages for man, 3 months	105.00
Mower	45.00
Rake	28.00
Stacker	18.00
Backsetting 65 acres, \$2.75 per acre	178.75
Eight-foot binder	160.00
250 lbs. cord	25.00
Four portable granaries	240.00
Board for threshers	12.00
Threshing bill	184.00
Also, \$50 for unforeseen expense	50.00
Cost of drive shed (next year payment)	
Fixing up stable and shanty	75.00
Profit on hay	\$ 1125.00
Flax, 900 bus. at \$2.30	2070.00
Oats, 550 bus. at 40c	220.00
Paid on land	1250.00
	\$5015.00 \$4478.75
Balance on hand	\$536.25

My cash on hand commencing the second year will be considerably smaller but my capital very much larger:—

Cash on hand, \$536.25; Flax and oats on hand, \$660; horses, \$800; machinery, etc., at 10 per cent. depreciation, \$451; improved farm with \$3,000 improvements but worth much more money than paid for it, \$27.50 per acre, \$5,800—total capital, \$8247.25.

This is a real fair estimate and although the increase in capital appears large it is still reasonable. From experience similar to the method outlined I have known several men who have got more out of their land each year than they made, or put back in, in pay-

ments. This has been done by growing flax and every bit of work was hired done.

Of the second and third years I purpose just giving an outline, as several expenditures will be just duplicates of those already given. Seed wheat for 165 acres will be required: 247½ bus. at \$1 per bus—\$247.50. As all the land is ready for crop the four horses will handle the work in good shape and I will hire 95 acres more broken, just leaving 5 acres for yard and roots. I do this because I consider it far

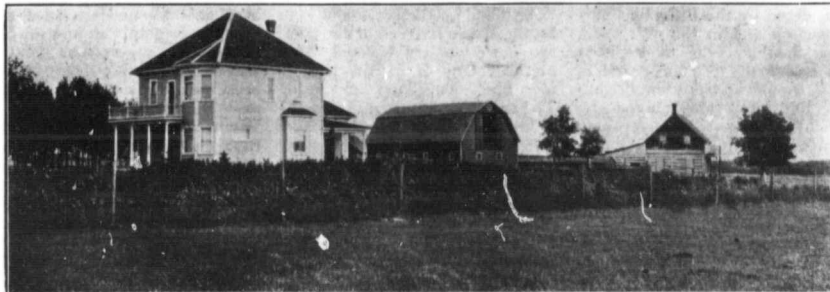
man engaged by the month and I will run the binders. Get the threshing done as the year before, the bill this year being \$561.65, as a fair average the wheat going 25 bus. per acre; oats, 65 bus.; and flax 11 bus., making 4,125 bus. wheat; 3,250 bus. oats, and 1,045 of flax. I will build a central granary this year 20 ft. x 24 ft., costing \$400, and two extra sets of harness will cost \$80; wagon, \$90; plow, \$75; and living expenses, \$175; also will have to pay for the drive shed this fall, \$500, and \$1,000 payment and

Capital at end of second year:—	
Cash on hand	\$ 1009.60
Wheat and oats on land	800.00
Horses	2300.00
Machinery, 10 p.c. depreciation	700.00
Farm—improved, all broken and in first-class condition, \$2000 unpaid, but with new stable, etc., \$32 per acre	8240.00

Capital

The third year will be the first year to establish a new system of farming, that of constructiveness. The land will still all be in good shape but only by good care and management can it be kept in

the plowing and plow for others. I will purchase a few real good Ayrshire females or two or three Yorkshire breeding sows. The increase in capital this year will be far greater this year than any so as the capital went from \$4,000 to \$8247.25 the first year and from \$8247.25 to \$13,049.60 the second, the increase first year \$4247.25, and second \$4202.35, so at the end of the third year we will estimate it at \$17,000. Now this is nearly all due to increase in value of land and seems just. However, I have had too much experience in paper farming to say that I will raise my capital from 4 to 17 thousand in three years so to make a fair and just estimate I will cut my increased capital exactly in two, leaving \$10,500 capital at the end of the third year and this is certainly low enough, yet high enough that many industrious young Canadians should turn their attention toward farming. The whole secret is to get a new farm; one that you can make whatever you like of it and then farm it with the intention of living your old age on it and of leaving it when the race has been run in as high a state of fertility as it was when first broken.



The New

The Old.

more advisable to break and then reseed to domestic grass of some kind than to leave in the wild state. The domestic grass gives more pasture and a feed of a much more nutritious character. The 95 acres costing at \$2.75 per acre, \$261.25. Having the seed for the flax and oat ground in the granary, considerable less outlay of capital will be required. The extent of the crop then will be 165 wheat, 95 flax, 50 oats and 5 yard and roots.

However, considerable time will be taken up in building a permanent stable and using the lumber of the pioneer one on the studding. This stable I intend to construct will be 28 ft. x 40 ft. with 20 ft. studding, fitted with hay fork, etc., costing \$1,200 fall terms. I think I will likely let the contract of building, so all I will have to do is draw the lumber, stone, etc.

In the middle of the summer I will hire a man, as in the previous year and put up hay, but not having to buy mower, rake and stacker as in the previous year.

If the crops are coming along well and as in writing this essay we are to consider each and every year an average one, I will buy four mares, perhaps two of which will be pure-breds, either Clydesdales or Percherons and the other two good grades. For the pure breeds an average of \$450 and grades \$300 will be about right, \$1,500. These I will get insured, as breeding stuff is more liable to accident. These mares would all have been bred in the earlier part of the summer. They will work just as well to take off the crop and also fall plow as geldings and can do some lighter work in the spring.

As harvest time nears I will purchase another 8 ft. binder, \$160. Get cutting done, hiring two or three stokers and the

interest 6 per cent. on \$3,000—\$180.

My standing at the end of the second year would be about as follows:—

Had cash	\$ 536.25	
Seed wheat	\$ 247.50	247.50
95 acres broken at \$2.75	261.25	261.25
Stable	1200.00	1200.00
Horses	1500.00	1500.00
Harness	80.00	80.00
Granary	400.00	400.00
Drive shed	500.00	500.00
Wagon	90.00	90.00
Plow	75.00	75.00
Threshing bill	561.65	561.65
Wages	235.00	235.00
Binder	160.00	160.00

this high state of fertility, so all the flax land of the first year will be sown to grass and clover, with oats as a nurse crop; wheat will be put on 200 acres of the best of the land and some barley on the rest. I will not grow any flax after the second year as I consider flax only a real profitable crop to grow on breaking. It can be grown and harvested the same year as the breaking is done, while in the case of growing wheat this is impossible.

The eight horses will do all the work, so no money will be paid out for horseflesh unless one or

Case and Road Machinery.

Six years ago the J. I. Case Threshing Machine Co. put on the market their Power Steered 10-ton Steam Road Roller which was the only power steered Roller on the market. That made it. Since then it has grown into favor throughout the country.

This year the Company decided to put forth a line almost complete for road building. In addition to the Road Roller and Road Sprinkling Wagons they have



With the new farmer who has only a small amount of grain it pays to stack it.

Payment and interest	1180.00	
Trees	5.00	
Blacksmith sundries	20.00	
Cord, 700 lbs.	70.00	
Board for threshers	30.00	
Living expenses	175.00	
Unforeseen expenses	100.00	
Profit on hay	\$ 900.00	
Wheat to sell 3925 bus. at 90c	3532.50	
Flax, 1045 bus. at \$2.25, sell it all	2351.25	
Oats, 1450 bus. at 40c.	580.00	
	\$7900.00	\$8980.40
Cash on hand		\$1109.60
	\$7900.00	\$7900.00

two die, in which case new ones would be purchased as soon as suitable ones could be found. No money will be expended for stabling, granaries, or drive sheds but the entire farm will be fenced. The cost to produce per bushel this year will be considerably less on this account. The same system of haying will be followed, but if crops are good I will purchase a gasoline tractor and a separator, doing my own threshing and also for a few of the neighbors. In the fall do some of

been selling, they have added recently:—

The Perfection Graders and Drags—Rock Crushers—Rotary Stone Screens—Rooters—Road Scrapers—Railroad & Township Plows and The Troy line of Bottom Dump Wagons and Boxes, also the Troy Reversible Bottom Dump Wagons and Case Municipal Tractors especially constructed for use on any kind of paved streets; and Case contractors' Hauling Engines, which complete the line.

How I Would Equip, Lay Out and Operate a Given Half Section of Land in Saskatchewan

By JAMES H. BRIDGE.

First Prize Essay, 4th Year Student, M.A.C.

To the stranger coming into this last, best West with the intention of settling and making his home on its magnificent prairies, the question of prime importance is that of location. He desires to find the place where he may secure the greatest returns for the capital and energy expended, and at the same time a desirable spot in which to make a home. So important a bearing has this matter of location upon his future success and happiness that it would be wisdom, on his part, not to be in a great hurry and take up the first piece of land that is offered to him with an assurance that it is the most desirable place in the country. Real estate agents are not in the business for their health, and some of them are possessed of more verbiage than veracity. More than one man has bought land under such circumstances, and has found cause for repentance later on. It may be true that the man who can succeed in one part of the country would succeed in any part; yet we believe that such an important matter as the location cannot be dismissed in any such summary manner.

The location to be decided upon will depend on the personal ambitions and leanings of the prospective purchaser. He may desire to follow a system of grain growing only, or he may possess such an inherent love for live stock as to find it almost impossible to live without them. If his penchant be toward straight grain-growing he will undoubtedly prefer a piece of clear prairie in order that he may get his land broken up and producing revenue in the shortest possible time. If, on the other hand, he is resolved to include stock-raising in his operations, the probability is that he will prefer a district more or less wooded, so that he may have shelter for his stock and, incidentally, for himself. Again, he may desire to locate on land within a few miles of an existing railway, or, on the other hand, decide to go farther afield, in order to obtain the distinct advantage of

the difference in the price of land brought about by lack of railway facilities, with the hope of having a railway closer to him in the near future.

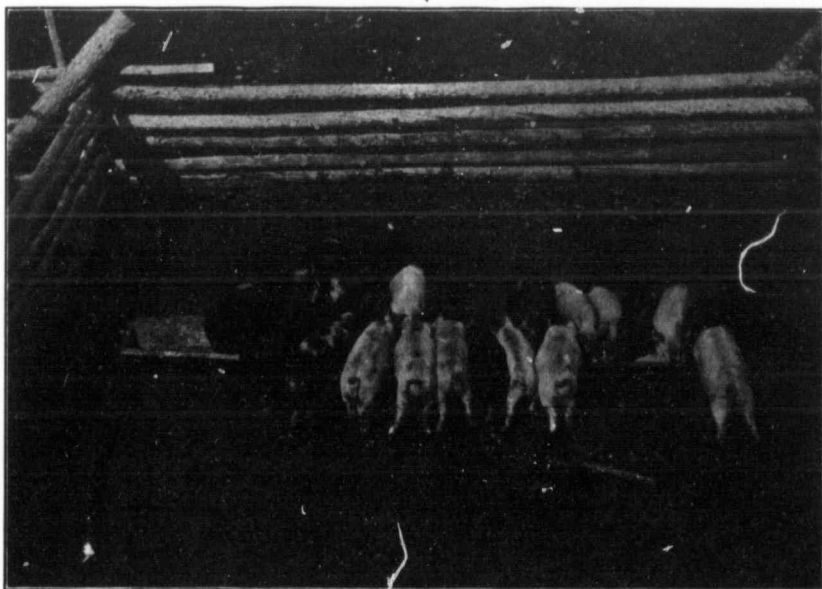
The pros and cons of these various points should be well considered by the intending purchaser of land in this West, as, once the choice is made, it is rather difficult to change, and to do so would probably entail considerable loss. The methods by which a prospective buyer may secure information as to lands for sale do not come under the scope of this article, hence, they will not be discussed here. Suffice it to say that they are numerous, and anyone desiring such information will find a plethora of advice offered gratis.

of this article lies west of the town of Battleford, Sask. As a place of residence, the district has many commendable features. It is bounded on the south and west by the semi-circular range of hills known as the "Eagle Hills," and on the north and east by the Battle river. The hillsides are more or less covered with bluffs, chiefly of poplar, with a few birch and balm of gilead. The valley, or flat, as it is termed, is in some places quite level and free from bush, while elsewhere it is dotted with clumps of trees, giving the country a park-like appearance. This, together with the beautiful background of timbered hillside, gives an attractive and home-like air to the surroundings.

homesteads has been appropriated, but there still remains some desirable locations held by the railway companies and speculators.

The system of farming followed in the past has been like that of almost all newly settled districts, largely grain-growing. There are many reasons for this. Perhaps the chief reason has been the comparative impecuniosity of the settlers coming in. While it is true that many settlers have brought with them considerable capital and a large fund of experience of conditions very similar to our own, it is equally true that a large number of our new-comers have been possessed of very little of either capital or experience. Very

naturally the latter class turned to grain-growing, principally wheat, as the system of farming the least capital outlay, and having the advantage of giving larger returns and in less time than could be obtained in any other branch of agriculture open to them. The cheapness of the land, combined with its virgin fertility, were important factors in determining the system to be followed. Under these conditions great advantages accrued to the man who possessed capital. More than one case has been known where land has been bought, broken up, and the fol-



A good spring crop and moreover a profitable one.

If we should be persuaded by the expression of opinion heard from different parts of each of the three prairie provinces, we would find that there are numerous "best" places in the West. Each settler believes that the particular section in which he has been so fortunate as to locate is equal to, if not indeed better, than any other. It is well that such a feeling exists because it is obviously impossible for everyone to have the same piece of land. However, while there is an enormous amount of splendid land to choose from, there is also some poor land and care should be exercised in selecting a farm.

The district in which I shall choose my land for the purposes

The soil here varies in character from a rather sandy loam to a rich black loam, and has proven a first-class wheat land. Its virgin fertility is evidenced in the luxuriant growth of grasses, and from the numerous remains found scattered over the prairie it is easy to see that the district has been a favorite feeding ground for that noble, now almost extinct, race of animals—the buffalo. It is practically free from stones and where it is found desirable to remove scrub or bush, the quality of the land thoroughly compensates for the labor involved.

This particular section of country has been settled up during the last eight or nine year. Most of the land available for free

following year put into wheat, the crop from which has more than paid for the land after deducting all expenses. In view of these facts, and also because wheat is a product for which a market is available at any time, the first attention of the new settler has usually been turned to the growing of wheat.

Hence, in outlining a system of farming such as I would follow if starting on a half-section of unbroken prairie in Saskatchewan (and this applies equally well in Manitoba and Alberta) I shall confine my efforts principally to wheat production. The advocacy of such a plan will undoubtedly meet with some opposition on the ground that grain-growing, without the keeping of live-stock

and the consequent return to the soil of the elements of fertility, is not a stable form of agriculture and must sooner or later end in disaster. As a student of agriculture I cannot do otherwise than agree with such a contention but I maintain that to the new settler the thing of paramount importance is to make some money as quickly as possible and with the least possible outlay. By so doing he is able to pay for his land and place himself on a sound footing financially.

I believe that the average soil of this Western country will stand a purely grain-growing system for at least ten years without seriously impairing its natural fertility, and that such a system can be made highly profitable during that period if a proper system of summer-fallowing is practised. I do not wish to be understood as advocating the continuous growing of grain for even ten years, but merely to show that in the newer sections of the West the first three years or so can be most profitably employed in growing grain.

Many reasons could be advanced to show how much more preferable such a system is than that of diversified farming during those early years. One of the chief of these is so much more can be accomplished if all the energies are directed towards the one object than would be the case if one were attempting many different lines. To the prairie settler the thing of chief importance is the breaking up of land so as to make it productive in the shortest possible time. Every acre properly broken and prepared so as to be ready for cropping the following year will add a valuable margin of profit to the income derived from the first harvest. At such a time as this every dollar is appreciated, as the outlay during the first eighteen months is necessarily comparatively large. By getting as large an area as possible in crop at once, it is possible

to meet one's liabilities more fully in case debt has been incurred. Thus the interest on borrowed capital is avoided. Another reason is that the native grasses afford such poor pasturage and yield such a poor crop of hay, after being once eaten down or cut over with the mower, that cattle cannot be profitably pastured on land costing from \$10 to \$20 per acre. Hence, in order to afford grazing land, cultivated grasses and clovers must be substituted. We know that most of our grasses need to be sown on land that has been fairly well worked up, especially so if clover or alfalfa is to be grown. Therefore, it is not wise to go into stock-raising until the cultivated grasses or the

clovers have been established.

There is also another important point in this connection which is worthy of note. It is generally recognized that the more intensive the system of farming followed the greater is the amount of hired help necessary. It is quite unnecessary to point out the dearth of help in the West, because it is in evidence at all times. This, in itself, is sufficient to influence the Western settler to choose grain-growing during his pioneer

I will consider my half-section as being bought of the C.P.R. land dept., as they are the owners of much of the land there. Under their terms of sale to bonafide settlers, ten years is allowed in which to pay for the land, and this has proven a very satisfactory method in many cases. It enables a man with limited capital to commence operations, and pay for his farm without going too deeply into debt. The rate of interest charged is 6 per cent. and the purchase price is divided

be purchased. Some buildings will, of course, be necessary but with only \$3,000 capital there must be as few as possible and not too expensive.

Following is an approximate list of the things which are practically necessary: 4 horses and harness; sulky plow; disk harrow; land packer; 6 sections of drag harrows; mower and rake; wagon; cow; small barn and house.

It is, of course, impossible to lay down any set of rules with an assurance that, if followed, certain definite results will be attained, because so many unknown factors enter in to upset the calculations. No two men see any one thing in exactly the same light, and no two men would do the same piece of work in exactly the same way. Hence, the list given can only be regarded as an approximation of the expense. Some men would purchase very much more than would others, but I think that everything in the above list is necessary right at the start.

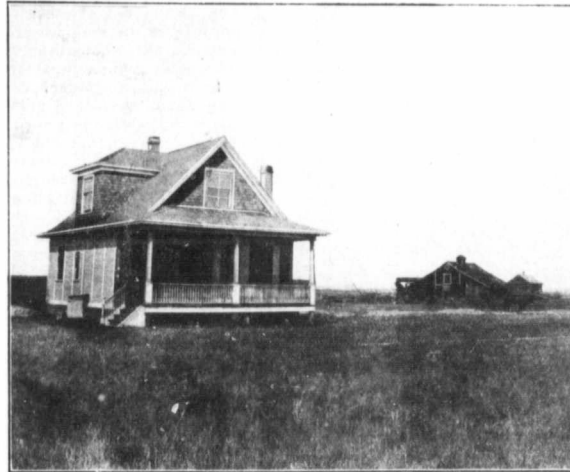
I would buy a fresh cow and feed her liberally and when she is about dry, buy another fresh one and so gradually build up a fairly good herd of dairy cows. A few chickens might be bought to supply the table with eggs and form a nucleus for a future flock. A whole volume might be taken up in telling what were best to do on a new farm but our space is limited. One very necessary thing, however, may be mentioned, viz.: The necessity for a good well. Good water is invaluable in maintaining both man and beast in good health, and the digging of a well should be one of the earliest pieces of work.

It is unnecessary to spend much time discussing the erection of buildings, etc. I would build a barn about 24 ft. x 26 ft., which would hold at least twelve animals. As little as possible should be expended on it, with the exception of the roof, which must be made tight and

rainproof. A small house could be built for the \$200 allowed and would do very well for a few years. A poultry house of poles would do very well until the flock attained a fair size. As there will be no crop the first year, except the few acres

of oats, I would build a portable granary and leave the building of a permanent one until the following year.

And now as to the actual farm operations. We have pre-supposed that there are twenty acres broken on the half-section. This, of course, would not be the case in buying land from the C.P.R., as I have outlined, but that will not prevent the working out of the plan I have in mind. If there was no land broken I would break about 20 acres for imme-



Small but neat and comfortable.

years. In view, then, of these facts, the knowledge of which has been gained in actual contact with the conditions as they exist on these Western plains, I unhesitatingly advise the settler on raw prairie land to grow grain for a number of years until such time as he has his farm squared up and equipped in such a manner as to make a diversified system of farming practicable.

Land in the vicinity of which I am writing is now worth from \$10 to \$20 per acre. If we consider the price of good wild land

into ten equal annual instalments. Only the interest is asked for the first fall, thus giving a purchaser a chance to get a crop before commencing to pay the principal. At \$15 per acre the purchase price would be \$4,800 and the payments necessary in each of the three years would be as follows: First year, interest only, \$288; Second year, principal and interest, \$768; Third year, principal and interest, \$739.20.

I will consider the amount of capital to be invested as \$3,000. The first expenditure will be for



Slow but still not a bad outfit for the young farmer with limited capital.

as about \$15 per acre we shall be about right; in fact, that price is a little above the price of most of the unimproved land now available there-about, as the choicest parcels have already been picked up. The free homestead is now a thing of the past so far as this section is concerned, hence, it cannot be considered. Indeed, there are indications that free homesteads will soon be done, except in wooded or rough parts of the country.

horses. I would buy four good horses weighing 1,400 lbs. or over, preferably mares. These will cost at least \$250 each. I would also buy a sulky plow with both stubble and breaker bottoms, so that the four horses will be able to handle it comfortably in breaking. Also a disk harrow, a land packer (which should be used to roll the breaking) mower and rake, drag harrows, wagon, etc. The purchase of a seeder and binder may be left until the following year. A cow will also

diate cropping, as it is quite necessary to grow some oats. However, to keep in line with the subject, I will consider that there are twenty acres already broken when I begin operations. I would first prepare the twenty acres for cropping, later sowing about nineteen acres of it to oats, which should raise enough for feed and seed during the following year. On the other acre I

be lumpy and soddy for many years. I do not wish to suggest that such a method cannot be profitably followed in some places, but I believe from experience, and from a study of Western conditions, that it cannot be generally advised, and that eventually, the man who leaves the cropping until the following year is better off than he would be had he sown on spring breaking.

of securing good seed in large quantities, and the man who sows dirty flax seed on new land is certainly sowing sorrow for himself or someone else. Thousands of acres of virgin prairie have been polluted in this way and their value correspondingly decreased. Weeds will come fast enough without being introduced in this way. Hence, because of the forementioned disadvantages, I shall advocate that all breaking be left until the following year before being cropped.

breaking be done about 3 to 4 inches deep, then rolled, lightly disked and dragged, and later a couple more diskings and draggings, the aim being to have the land quite ready for the seed before winter sets in. The sod should not be cut through in disking or it is liable to be lumpy and rough. It should be dragged again in the spring before sowing.

I would treat my land in the manner outlined, having the packer drawn by the engine. (If rolling the land with the horses it would be better to travel in the opposite direction to that in which the breaking was done, i.e., see the lands that were hawed, and vice versa.) Following the engine with the disk and the drags will give the land little chance to dry out. It will be quite possible to do this, and also break other 40 acres with the four horses on the sulky plow. Breaking done at the proper time (i.e., as soon as possible after growth of grass begins) and treated in the way suggested will be in condition to insure a crop the following year even though a dry season ensue. This was amply proven during the season just past.

The chief work then, during the first year, will be the breaking and preparation of the 200 acres of land and the erection of the necessary buildings and fences. Added to this will be the putting up of sufficient hay to serve for winter and the following summer. There will be no harvesting beyond the 19 acres of oats and the acre of potatoes and garden stuff. If the season is a normal one the oats should yield at least 50 bus. per acre, a total of 950 bushels. The potatoes should yield 175 bus., which will be more than enough for use and for seed. If it were not too dry I would plow the stubble land in the fall, about an inch and a half deeper than it was broken, following with the packer and harrows.

During the winter months the time can be profitably spent getting out wood and cutting it up for fuel, cutting and pointing fence posts, etc., so that it will be unnecessary to spend time doing these things in the summer. I would also purchase another cow in the fall, to augment the milk supply, paynig for her with the proceeds from butter.

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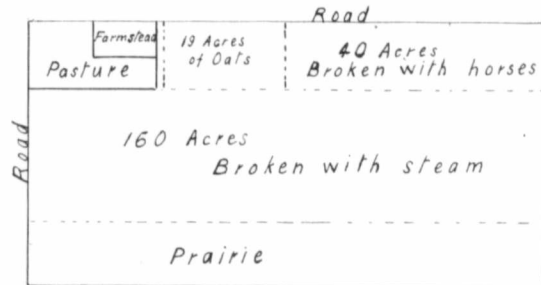


Diagram No. 1. First Summer.

would grow potatoes, roots, vegetables, etc. These will help to keep down living expenses and also provide potatoes for seed the following year. About 20 acres of land would be set apart, a portion of it to be used for the farmstead and the remainder as a pasture, the latter to be fenced so that the cow could be kept there and the horses turned in at night or during idle periods. This may be broken up later on and sown to grass or alfalfa. After locating the house I would break up a piece of land near it to be used as a permanent garden.

I have stated that I would purchase four horses. This may seem a small number but I think they will be sufficient for the first year as I propose to get some breaking done with steam or gasoline. There are very few districts where such power cannot be hired for plowing, and where care is taken a very good job can be done. I figure that by getting part of the land broken in this way I can save the interest on money which would have to be borrowed in order to buy another four-horse team, as well as a big bill for oats, etc. I propose, therefore, to have 160 acres broken by tractor, and expect to break about 40 acres with my four horses.

Perhaps it would be well at this time to discuss the manner in which new land should be treated in order to secure the best results. In the first place I would not attempt to grow a crop on spring breaking, except in cases where it is necessary in order to raise a few oats for feed. There are many men who advocate the growing of a crop (usually flax) on spring breaking, so as to get some returns the first year, and it has often been quite successful from that standpoint. Now it is a well-known fact that sod needs moisture to enable it to rot, and if the moisture is taken up by a growing crop it cannot be used also for the rotting process. As a result the field will

There is no disguising the fact that much of Western Canada is in the semi-arid region and the sooner we recognize it, and act accordingly, the better will it be for us as agriculturists. Nor is it an unmixed evil. In most countries where the rainfall is higher than with us we find that much of it falls at times when it is not desired, and often causes damage to crops. In the West, however,

As we become more and more imbued with the idea of conserving moisture in the soil, we are realizing that these conservation principles apply to new breaking just as much as to the older land. Breaking should be looked upon as summer-fallowing the prairie. All newly turned sod should be rolled down flat with the packer, leaving no large air-spaces beneath in which the air may circulate and dry out the sod. By pressing the inverted furrow slice firmly onto the bottom of the furrow, capillarity is induced, thus bringing the moisture from below to assist in the breaking-down process. The disk harrow should next be run over the land, cutting just severely enough to provide a mulch which will to a large extent prevent evaporation. This might be followed by a stroke with the drag harrows.

In the sandy loam soils of the West the practise of backsetting

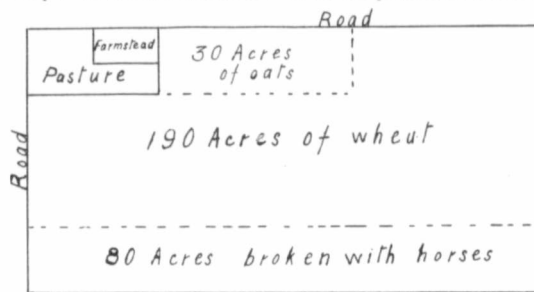


Diagram No. 2. Second Summer.

we find most of our rain falling during the crop months.

There are very few sections where the rainfall is too light to grow good crops most of the time, but we must improve our methods so as to make the most of that which falls. The average rainfall in Manitoba is about 20 inches; in Saskatchewan 17 inches; and in Alberta 18 inches. In parts of these provinces it is above the average; in other parts, considerably below. In that portion of Saskatchewan in which I have selected my land the average during the last twenty years has been around 14.5 inches, and yet good crops have been grown year after year. Last year, in spite of drouth, a yield of 44½ bushels per acre was recorded on summer-fallowed land. Where the rainfall is so light it is absurd to expect to grow a crop and get the sod properly rotted too.

A very important and strong argument against the sowing of flax on breaking is the difficulty

has not been carried on to such an extent as in the heavier soils, and the method now largely in vogue of medium to deep breaking and subsequent disking has been found quite satisfactory. Some very interesting and useful experiments along this line are being conducted on the University farm at Saskatoon, Sask. I would recommend that the

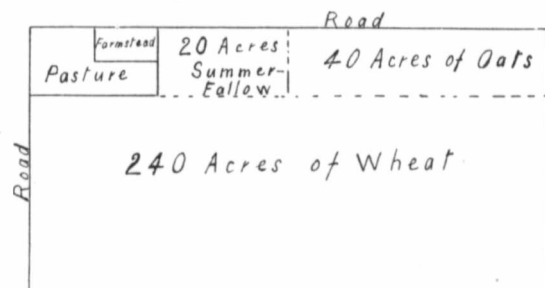


Diagram No. 3. Third Summer.

Outfits that give Good Service on Largest Acreage COCKSHUTT GANGS HAVE STRENGTH IN RESERVE

YOU get an engine gang that is solid through and through when you get the Cockshutt—strength and also strength in reserve.

One plow to a beam and that beam doubled for DOUBLE strength.

Shares bolted in place to stay—not one bolt and nut, but FOUR to hold the share. It is folly to try to save minutes by single-bolt come-off-quick shares on your engine gang, when you consider the MONTHS of service a four-bolt share will give by being PROPERLY bolted on with RESERVE strength to keep the share right.

WIDE Hinges to platform at head of plow beam to give maximum resistance against winging—RESERVE strength against deterioration in regularity of furrow, yet GREATER delicacy in lining up of plows by the eccentric adjustment. RESERVE adjustability.

Shares and bottoms so set that they RISE over a rock, yet do NOT rise in hard-baked land. Each single plow is individually adjustable with a special set screw to REFINE action of plows. RESERVE adjustability again.

QUALITY OF PLOWING ALWAYS THERE

Immensely stronger than actual ordinary stresses of plowing, Cockshutt Engine Gangs are delicately adjustable to the finest refining of furrows and their depth and turn-over of land, as the refining adjustments bear against strongly constructed and rigid parts. That is why the Cockshutt Gang is the media-winning gang, where quality of plowing counts—dependable adjustments on rigid elements, that permit accurate refinement. Quality plowing from ADJUSTABILITY.

Individual plows rise and fall to meet irregularities of ground. This permits quality of plowing. Outer furrows along ridges are even depth and quality with center furrows—not scraped. Outer furrows along hollows are proper depth—not over-deep. Center furrows in hollows are perfect—plows at center drop and plow at hollow level. You get quality plowing from FLEXIBILITY.

A low-platform with broad wheels supporting the platform at constant level, maintains this exact level for ALL plows. The last plow in a Cockshutt Gang makes a perfect furrow under perfect control, even in mushy ground. You get quality plowing from DESIGN.

YOU GET A SPEEDY ENGINE GANG

The Cockshutt Engine Gang has a low, direct-line pull from tractor to plow—no power LIFTING the plows, all power PULLING them. This means speed from saved power.

Plows rise and fall individually. Each plow is under constant strain because it is at constant depth. There is a STEADY pull on tractor, which does not LOSE speed from INCREASES in the pull.

The swiveled platform wheels and short hitch permit a SHORT turn.

Long, easily-handled lifting levers SPEED lifts at land ends.

Tractor runs CONTINUOUSLY as plows rise over rocks and reset themselves without losing time from STOPS.



5 to 12 Furrow Sizes, Stubble or Breaker Bottoms, Swivel Wheel, Low Draft Platform

Cockshutt Engine Gangs

YOU GET AN ADAPTABLE ENGINE GANG

BREAKAGES of plows, when they happen, do NOT cripple the Cockshutt Engine Gang, as rear plow is quickly set in place of broken unit, permitting CONTINUOUS TEMPORARY plowing one furrow less while replacement is being obtained from Cockshutt Agent NEARBY.

All these things COMBINE into acreage capacity, with LOWEST POSSIBLE COST per acre.

The Cockshutt Gang is dependable by reason of its STRENGTH, and desirable by reason of the QUALITY of its work.

YOUR ENGINE FOR CONTRACT PLOWING

SEE THE
COCKSHUTT DEALER

While good for farm work, it is specially good for CONTRACT work, because with it you can deliver the work ON TIME.

Also, because of its RESERVE strength, it can tackle EXTRA HARD breaking safely.

And because of its flexibility, it can handle the WHOLE range of farm lands, from extra soft loam to extra hard clay and gravelly land of the most irregular kind, never LOSING you the chance of a plowing contract by inadaptability.

THREE OUT OF FOUR GANGS ARE COCKSHUTT'S

Cockshutt Gangs win the plowing medals. They have been used longest in the Canadian West. They are easiest understood. They need least oiling and general attention. They require the least actual work to operate. They represent greatest dependability.

That is why three out of four use them. See the Cockshutt Agent and get an outfit for your tractor. Make it earn money for you with a Cockshutt Gang.

Get the "Horseless Plowing" Book by writing us today.

COCKSHUTT PLOW COMPANY LIMITED WINNIPEG

BRANDON

REGINA

SASKATOON

CALGARY

EDMONTON



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



"Everything begins and ends with the soil."

The Age of Power Farming is Here. Get Into the Game.

OUR GUARANTEE

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

SOMEWHERE and sometime someone will get out a publication that will please everybody. That point has not as yet been reached and that publisher who tells you that he has got the only publication for you is making a mis-statement.

You, as a farmer, after you have cultivated your land for a period of years discover that one field is better adapted to raising a certain kind of crop than another. It is just so with a publication. No one publication can give you everything you want in the way of reading matter.

Last month we attempted to tell you something of our plans regarding this magazine. Let us tell you just a little bit more.

You perhaps do not realize it, but if you will permit us to prophesy a little, inside of five years you are going to be a power farmer. This is not a statement, it is a fact, and we are taking no more risk in making it than a life insurance company takes in insuring your life on the bases of the mortality table. We are simply going by something that has already happened.

Five years ago power farming was an almost unheard of thing. Today it is the thing and all that prevents more farmers from cultivating

You may not be a power farmer this year or even next year, but you are going to be one sometime. We will assume that it is even five years hence. The Canadian Thresherman and Farmer during that time will have cost you \$5.00 and when you want to get into this game of power farming, you will give not \$5.00, but you will give at least \$500.00 to be able to say to yourself "I know the power farming proposition and I know it thoroughly." When you go to purchase your engine you want to be familiar enough with the merits of steam and oil to be able to judge which is the better suited to your own farming conditions. You want to know sufficient about engine horse power to know just how much of that horse power is necessary in order to handle your own farm. You want to be sufficiently acquainted with the various methods of traction cultivation so that you can determine as to just how you will hitch your various implements and moreover, you will want to know just what tillage implements are best suited to your own conditions.

We would like you to see the importance of this thing as we see it, and as you are bound to see it later if not now. It is going to replace the present system of farming just so sure as the self binder has replaced the cradle.

The Canadian Thresherman and Farmer has been called "Canada's Farm Machinery Magazine." At first glance this may not seem to interest you, but if you will get down deep into the subject and realize the real significance of farm machinery as it pertains to your farm you will find that you want to get next to all the information on the subject that you possibly can and we can say truthfully that nowhere and through no other medium can you find as much of the above sort of information as you can in this magazine. Our reading columns are full of it and our advertising columns keep you in touch with all that is latest in the farm machinery line. The manufacturer realizes this. That is why we are enabled to give you the sized papers that we do. It matters not whether it is engine, separators, drills, harrows or plows; if they are used in Western Canada you will find them in our advertising columns in their season.

We have attempted this little talk to you for the reason that we want you to stay with us. This matter of farming by power machinery is one of evolution and it takes some little time to get everything into shape. The material which we give you from month to month has to be gleaned from many sources and so rapidly are conditions changing that what we may tell you this year may be out of date in 1912.

The only way that you can keep thoroughly in touch with what is going is to read our magazine carefully year after year and we will guarantee that in so far as your knowledge of power farming conditions is concerned you will not be behind the times, but that you will be considerably ahead of your neighbor who does not keep thoroughly posted.

Don't let that subscription expire. When you subscribe you invest a dollar, but if you will follow us carefully and read our magazine conscientiously it is a dollar that will yield you a hundred, five hundred, yea, a thousand per cent. on your investment.

the soil by power machinery is lack of capital. We saw this sort of thing coming and six years ago we began to tell our readers about it. A great many laughed at us. They called it a fad. They told us at that time that we were introducing a system that would ruin more farmers than we would ever know. We leave it to you to judge just how far we were wrong. Look over your own locality today and see the number of traction engines that are used for plowing and cultivating purposes and the cultivating end of the business has scarcely been touched upon. That is a feature that has yet to be worked out.

A great many of our farmers are, however, pretty keenly alive to the game. We received in this office during the months of February and March over 150 hitch ideas which serves to show that some farmers are finding out things for themselves. The man who travels over Western Canada's broad prairies five years hence will recognize the traction cultivation outfit as a very common thing. He will see hundreds and thousands of engines pulling their full quota of discs, drills, drag harrows, pulverizers, shufflers, etc.

By this we do not mean to say that he will see no horses at work. The horse is too valuable an animal to be dispensed with, but Western Canada's prairies demand something more than horse flesh to handle them. There is one thing he will see, and that is a better average grade of horses than what he will find at the present time. The "old skate" will be a thing of the past and only the pedigreed animal will be tolerated.

The above is a good and sufficient reason why you should take The Canadian Thresherman and Farmer. We care not how many other farm publications you subscribe for. They are all good in their way, but they cover a different field from what we do, and the information that we give you in our columns you can derive from no other source. We make it our business to get this information together and spend considerable time and money in collecting it.

SUBSCRIPTION RATES

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

Failing to receive paper, you should notify the office at once, when mistakes, if any, will be corrected immediately. All subscriptions must be paid for in advance and are positively discontinued at date of expiration unless renewed.

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

THRESHING Tigerbilt MACHINERY



Do you get that word Mr. Thresherman? It means more than ordinary-built—it means extra well built and is what you get when you buy Gaar-Scott machinery with three-quarter-century's know how hammered into it and with all those years of success and satisfaction back of it. One dollar of value for every one-hundred cents of your money. If you were here at our factory, we would prove it to you in fifteen minutes by showing you real Tigerbilt construction. We would show you that in a Gaar-Scott 1911 model thresher



Means a new double-strength frame of best selected hardwood; all joints mortised and secured with joint bolts (not lag screws); painted with white lead as put together, water tight, dust proof, and as near decay proof as it is possible to make them.



Means continuous sills of heavy timbers and narrow matched and beaded siding, proof against cracking and splitting in any climate.



Means double-trussed axles of steel and wheels of steel, capable of supporting twice the weight they have to carry.



Means a faultless, breakless swivel-rocker bolster with unrestricted motion, so that the front trucks turn square around without the wheels touching anywhere.



Means a cylinder with 16 double bars 30 in. from tip to tip of teeth, weight about 800 pounds and momentum like the fly-wheel of an engine.



Means double-bladed, reversible teeth as good as two sets of ordinary teeth, made so strong and set so securely that we guarantee to replace free every one that breaks, bends or comes loose in a season's run, when only grain is threshed.



Means ninety-seven per cent. of grain separated on large concave and grate surface with perfect front and rear adjustment of both.



Means three-way-crank separation—the crankiest of all about getting the last grain out of the straw—straw racks that have twice the throw and agitation of eccentric devices, and carry through surely and quickly either a handkerchief or a bag of wheat.



Means a greatly enlarged cleaning mill, independent mounting and motion of end-shake chaffer and side-shake shoe, producing the cleanest possible cleaning and insuring the highest market price at the mill or elevator.

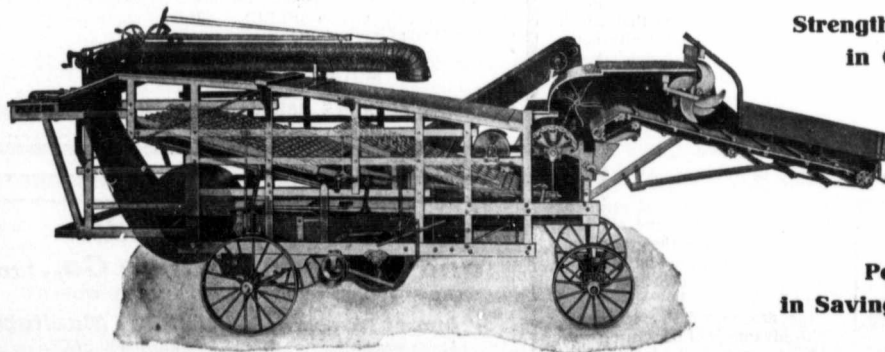


Means large pulleys carefully balanced and covered with genuine leather; non-slipping, free-running belts, positive drive, little wear on shafts and bearings, and easy on power.

Write for our fine big 76th Annual Catalog and see all that Tigerbilt means in the little threshing "Tigers" with a big appetite, the big "Tigers" with the biggest appetite, and the largest line of standard and plowing-gear tractors made on the continent

Gaar, Scott & Co.

Winnipeg Regina
Calgary



Strength and Durability
in Construction

Simplicity and
Convenience
in Operation

Perfection
in Saving and Cleaning

The Essentials of Flax Cropping for Seed Production

By H. L. BOLLEY

The essentials of successful cropping to flax for seed production may be briefly stated as follows:

1. Proper preparation of a firm seed bed.

2. Selection of a good strain or variety of seed.

3. Selection of seed of full strength, free from internal diseases.

4. Grading the seed which has been selected until only approximately perfect seeds remain, blowing or screening out all bits of straw, chaff and dust possible.

5. Seed Disinfection — treatment of the seed by formaldehyde solution in such manner as to destroy all germs of flax diseases that may rest on or be sticking to the individual seeds.

6. Sowing the seed at essentially the proper date.

7. Drilling the seed at the proper depth.

8. Pulling or in other manner destroying scattered weeds in the crop, the seeds of which are difficult to remove from flax seed after it is threshed, as for example, mustard, false flax, French weed.

9. Harvesting the crop at the right date so that the seeds shall be mature and plump, but not lost through shelling or injured by weather.

10. Cut it with a binder wherever possible.

11. Thresh it at the first opportunity after the boles become dry.

12. Previous to harvesting, select the portion of the field which is most evenly ripe, harvest, thresh and save it for your own seed and for seed for selling to others.

13. Store the seed so that it shall remain dry and cool.

14. Conduct a decent, long series rotation on your farm. Do not think of sowing flax more often than once in five years on the same land.

15. At least one well cultivated crop, one crop of hay and pasture should intervene between flax crops.

16. In using barnyard manures never use any uncomposted manure which has been made out of flax straw or by animals which have been fed flax screenings.

Date of Seeding: Seeding time in most regions should usually be the earliest date possible without having the young plants frosted in the spring. Sometimes the late seeding from May 25 to June 20 gives big crops in the Northwest but this crop is liable not to ripen evenly in the fall after the cool nights set in.

Rate of Seeding: Sow not to exceed fourteen quarts of good flax seed on any soil. If all the seeds grow, twenty to twenty-five pounds of seed will give plenty of plants. They will be sturdier and give better seed production. It is not advisable to plant light weight, shrivelled seed, sowing more seed to make up. That is the first principle of flax crop destruction. The weak seeds are the sick ones and carry death to their neighbors.

Seed Selection and Grading: Get a pure strain or variety of seed, if you can from your nearest neighbor. It should be bright and plump and every seed should grow in from three to four days when placed in a simple germinator. Perfect flax seed will show no mould in the germinator. No matter whose seed you get or have, run it through a good fanning mill or grader and eliminate everything but plump, bright seeds. It is safer to sow weed seeds than it is to sow shrivelled, dark colored flax seed.

Treatment: Treat the seed with formaldehyde, using standard formaldehyde at the rate of sixteen ounces avoirdupois to forty (U.S.) gallons of water. Use a spray pump which will throw a forceful, misty spray. After the seed is all cleaned in the fanning mill, throw it down on a tight floor or canvas and rake or shovel it over while it is being sprayed with the solution. Rake, spray and shovel slowly until you have put on at least one-half gallon of solution for each dry bushel of seed flax. Pile the flax up in a pile, cover with a canvas and it will be right to sow in approximately two hours. Treat in the morning that which you wish to sow in the afternoon. Treat in the afternoon what you expect to use in the morning. Caution: While the flax seed is being sprayed be sure to stir it thoroughly and, if it happens that you cannot seed it, then it must be spread out to prevent heating.

Harvesting: Most farmers ruin their flax for seed purposes by cutting the flax and allowing it lie in bundles on the ground until all of the straw and seed becomes mouldy and the seed thoroughly infected by canker and other flax root destroying fungi. The advantage of harvesting with a binder rests in the fact that the boles are kept off the ground.



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THE PRIZE LIST FOR 1911

just issued, and which will be sent to any address upon application, reflects in its revisions and extensions the growth of the new CANADIAN Industrial Exhibition out of the old WINNIPEG Industrial.

Over \$40,000.00 in Prizes

21 Departments
**AGRICULTURE, STOCKBREEDING,
 HORSE SHOW, DOGS,
 POULTRY, DAIRY, PETS**

THE EXHIBITION'S BLUE RIBBON RACING MEET

The Great Motor and Motor Plowing Contest
 Farm Science, Domestic Science, Scholastic, Art

GET THE PRIZE LIST—MAKE YOUR ENTRIES

The Parade of the West's Progress!
 The Holiday of the West's People!
 NIGHTLY REPRODUCTION IN FIRE OF THE
 CORONATION NAVAL REVIEW AT SPITHEAD

By Royal Command ENVILLE HALL PRIZE BAND
 Direct from England to the Exhibition

A Hundred Features—A Quarter Million People

JULY 12-22-1911



WE WANT

AGENTS

FOR THIS MOTOR CYCLE THE

WAGNER

1911 4 Horse Power

To men who know the economy, usefulness and pleasure of a good motorcycle, we will sell a Sample Machine at a price which will not only enable you to own one, but will also enable you to realize a profit on an Agency for the type of INEXPENSIVE machine which is gradually finding favor among Farmers, Merchants, Mechanics and all who want to ride at small expense.

The WAGNER is popular because it is simple, speedy and an easy rider, therefore a SELLER. If you appreciate its good points and want one write to-day.

MOTOR CYCLE DEPARTMENT

CANADIAN AGENCIES, 188 Market Street, Winnipeg, Man.

THICK, SWOLLEN GLANDS

that make a horse Whoop, Sore, have Thick Wind, or Choke-down, can be removed with

ABSORBINE

on any Branch or Swelling. No blister, no hair gone, and horse keeps at work. \$2.00 per bottle, or liver-d. Book 3 D free.

ABSORBINE, J.B., for making, \$1.00, delivered. Reduces Gout, Tumors, Wens, Varicose Veins, Ulcers, Hydrocele, Varicocele. Book free. Made only by W. F. YOUNG, P.O. 112 Temple St., Springfield, Mass. LEMANN Ltd., Montreal, Canadian Agents.



The Liverpool and London and Globe Insurance Co., Ltd.

"THE STRONGEST FIRE COMPANY IN THE WORLD"

Northwest Branch, WINNIPEG, Manitoba

Agents wanted in unrepresented districts.

FRED. W. PACE,
Local Manager.

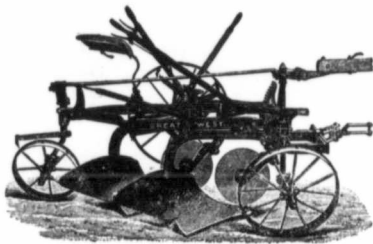


Cypress River, Man.

I have purchased a 12 inch "Great West" Gang Plow which I have given a thorough test in both stable and sod. I could not recommend this plow too highly. Does good work and has light draft in all kinds of soil. I am well satisfied.

(Sgd)

Wm. J. Townsend.



Frobisher, Sask.

The "Great West" 14 inch Gang Plow purchased from your agents here has given me entire satisfaction. It is strongly built, has light draft, and does first-class work in all kinds of plowing. I have tested it on some rough and stony ground and it fills the bill excellently.

(Sgd)

R. Lindsay Vance.

New Plow

- Boards clean in all soils
- Lifts higher than others—ample clearance for trash
- Four point rest for beams
- Beam bracing runs down into rear head

"GREAT WEST" PLOWS

12 AND 14 IN. GANGS. 16 IN. SULKY

NEW 1911 PACKER

12 FOOT 15 FOOT

New Packer

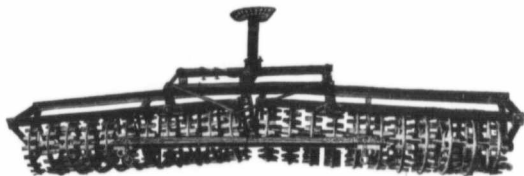
- Angle bar jointed frame allows implement to adapt itself to uneven ground
- Thoroughly pulverizes the ground and prevents drying out of moisture

Teulon, Man.

I wish to say that the "Great West" Gang which I purchased from you has given entire satisfaction, and I would certainly recommend it to anyone requiring a first-class plow.

(Sgd)

William Mudd.



MASSEY-HARRIS CO. Limited

Rivers, Man.

The "Great West" Gang Plow I bought from your agent here gives me every satisfaction. It has light draft and cleans well. Am pleased to recommend it to intending buyers.

(Sgd)

Frank Fenwick.



A Labor Saver.

Spring is here and now that you are getting everything in shape to do a big summer's work with your plowing outfit and do it with the least possible labor as well as cost, you are doubtless looking for anything that will aid you in your work.

The labor problem in this Western country is a big one and anything that will reduce the

number of men on your farm would prove a boon companion to you.

How would a steering device interest you? One that you can attach to your traction engine and save one man. On another page of this magazine you will see the Cuddy Patent Steering Device advertised. It is just what is wanted for the plowing engines.

This device has proven a success on every make of engine that

it has been tried on and pronounced a wonder by experts. Simplicity and strength of construction is its main feature. It is built so that it couples up close to the engine and doesn't encumber it in any way. It is something that will make your engine self steering, allowing the operator to give the engine and plows the necessary attention, which means considerable to the life of your machinery.

It also relieves the operator

from the continual strain that is necessitated by watching the furrow so closely as when a steering device is not used. It also insures a uniform job of plowing.

The above machine is manufactured and sold by the Western Steel & Iron Works of Winnipeg. They have procured the Canadian rights and are building it in different sizes to fit all makes and types of plowing engines except those with the Knuckle Steering Device.

OILDAG

REGISTERED TRADE MARK

Deflocculated Acheson-Graphite—DAG—and oil

For Lubricating Gas Engine Cylinders and all Machinery

To make graphite remain uniformly suspended in oil, it must be deflocculated—that is, separated into molecular particles much finer than the finest powder. The best oil will not carry powdered graphite in suspension, no matter how finely ground. Edward G. Acheson, Sc.D., who invented the process for making graphite over 991 pure, in the electric furnace has also discovered a process which does accomplish deflocculation.

The deflocculated graphite particles soon fill in the uneven places on the piston rings and cylinder walls, giving more perfect compression. The Special Graphite Committee and the Technical Committee of the Automobile Club of America reported that Oildag

After being deflocculated, the graphite must stand the test of passing through standard filter paper. This molecular condition is believed to be the finest subdivision of particles possible. Pure deflocculated Acheson-Graphite mixed with sufficient oil to form Oildag (condensed) is sold in packages of various sizes for mixing with a specified quantity of mineral oil where the graphite remains in uniform suspension as Oildag.

- Increases efficiency of the engine.
- Decreases smoke from the exhaust.
- Decreases quantity of lubricating oil.
- Retains compression in cylinders

SAVE 50 PER CENT. OF THE COST OF LUBRICATING OIL AND GET 10 PER CENT. MORE POWER

We are General Agents for high-grade lubricating greases compounded with Disintegrated Acheson-Graphite under the trade name of

GREDAG

Made by the International Acheson Graphite Co.

Write for booklet 77B or send \$3.00 for a dozen No. 1 C cans, OILDAG (condensed) sufficient to mix with 12 Imperial gals. of oil.

ACHESON OILDAG COMPANY

Factory at Sarnia, Ont., Can.

Port Huron, Mich., U.S.A.

The Days of Coal, Wood and Steam are Passing IT'S LIQUID FUEL NOW!

OIL ——— OIL ——— OIL ——— OIL ——— OIL ——— OIL ——— OIL

The warclub of the savage, the ox treading out the corn, and the back-breaking flail all are by-gones.

Rumely enterprise used the power of the ox and the horse to run a separator. Rumely skill entrapped in steam the power of coal, wood and straw. The world's wheat hunger was first satisfied when Rumely steam engines tamed the prairies by their swift breaking, sowing, reaping and threshing.

Twenty years ago William Rumely saw the passing of the steam engine. Fourteen years ago, in John A. Secor he found another farsighted man already building a kerosene engine in anticipation of a fuel situation which few could foresee. Now, in the Rumely *Oil Pull*, the predictions of both have been realized and the steam engine yields before a superior force.

The *Oil Pull* plows, sows and reaps with less labor and

costs less than the steam engine. For threshing it is unexcelled, as the *Oil Pull* has automatic regulation, steadier motion and less variation in speed than the best of steam tractors. It needs fewer attendants—no boiler inspector—no licensed engineer. It sets no fire about a farmstead or on the prairies. It carries a supply for an all-day run and simplifies the thresher's moving problems. It burns kerosene at all loads,

under all conditions. Its fuel is universally distributed. Kerosene is cheaper than oats. It is cheaper even than coal, for where the steam engine recovers four to five per cent of the energy in coal, the *Oil Pull* converts fifteen to twenty per cent of heat units of kerosene into useful work.

Each shift has brought us farther along and the *Oil Pull* is the newest and nearest approach to the ideal farm power.



TYPE "E"

30 TRACTIVE—60 BRAKE H.P.

The *Oil Pull* "E" will drive any size separator made. It furnishes steadier and smoother power than any steam engine. It requires only one man to operate it, thus over steam outfits it saves one man's labor.

As the *Oil Pull* automatically takes care of any and all variations in load and uses only enough fuel to take care of the immediate requirements, it saves power.

The sensitive throttling governor automatically adjusts the engine to the load and a *Oil Pull*, when threshing, requires no attention except the necessary daily oiling. One operator can care for both the engine and separator. This eliminates the labor of one man.

Ten hours' fuel supply can be carried right on the engine. This saves the labor of water and coal hauling.

For Both Large

TYPE

25 TRACTIVE—

It is easy to operate. Working parts are simple and accessible. Any intelligent farm hand can quickly learn to run it. This is a big convenience for the owner.

The *Oil Pull* "B" can profitably be used to drive any size separator from 30" to 36".

The *Oil Pull* "F" is just as reliable and steady as the larger tractors (types "E" and "B"). Will drive any size separator up to 32" cylinder.

The Type "F" tractor can be used on a small grain farm for nearly every operation that is now accomplished by horses. It plows, discs, seeds, harrows, threshes and hauls. When used for plowing it turns short, and will work the corners up close; will work anywhere, up hill or down.

and Small Farms

"B"

45 BRAKE H.P.

The always present danger of a fire from sparks, when threshing with a steam engine, and the danger of an explosion with gasoline, when using a gasoline engine, are all done away with in a *Oil Pull*. It burns a low grade of kerosene, which is the safest liquid fuel known.

THRESHERMEN CAN MAKE MONEY PLOWING WHEN THRESHING SEASON IS OVER

Oil Pull "E" plows 25 to 30 acres of stubble in a day. The "B" type, 18 to 22 acres per day, while the "F" type will easily take care of from 10 to 14.



TYPE "F"

15 TRACTIVE—30 BRAKE H.P.

AVERAGE COST of PLOWING and PROFITS MADE WITH TYPE "E", 30 TRACTIVE, 60 BRAKE H.P.

Engineer and plow boy	\$ 5.50
Board	1.00
Lubricating oil . . . . .	.60
Fuel, 65 gallons cheap kerosene, at 7c	4.55
Engine, interest, repairs and depreciation	4.00
Plows, interest, repairs and depreciation	2.50
Incidentals . . . . .	.60
Cost of day's plowing	\$18.75
Total income on 25 acres at from \$1.00 to \$2.50 per acre	\$37.50 to \$62.50
Less actual cost	18.75 18.75
Profit on one day's plowing	\$18.75 to \$43.75



The farmer who has a *Oil Pull* "F" can profitably sell three out of every four of his horses. The price of ten average horses will more than pay for this outfit and it will do the work of fifteen good horses. SEND FOR *Oil Pull* CATALOG.

M. RUMELY COMPANY



Oil Pull plows, discs, harrows, harvests, threshes, hauls grain to market, pumps water for irrigation, saws, does road building, etc. On a 1000-acre farm it will increase profits from \$1.00 to \$2.00 per acre and save \$1500.00 annually. SEND FOR *Oil Pull* CATALOG.

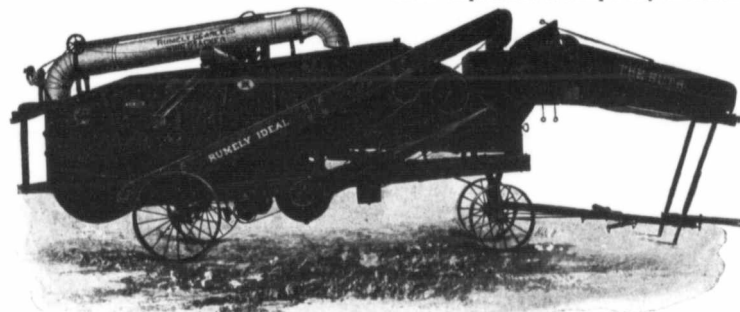
1952 Rose St., Regina, Sask.

The Outfit That Gets the Makes Money

The Separator The Rumely Ideal Separator is equipped with a self-feeder that is automatic and positive in its action. It has a large cylinder that furnishes excellent suction. Cylinder bearings extra long, providing large bearing surface, which makes the machine run smooth and easy without loss of power or overheating. Our chain rake construction and the grates back of cylinder insure greater separating capacity than is found in any other machine. In the Rumely Ideal Separator you get

95% SEPARATION AT THE CYLINDER

Greater cleaning service is provided in the extra 7½ foot chaffer and in the extreme length of the machine. The Ideal Separator is simplicity in itself. Every moving and adjustable part on the outside. Oiling and the neces-



The Rumely Ideal Junior. This is a small separator for an individual outfit. Has all of the advantages of the Rumely Ideal—capacity, cleanliness, strength, durability, accessibility and simplicity. Built in three sizes.

Gets the jobs
"A Rumely outfit does my threshing. It is entirely satisfactory and will get the run again next year."
WALTER R. QUINTON, Heyworth, Ill.

Saves the grain
"I never had a machine on my farm that gave as much satisfaction as Mr. Brown's Rumely Ideal. There were no stops and the grain was well cleaned and well saved."
HENRY J. SCOTT, Inntsfall, Alta.

Makes more money for you
"I am running two outfits this year—a — and a Rumely. Both are the same size and threshing in the same locality in the same kind of grain. With the Rumely I can book from \$15 to \$20 more a day with only \$4 more expense—two extra men to pitch bundles."
ROB EVANS, Lake Beriton, Minn.

Rumely Ideal and Ideal Junior Separators *Get the Jobs, Save the Grain and Make Money for You.*

M. RUMELY COMPANY

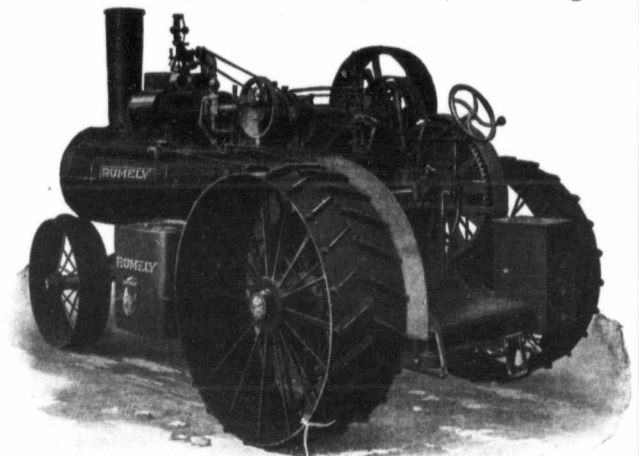


Jobs—Saves the Grain and For You

The Engine Rumely Steam Threshing Engines are designed to burn wood, coal or straw. Boiler is built strong and durable. Firebox large and roomy. They are rear mounted and double geared. This feature itself adds a number of years to the life of the engine, reduces friction, saves power and economizes fuel. The idler shaft is supported in two extra heavy bearings so there is no possibility of wobbling or stripping of gear teeth.

We furnish threshing engines in either single or double cylinder type.

All engines are equipped with a smooth working, durable and efficient friction clutch. Every



THE RUMELY IDEAL SEPARATOR AND RUMELY STEAM THRESHING ENGINE

operating lever and valve is conveniently located within reach of the platform. Built in 12, 16, 20 and 25 horsepower sizes. Mounted on either universal or coal-burning boilers. Rumely Engines will withstand heavy work for many years. They cause no trouble, will save money, labor and fuel.

"Received your letter informing me that your traveling man is on his way to see me. I have a 15 horsepower Rumely Engine that I run seven and one-half years. It is in excellent condition—is as good for service as it was the day I unloaded it"

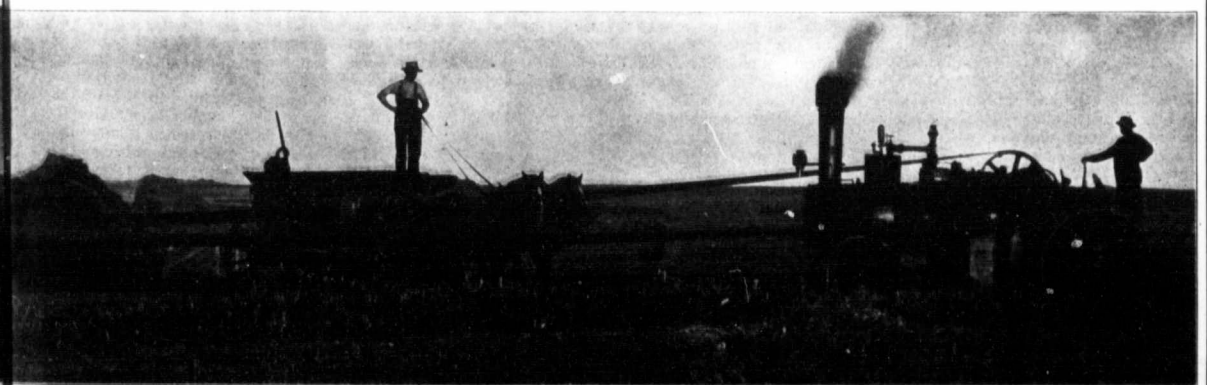
Handles lots of jobs
"Never had even as much as a leaky flue and ran this engine in Oklahoma one season"

Causes no trouble
"I never saw a flue even seep. Have taken the best care of this engine, run it myself every day. Same set of grates as straight as new. This engine cost me exactly \$6 in seven and one-half years"

Saves you money
"How's that? And that was for a bull pinion. Don't need to send your traveling man for ten years yet."
WM. FIX, Martinsville, Ill.

SEND FOR CATALOG

1951 Rose St., Regina, Sask.



GASOLINE TRACTION ENGINES

A DEPARTMENT FOR THE USER

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

Harvesting and Preparing Seed Bed at One stroke.

It is a pleasure for me to have the privilege of giving my experience through a journal so widely known, interesting and helpful as the Canadian Thresherman. I take it that you would like me to give something practical. Therefore, if this explanation of the problems I have attempted to solve proves helpful to any of your readers this letter will have fulfilled its mission.

Living, as I do, in a comparatively new country, where five years ago the first furrow was yet to be broken, where the land is chiefly covered with small scrub, we have some difficulties to contend with but owing to the productivity of the soil, the excellence of climate and water, as well as the strategic position of Wainwright, we would be content to encounter many obstacles.

In the spring of 1910 I had on hand orders for breaking and discing several hundred acres of land for parties in Great Britain, but was unable to find a plowman able to take up the contracts. Finally, I purchased a 45 B. H. P. Hart-Parr gasoline engine, which arrived about July 15th. I purchased a set of six John Deere plows, with an eight bottom frame.

Although the season was late I managed to break several hundred acres, invariably burning the dry grass off the land before breaking. Much of this land was disced down soon after breaking. The sod is quite well rooted and I think in excellent shape for a crop of wheat this year. I find that when dry land is being broken it is an advantage to have all grass burnt off first, as this dry grass forms a pad between the sod above and the earth below. It absorbs all moisture from the upper earth, prevents capillary attraction from the moisture beneath and leaves no chance for the sod to rot.

Then it is very important with us where "conservation of moisture" is the great problem, that the earth should be disced as soon as possible after breaking. In clear open prairie where there are few if any obstructions this can be conveniently done by hitching a disc or land packer behind the plows. But where there is some scrub and perhaps an occasional stone, anything hitched behind the plows will be found inconvenient and annoying. I had no spare horses and was at loss to know how to get the land disced, but I found out that old adage holds true, "Necessity is the mother of invention." On the rear of tractor

is a drawbar about eight feet long running crosswise. I saw that if this were extended I could readily hitch all the discs on to this bar. Accordingly I got a log about 18 feet long, chained it on to this drawbar and arranged five eight-foot discs, as is shown in an illustration I am sending. The three front discs were hitched below the log to prevent updraft on the short poles, while the two rear disc tongues were hitched at top of the log to prevent log from turning and also to keep tongues well above front discs. Weight boxes were bolted on to the frames of the discs. With this arrangement it was convenient to turn only to the left leaving the land disced always to the right and within easy sight of the man on the engine. A right turn at greater radius for "striking out" can conveniently be made. It will be readily seen that the tongues must be of different lengths, number 4 remains the ordinary length and No. 5 should be spliced. This arrangement is simple and does away with the necessity of purchasing fore trucks for the discs. My discs ran so easily that I placed harrows behind and found them to work nicely. One man runs the entire outfit. I find it convenient to have a spare man to look over the discs, examine bolts and assist in oiling when the engine stops.

When harvesting arrived I was again in a quandary. My horses were not equal to the task of harvesting my two hundred acres of grain crop and it was necessary further for me to get the plowing done as quickly as possible, as I wished to do custom threshing in the fall. I wrote to several machine firms asking them for plans whereby I could harvest the grain and plow at the same time, but with no result. In fact one firm replied that it was a practical impossibility, as there was no binder frame made strong enough to haul a set of plows behind. However, after a little experimenting and receiving some good suggestions from friends, I hit on what I think is the simplest and best hitch yet devised.

When ready to cut the grain I hauled an eight foot binder up behind the plows. As previously stated, I haul six plows behind an eight plow frame, thus leaving a space for two plows on the left side vacant. In the center of this space I placed two upright posts about eight inches apart, threw the binder tongue into the space between, hitched a log chain around stub tongue of

binder, just back of fore-truck attachment, fastened the other end of chain on to plow frame, allowed main wheel of binder to run in bottom of left hand furrow, levelled up table and went ahead.

This outfit pulled very light and next year I expect to place a disc and land packer behind plows or packer and harrows as is necessary, and by the one operation harvest the grain and prepare the land for crop.

If this method of cultivation were followed more generally I believe there would be much less need for summer fallowing throughout Western Canada and it would result in a vastly greater output of grain. Turning the stubble and preparing a mulch so early in the season not only allows the weeds to sprout, to be killed by frost before maturing, but also assists in retaining the moisture from late rains as well as in conserving that already in the soil. True, this method of cultivation makes stacking a little more difficult, but this inconvenience is a matter of very slight importance. It is often the custom, too, to point to threshermen as being poor farmers. The fact is, the thresherman is obliged to neglect his land at this critical time with the result that his crops are more or less a failure, but if this method were adopted I predict that in the near future the thresherman's farm will become as much pride to him as is the handling and care of his machinery.

Respectfully yours,
Fred W. Aykroyd,
Wainwright, Alta.

Fair Pay, Good Food, Overtime.

I will say that it more than pleases me to give my traction plowing experience to anyone who might profit by it, and I will be glad to get your traction number of the Canadian Thresherman and Farmer.

I have a 20 horse power International Harvester gasoline engine and a four bottom John Deere plow.

I always keep three men to operate the rig and let them change off, two work at once, while the third one rests and goes to meals. In this way the engine never stops, except to be filled with gasoline or water. I find that it pays to pay men working on plowing rigs fair wages for a good day's work and also pay a commission on every acre they plow over the specified day's plowing. For instance, I bought my rig in March and started

breaking sod on March 14th, 1910, with only two men with the outfit. Of course I kept them supplied with gasoline and water. And on March 28th I thought it would pay to have another man to change off. Anyone that works will get tired and tired men as a rule will not work as well as they did just before they got tired. No matter what kind or make of machine you have, it is necessary to have good men who want to work, and to keep men so that they want to work you must feed them good and give them a chance to rest. You must also give them something to work for.

Don't pay big wages, pay reasonable wages, but not exorbitant. If a man won't work for reasonable wages, he won't work at all. He isn't the kind of man that wants work, but wants the money.

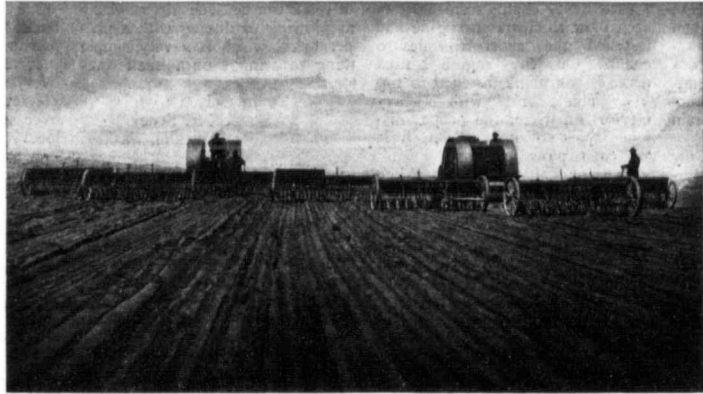
I hired three workers who never had any gas traction or any other kind of gas engine experience, paid them \$2.50 per day and boarded them and furnished good beds, and they did work. We broke from 12 to 15 acres per day and I was well satisfied. But when the days got long and the moon was bright at night, I told the boys that I would pay \$1.00 per acre for all that they plowed over 15 acres per day. This brought the average day's work up a little and I often had to pay several dollars for what we called overtime. This kept the boys in good spirits, and good beefsteak and ham kept them in good working condition.

I live and operate my outfit 24 miles from Milk River, which is my nearest station, and, of course, I had to haul all the gasoline and oil we used from there. I used to make about one trip a week for gasoline.

The engine is water cooled and it used from 1 1/2 to 2 barrels of water per day; so that hauling fuel and water would not occupy a man and team one half of the time. The number of acres broken during the season and the amount of fuel used during the season shows that it takes just three gallons per acre. Of course we broke mostly for other people and did a good deal of moving around. I could not say just how much gasoline it took for actual breaking. We broke from four to five inches deep. Our land is heavy and the season was dry, so that it broke hard.

The total expense for breaking for our whole season's work, including moving, all blacksmithing, all repairs, etc., amounted to \$2.18 per acre.

"A National Reputation is Built Upon RESULTS, Not Claims—Upon Quality, Not Price"



"Quality Insures Results—Results Count"

"As You Cultivate so shall the Harvest be"

You could not ask for a more complete grain drilling outfit than that shown at the head of this advertisement. Nor could you wish for a more efficient one, for these two GAS TRACTION ENGINES, after doing their share in the breaking of over 7,000 acres of virgin sod, drilled 3,900 acres of it into flax, averaging 225 acres per day.

The comparative light weight of THE GAS TRACTION ENGINE, coupled with its high, wide drivers, makes it the ideal power for working the soft or freshly plowed fields, where its wheels make less impression than would a single buffy wheel. This assures the success of the engine for the lighter forms of farm work.

THE GAS TRACTION ENGINE offers no temptation for the farmer to skim the ground with his plows. Delivering a guaranteed 25 h. p. to the drawbar, with an everpresent power reserve for emergencies, this splendid "Giant Horse" makes possible that all-around, good, deep breaking and plowing that forms the very foundation of profitable yields.

It insures good crops through its wonderful ability to do good work and get it done on time. Doing things well and getting them done on time spells success whether the scene of action be the plowed field or the office floor. So in its way, THE GAS TRACTION ENGINE offers crop failure insurance—a form of protection afforded you by no other farm power.

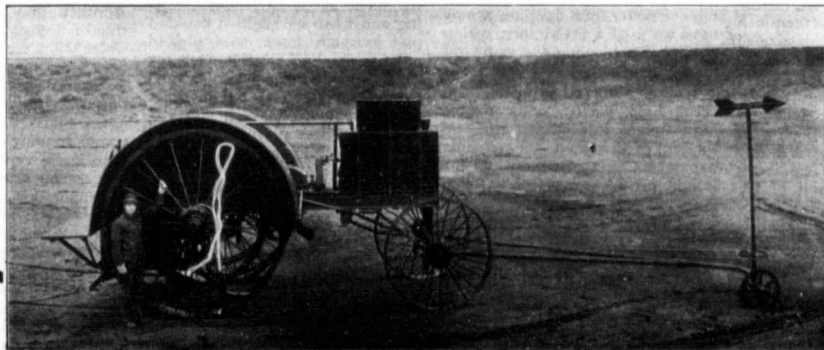
To Prove our claims we ship THE GAS TRACTION ENGINE subject to your approval—something no other Traction Engine Builder has ever dared do

We know what starting changes THE GAS TRACTION ENGINE will bring about in your farming methods. We know how easily it will turn loss into gain—defeat into victory. We guarantee every move of the engine on your farm and then ship it absolutely ON APPROVAL. No other traction engine manufacturer has ever dared make an offer of this kind. It takes a mighty good engine to back up our "Golden Rule" guarantee and shipment on approval sales policy, but we have the goods and are mighty willing to prove it at our risk.

Send for the Full, Free Details To-Day

"A Book of Gas Traction Engines" brings home to you the many advantages of power farming—contains actual cost figures on horse, steam and gas traction operation and complete specifications of THE GAS TRACTION ENGINE. Your name and address on a post-card or slip of paper will bring you this book and complete details of our great square deal offer. Send for it TODAY.

GAS TRACTION CO. Ltd. 43 Chambers of Commerce, Winnipeg
Factory at Elmwood



The Automatic Guide adds \$1000 to any Engine's worth. It is an exclusive feature of our Engine and included without extra charge with its regular equipment

The difference between traction work and threshing is that when the engine is threshing the traction parts are standing still; consequently there is no strain whatever. When you use the traction, of course there is both strain and wear.

Below I have summed up my total expense, etc.:—
 We broke 1026 1-2 acres at \$4.00 per acre \$4106.00
 Also disced and harrowed and floated 120 acres 200.00

\$4306.00

Our total expenses were as follows:—

73 barrels of gasoline (3080 gallons) including freight charges, minus \$75.00 for empty barrels	\$875.00
Wages and expense for hauling gasoline and oil from town	140.00
Wages for hauling water to engine	50.00
Total cost and freight and express on repairs	111.00
24 new plow lays at \$4.00 each	96.00
Axle grease and hard oil	11.00
Blacksmithing	158.00
2 1-2 barrels gas engine oil	52.50
Bolts, nuts and washers	5.50
Labor	548.50
Board of men	240.00

Total	\$2287.50
Balance clear	\$2108.50
	\$4306.00

Yours respectfully,
 R. L. Burr,
 Masinasin, Alta.

A Good Hitch and Heavy Float.

My engine is a 20 horse power single cylinder International and I find it perfectly satisfactory. The single cylinder International and I wanted to get to work, so I purchased three No. 2 high lift twelve-inch Imperial gangs. During the early part of the season, while the ground was moist, I pulled the three gangs quite easily up and down hill, the land here being quite rolling. The season being a very dry one, I only broke 140 acres, pulling the three gangs, but pulled two through everything the balance of the season, breaking 600 acres, doing an average for the season of 10 acres per day. This year I am getting a P and O engine gang five furrow frame with four fourteen-inch bottoms. Am getting this size of frame for fine plows to be used later for stubble plowing.

I like the P and O engine gang on account of the wooden plug used to keep standard of plow in places where the plow strikes any large obstruction. The plug breaks, allowing the point of the plow to go backward, thus avoiding a serious break. All that is necessary is to have a supply of plugs on hand, it only being the work of a moment to replace a broken one.

The hitch I used was a very simple one and proved very successful. I made a short tongue for each plow three feet in length.

I used heavy chains from draft of each plow to clevis on engine and fastened the short tongues to chains. On the engine I used a heavy oak plank fastened to top of plank form with heavy clevises on it, set the proper distance apart to allow proper draft of each plow.

Everyone that saw the hitch pronounced it the best they ever saw to pull common gang plows. The work I did was also pronounced much better and deeper than a good many done by larger outfits using engine gangs.

I also used the above hitch for discing by pulling two 16 x 16 discs with a heavy sixteen foot float drawn with a hitch from center of each disc. It is not necessary to weight the discs with this hitch. The downward draw of the float loaded with two large stones will give all necessary weight to make discs take hold.

It might be well for me to give a description of the float. I took four pieces of 4 x 6 x 16 feet timbers laying the wide side down flat, leaving them about one foot apart. Then I bolted them well together with 2 x 8 plank and also angle braces to prevent swinging corner-ways. I then drove six inch nails every six inches in each timber, the nails of the second timber being directly between these of the first timber, and so on. I let the nails protrude about one inch on under side. These nails will need to be straightened occasionally, especially where there is any stone left on the breaking. I found this kind of float did more towards breaking the sod and levelling the land, than double the amount of work with discs alone. I always aim to break deep and disc the top, not going through the sod and to level behind the discs with a heavy float.

It took two men and one team to operate the outfit. Of course the horses and one man did considerable work not connected with the outfit, one man often running the outfit alone for three or four hours.

I used engine gasoline throughout the season. I didn't keep an account of how much gasoline I used per hour. Some days I plowed ten hours and others fifteen. However, we used 1,900 gallons through the breaking season, which is a trifle less than \$1.00 per acre for fuel. It takes on an average of about two barrels of water per day; on windy days we used a little more, owing to the wind blowing the water off the cooling screen.

It costs about \$1.70 per acre to break here, partly owing to the high freight rates which runs up the cost of gasoline to 29 1-2 cents per gallon. It cost me \$4.00 for freight on five barrels of gasoline for a distance of about 40 miles, which seems to me to be extremely high.

I find it is much easier on the engine to thresh than break. The continued jolt over rough prairie sod naturally racks the frame of an engine. I have not done any work such as seeding or harvesting with the tractor, but that kind

of work can be done just as easily as plowing or discing with a proper hitch, which is a very simple thing to arrange on a small tractor.

Yours truly,
 Geo. E. Seney,
 Macklin, Sask.

Learn the Game.

Last year I bought an I. H. C. 20 horse power tractor and a P and O Mogul five bottom gang plow, but the Company was not able to deliver the engine before the 20th of May, and then I had some trouble in getting the plows. So on the 25th of May I took my engine home, and as I didn't know how to run it, I hired an engineer. He was a good mechanic and steam engineer, but he knew very little about a gasoline engine, and we had lots of trouble for some time.

But I will start from the beginning. As stated above, on the 25th of May I got my outfit complete, plows, gasoline, oil, and the Company's expert to show us how to run it. But as we had twelve miles to go the expert didn't want to come out that far, so he just came two miles with the engine and told us how to run it and then went back to town. We got it home the same night all right, and started breaking the next morning, but my engine could pull only two fourteen-inch plows, because the ground was so rough. We then tried it on level ground and there it could pull three and we plowed seven acres on the first day.

The second day in the morning we could not start at all on account of poor compression and we got discouraged. I was going to town to send for an expert. By the time I had my teams ready the engineer had taken the piston out and found that the piston rings were loose. He stretched them, pounding them round lightly, so that they opened about half an inch. We set it again together and started, and now it got compression, we could hardly turn the wheel over, and on the first turn it started. Now we went fine and we put the fourth plow on and pulled it as well as the three before.

Our next trouble happened three days later. My engineer went to Saskatoon on business and I was alone. In the morning we spent about two hours starting and when it caught it couldn't pull four any more, so I plowed only with three. But just the same, I made only one round and stopped altogether, and do what I like I couldn't make it start. I tried till I was played out and then I went home sick and tired of gasoline engines.

Next day about 11 o'clock I took courage and went down to tackle the engine once more. My neighbor came up and helped me to start it. Two of us men couldn't turn it with our weight, so we stood up on the frame and pulled the wheel upwards till we got it loose. Then it started and I plowed five acres that day with three plows.

Next day my engineer came back and brought out the company's expert, whom he met on the train. The expert looked it over and found it was out of time. He set it right and told us to look over it, as some box might be loose, for something was pounding, then went back to town. We took it apart and found that wrist pin box was stuck so bad that the setscrews were broken, and the pin was turning, not the box. We set it right and then we got very little trouble afterwards.

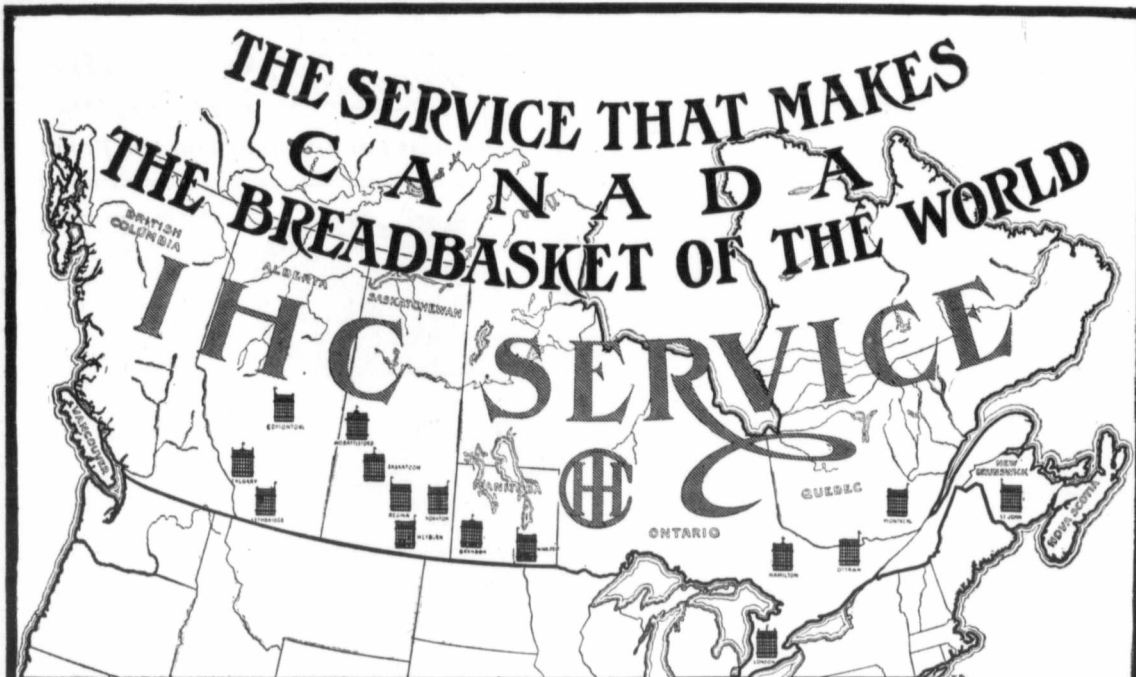
We had some trouble to start the engine. It took us two men always to turn the wheel. One day I was alone, my engineer being at the blacksmith's getting our shares sharpened, when some wire got loose and the engine stopped. Now I couldn't start the engine alone, so I commenced to think how it could be made easier to start. Then I remembered that I could loosen or tighten the compression with a setscrew on the exhaust valve. I tried it and started it all right and since that time I never needed help to start up.

Though the season was a very dry one I broke 375 acres, averaging about nine or ten acres a day, using three gallons of gasoline per acre, which cost me 30 cents per gallon, also using about 2 barrels of water a day. I always kept two men with the outfit, because it saves lots of time, and so does more work.

Later I started threshing. I have an Aultman and Taylor 27 x 42 separator with all attachments. It certainly does a good job. As long as the separator man takes care to set it good and straight, it really saves grain. In threshing I found my engine do far better than in breaking and got power enough to run it in good shape. We had a very poor crop here last year and in 55 days I threshed for 70 farmers, about 3,500 bushels and travelled about 150 miles. I hired the engineer and separator man and I hauled up the gasoline while the farmers supplied the water. Though it was a poor crop and I travelled so far all around the country, it made me from 9 to 10 dollars a day clear.

After this season's experience I am glad to say I am satisfied with my outfit. It fully replaces ten horses and through the season I learned how to run it, so I don't need to depend on hired help. Another good thing, a gasoline tractor needs very little water and water is very scarce around here. Steam outfits have to haul water most of the time five and six miles.

I would advise anyone who wants to purchase a gasoline engine learn something about it before he buys, or get a good man to run it, for a man without experience will never work successfully. Some people will tell you of men who ran gasoline engines without previous experience. It is very hard on the engine and every part worn out costs lots of money to replace, and the man without experience wears out the machine double quick.



The idea of I H C Service is to help the farmer. It helps him to better help himself. To better serve the farmers of Canada, we have increased our Canadian branch houses to fifteen, and these, working in harmony with the general offices at Chicago, and with hundreds of good Old Dominion I H C agents, are giving a service such as agriculture never before has known.

And what is I H C Service, and what does it do? It makes the I H C local dealer the farm headquarters for the neighborhood, it makes the branch house headquarters for the territory, and the general offices headquarters for the whole agricultural world. And the entire service is free to every farmer everywhere.

To the I H C Service Bureau, at Chicago, you can send your farm problems, and be sure of receiving prompt and reliable information. Agricultural experts are employed to help increase and better the crop production, and so if you want to know about soils, fertilizers, insect pests, climatic conditions, seeds—anything of farm interest—don't lose money groping about in the dark, but take advantage of I H C Service.

Lectures are sent to gatherings interested in agriculture. These lectures, with the aid of pictures, present those things which are of greatest interest to farmers.

Modern I H C machines are loaned to agricultural colleges, that the sons of farmers may carry home every new idea that will lighten the work and increase the profits of the farm.

Interesting booklets, filled with every sort of information for the farmer, are being printed all the while.

But after all is said and done, do not the machines come very near being the beginning and the end of service? And the I H C line was never giving such valuable service as right now.

Consider the Deering and McCormick harvesting, haying, and corn machines, binder twine, and tillage implements. These lines trace back to the very beginning of modern farm machines. All the years of work, experiments, improvements, and money are centered in their present perfection.

The I H C line includes also Bluebell and Dairymaid Cream Harvesters, Corn King and Cloverleaf manure spreaders, threshers, gasoline engines and tractors, wagons and motor vehicles, feed grinders, drills, and most of the machines and tools which have made large and profitable farming a certain fact.

To get in touch with your local I H C agent is to get in touch with the whole I H C Service. And to be in touch with I H C Service is to be in touch with agricultural knowledge past and present. If it so happens that there is not an I H C agent near you, write the nearest branch house, and your wants will be taken care of.

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

[INCORPORATED]

CHICAGO

U S A

Course in Gas Engineering

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

LESSON VII.

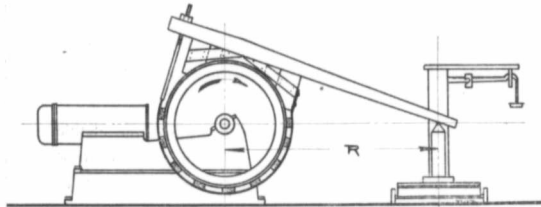
Developed Horse Power

In the last lesson we discussed the indicated horse power or the i. h. p. and the method of finding the same. In a complete treatise of the gas engine we should deal with three powers, or the equivalent of power expressed in heat units, that is, for instance the latent power possessed by the fuel. Any kind or quality of fuel has a certain heat value, that is, it has stored up in itself a certain amount of energy which, under the proper conditions may be manifested in tangible form, or at least a portion of it. Then there is the power developed in the cylinder of the engine, or the i.h.p. of which we have been speaking. This, of course, is primarily dependent upon the energy in the fuel used, or as we say, the number of heat units that it contains. It also depends upon the style and type of the engine, the efficiency of the carburetting device, the design of air passages, etc. What interests the user of an en-

The second condition has already been discussed in connection with the indicator. Let us now take up the last condition, that of the power developed.

To determine the developed horse power some method must be used whereby the power may be absorbed and thus measured. The usual method of absorbing the power is by frictional resistance, although lately one of the easiest and best methods, though somewhat costly, is that of using an electric generator. This method, however, is adaptable more especially to factory use and automobile work in particular. The most common method is by means of the Prony or friction brake, one style of which is shown in the cut.

The reason for this style being shown is the ease which it can be made and used. For convenience the brake is usually attached to the flywheel although it may be placed on a pulley as well. The brake is constructed of a stout timber at the top, of any convenient length, with two or three blocks to conform to the curvature



gine more particularly, however, is not how much power is being developed inside the cylinder of his engine, or how many heat units there are in the fuel which he is using, but how much actual power can he obtain from his engine at the belt. This latter power is called the developed horse power, or the d.h.p.; it is also spoken of as the brake horse power, or the b.h.p., although the former name is the more expressive and is preferred.

The developed horse power is, of course, less than the indicated for the reason that some of the power developed in the cylinder is used to overcome the friction of the moving parts of the engine. We thus have three separate and distinct stages in the transformation of the heat in the fuel to the developed power at the pulley of the engine:

1. The heat in the fuel, usually expressed in British Thermal Units, or B.t.u.

2. The indicated horse power developed by the fuel in the cylinder of the engine, or the i.h.p.

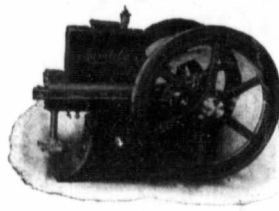
3. The developed horse power, or the amount of power that is finally obtained for useful work, the d.h.p.

of the wheel. These blocks have clips at the side of the rim to hold the brake in position and prevent its slipping off sidewise. One or more strong leather or metal bands, depending upon their width, are fastened at one end to the beam at the top, and carry a number of wooden blocks which bear against the periphery of the wheel. To the other end is fastened a threaded rod which is provided with a nut above the beam by which the tension of the brake on the wheel may be regulated. Of course, as the brake is tightened on the wheel the friction tends to carry it around and so produces a downward pressure at the outer end. This pressure is registered or weighed by means of a scale or spring balance, although an ordinary platform scale is preferable to the balance, on account of the vibration set up due to the explosions. A strut or column is placed on the platform of the scales to support the brake arm, the point of support should be in the form of a knife-edge and should preferably be at the same height as that of the centre of the crank-shaft.

Before proceeding to test the engine the weight on the scale

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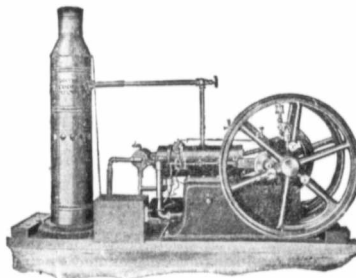
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Previous to fitting this engine we used a smaller engine with the hot tube system and we firmly believe it consumed just the same amount of gasoline, and only did half the work.

Further as regards consumption of gasoline, we have made some experiments along this line, and we find your engine consumes thirteen gallons per ten hours running closely to its full capacity.

Yours truly,
(Sgd.) R. T. TELFORD, M.P.P.

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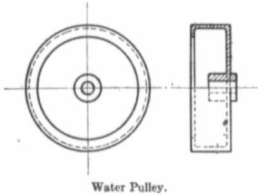
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platform, due to the strut and the beam of the brake, should be ascertained as, of course, any pressure on the scales due to the pull of the engine will be increased by this amount. The nut at the top should be loosened so that the blocks will clear the wheel and the brake should be supported directly over the crank shaft either by a small roller, or something having a sharp edge. The scale should then be balanced and this amount must always be subtracted from any reading obtained when the engine is in operation. Another method is to balance the scale with a sliding weight set at zero by putting enough weight in the pan for this purpose. The scales will then give the net reading direct. Before scales are used they should be tested by placing known weights on the platform and ascertaining the reading, of course, after they have been balanced with no load. Balancing with no load, however, it must be understood, does not insure their weighing correctly at other points within their capacity.

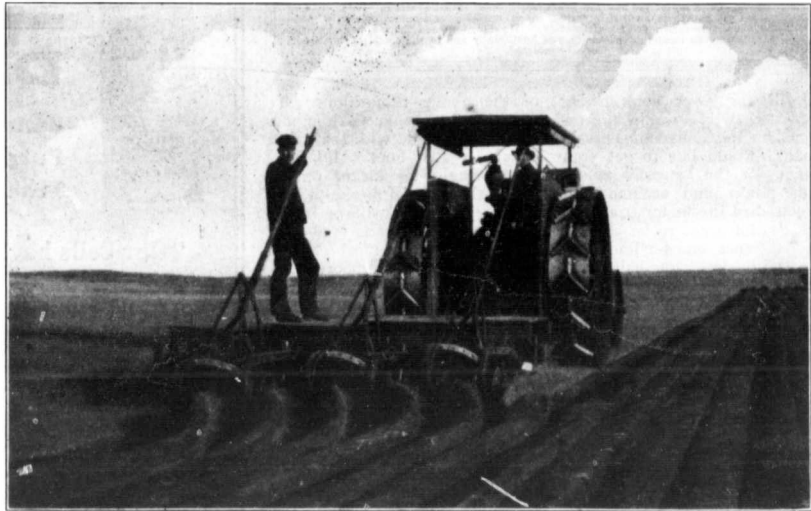


Water Pulley.

We are now ready to determine the developed horse power, as follows: If the maximum power which the engine is capable of delivering is desired, the engine being of the hit-and-miss type, the brake should be tightened until the engine is just taking every possible explosion. However, were an engine to operate under these conditions any slight increase in the load would cause it to stop, as it would have no reserve power whatever. The engine should be allowed to "cut out" or "miss," say one out of every twenty explosions and this taken as the maximum. The scale should then be balanced and the number of the revolutions of the engine determined with a speed counter. This gives the necessary data, although it is well to measure the distance R, the length of the brake arm before the engine is started; the point at which the beam rests on the strut, should be marked, or better yet, a piece of metal should be fitted as a bearing.

The distance R should be measured horizontally from the centre of the engine shaft to the point at which the beam rests on the strut, or, if this point is below the engine shaft, should be measured to a point directly over where it rests and should never be measured along the brake arm. This distance is called the length of the brake arm, and does not, in any sense, depend upon the style of the brake used, provided the position of the scales with respect to the engine is the same in all cases.

The "FLOUR CITY" Gasoline Kerosene Tractor



The "FLOUR CITY" Tractors are of the Four Cylinder type, and are built in two sizes—30 and 40 h.p.

No farmer can afford to be without a "FLOUR CITY" Tractor; with it he can do his plowing, threshing, discing, seeding and harvesting much cheaper than with horses.

As compared with other tractors, it is more economical in fuel, more substantial in construction, less weight in proportion to horse power, has a wider margin of reserve above its rated power, and in no feature has the "FLOUR CITY" Tractor an equal.

It can be operated with Gasoline, Naphtha, Distillate or Kerosene. When so ordered, a kerosene attachment is provided which handles that grade of oil more economically than any other internal combustion engine.

That the "FLOUR CITY" is correct in design, economical in fuel and strong in construction is attested by its twice winning the Gold Medal in the Winnipeg Contests, and scores of letters from satisfied customers.

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Having now:
R, the length of the brake arm.
P, the net weight on the scale platform.

N, the number of revolutions per minute.

We apply the same reasoning as in the previous lesson, namely, that work equals force times distance. But perhaps this might be made clearer by taking a concrete example, and we shall consider the same engine as that for which the indicated horse power was calculated.

R was found to be 5 feet, 4 inches, or 5 1/3 feet.

The reading on scale beam was 218 pounds, the weight of beam and strut was 27 pounds, so that P was 218 less 27, or 191 pounds.

N was 225 revolutions per minute.

Now the friction or force of 191 pounds was exerted at a distance from the centre of rotation of 5 1/3 feet, so that the equivalent distance through which the force acted for one revolution was 2

times 3. 416 times 5 1/3, or 33.51 feet, and as there were 225 revolutions per minute, the distance per minute was 225 times 33.51 or 7,540 feet. The work per minute, therefore, was 191 times 7,540, or 1,440,140 foot pounds. Dividing by 33,000 to get the horse power, we have 43.64 d.h.p.

Expressing the above as a formula, we have $6.28 R N P$ divided by 33,000 equals d.h.p. where R is the length of the brake arm, N is the revolutions per minute and P is the net weight on scale platform.

The style of brake as used on the flywheel is not suitable when running the engine long periods under heavy loads as the heat developed in the rim of the flywheel will expand the same and is liable to cause it to pull away from the cooler arms with disastrous results. For this purpose a water cooled pulley is used. In this the heat generated is absorbed by the water which boils away continuously, and is replaced. The cut shows the type ordinarily used.

Instead of arms the pulley has a continuous web at one side, while at the other side of the rim is a narrow ring extending completely around. When the engine is running, water may be poured directly into the open side of the pulley and is thrown to the rim and held there by centrifugal force.

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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. Seeing your note asking readers what they would like explained in the Canadian Thresherman I would like to get your opinion on the "stroke" as regards power and economy. I have studied the motor trials but they do not seem to be correct, as for instance, one 4-cylinder engine with just one-half inch larger bore developed 18 h. p. more, and also one 2-cylinder with one inch longer stroke but with one-half inch smaller bore developed 9 horse-power more. I should like to know the limit to the stroke and how to account for these engines varying so much. What gives the longer stroke the advantage? J. R. H.

A. The variations which you have noticed are peculiarities which occur in any test where a number of internal combustion engines are brought together. If you will turn to the Nov. issue, in Lesson I, of the Gas Engineering Course, you will find these spoken of.

It is not sufficient to take into account merely the bore and stroke of an engine as the engines may operate at entirely different speeds. Theoretically, the power of an engine is proportional to its speed. To properly make a comparison of this kind, the number of cubic inches of piston displacement per minute should be calculated, reducing all engines to the same basis.

Turning to the tables in Lesson I, we find that engines Nos. 7 and 18 developed a horse-power on 16,547 and 9,630 cubic inches respectively. Why this is so is a question but the fault may lie in improperly timed ignition, carburetor not adjusted correctly, etc. Engine No. 7 was not doing what should reasonably be expected from it as there is but one engine, and that not in its class, which requires a larger displacement.

Comparing Nos. 8 and 9 we find 15,912 and 12,857 cubic inches, not so great a difference as both. Now these engines are both of the long-stroke variety, the ratio of stroke to bore in the former being 1.37, in the latter 1.55. Both these engines show up fairly well, and were the truth known, it might be found that No. 9 had a higher compression than No. 8. Compression is a mighty factor in the power developed regardless of the stroke-bore ratio.

The average ratio of stroke to bore for all engines at the Winnipeg contest was 1.4 which is recognized as good practice. It is generally conceded that a long stroke engine is the most economical and stationary engines of the horizontal type are usually

of the above proportions. To economize space, vertical engines are usually made with the stroke equal to the bore. By long stroke engine is meant one in which the ratio of stroke to bore is somewhere near 1.5 or larger. The limit of this ratio is about 2 and some of the most efficient engines are of this proportion.

Q. Will you kindly tell me what is the matter with my engine? It gave me not the slightest trouble for the first six months that I ran it, doing duty ten hours a day and never refusing to carry its full load. Now it runs by fits and starts, sometimes taking about a dozen down, to pick up again when it reaches in the neighborhood of forty turns per minute. I have tried a new battery without helping matters any, and no one about here seems able to help me out of the trouble. What do you think is the matter?

A. The cause of your trouble is evidently a case of vibrating connections or a broken wire somewhere inside the insulation. The peculiar behavior is due to the fact that when the engine is not going at a very high speed the circuit is complete, apart and the igniter circuit is broken. Go over the wiring carefully, preferably with a bell and battery and we are quite sure you can easily locate the trouble.

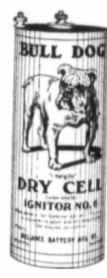
Q. In what proportion should gasoline and air be mixed to get the most perfect combustion?

- *1. What temperature does it explode at best?
2. What is the chemical composition of the result of the explosion?
3. Are any solids or liquids left from the explosion which would tend to clog up the machinery?
4. What is the relative volume of the mixture before and after the explosion?

5. What would happen if a number of charges were forced into a cylinder and the explosion delayed until the pressure caused by forcing these charges in was raised to 25 or 50 pounds?

A. One hundred and twenty-four volumes of gasoline to 1,000,000 of air.

1. The editor does not understand this question thoroughly, but assumes it to mean the temperature to which the charge should be brought before ignition to get the best effect. This brings it down to a matter of the best compression, and this should be as high as may be obtained without the charge taking fire of itself. At normal speed, about 600 feet per minute, the limiting compression for gasoline is be-



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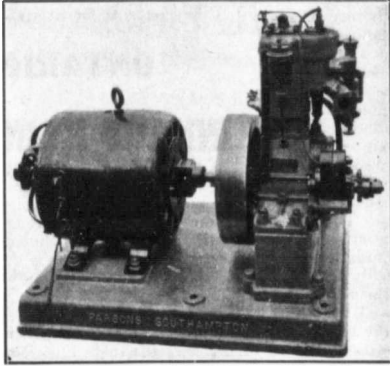
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tween 80 and 90 pounds per square inch.

2. As gasoline consists entirely of hydro-carbon the result of perfect combustion is a mixture of carbon dioxide, water vapor (steam) and nitrogen.

3. Imperfect combustion will cause a deposit of carbon in the cylinder and the exhaust passages. Carbon will also deposit from an excessive amount of lubricating oil when this is but partially consumed.

4. In a gas engine there is practically no change of volume at the time of the explosion, but instead a rise of pressure in the ratio of about $4\frac{1}{2}$ to 1.

5. Nothing unusual would happen in this case, not any more than what occurs when the pressure is raised by the usual compression in the gas-engine cylinder.

Q. What is the convenient way of testing for compression?

A. Turn the engine over by means of the flywheel. If a spring balance be hooked to a point upon the rim and the pull noted, the compression may be found by drawing a diagram of the parts and computing the resistance upon the piston by graphical methods. The most satisfactory method would be by means of an indicator.

Q. I am desirous of obtaining information regarding the jump-spark method of gasoline ignition. Is the jump-spark method as effective as the ordinary make-and-break?

2. What are the proper dimensions of the induction coil, sizes of wire, etc.?

3. Is as strong a primary battery required as with the older method?

4. What is the proper distance between the sparking points?

5. How should the terminals be insulated?

6. Should one terminal be connected directly to the engine, as with the make-and-break igniter?

A. If properly handled, yes.

2. We prefer not to give directions for making a spark-coil for this purpose, as to do so would require more space than is at our disposal in these columns. The sizes of wire are by no means the most important features. A successful coil depends upon the manner of winding, insulating, etc. We advise purchasing a coil designed expressly for this purpose.

3. About the same.

4. Use a $\frac{1}{2}$ -inch spark-coil and place the terminals about $\frac{1}{8}$ inch apart.

5. With good porcelain or with mica.

Q. What is a jump spark and how is it produced?

A. A jump spark is one of such high pressure that it will arc across a considerable space. It is formed by means of an induction coil, of the kind that is popularly known as a Ruhmkorff coil. The current is sent from the battery through the primary



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circuit, and this circuit is closed at the proper time for ignition of the charge by a switch on the cam shaft, producing a stream of sparks as long as the switch is closed. This method of ignition is becoming quite popular, especially with the motor-carriage builders.

How to Save the Litters

Of course the size and vigor of the litters farrowed by the brood sows will depend very largely upon how they have been fed and handled during the time of pregnancy. Unless a sow is fed a ration liberal in protein and compelled to take exercise, large, vigorous litters cannot be looked for. If the sows have not been properly cared for during pregnancy there is all more need for greater vigilance during farrowing time, or the period covered by this discussion.

We place the sows that are to farrow in a pen by themselves at least a week before farrowing time and we get them accustomed to having us go in and out of the pen. When in the pen we rub them along the underline and they will lie down at our bidding, soon becoming very quiet, and by this preliminary training you are much more apt to farrow them successfully if it is necessary to give them assistance. As fast as the pigs are farrowed, remove them one by one from the pen and place them in a basket or box where they can be kept warm. When the dam is through farrowing, return them to her and start them to suckle. If this is done it will avoid many pigs being killed. The reason they are killed if they are left with the dam, is because they squeal on the least provoca-

tion and this makes the mother nervous and she will thrash around and kill the pigs, by possibly laying or stepping upon them.

We provide our pens with fenders around them. This will save many pigs from being crushed to death. Until the pigs are a week or ten days old we bed the pen with fine straw or chaff, for this enables the pigs to move around much more readily and get out of the mother's way when she rolls over, etc.

Before and after the sow farrows she should be fed very light or the pigs will not be able to take all the milk, or if they do they will become sick. Leave the sow quietly after she farrows for the first twenty-four hours after farrowing; all she needs this time is water to drink that is not so cold. Give her a little feed the second day but you will be surprised how little you ought to give her. Increase this a little daily and get her on full feed about two weeks after farrowing. If this is done it will avoid pigs getting the scour which rarely kills many, but they do not thrive well after it. Thumps which will kill many pigs, can also be avoided in this way. Thumps is a result of young pigs getting too fat. See that the pigs get a chance to run outside of the pen where they will have plenty of room to exercise in; this will assist in avoiding thumps also.

Pigs at birth have two sharp pointed teeth on the side of their jaws. If not removed they are apt to make the teats of the mother sore with them and also sore one another's mouths by fighting together. These sores make infection possible, consequently they should be avoided. When the pigs are a day or two old take them up in your arms and cut

these teeth with a small tinsmith's shears.

If pigs are reared successfully up until they are a month or so of age, the critical period is over and less caution in caring for them is necessary. A little attention to the details mentioned however, at the period covered as said before, will often increase the returns from the herd very materially.

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An Address Delivered Before the Annual Meeting of the National Gas and Gasoline Engine Trades Association, at Racine, Wis., Dec. 15, 1910

By Mr. J. B. Bartholomew, President, Avery Company, Peoria, Ills.

In order to develop a better understanding in regard to any subject it is necessarily of great advantage to make as deep a research as possible into what has been done and build up from that a thorough understanding, which shall form the basis from which some final conclusion can be reached.

The idea of horseless farming is a subject over which inventors have pondered ever since the first attempts of B. Langdon in 1817 to produce what he then called a Road Engine, which afterwards became known as the Traction Engine, and a series of motor driven vehicles, in various forms, followed.

We have a meagre record of Guernsey's Steam Carriage about 1850 which to-day would be called an automobile.

We have in 1856 record of Bradley's motor plow.

We have in 1874 the idea of a motor driven fire engine.

This brings us down to 1879, about the period when traction engines began to make their appearance upon the market. Previous to this date, however, many machines that attained more or less of a success in operation, had been designed, and it is clear from the history of events that nearly every inventor had in mind, in connection with the many uses to which these machines could be put, to accomplish farming by mechanical power instead of animal power.

The modern automobile as a pleasure vehicle has been developed during the last ten years to such a high degree, and the field has been so largely entered by manufacturers, that now we find many inventors have been stimulated, by their success, to bring out the motor driven truck. These machines are becoming very popular, and are seen everywhere about the streets of our cities and towns, and have passed the experimental stage; they have been brought down to a commercial success.

An English inventor by the name of Ivel has designed and put on the market what he chooses to call a farm tractor. This machine of light proportions, driven by a gasoline motor, he put on the market, but being of English production it found more ready sale in other countries where animal power was more expensive to maintain, than it did in the United States, where one of the chief occupations among the farmers is the raising of horses. This is more particularly true in the Mississippi Valley district.

Following this, a large English concern, Marshall & Company, produced and sold to some extent what they called a farm tractor,

a machine of light proportions, but nevertheless capable of making good speed on the country roads, and able to travel over ordinary fields, drawing such implements as usually could be operated by the use of four horses.

It will be observed that these machines were not intended to carry freight upon their own wheels.

These examples of what was done prior to the time that we entered the field, coupled with much other data, to which it would be useless to refer except in a general way, but coming from various quarters, show conclusively that the idea of doing away with a part of the animal power on the farm was old, and that a demand could be readily worked up for the right kind of a machine that could be by demonstration proven that it would supply the requirements.

The next step that attracted the attention of the writer in an effort to analyze the subject and get at the requirements was to analyze the conditions. In this he was aided to a very great extent by practical experience as a farmer. It seemed to me that a machine to meet the needs of the largest number of farmers should be the one that would do the greatest number of things that the farmer has to do, and in making up a summary of the various occupations to which a machine of this class can be utilized, it was really interesting to see how many there were.

Under the head of "Hauling" we have grain, hay, straw, stock, coal, lumber, milk and cream, fruit and vegetables, oil, etc.

Under the heading of "Pulling" we have plows, discs, harrows, packers, levelers, seeders, binders, manure spreaders, loaded wagons, road drags, road graders and moving houses.

Under the head of "Driving" we have threshers, clover hullers, balers, saws, corn shellers, feed grinders, Ensilage Cutters, Fanning Mills, Grain dumps, pumps, cider mills, cane mills, etc.

In considering these subjects it will be seen that the average farmer and the average sized farm has been uppermost in my mind in the design and construction of the Farm Tractor. This machine will take the place of eight or nine head of ordinary farm horses, and it also develops in analyzing the subject that more animal power is used from the time spring work begins until seeding and planting is complete, than is required afterwards during the entire year. Therefore, a great saving is worked out in doing away, not entirely with horse, but absolutely with a surplus of horse flesh, which has to be kept and

maintained during the entire year, whether engaged or not while all expense in maintaining and operating the tractor stops when the machine has completed its work.

The steam plow and the large gasoline engine meet the requirements of the bonanza farmer, but even in his case the lighter machine can be afforded daily occupation. It can haul coal and water to the steam plow, oil and gasoline can be brought from railroad stations to the gasoline traction engine with it, and can be used for traveling over plowed ground and pulling harrows, discs, seeders, etc., where the large, heavy and slow moving machine would be impracticable because it would pack the ground over which the wheels traveled, too much, while the light tractor with the special arrangement of traction wheels packs the ground less than even the horses, since the grouters have a spading action.

We have discovered that there is still a fourth class of work to which the Tractor can be easily adapted and profitably utilized and that is by placing a nigger head on the shaft in place of drive pulley power can be used not only for loading and unloading the tractor when heavy bodies are desired to ing other building materials, rock, may also be used for supplying power for many other kinds of work where a block and tackle is brought into service, such as placing timbers (in the construction of buildings) in place as well as lifting other building materials, rock, brick, mortar, cement, etc.

In working out the details of the machine to meet all these conditions and bringing its design and construction down to a practical and commercially successful proposition, perhaps the greatest problem lies in the construction of the traction wheels. This problem has been comparatively easy to solve in relation to the City Truck since the introduction of the solid rubber tire, very properly meets the requirements for travelling and hauling loads over the city pavements.

Upon a moment's reflection it will be seen, however, that to meet the requirements of a farm tractor, that is to accomplish all that has been outlined, something entirely different had to be devised. First, the eliminating of the expensive rubber tire equipment, which is a limited lived affair at the best but which is of a particular advantage to the farm tractor, operating on dirt roads, soft fields, and plowed ground. We have provided a wheel with two 2in cast steel rims, perforated and filled with 2in hard wood plugs, which will go anywhere that the rubber tire wheel will go equally as satis-

factory, except on the hard pavements in the city, and upon which it will travel at a moderate rate of speed of say six or eight miles an hour in a manner entirely satisfactory. The main part of the wheel so constructed, it will therefore be seen, meets every requirement with much cheaper first cost, and while these parts will wear through a number of years, they can be readily renewed at a nominal cost.

This, however, does not solve all of the problems with which these machines will be confronted.

For pulling plows and other agricultural implements on soft ground an extension has been provided, the construction of which is better understood by the illustrations, but is provided with 8 blades pivoted in the circular frame work and held out of action by a series of springs. Provision is made for locking them in an extended position where on ordinary hard roads, they are slightly within the circle of the main wheel, therefore do not come in contact with the road bed, and are entirely out of action except under such conditions as would cause slippage of the main wheel which would cause the edge to strike in the ground and swing it back to the extended position and thereby prevent slippage but as soon as the wheel had passed beyond that point would automatically fall back in its position of rest.

It will be seen that when the Tractor is travelling over plowed ground, pulling disc, drag or other implements, that with these blades extended permanently their action upon the soil is in the nature of spading it up rather than packing it.

The fact that so many of these have been made and successfully operated puts this device beyond experiment. It has made eminently good in demonstrations of its efficiency to overcome the problem of slippage in wet spots on the road, to carry the machine and pull plows over soft fields, and to travel on plowed ground and pull implements without unduly packing the soil. Of course a device of this kind is materially aided by the fact of the light weight of the entire machine and it is questionable whether such devices could be made of sufficient strength and within reasonable weight if applied to the heavier traction machinery, such as traction engines. It is well to call attention to the fact that the one blade is held in an extended position while all the others are at rest.

In connection with this illustration it will be readily seen that to change the gear ratio the driving sprockets of any desired size can

Your Plowing Outfit

Saves
TimeSaves
Labor

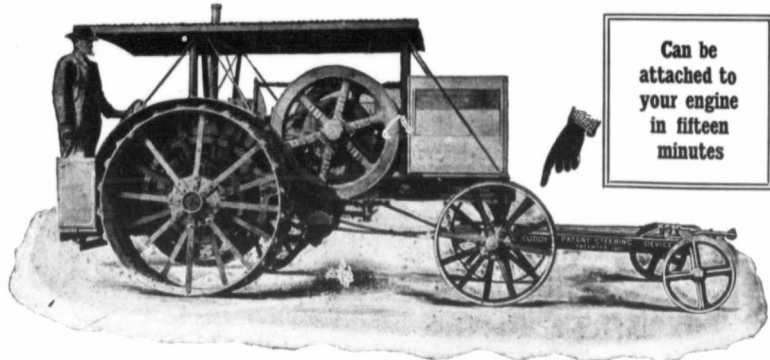
is not complete without a

Cuddy Patent Steering Device

How many times in your career as a traction plowman, as you stood at the steering wheel of your engine on a warm summer's day have you wished for something that would guide your engine automatically?

How many times have you felt that the constant turning of a wheel from the start in the morning until the finish at night was more or less trying upon you?

How many times have you looked back over the furrows and discovered "cut and cover" patches that made you feel anything but good?



Furrow Side, Showing Relative Length of Steering Device and Engine

The above are by no means new to you as a traction plowman, but heretofore there was no way of avoiding them. You simply had to "take your medicine," and take it all as a part of the business. Such things are, however, no longer among your troubles, for with a **CUDDY PATENT STEERING DEVICE** your engine will cling to the furrow without any attention on your part, leaving you free to look after both your plows and your engine, thus enabling you to keep both in better working order.

The Cuddy Patent Steering Device will Save One Man

Does this mean anything to you when men are scarce and wages high. In fact, in what you will save in wages in one season with the above device, together with what you will save by being able to keep your outfit in better working order, you can pay for the device itself, to say nothing about the hard grueling work that has been taken from your own shoulders.

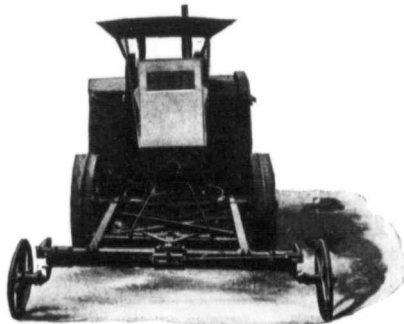
CLAIMS WHICH YOU CAN PROVE BY SEVEN DAYS' TRIAL WHICH WE GIVE TO BONAFIDE PURCHASERS

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



Front View, Showing Method of Attaching to 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, and is backed by a positive guarantee that it is well constructed and fulfils its purpose.

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.

The inventor, Mr. Thos. H. Cuddy, is associated with us in the manufacture of this device which is constructed under his personal supervision, so that each machine is particularly adapted to the work it is called upon to fulfil, and to the engine to which it is to be attached.

Responsible Agents Wanted among Agricultural Machinery Dealers

Manufactured and Sold by

The Western Steel and Iron Company, Ltd.

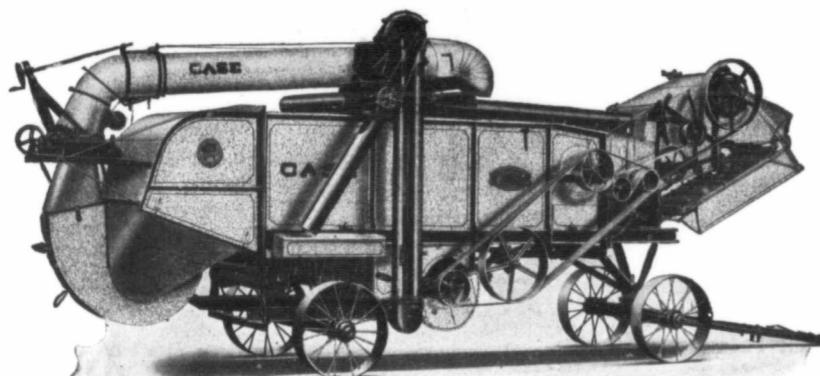
WINNIPEG, CANADA

Saves
MoneySaves
Temper



CASE

IS SHOWN IN BOTH ENGINES



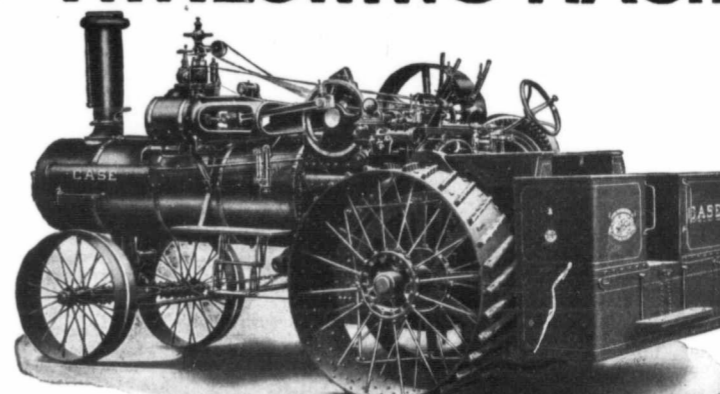
CASE STEEL THRESHING MACHINES are economical for both thresherman and farmer. For the thresherman they have **CAPACITY, DURABILITY** and **STRENGTH**. Their construction reduces cost of operation. For the farmer they **SAVE GRAIN, TIME** and **MONEY**.

SEND FOR OUR
J.I. CASE THRESHING
INCORP
RACINE,
CANADIAN BRANCHES - TORONTO,



ECONOMY

AND THRESHING MACHINES



CASE THRESHING ENGINES use least fuel and water in operation. **CASE economy** appeals to the thresherman and farmer. Tests have shown the **CASE engines** to be from 15% to 43% more economical in fuel consumption than other makes. The saving in the use of water is equally as good.

CATALOG NO. 68
MACHINE COMPANY
ORATED
WIS., U.S.A.
WINNIPEG, REGINA, CALGARY

Chicago
1911



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.

Plowing Rough Land.

I have a Sawyer-Massey engine 26 H. P. and a seven furrow Cockshutt engine gang plow. I plowed about 55 days, breaking about 500 acres, which was practically all very rough on the engine, but I did very well at that. I had no large jobs, one-half mile being the largest. I have made as high as 21 miles per day on smooth portions of the land, convincing me that if it were all good, smooth land I could have done more. The land I broke for myself was very bluffy. Some large bluffs and a great many bunches of willow were scattered over the land.

I hired men to cut the brush, doing a good job, getting it cut close to the ground. The large bottoms were cut so close that there was a hollow in place of lumps and a great many of them left a fairly smooth surface for the gauge wheel of the plow to run over the root without lifting the plow much. So while I have made a small acreage I have got my bluffs nicely broken which would likely have been left had I been using horses for breaking. I received \$3.75 per acre for 312 acres . . . 1170.00
112 acres, which was quite rough and rooty at \$4.00 . . . 448.00
22 acres at \$4.55 per acre . . . 100.00
Stubble plowing \$3.00 . . . 225.00

Total . . . \$1943.00
The cost of running was as follows:—
82 tons of coal, at \$4.45 per ton . . . \$365.00
Repairs . . . 200.00
Engineer, \$5.00 per day for 55 days . . . 275.00
Hired man, at \$35.00 per month . . . 200.00
Man and team, used half the time doing errands etc. . . . 110.00
I do my own blacksmith work, allowing myself \$3.00 per day . . . 165.00
Oil Sundries, etc . . . 100.00
Water man and team at \$4.00 . . . 220.00
Profit . . . \$1635.00
308.00

This profit to the good would have been considerably increased had the land been more in my favor. I could then have done with one man less and also with much less repairs on my engine. I consider plowing much harder on my engine than threshing. I consider traction farming to be far ahead of anything else in localities where the land is smooth as the packing done by

the engine is very valuable to the crop. I believe that if land could be packed as solid as it is when done by the engine wheels that it will yield at least five bushels more per acre than otherwise. Packing is the great secret to even ripening and good grades of grain, and when accompanied by liberal harrowing will produce heavier and earlier crops. If the soil is firmly packed and well tilled we do not feel so greatly the need of rain.

Yours truly,
Charles Perry,
Waseca, Sask.

Does Work at Right Time.

I am an interested reader of your valued paper and in particular the articles on traction plowing, and as traction plowing is year after year taking the place of horses I have been asked to give my experience.

I only bought my outfit last spring and having only one summer in the field I will not be able to give the desired information as well as some of the older plowmen.

The engine is a Reeves Cross Compound and rated at 32 H. P. I have found it to be a first class plow engine in every way. The plow is also a Reeves with steam lift, and has twelve fourteen-inch furrows. This sort of plow is a time saver, as there is no stopping at the ends to raise each plow by a lever and there are some good adjustments on it for regulating depth and width of furrows, etc.

When I started in to break last spring I had a bunch to learn. Like any other new business, a man has a lot to put up with, as there is always something turning up which you are not figuring on.

One of the most particular things and one which a new man is liable to make a mistake on is coal. There is coal for steaming purposes with which the best fireman that ever lived could not fire on an engine up a mile stretch without stopping, to save his life. Pittsburgh Hill Crest or Blairmore are both very successfully used. About two tons of these coals will plow about thirty acres.

Then I had some trouble lining up my fuel and water tank to take on supplies in the least possible time. Some plowmen take water on the move, but I always had plenty to do to grease gear and screw down grease cup cops while the engine was stopped.

I did considerable work with the outfit. Plowed all told 2,300 acres, double disced 320 acres, floated and harrowed 700 acres,

and at times did the work of 48 horses in pulling 12 plows and three discs. I averaged in breaking 30 acres, and have plowed as high as forty acres per day.

The cost of plowing, as near as I can figure, is \$2.00 per acre, with regular wages, interest on money invested, depreciation, coal, board, sheer sharpening, oil, etc.

I don't think a man can plow much cheaper with steam than with horses, but in this country, where the season is so short, it requires something faster than horses to get the work done in the proper time. We all know that a field which is prepared in the right time of the season will yield from five to fifteen bushels per acre more than one that is not.

Water is a very important thing. I would not advise steam where good water is scarce. My engine in plowing used about nine tanks to 30 acres plowed.

Yours truly,
D. E. Johnson,
Outlook, Sask.

Could Pull 18 - 14 inch Bottom.

We own a 35 horse power engine Buffalo Pitts, and purchased a set of Cockshutt plows last year, ten bottoms.

We built a rack on behind the engine and fired with flax straw. One load of flax straw will do for four rounds on a half mile. Our engine is a very easy steamer, and my three brothers and I all work together, one firing the engine, one drawing water, the other looking after the plows, and I running and steering.

We can plow in this manner with very little expense. I might say our engine is a little heavy for summer following when the ground is the least bit wet.

Our land is a little stony, so that we must have a good strong plow. We could pull eighteen fourteen-inch bottoms if we had them, but the ten plows gave good results all round. When we happen to get in a wet place and the plows all bung up with weeds and sods, it requires lots of power to pull out.

Yours truly,
Gee Bros.,
Cupar, Sask.

Seeded 625 acres in 12 Days.

We have used a 34 H. P. Northwest steam engine three seasons, in breaking, stubble plowing and threshing, also did our seeding in the spring of 1910.

In breaking we use a ten bottom John Deere engine gang and crusher. This we find makes an excellent job. It is not so heavy as to reduce the speed in tough and wet places and breakages are far less than when hauling heavier loads.

At the end of the field we keep a cook car, fifty barrel water tanks on trucks and coal wagon. This large tank also carries the repair outfit, oil, etc.

Our crew consists of engineer, fireman, two men and team hauling water, man and team hauling coal, and cook, who also does some blacksmithing and keeps plows in shape.

With this outfit we do from twenty-five to thirty acres per day where the ground is reasonably level and free from rock or alkali holes, water not over two miles to haul and the best steam coal. The tankman can haul the coal if it is in a bin on the job.

One man and team can supply coal at ten miles. A ton of the best Hill Crest steam coal will break from ten to fourteen acres, according to the engine's footing and kind of soil.

In plowing stubble we use a 21 disc Emerson plow and 16 foot harrow.

We find the cost of plowing about the same as for breaking, as the engine has poorer footing. Sand, alkali holes, wet weather, etc., cause far more trouble in plowing than in breaking. The wear on engine is also greater because of dust.

In the spring of 1910 we disced, seeded and harrowed in stubble 625 acres in 12 consecutive days with the following outfits: Four eight-foot discs, three twenty-two disc drills and thirty two-foot lever harrows. The weather was very favorable and the ground in excellent condition while doing this work.

Our crew consisted of cook, engineer, fireman, man on drills, one man and team hauling water, two men and one team hauling coal, farming, pickling and hauling wheat to drills.

This operation required one ton of coal to every thirty-five acres. Hoping this experience will be of value to some reader, we remain,

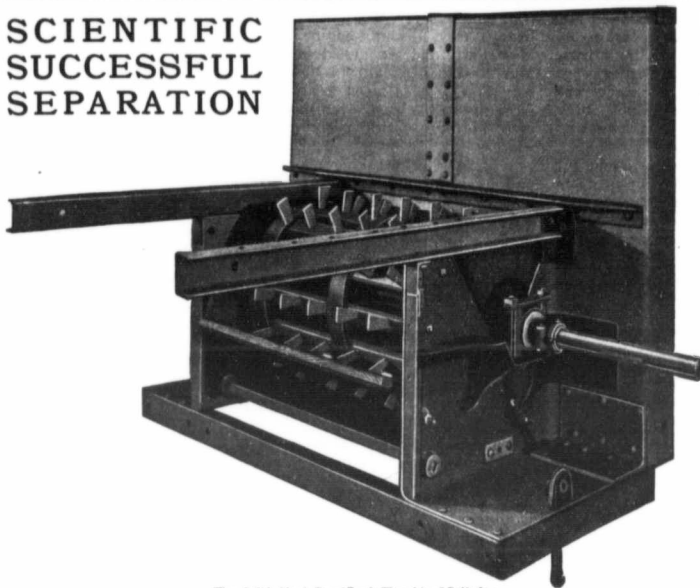
Yours truly,
Wilhelm Bros.,
Swift Current, Sask.

Go Slowly — Lubricate Well.

I started plowing April 1st, 1910, with a 26 H.P. Cock O' the North engine and set of Imperial plows and plowed with baled straw. I did not meet with very

THE BUFFALO PITTS NIAGARA SECOND STEEL FRAME THRESHER

SCIENTIFIC
SUCCESSFUL
SEPARATION



The Solid Steel Front and Threshing Cylinder

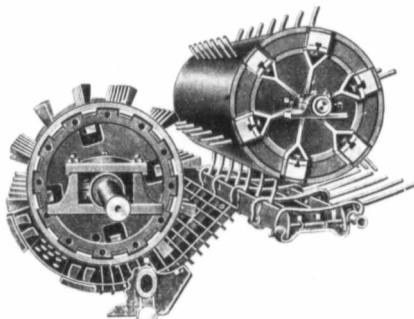
A Clean Cut, Built-for-Business Separator

In addition to our steel frame which will not sag, warp or twist out of shape, the Niagara Second Steel Frame Thresher is the only machine having a Duplex Threshing and Cleaning mechanism. By this process we have a double separation and a double cleaning device.

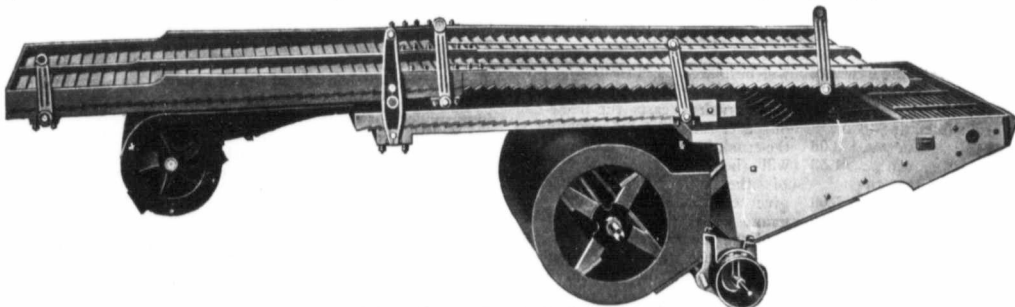
Every thresher has a cylinder, beater, and upper straw rack or a series of racks or bolters and a grain pan and shoe, but none except the Niagara Second Steel Frame Thresher have the vital parts which insure perfect separation and cleaning. The Niagara Second has all the parts found in other threshers, and in addition has the vital parts which are the separating cylinder, lower straw rack and auxiliary fans (as per illustrations) giving us a process of separation found only in this machine, making a construction for the threshing cylinder that is as solid as a piece of concrete, a perfect running cylinder in a solid foundation insures perfect threshing out of the head.

THE PROCESS OF SEPARATION

The straw passes through the threshing cylinder to our separating cylinder (which is found in no other thresher) and on account of the patent scientific arrangement of this separating cylinder, the location and speed, and its relation to the threshing cylinder, concaves and grates and other working parts, the threshed grain, short straws and chaff are deflected through the grates to the lower straw rack, and the heavy straw is thrown forward to be carried out by the upper straw rack. To insure perfect separation it is necessary to keep the straw from bunching and we accomplish this in the upper straw rack by a special construction which moves the mass of straw faster on top than on the bottom gradually spreading it and allowing any threshed grain, not separated at the cylinder, to fall through. Our upper straw rack is open so as to allow all threshed grain and chaff to fall through easily. The lower straw rack as per illustration (found in no other machine) receives the threshed grain, short straws and chaff which is carried back by a specially designed movement, and with assistance of our auxiliary fans (found in no other machine) which through a blast of wind through this rack, carrying the straw and chaff out into the stacker and allowing the threshed grain to fall through into the grain pan, thereby rough cleaning the grain before it reaches the shoe—this is why our shoe never loads.



Threshing and Separating Cylinder and Grates



The Lower Straw Rack and Auxiliary Fans found only in the Niagara Second Thresher

The process as explained gives us a double separation and double cleaning operation and scientific arrangement of our threshing cylinder in connection with our separating cylinder, and steel grates gives us more grate surface than any other style of construction.

Any thresherman with mechanical ideas will appreciate the scientific plan on which the Niagara Second Steel Frame Thresher is constructed.

Main Office: 6 Carolina
St., Buffalo, New York

BUFFALO PITTS COMPANY

Canadian Office: 25 High Street,
Moose Jaw, Sask., Canada.
Winnipeg Office: 774 Dufferin Ave.

good success, as I found my plows were rather light. The straw did very well. I could plow from 12 to 16 acres per day. Then I ordered an eight bottom fourteen-inch John Deere engine gang and started using Hillcrest steam coal. I met with good success and the engine did splendidly.

On July 17th I plowed in one half day 10 acres, five inches deep, and the ground was so hard and dry that nothing less than 32 head of horses could have performed this feat.

I plowed 800 acres besides discing and planking. I can plow 20 acres, on an average of 2,000 pounds of good steam coal. The Hillcrest coal cost me, laid down at Perdue, \$6.85 per ton.

Most of the time I used a waterman and fireman and one team. A big saving can be made by having a competent fireman, as odd much coal is as bad or worse than none at all. We run on an average seven tanks of water per day. Each tank has a ten-barrel capacity.

My strong advice is not to try to plow with dirty water. Don't go too fast, as it causes the boiler to prime and wastes water, also causes breakages by going through holes or over hummocky land. Water thrown over by going too fast is a waste, besides more or less wear on the valves. Use good cylinder oil, and the best cog grease is made by mixing cylinder oil and soft cog grease to the consistency of very thick cream. Then have a stick eighteen inches long with a bunch of cotton batting tied on the end and with this swab go over the entire gear every two miles, and your gear will be very little the worse for the wear.

Traction plowing is not harder on an engine than threshing, but it is only harder on the gear. The gear, however, well taken care of and run carefully will last a long time. Of course an engine that is overloaded and run too fast is bound to wear and break, at the same time causing expense, just the same as any other piece of machinery. For instance, a heavily loaded wagon driven carefully around a sharp curve or over a sidling place will carry its load safely, where a careless driver is very apt to break.

The cost of plowing twenty acres was about as follows:—

Coal	\$6.85
2 men and team (men at \$40 per month)	3.06
One team at \$40	1.53
Say my own wages as engineer	5.00
Oil and grease	1.10
	<hr/> \$17.54

Yours respectfully,
C. C. Peckenpaugh,
Perdue, Sask.

Hard and Shares.

My engine is a 36 horse power Rumely, made in La Porte, Ind. We use a 12-fourteen-inch bottom John Deere plow. My outfit has so far given good satisfaction.

My experience commenced in May, 1910, but owing to the dry

season we were unable to make a good report. When we commenced we had only one set of plow shares. However, we started with engineer, fireman and waterman. Our furrows were one mile long, making a distance of two miles each round and using about 10 barrels of water at the end of four rounds, eight miles.

We found our shares had to be sharpened, and having no others, had to shut down until they were resharpened. This, of course, was hard on coal, as we could only work a few hours at a time and then sharpen shares.

It was June before we could get more shares. Then we got 24 more which enabled us to get along very much better, as we could change shares and go on, instead of allowing the engine to die down.

The cost of coal was much more than it would have been under favorable conditions. Yet it did not exceed 50 cents per acre. We consumed one ten-barrel tank of water each round of two miles.

At the end of the season we had plowed 850 acres at a cost of \$1.50 per acre, hauling coal from the station and wear and tear not included. The coal we used was steam coal which cost \$4.50 per ton at the station.

I think plowing very much harder on engine than threshing. I also consider that plowing with steam is far ahead of horse power.

We have not had much experience in hitches yet. What we did we have done in this way. We use a pole 35 feet long with a truck wheel on each end. Then we used chains fastened one to each of the poles about 8 ft. from wheel and run to center of engine. In this way we can hitch up seven eight-foot discs very nicely. The first four have short tongues and are spaced equally along the 35 foot pole, leaving a space of eight feet for each of the three long tongue discs. In this way you can double disc about 30 feet or nearly so.

Next spring we intend to disc and sow at the same time by the addition of another 35 foot pole with a large wagon wheel on each end of the pole. By this means we expect to arrange three seeders on this pole, two-twelve foot and one-ten foot. Two of them will be placed as close to the pole as possible and the other one, having a truck to carry the front end of seeder (on the same principle as the truck on an eight foot binder), will be placed in the rear of the other two, so as to give clearance in turning. A gauge wheel can be arranged behind the seeder, the proper distance for the steersman to run engine, so as to sow without missing.

Yours truly,
E. H. Earl,
Medicine Hat, Alta.

Handy Hitches 75 acres in 9 1-2 Hours.

I have had two years' experience with traction farming, being manager on Plain View Farm,

nine miles south of Lajord, Sask., for the Eastern Saskatchewan Land Co., of Regina.

During these two years we have broken 550 acres, or rather in the year 1909. We hired a steam outfit this season to break 500 acres, as we found our engine was not strong enough to cope with our soil, which is very hummocky and heavy clay. Our engine is a Hart-Parr, and we pulled in sod four sixteen inch bottoms (Emerson plow). We also used the plow in stubble with seven-sixteen inch bottoms with fairly good success.

We used for breaking about 5 gallons of kerosene and 2 1-2 to 3 gallons per acre in stubble.

We used two men with the outfit as a rule, for two work to so much better advantage. It takes about one barrel of water per day with the Hart-Parr, two gallons of engine oil at 45 cents per gallon; 60 to 70 gallons kerosene at 19 cents and two gallons of gasoline at 27 1-2 cents.

I might state here that if we had the duty removed from all fuel oil it would help some.

Threshing is much easier on an engine than most any other work. We pulled a 36 x 60 Rumely with all attachments without any trouble.

I found for cultivating land with 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 to any farmer or engine owner my draftings and full directions how to make them, which anybody can do on the farm with blacksmith tools.

On plate 1 you will find disc hitch. In this we find two men and tractor doing the work of 28 horses and 7 men; double discing and scrubbing at one operation. With this hitch the disc 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 a soft spot.

On plate No. 2 you will find drag harrow ditch made of 6 x 6 and 2 x 6—48 feet long, bolted to four runners or skids. Note how evenly the draft comes at all points. This outfit properly hooked up takes the place of five men and 20 horses and covers 115 to 220 acres per day. In fact, 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.

On plate No. 3 is drill hitch. This is planned for 22 or 24 shoe drill and three drills are all that can be used with any degree of success. We tried this hitch out last spring, sowing 1,070 acres of oats and flax, and it is a success. Harrows or planks 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 100 acre strips.

I have roughly outlined my ideas above and hope my experience will help to make traction farming just a little more successful for someone else.

Yours truly,
E. F. Brockman,
Regina, Sask.

1,400 Acres, \$25. for Repairs.

I will be pleased to give you a few lines in regard to my experience in breaking prairie with steam traction engine. Let me state at the beginning that our land in this locality is of a heavy clay nature, requiring, in very favorable conditions, four horses to operate one fourteen-inch bottom breaker.

I have a 30 horse power double cylinder Rumely plowing engine. With this I pulled an eight bottom John Deere breaker and found I had plenty of power and a good reserve. I got my engine and plows on April 29th, 1910, and started operations on May 2nd, 1910, and up to August 20th broke 1,400 acres during the last half of May and the first part of June we had exceedingly wet weather for traction plowing.

I employed four men and engineer at \$5.00 per day, and a fireman at \$40.00 per month, a tankman at \$40.00 per month, and a cook at \$50.00 per month, and he would do other odd jobs in connection with the outfit when he had time.

When we got further than one mile from water I would have to put on an extra tankman and team, but I was close to water practically all season.

I hauled the coal myself and looked after supplies for the outfit, and also looked after my farm, where I kept one man during the summer months and more in the busier seasons. I used several different kinds of coal. The Crow's Nest "mine run" \$6.05 and screened Crow's Nest at \$6.25, the Pennsylvania steam at \$9.25 per ton and Hillcrest at \$6.00 per ton.

I would use on a good deep plowing about two tons of the cheaper coals and one and a half tons of Pennsylvania. I consider the Pennsylvania coal the cheapest when I can get a good fireman, as it takes less coal, and, therefore, less labor to handle and less ashes to clean.

I used ten barrels of water on every two mile round, which would mean 100 barrels of water for ten rounds, which we did for one day's work, when everything went smoothly. I cannot give you an exact estimate for one day's plowing, but taking one month at a time for the season, with breakdowns, which are bound to occur with the best of

THE RUTH SELF FEEDER is warranted to feed any make or size of Separator to its full Capacity with



THE RUTH

Swinging Elevator Feeder



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 CO.

Parsons Hawkeye Mfg. Co., Winnipeg, Man.

Steinbach, Man., Nov. 1, 1909.

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

I advise all threshers not to be without "White Wings" Feeder because I can prove that the extra number of bushels I was able to thresh, taken together with the money I saved for help, has paid for this feeder several times over, this the first year I owned it. Yours truly,

G. W. REIMER.

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.

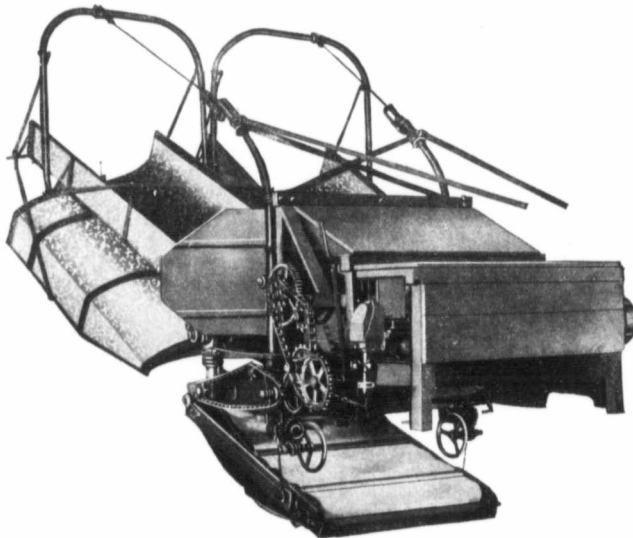
IT MEANS a solution of the labor problem and relief from unreliable help.

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.

The Swinging Elevators are hinged in the middle and fold up when not in use, and for moving on the road, a very convenient arrangement, as shown here.



The two galvanized iron carriers which have been "nick-named" the "White Wings" are 12 feet six inches long and 31 inches wide inside, are hinged to the sides of the main frame of the feeder and will EXTEND IN ANY DIRECTION DESIRED, from the top to the bottom of the stack and are easily pushed from one side of the stack to the other by the pitchers.

The RUTH is regularly equipped with Rotary knives, but when desired we will furnish it with the self-sharpening Parsons knives (sickle) with crank shaft motion.

We lead in everything that is good and new in the Self Feeder line. We were the first to build Swinging Elevator Feeders, and having built them for several years, they are no experiment.

Last month we promised to tell you all about the WHITE WINGS Feeder and the DUMP RACKS at this time, and here we are with our space all filled up and not a word about the Dump Racks, so we will have to let that part go over another month. Facts are that there are so many good things to say about a RUTH FEEDER, with or without the "WINGS," that when we get started it is hard to stop. However, the half has not been told, and this magazine would not begin to hold the facts that we could give all going to PROVE THAT THE RUTH FEEDER IS IN A CLASS BY HERSELF; The RUTH Warranty at the top of this page tells the whole story. Read it again—absorb it, get the wording into your system, and when you have a chance ask the chap when he tries to sell you one "JUST AS GOOD" to furnish you a signed Warranty worded EXACTLY like the one that belongs to RUTH. Please remember that the RUTH WHITE WINGS can be put on the Ruth Feeder you now have. Also please remember that the RUTH, THE PARSONS or the HAWKEYE Feeder can be put on ANY SEPARATOR THAT IS FOR SALE IN CANADA, and that ANY Company who sell Separators can buy them of us. For two years or more we have been pounding away on this FACT, and why? Because we know there are a few Thresher Companies who have said they COULD NOT get them of us. Send for our Thresher Supply Booklet just issued if you are going to need a BELT Guide, a Tank Pump, a Gas Headlight, a Cylinder Wrench, an Oil Pump, a Spark Arrester, a Drive Belt, Suction, Discharge or Injector Hose, Oils or Greases, OR ANYTHING ELSE. Our Prices are RIGHT.



The Maytag Company Ltd.

SUCCESSOR TO

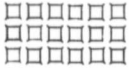
The Parsons Hawkeye Manufacturing Coy.
753 Henry Avenue
Winnipeg



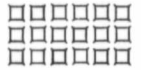
and to wear longer and cost less for repairs than any Feeder manufactured by any other Company in the World.

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



The Men Who Make No. 1 Hard



Crop Very Light Last Year.

I will endeavor to give you a very brief story of my last year's run in threshing and my method of running an outfit.

I started threshing thirteen years ago and now own two outfits and I have had a great many ups and downs during that time. My outfits consist of a 26 h. p. American-Abell engine with a Buffalo-Pitts separator, 36 x 56, and a 26 h. p. Waterous twin cylinder engine with a 40 x 60 Toronto Advance separator.

We had a very dry season in this district last year. The crop was very light. A friend of mine at Indian Head asked me to ship one outfit there, which I did, and found that it paid me as there was a nice crop.

I threshed 21 days and got through 42,000 bushels, most of which was wheat, all from the stook. The other machine threshed 15 days and got through about 20,000 bushels, mostly all from the stook.

As to my method, would say that I hire my entire gang, including the stook teams. We do everything except taking away the grain and boarding the men and teams, which is done by the farmer. For stook threshing I charge 8c. per bushel for wheat and 6c. for rough grain. As a rule I pay \$2.50 per day for men and \$5.00 for man and team with wagon and rack.

I never go out without spending considerable time on my outfits, putting them in good shape for the season's work, which, together with keeping them under a rain-tight roof when not in use, adds greatly to the life of the machine, besides doing better work and more of it while in the field.

I also try to carry a fairly complete kit of tools with me, so that I can make any ordinary repairs right on the ground; thereby saving many hours of time and many miles of travel. I try to make every minute count by having and keeping everything in the best shape I possibly can, as I find it is the steady grind together with good, clean work that pays as the same ground can be gone over year after year.

I think it also pays to make the men as comfortable as possible by providing a good place to sleep in. I don't believe in trying to see how much I can get out of them, but I have found that by being firm, paying good wages, using them right, men will as a rule give good returns. It never pays to keep a kicker, as he will spoil the good men. Above all things, a man needs to be "it" absolutely as far as running his business is concerned.

I hope I have not taken up too much of your valuable space and trust that I may have given a hint or two that will be of some value

to someone. I appreciate very much reading the experience of others, as I think it is a splendid way to get information.

Yours truly,
John A. McKenzie,
Cartwright, Man.

Has no Trouble with Blower.

I have a 20 h. p. J. I. Case engine and a 36 x 58 separator, which I have operated for the past five years. My experience in threshing last year was principally in travelling with not much grain to thresh; but what we had was fairly good and easy to thresh. The crop averaged about 25 bushels to the acre, all kinds of wheat.

I have heard about the climbing stunts that the engines are put to at Exhibition, but when you get on to hills where the ground is loose, with a separator hooked on behind, that is where the climbing abilities are put to a practical test. Sometimes we had to use a cable on the hills, going up as far as we could with the separator, then going on with the engine and hooking on a cable and drawing up the separator. When the ground gets frozen the wheels will fly around as though they were on ice. By putting a chain along the ground under the drive wheels we could travel the length of the chain, then the links of the chain would hold on the ground and give the wheels a grip.

We do all stack threshing, and some of the customers think an engine can go any place where a team can go with a wagon. Some places we had to turn the engine around and use a pole from the front of the engine to shove the separator back through the stacks. I see cuts of different machines to stop grain from going out in the straw. As long as it was threshed out of the head it never went over in the straw. When it did go over it was off the shoe through overloading. As long as we had our separator set nearly level and did not overload the shoe, there was not much went over. Some will say that the blower will draw the grain off the sieves through suction, but that is not so. You can lay grain inside the blower anywhere short of in the fans and there will not be suction enough to move it.

Yours truly,
Andrew Nugent,
Steep Creek Sask.

Threshed 60,000 Bushels.

I have had two years' experience in threshing out here in Alberta. My outfit consists of a J. I. Case 75 h. p. engine and my separator is a 32 x 54 Case steel machine, with all modern improvements. I find this outfit very durable and it is now as good as

when I received it. When not in use I keep my separator covered. I might explain how I use the canvas on my machine and keep the wind from tearing it to pieces. First I found that where any pulley or shaft on top of the machine would strike it, it would make a hole in the canvas. To prevent this I put a big load of hay or straw on top of machine and topped it out like a stack of hay. This prevents the wind from destroying the canvas. I do not shed my engine, although I believe a man should, as this greatly improves the appearance and preserves the engine.

I pulled out last fall in September and pulled in in November. I threshed about 60,000 bushels of grain, mostly oats, at 3c. per bus. About one quarter of the threshing was wheat for which I charged 4c. per bushel.

I did not make any money this year on account of the light crops, but I largely increased the size of my run. I traveled two hundred miles; so you see it cost me something to move. This year there is a lot more breaking to thresh, so it will increase the number of bushels.

I ran my own engine. I think all men should do this as it saves a good deal of money. A man will generally look after his engine pretty well if he knows he has got to pay for repairs. I also own my own tank team, and I burn straw for fuel. My engine is very economical on fuel and water and I find it a worker in the belt. It is also a good puller on the road. Of course I keep my valve gear in perfect order. I have had no leaky flues as I have been lucky enough to get a good fireman, which I think is essential and is necessary to a good operator.

I have threshed nine bushels of oats a minute with four men pitching and cleaned the grain to the entire satisfaction of my customers which I think is very good for a 32 x 54.

We aim to start at six o'clock in the morning and quit at seven. I pay pitchers \$2.00 per day, separator man \$4.50, fireman \$2.25, tankman \$2.00, and oil costs \$1.00 per day. So you see it costs me \$17.80 per day.

I have had some experience in plowing which was a little dear. I might say though that I have not had any experience, and found out that it was not all peaches and cream.

If there are any hills or rocks or brush I would advise any man not to try to plow with an engine, for it will be but a short time till he would be broke. In hilly country it is hard to do much as you cannot pull enough plows and if the grades are very long you will eventually burn your boiler. If the land is rocky you will break

your plows and if brushy you will have to stop so much to pull the brush from under the beams. I would advise anyone with no experience to work on a plowing rig if possible and learn something before trying it yourself.

It takes an extra good engineer to keep an engine in proper shape. I found that shears should be sharpened every day.

Yours truly,
W. T. Pittman,
Ranfurly, Alta.

Began in 1889.

My experience in threshing dates back to 1889, when I purchased my first outfit, a 14 h. p. portable and a 36 x 52 separator of the McCloskey make. It is needless to say that it was a hand feed machine with straw carriers, for that was all there was going those days. But it was a dandy to do fast and clean work.

Since that time I have operated various different makes of threshing machinery, both Canadian and American. I now own a J. I. Case 32 h. p. engine which I purchased in May, 1909. This is a first-class general purpose engine and is splendid for plowing and hill climbing. One year ago I climbed the Milk River ridge with this engine and pulled a Minneapolis separator and the hill was so steep that I had to put four horses on ahead to hold the front end of the engine down.

I unloaded my outfit on May 10th, 1909, which was a very wet season here and did not get started to break until June 1st and then it was hard to get repairs, so I only broke about 800 acres.

I threshed 56 days that fall with fairly good success. Some of the grain was badly frozen in that district. I have a 36 x 62 Minneapolis separator which I bought second hand in the fall. But this buying second hand separators I do not recommend, unless a man has plenty of time to spend in repairing them.

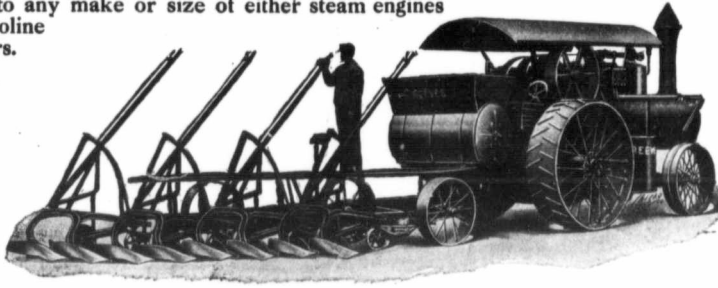
I might also say that I have a 12-furrow Cockshutt plow with both stubble and breaker bottoms. The season of 1910 was very dry here and we had to quit breaking. I broke 600 acres and then threshed about 10,000 bushels of grain grown on irrigated land. I got from \$2.50 to \$3.00 for stubble plowing and pulling harrow behind and from \$4.00 to \$4.50 per acre for breaking. For threshing I get 7c. per bushel for oats out of shock and 10c. for wheat and I board the men. For stack threshing I get 4c. and 7c. for wheat.

Wishing you every success, I remain,

Yours truly,
Wm. Graham,
Coaldale, Alta.

REEVES STEAM LIFT ^{AND} 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.

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CANADIAN BRANCH: REGINA, SASKATCHEWAN

Conducted by
Professor
P. S. Rose

Practical Talks to Threshermen

Talk No.
XLV.

The number of kernels in a bushel of wheat as determined in the Thresher World contest in 1903 was 809,762. That is a large number of parts for a bushel to be divided into and it is not to be wondered at that a few of them should get lost in going through

but the one that is the most apparent.

In the last lesson I showed several devices by which separation on the straw racks is effected. In every case the same ultimate object is sought, namely, the thinning of the straw blanket and the

fall and provided with a series of fingers over which the straw is compelled to rise and fall down again before reaching the next set or fingers or risers. The breaking of the straw blanket over the different sets of fingers and the penetration of the mass by these fin-

straw is shown in the Aultman & Taylor Company's "New Century" separator, figure 83. Here a number of notched fingers, each formed in the arc of a circle and mounted on a multiple crank shaft below the rack, penetrate the straw blanket from below at each revolution of the crank and carry the straw forward. These fingers are arranged so that while one is acting on the straw the next one to it is below the surface of the rack on the opposite stroke. There are several of these shafts, each with a set of fingers, and the result is a very thorough agitation of the straw before it passes out at the rear end of the machine. The fact that the motion is a rotary one instead of vibratory adds to the steadiness of running of the machine.

Another interesting machine is shown in figure 84. In this machine, instead of a long continuous rack, there is a number of short racks each having an oscillatory motion. Each of these racks is driven by a separate crank which causes it to swing up and down and thus throw the straw from one rack to the next

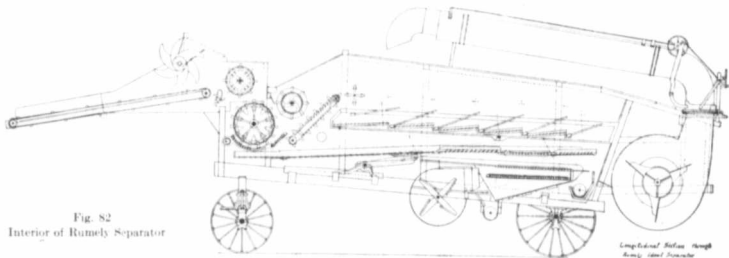


Fig. 82
Interior of Rumely Separator

the separator, and they do. There isn't a machine made that will save every kernel and there probably never will be; but machines have been so far perfected that the loss is negligible. When a bushel is so finely divided, quite a good many of the parts may be lost in a minute without amounting to very many bushels in a day's run. For example, in a ten hours' continuous run it would require a loss of 1,450 kernels per minute to amount to a single bushel. In the same time a large sized machine should easily thresh 1,500 bushels. If only one bushel were lost—and it isn't likely any more would be lost in the straw—because 1,450 kernels per minute would make quite a considerable of a storm and that would undoubtedly provoke another and quite different kind of storm; if, as I was saying, only this one bushel were lost by being blown out with the straw it would amount to only one-fiftieth of one per cent. of the day's threshing. That is not a very large loss and it goes to prove that apparently a good many kernels of wheat may be lost without causing the loss of very many bushels. In fact, any of the machines now on the market, when well adjusted, will waste very little grain by blowing it out into the straw. This source of loss is perhaps the least that either the thresherman or the farmer has to contend with.

While the loss of grain to the straw stack may be kept down to a small percentage of the total, it can not be entirely eliminated. There will be some loss through leakage at the joints of the machine, some on account of unthreshed heads that pass out with the straw, and some that will be blown out with the chaff, besides a little free grain that will go directly into the straw. The latter is perhaps the smallest single source of loss about the machine,

tearing of it apart so that no resting place will exist for any free grain. Merely bouncing the straw up and down on the racks will do very little good, no matter how violently this is done, unless it is at the same time torn apart. Without going into details there

gers breaks the straw up quite effectively.

In figure 81, which was published in the last lesson, two racks were provided and the straw was obliged to fall some little distance to pass from the upper one to the lower. This, coupled with the

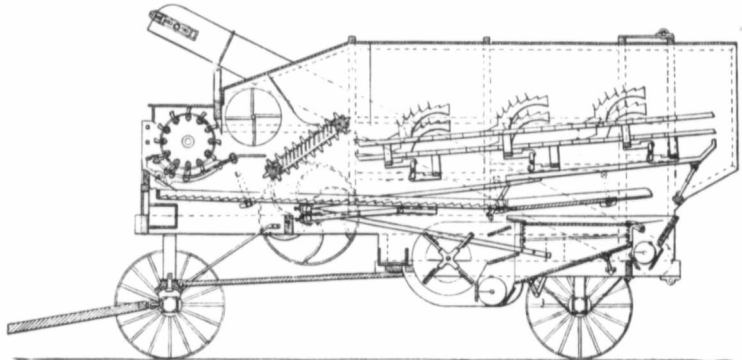


Fig. 83. Racks of Aultman & Taylor Separator

were shown several ways in which the straw might be agitated. We will now continue this discussion at greater length.

Referring to figure 82, it will be noticed that we have in this machine an illustration of a single rack with the usual slat work bottom through which the grain can

further fact that the motion of both racks is most violent at this point, has the effect of tearing all bunches apart and allowing the grain to fall out. It is evident from a study of the illustration that the bulk of the separation must occur at this point.

Another means for agitating the

beyond. The effect is to beat the straw violently from the under side and to cause the straw blanket to be broken at the point of each rack.

In many machines having racks which are divided into a number of sections, the speed of each section starting with the one nearest to the cylinder, is progressively increased. This causes a gradual thinning of the straw blanket and aids in tearing it apart. In the Minneapolis separator, having the three sets of racks each mounted at the rear on a multiple crank shaft, the speed increases in the ratio of one to three. That is, if we consider the speed of the first rack unity, the second will travel twice as fast and the third three times as fast as the first. At the junction point

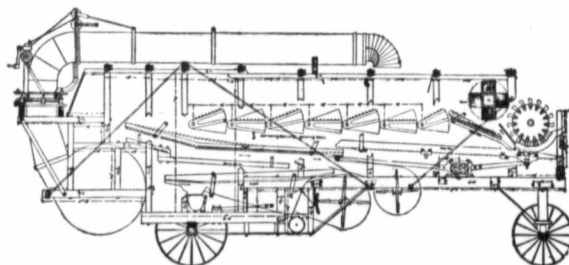


Fig. 84. Baker Separator, Showing Oscillating Racks

Continued on page 52

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The Thresherman's Question Drawer

Answers to Correspondents

The Evolution of Threshing.

When we see them threshing nowadays, Or moving down the trail, We wonder how they managed When they had to use the flail.

The flail was alright in its time, But of course it had to go, For the dinky mill that first came out

Made the stick and a half seem slow.

The sweep power and the tread-mill

And the little agitator, Won't do for us, now we've used The self-fed separator.

These new mills were too heavy For a team to haul about. And we hailed the traction engine With a long and joyous shout.

Now all the talk is gasoline That has come into the race, But give me the old steam tractor For use in a difficult place.

So when we view these grand machines,

Which make man look so frail, We should give a thought to the days gone by When our fathers used the flail.

A. B. C. Q. Give directions for babbitting wrist pin boxes as some claim it is better than the brasses.

2. The hole in the crosshead has worn so that a new pin will not fit tight, thus causing the pin to pound. Could the hole be rebored and have a pin made to fit at a machine shop, or would it be best to get a new crosshead? There is room to place a thin ring of tin in the hole in the crosshead and this has been done for some time to tighten the pin, but soon wears out.

A. You can fasten the babbitt in a wrist pin box by drilling the inside full of holes about one-fourth inch in diameter; or another way is to heat box and tin the inside with a soldering copper. Put the box into its place and square the wrist pin with a line shaft. Make two strips of wood to put between the boxes to keep the babbitt from running together. The top strip should be short enough to allow for a gate to pour the metal; about the thickness of the outside flange of the box is enough to admit the metal, so that the upper stick can be left much shorter. The upper stick also serves to hold the box and rod to its place. The top stick should be a little thicker so as to leave more space on the outside of the pin to allow a free course of the metal to run. Box should be put in hot, so that the solder can unite with the babbitt. This makes a very solid job. The babbitt will wear down to the brass without coming off. The

box should be shaped to fit the wrist pin due to shrinkage of the metal. A babbitt of box will wear longer on a wrist pin than a solid brass one.

2. This can be fixed in two ways. The first is to get a larger wrist pin made, at the same time having the holes in the crosshead rebored as they are doubtless worn oblong and not round. Another way is to have a pin made slightly larger at both ends and turned down a trifle in the centre. It will be necessary in any case to have the holes of the crosshead rebored in order to make them round.

S. B. Q. Near the close of our threshing last fall we were troubled with the steam gauge on our engine. Valve was set to pop at 150 lbs., but wishing to carry higher pressure and the company recommending the boiler for 160 lbs., we set the valve to pop at that, according to a gauge that we used several years. Immediately after the steam gauge gave way, the ratchet being worn and the hair spring tangled. After adjusting a new gauge of the same make (Ashcroft) it registered 175 lbs. before popping. When shutting down we noticed that the side plates in firebox were slightly bagged between the stay bolts in places where the same are set more than regular distance apart, owing to the slating seam.

A. While your boiler might have stood 160 lbs. without bulging the sheet between the stay bolts, 175 lbs. is evidently too much pressure for it. A good plan is to carry the pressure which the engine is built to carry; which in this case is 150 lbs. It is very likely the pressure was 165 lbs. before you adjusted the safety valve, being misled by your defective gauge.

If you can cut your pressure down to 150 lbs. your boiler will likely not give you any trouble. The bulges between the stay bolts will not do it any particular harm. However, it does not look well; but since you know the pressure which caused the bulge and knowing you have 25 lbs. less in the boiler you can be assured that it will not bulge any more and that it should be quite safe at 150 lbs. pressure.

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

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



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Every Build of Engine

A Record Breaker for Output and Reduced Operating Expenses

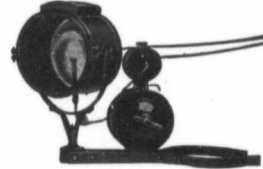
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Why fool with a poor light or try to run with no light, when you can have the best there is. The

GLARE HEADLIGHT

gives you as good light as the automobile lamp and costs less to operate; is adjustable in either direction from the foot board of engine. Can be attached to either steam or gasoline tractors.

Now is the time to remove the old flues of your engine. You can do this better with the

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than with any other tool. Preserves your flues for re-tipping. Will not burr the ends. Will cut three sizes of flues with one tool.

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The best of the Rocky Mountain Steam Coal. Will plow more land and thresh more grain per ton than any other coal. Get some and try it.

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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

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

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

T. M. Q. Suppose a 16 h. p. engine running some machine not requiring much power, hooked up as far as possible and still able to do the work on 60 lbs. of steam, or even less. Take a hay press, for instance. Now, will 60 lbs., 90 lbs., or say 130 lbs. or 140 lbs., as the case may be, be the most economical in fuel and water? This is overdrawn, but merely to illustrate the point in question.

A. If the valve gear is hooked up as far as the mechanism will permit, and under these conditions run the machinery at 60 lbs. steam pressure, there is no advantage (from an economical standpoint) to carry a higher pressure, but rather a disadvantage, as

there would be more heat carried in the boiler than can be used, hence the loss will be greater. The reason for this is if 60 lbs. of steam pressure is sufficient to run the machinery with the foregoing conditions, the governor in maintaining the speed of the engine will necessarily reduce the pressure to 60 lbs., regardless of the pressure in the boiler.

If, however, the valve gear can be hooked up farther than the point where 60 lbs. was used, a higher pressure would then be necessary and the economy would be better. If when carrying 140 lbs. pressure you can hook the valve gear up so that the engine just carries the load without reducing the speed, there will be a marked difference in the economy of both fuel and water.

Q. R. G. How is the pressure on bearings figured? It is spoken of as so many pounds per square inch. How much of the circumference of journal is taken?

A. The pressure on a bearing is computed by multiplying the diameter by the length of the bearing. Thus a bearing two inches in diameter and four inches long has $2 \times 4 = 8$ sq. inch. of bearing. The circular shape of one-half of the shaft is equivalent to the same thing as if the shaft were cut through its diameter, and the thrust would come against the flat side of the cut.

G. W. Q. The flywheel has come loose a number of times and has worn itself so that the shaft is too small for the hole in the wheel. How should I repair it?

A. If you cannot hold the flywheel tight by driving the key, you can cut another key way one-third of the distance around the shaft and drive a key at that place; then with the other key and the bearing against the shaft on the opposite side which the two keys will make, thus making three points of contact, the wheel can then be securely held.

A. R. Q. What is the mean effective pressure of the boiler pressure? Say we have 100 lbs. boiler pressure, what would be the mean effective pressure?

A. In an automatic cut-off engine the initial pressure would be near to the boiler pressure. By initial pressure we mean the pressure in the cylinder at the beginning of the stroke. At the initial pressure that 100 lbs. boiler pressure would naturally make the mean effective pressure about 50 lbs. at a cut-off of one-fourth of the stroke and about 77 lbs. at one-half cut-off.

In throttling engines such as traction engines with a boiler pressure of 100 lbs. the initial pressure would probably be an average of 85 lbs. which would give a mean effective pressure of about 44 lbs. at a cut-off of one-fourth of the stroke and 67 lbs. at one-half cut-off.

G. L. Q. I am using a force feed lubricator, and use one-half gallon of oil in ten hours. The oil enters the lead pipe just above the steam chest, and oil runs through the steam chest and cylinder, and then through the heater and on the ground. It seems to do no good, and the cylinder will run dry anyway, and in hard pulling I have to use the hand pump to put in more oil. Now, I would like to know what the trouble is with my cylinder.

A. Your oil is likely of a poor grade. Try something better, and see if you find relief. A less quantity of a better grade oil will do more good.

A. M. Q. What causes the governor to admit so much steam at times that the engine nearly runs away, and then shuts down so it almost stops and starts off again? Packing is in good shape, and I find nothing the matter with the governor. This is on a link motion engine.

A. Sometimes the packing is all right, but the stem is worn so that it has shoulders. In this case the shoulders will wedge into the packing and thus make the stem tight, and cause the governor to "race." It sometimes happens that the valve will stick in the seat. A loose seat or a bent stem will also cause this trouble. A tight or dry joint will also cause racing. It sometimes happens that an imperfect belt will cause trouble of this kind.

A Self-Draining Stop Cock for Steam or Gasoline Engines

The invention relates to stop cocks and more particularly to the class of valves for stop cocks.

The primary object of the invention is the provision of a stop cock in which the turning plug thereof is provided with a drain passage so that water may be drained from the plug core thus preventing the bursting thereof should the contents of the pipe become frozen during cold weather.

Another object of the invention is the provision of a stop cock in which the water passage through the turning plug thereof is lined or coated with an inoxidizable substance to prevent injury to the cock by saline or other injurious solutions passing through the neck.

A further object of the invention is the provision of a stop cock in which the turning plug thereof is provided with a passage way, the same being disposed slightly to one side of its axis of rotation so that the plug when in closed position will present a thickened

wall toward the bore of the pipe at the pressure side thereof or in other words what might be termed the cut off side of the pipe, thus strengthening the plug against the ice pressure in the cut-off pipe.

A still further object of the invention is the provision of a stop cock which is simple in construction, thoroughly reliable, practical and efficient in operation, and one that may be manufactured at a minimum expense.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings disclosing the preferred form of embodiment of the invention and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a vertical longitudinal sectional view through a stop cock constructed in accordance with the invention. Figure 2 is a top plan view. Figure 3 is a horizontal

FIG. 1

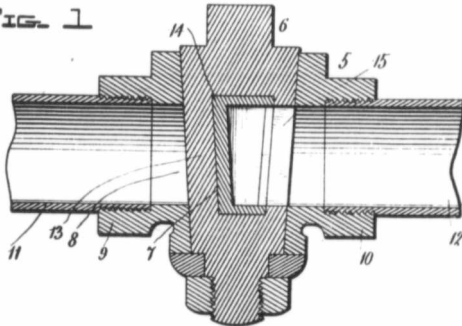


FIG. 2

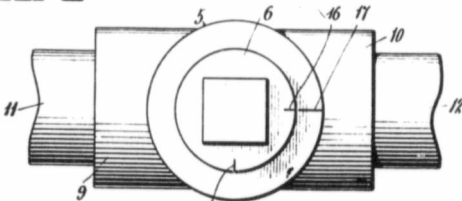


FIG. 4

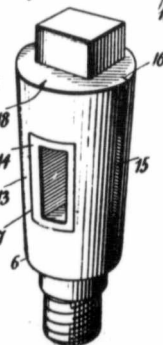
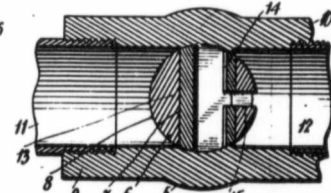


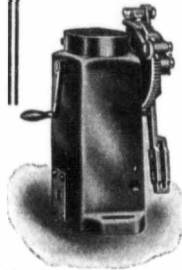
FIG. 3



Inventor
H. P. F. Heäger

H. P. F. Heäger

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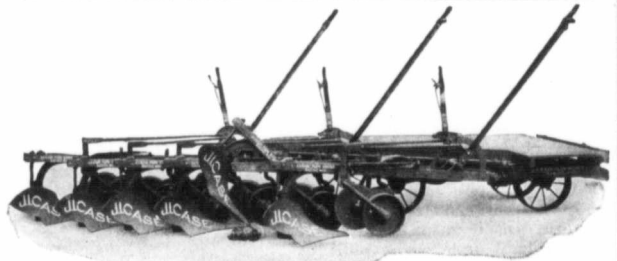


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transverse sectional view there-through. Figure 4 is a detail perspective view of the rotary or turning plug of the stop cock, the same being removed therefrom.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals, 5 designates generally the casing of the stop cock and 6 the plug therein, the same being a truncated cone and having a transverse passage 7 extending through it while the casing 5 has a detachable socket accurately fitting about the plug, the socket being intersected by a horizontal bore 8 having its opposite ends opening through internally threaded extensions 9 and 10, the same projecting outwardly from diametrically opposite points of the casing, the end portion 9 being adapted to engage with a length of screw threaded discharge pipe 11 while the end portion 10 is engaged with a length of screw threaded discharge pipe 12, these pipes being of corresponding diameter with similar bores of a size corresponding to the bore 8 in the casing of the stop cock. The passage 7 in the plug 6 is disposed slightly to one side of the axis of rotation of the said plug 6 so as to present a thickened wall 13 which closes the bore of the pressure pipe 11 when the plug has been turned to normal closed position. The inner surface of this passage 7 is covered with an inoxidizable lining or filling 14 preferably consisting of a mixture of lead and tin substance so that injurious solutions passing through the passage 7 will be resisted by said lining or filling 14 and thereby increase the life of the plug because the said lining or filling will protect the plug from said solutions.

At a medial point relative to the passage 7 opposite the thickened wall 13 of the said plug is provided at right angles to the said passage of a drain slot or passage 15 the same communicating with the said passage 7 and co-extensive with its length so that on closing the plug the drain passage 15 will establish communication between the passage 7 and the discharge pipe 12 thereby permitting the accumulated water within the passage to be drained therefrom into the discharge pipe so as to obviate the possible bursting of the stop cock due to frost or ice formation within the discharge pipe 12 in cold weather.

In the top face of the turning plug 6 at the required point is formed an indicator mark 16, the latter serving to indicate at the proper time when the plug has been turned to close the stop cock. This indicator mark 16 when the plug has been turned to closed position is adapted to register with an indicator mark 17 provided in the top face of the casing 5, whereupon it will be determined that the plug 6 is in closed position. Also provided in the top face of the plug is a further indicator mark 18, the same being adapted to be on the turning of the plug brought into alignment



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with the indicator mark 17 whereby determining that the plug is in opened position by having its passage 7 align or register with the bore of the pipe 11 and 12, thus establishing communication therebetween.

What is claimed is:—

1. A stop cock comprising a casing, and a turning plug mounted for rotation therein and provided with a transverse passage therethrough to one side of its axis.

2. A stop cock comprising a casing, a turning plug mounted for rotation therein and provided with a transverse passage therethrough to one side of its axis, and an inoxidizable lining covering the walls of said passage.

3. In a stop cock, a casing, a turning plug rotatably mounted therein and having a transverse passage, the said plug being further provided with a drain slot at right angles to the passage and co-extensive therewith.

4. In a stop cock, a rotary plug having a transverse passage and a drain slot intersecting said passage at right angles thereto and co-extensive therewith and co-extensive with the longitudinal extent thereof.

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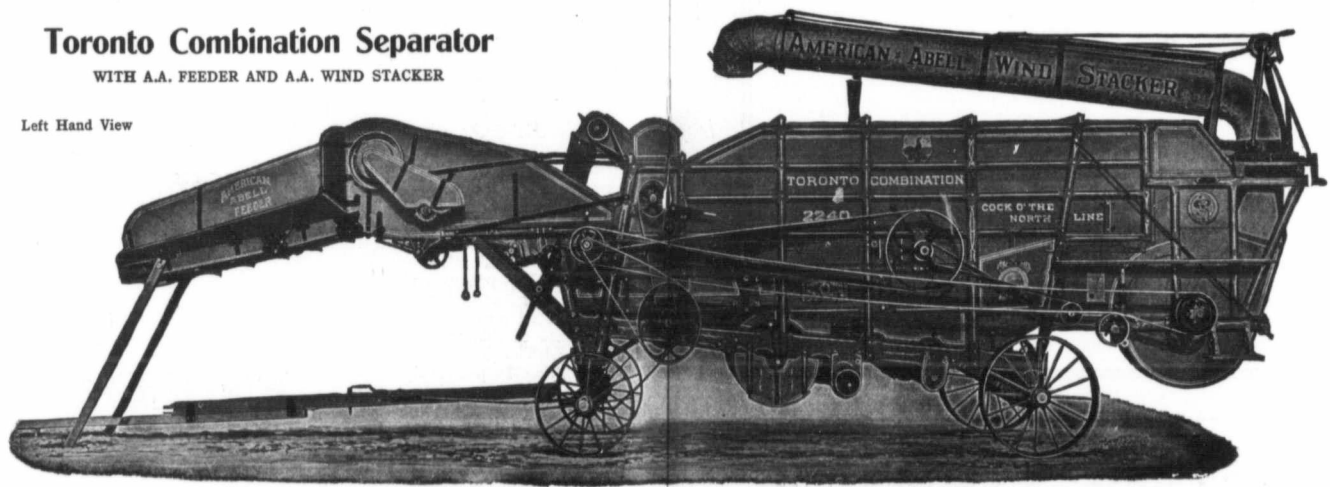
Question: Who said there is no Money in Threshing?
Answer: The Man who Did'nt Have an American-Abell

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You, as a thresherman, know the satisfaction that comes to you when you have finished up a good clean job. You know this by the smile on the farmer's face and the promptness with which he pays his thresh bill. As you leave his farm for the next job he extends you the glad hand of good fellowship and invites you right then and there to come back another year; you don't find him with his hand under the wind stacker hood investigating the amount of grain that has blown over.

Toronto Combination Separator
 WITH A.A. FEEDER AND A.A. WIND STACKER

Left Hand View



AND THEN THIS

Neither do you find him with his hand under the weigher spout looking for dirt that should have been cleaned out of his grain. You, as a farmer, want that machine to thresh for you that will give you the assurance that you are going to get every kernel out of the straw, and good clean grain in the bin. You don't mind paying the price if you can get the proper work done. Moral—insist on having an American-Abell Separator thresh your grain.

The Combination Separator has no beaters or raddle rakes, but in place of these has four shaker or straw decks which are driven by a forged steel crank shaft running through the separator with a centre bearing driven on both sides by a belt from the cylinder shaft, thus assuring an even motion. These shaker or straw decks are so arranged that the straw is

thoroughly shaken while passing through the machine.

There is a drop of sixteen inches with the peculiar throw of the shaker, caused by one end bearing being driven by a crank motion while the other end bearing is held by a link; this link is placed so that when the shaker is on the backward movement

it rises, and on the reverse movement it drops as far as it goes forward; the horizontal rotary movement thus induced, loosens, shakes and agitates the straw on its course across the decks, resulting in perfect separation of the threshed grain from the straw. Complete separation means saving of grain—that is what the farmer wants; quick, uninterrupted work—is what the thresherman

wants. You get them both on the American-Abell Combination Separator. The American-Abell Feeder is the fastest and most even feeder on the market. It is durable because it is simple in construction and like all of our goods made of high grade material only. It is the most even feeder because it is the best governed.

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How About the Prairie Chickens.

A small amount of damage may be charged to the account of the prairie hens. There is some evidence that they destroy a little sprouting grain, pluck buds from fruit trees and eat grain in grain fields. But here again the good they do far outweighs the comparatively small amount of damage done.

The food consists principally of insects, seeds, fruit and grain. The grain is very largely gleaned from waste grain in harvested fields. Large quantities of weed seeds are also eaten, though they are not so valuable in this respect as some other birds. The fruit eaten is almost entirely wild fruit useless to man.

The prairie hen performs a very large service in destroying noxious insects. During spring, summer and fall their crops are to be found packed with grasshoppers of practically all kinds found in the locality. The occasional well-known ravages of grasshoppers, when their numbers become excessive, serve to emphasize the importance of the natural enemies which tend to hold them in check and usually prevent their undue increase. The service rendered in the Dakotas by the prairie hen in destroying the young and adult grasshoppers much more than compensates for the possible damage they may do.

Prairie hens also destroy leaf-eating beetles such as the Colorado potato beetle, a familiar pest in the Dakotas. Many other injurious insects also are eaten.

The value of the prairie hen as a game bird also is a large item in its favor. Here again only the surplus stock should ever be killed, leaving plenty of birds to propagate for keeping up the supply.

In North Dakota where the law permits domestication of prairie hens, there is an opportunity for developing a profitable addition to the income on every farm. They become tame very readily and multiply rapidly in captivity. They will feed among the other domestic fowl and the very high price which they now bring on the market and for purposes of propagation should make their domestication highly profitable. This is a matter that should receive large attention in the Dakotas and Minnesota. The birds have been exterminated in many parts of the country and there is a large demand for domesticated

birds for restocking these localities as well as for the market.

For a more detailed report of their habits and value send to the U. S. Department of Agriculture for Bulletin No. 24 of the Biological Survey entitled: "The Grouse and Wild Turkeys of the United States and Their Economic Value."

How to Select a Good Grade Cow.

The five points to be observed in the selection of good milking cows from grade or native cows are the prominent ones that will appear in all of the milking forms of the cattle race without regard to breed. We can give these points under numerical heads.

First: Observe with care and note as a first point, that the cow that we are now passing upon has a large and ample sized body. Let this body extend from a point just back of the shoulder straight down to the lower part, also let it be included between the line that we have mentioned and a line that we will call imaginary that will extend from the hook or hip bone straight down to the lower part of the body again. It is an excellent thing if the depth of the body is as strong or stronger at this last point as at any other point that we will call its depth. Sometimes this bodily capacity is composed to a certain extent in the length of the body. In either case we want a large, ample and capacious body. This large body is needed and must appear for the ample supply of milk must come from much food received and digested within the area that we have noted. This food content is there taken up into the blood. With this evidence of a good supply of blood we have a good start in estimating that we will have a good supply of milk.

Second: Look with care behind the fore shoulder and observe if the back bone is prominent and if that part of the body which is called the crops is scantily covered with flesh; this does not mean that the animal shall be in poor condition; it only means that the animal is not inclined to use this blood to make flesh out of it. Beef cattle are full at this part of the body. We are selecting for milk. We want the ample supply of blood to go to the udder where the milk is made.

Third: Next go to the udder and see if it be reasonably large. Do not depend upon the eye to estimate this size. Many very

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(Signed) H. A. SHAW, Dairying Instructor,
Saskatchewan Govt., 20 July, 1907.

Points wherein the "MAGNET" differs from all others: Its double support to the bowl, strong square gear, one piece skimmer, perfect skimming, easy turning, easy cleaning, improved ball-race, strong and rigid frame, absolute safety. Write for latest catalogue.

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good udders are contained largely within the body and their size is not apparent. You will see the fore part of the udder be it large or small. Take hold of the skin between the hind quarters. Up to the point where the skin ceases to be as loose as upon the other part of the body we can judge that the udder extends. One can get a fair idea of the udder attachment to the body by drawing an imaginary line from the point last mentioned to the front udder that we have seen; this will give one a distinct and positive line of attachment of the udder to the body. If that line is long, then we have the clasping form. In such a form we have nature's provision to receive that ample supply of blood that this good body will produce.

Fourth: Now put the hand on what is known as the milk vein, which extends from the udder along the lower part of the body on both sides; at the end of this vein will be found a hole through the body wall. This hole should be large enough to take the end of an average index finger; by pressing against the wall of the body for the space of about two inches in a varying direction a second hole may be found that will be about the size of a lead pencil. Look for these holes on both sides of the body. These holes through the body are for the return of the veins which take the blood to a very great extent from the udder. Here we have an absolute fact which indicates that the blood makes its circuit through the udder or gland where the milk is made. We can safely reason that from this abundance of blood we shall have an abundance of milk.

Fifth: Last of all look and see if the eye of the animal is large and full. This largeness of the eye indicates a strong nerve system. Digestion and milk secretion is the work of the nerve system. The nerve system is the power that drives this animal milk machine.

These five points may be called five degrees in cattle judging. We add a sixth. Use the scales and the Babcock test, and the cow has been brought to a sure cattle judgment. Any cow that will verify the six points will prove to be a good milker unless she has been ruined by bad handling or bad feeding.

Dairy Jottings

It is common in some progressive dairying localities to inspect dairies and investigate conditions, management and actual results. This is carrying home to the patrons in a way none can fail to understand, the actual demonstration of what each is doing.

Among the patrons of one creamery investigated during one month, the results showed a variation of from 52 per cent. of creamery receipts, as profit to a loss of 44 per cent. The cost of feed for one year per cow in each case was mostly about \$42; \$39 being the lowest and \$45 the highest. The

receipts from creamery made a very wide spread however. The lowest record was \$21.89 per cow, the highest \$65.81. The largest quantity of butter fat produced per cow was 239.6 lbs., the smallest 80.8 lbs. The dairyman that made the poorest return fed his cows at least cost for feed; the man who made the best only spent \$4.00 more per year. Both herds were of mixed breeding, freshening spring and fall; both had same number of cows. In one particular they differed widely. One proprietor took an excellent dairy paper, read it, heeded lessons taught and this circumstance accounts for results he made. The other read nothing. Readers of the Thresherman will not need to be told which was successful in his work.

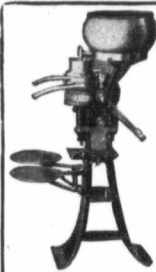
Supposing each kept 100 cows, one would show a profit of \$2,281 in a year; the other a loss of \$1,711. A difference of almost \$5,000 per year and the paper cost him \$1.00.

The few lines above refer to a common dairy furnishing cream to a creamery. In another place, with first-class cows, feeding \$65 worth of feed a year per cow, received credit at the creamery for \$95.90 per cow; profit \$44.40 per cow, just double that of the best in the first mentioned list.

It is worth considering that in feeding value alfalfa is almost equal to bran. Bran is worth from \$18 to \$20 per ton. Three tons per acre of alfalfa is a good crop in this country. S. A. Bedford, of Manitoba Agricultural College, says he never heard of a failure of alfalfa in Manitoba where it was handled properly. Do you use bran? Have you any land you can sow with alfalfa?

Timothy hay will yield perhaps 1½ tons per acre, producing about as much milk per ton as prairie hay. Alfalfa will produce about twice as much per acre. After reliable tests it was found that the average cow produced 834 pounds more of milk when fed one ton of alfalfa hay than when fed one ton of timothy hay, other feeds and the time being the same. That quantity of milk at 1½ cents per pound would be worth \$12.51, making one ton of alfalfa worth \$12.51 more per ton than prairie hay. Two tons per acre is a small yield for alfalfa so it may easily be seen that the man who milks cows can make at least \$25 per acre per year by growing this crop than by cutting the same number of acres of prairie hay.

This is not all. Alfalfa ought to be cut twice a year and pastured as well. Under these conditions the yield will not diminish for seven years and when it is broken up the fertility of the soil will be found to have largely increased. The average Manitoba cow gives about 2,000 lbs. of milk per year. Not many years ago Danish cows gave 3,000 lbs, but now the figure is 6,000 lbs. Many Ontario dairy farmers weed out 6,000 lb. cows as culls, keeping for the production of milk, cheese and butter only those that can do better. When the dairy is in the hands



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Dairy Insurance

Most Western farmers buy hail insurance to guard against total loss due to circumstances over which they have no control. That's business foresight.

If, however, the man who so carefully protects himself from loss in one quarter blindly wastes many times the cost of his protection through the use of an inferior cream separator, his business foresight can only be accepted at a discount.

Mistakes of this kind are generally due to a belief that there is no material difference in cream separators. This is a delusion which is fostered by dealers in inferior machines. Actually, there is a more vital difference between the De Laval separator and any other kind than exists in the case of any class of implements manufactured. In many cases this difference represents a gain of 50 per cent. in the use of the De Laval, and it is never less than 10 per cent. This is in value of cream recovered alone, and entirely aside from greater convenience in operation, greater capacity and infinitely longer life in service.

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Eleven years of successful operation and increased patronage from year to year proves the merits of the plan on which we conduct Hail Insurance, and we invite the most searching inquiry into our record.

Our home offices are here in the Provinces where we solicit patronage, within easy reach should we fail to make good on anything we undertake.

Full information and the names of satisfied patrons in any district where we have done business will be furnished on application to any Local Agent, or

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of the proper man no stone is left unturned to make results of each year better than the last. At the present time, given a good man in charge, the easiest opening for him to improve his business is in the improving of the cow herself. Weighing each cow's milk every morning and night and testing for butter fat twice a month is the only way to know which cows are the best and which should be got rid of.

Five Points of a Cow.

1st. Large body and especially middle piece, indicating a capacity for eating and digesting a lot of food.

2nd. Thinly fleshed backbone and especially back of the shoulders. This indicates that the food is not made into flesh.

3rd. Large udder, as it is here that the milk is made.

4th. Large milk wells. It is through these that the blood returns to the heart from the udder. If they are large it indicates that a large amount of blood passes through the udder.

5th. Large clear eyes. This indicates good nerves, and they drive the organs of digestion and milk making.

He said that a sixth point could be added—the scales and the Babcock test.

Colds in Horses

The changes in the weather during the winter months cause the horse to contract a cold. Lack of care during the cold weather also adds to the causes, such as leaving the horse standing in a cold wind while warm and unblanketed.

The cold is usually manifested by a mucous discharge from either one or both nostrils, a staring coat, general depression, slightly off feed, bowels constipated and scanty, high colored urine. These symptoms become aggravated as the disease progresses. The mucous discharge takes on a more sticky appearance, and the cough is quite frequent when the horse is exercised.

The cold may extend into the throat, causing considerable soreness as is shown by the horse protruding the head, tenderness from manipulations of the throat, and frequent coughing. If the cold is neglected, it becomes chronic, and may last for months. In this condition the animal loses flesh, the coat remaining rough and good feed apparently doing the animal no good.

Preventive treatment is, of course, much easier than medicine. One should keep the horse out of draughts while warm. Blanket the animal during cold weather while in the stable. If obliged to work the horse during rainy weather or in severe storms, a canvas blanket to keep the horse dry is necessary.

Medical treatment consists of steaming the nose, using a pail of hot water to which is attached a sack, the other end being cut so as to allow the steam to enter the

nose of the horse. A pint of raw linseed oil, to open the bowels, is beneficial. A hot poultice of linseed meal applied to the throat will relieve the tenderness there. When the patient begins to improve a course of bitter tonics is indicated.

A Simple Question.

Two farmers were conversing. Said farmer number one to number two: "Why don't you investigate your herd of cows; take a year's test of their milk production and find out which are paying their keeping and which are not?"

The reply of number two was one of those strange things that make you wonder once in a while.

"Why," he said, "some one must keep the poor cows. Besides, what will I have to eat up my fodder? Then again, if all the poor cows were killed off the price of milk and butter and cheese would go so high that the poor people in the cities would get none of it."

"My dear sir," said farmer number one, "either you are the most unselfish man in the world or else you fail entirely to see your own interests. Here you are giving me three reasons why you have sacrifice yourself and family on the altar of a poor, unprofitable cow. (1) Some one must keep the poor cows. (2) What will you have to waste your hard earned fodder on. (3) If you and other farmers don't keep cows at a loss the poor will have to go without milk.

"I wonder if those are the true answers why you do not keep a record of your cows, or is it because you really haven't got the push to go ahead and save yourself this constant loss?"

Then the conversation subsided.

Bumble Bees and Clover.

It has long been a question whether bumble bees are necessary to the production of clover seed. To throw some light on this matter Supt. L. R. Waldron, of the Dickinson Sub-Station, made the following experiment which he gives in his third annual report: A number of clover plants were covered with wire screen to keep away insects. Then he put bumble bees under some of the screens; butterflies and moths under others, and some of the plants had no insects with them. The result was that the blossoms of the plants that had the bumble bees with them produced 46 per cent. of seed; where the moths and butterflies were but 2½ per cent. of the blossoms produced seed; where there were neither bees nor butterflies 9 per cent. of the blossoms produced seed. In the open field where all kinds of insects could get to the blossoms 54 per cent. of them produced seed. This would seem to indicate that the bumble bees had a good deal to do with the production of clover seed.

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There are about 1,000 gophers in every 40-acre field and every one of the pests costs you at least 10 cents — besides breeding from 20 to 30 more each season. So gophers are mighty expensive boarders.

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Mickelson's Kill-Em-Quick Gopher Poison

is better than strychnine. Let me show you why. An ounce of strychnine, which usually sells for \$1.00, will kill only 874 gophers, according to tests, even if they eat it. Strychnine is so very bitter that most gophers don't eat enough of it to kill them. But 75 cents' worth of Kill-Em-Quick will kill 2,000 gophers.

It kills them instantly because first, my poison is full strength on every grain—second, its odor and taste are attractive to gophers—third, the smallest atom of it, when taken into the stomach, is enough to kill a gopher.

I absolutely guarantee Kill-Em-Quick to be all I claim it is, or you get every cent of your money back. Mickelson's Kill-Em-Quick Gopher Poison complies with and is guaranteed under the Food and

You ought to kill every gopher in your fields and save the money they now cost you. With all the fine plowing and harrowing and cultivating you do, you can't reap 100 per cent crops, if gophers feed upon the seed and tender shoots of grain.

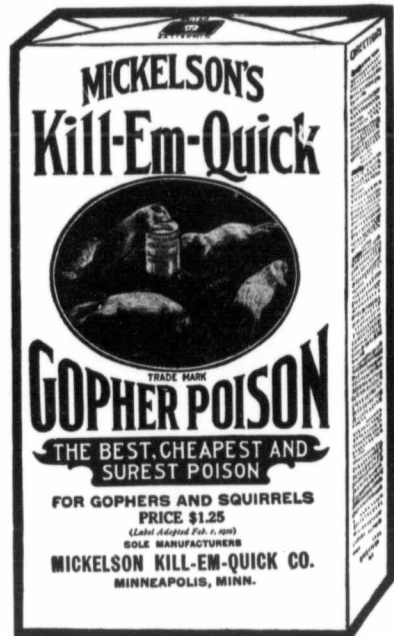
Get a box of my Kill-Em-Quick from your dealer at once. Simply soak the grain over night—drain water off and mix with Kill-Em-Quick which adheres to the grain so it comes into immediate contact with the stomach tissues of gophers, causing death instantly. Its peculiar odor attracts gophers. They can't 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.

Drugs Act of June 30th, 1906. Serial No. 29689 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, and I will immediately refund the amount paid.

I would like to send you some interesting facts that prove beyond doubt the superiority of my Kill-Em-Quick Gopher Poison. I have printed several little folders that it will pay you well to read. Just fill out the coupon or write me a postal note when you lay down this paper. Write me this time sure. I'm here to help you save money.

MICKELSON KILL-EM-QUICK COMPANY,

Dept. C Winnipeg, Manitoba, Canada.



Anton Mickelson, President,
Mickelson Kill-Em-Quick Company,
Dept. C Winnipeg, Manitoba, Canada

Dear Sir: Please send me the folders mentioned in your half page advertisement in the Dakota Farmer.

Name

Address

Saskatchewan Alive on Alfalfa.

"Example is better than precept" we are told, and modern teaching methods indicate that the adage is being accepted at its face value by our agricultural teachers. The Saskatchewan College of Agriculture is planning to conduct its extension work as much as possible along the line of demonstration. It is now making the announcement that seed of alfalfa and corn will be supplied to a small number of farmers in order to test the methods of production which are regarded as being best suited to Saskatchewan and to demonstrate the success attending the practice of those methods.

This distribution of seed is different from the general distribution made through the agency of agricultural societies in previous years, the distinction being that only one farmer in a district will be given seed this year while several were given a quantity in other years. The College wants about twenty good farmers in as many parts of the province to grow an acre of alfalfa and a half acre of corn under directions from the College. When the crops are growing the extension department will arrange for a gathering of farmers to be held at the farms where the crops are being tested. Speakers will be provided and these two crops will be thoroughly discussed with the farmers present.

It is desirable that the tests be made on farms close to a railway station so that people can come in from adjacent districts and visit the plots without inconvenience. If the tests are undertaken by good farmers, the other crops and the general farming methods practised will furnish object lessons for all concerned. The plots must be fenced sufficiently well to protect them from animals, as the alfalfa should not be pastured at any season of the year. The crops will be given to the farmers who grow them in consideration of their undertaking to follow the instructions furnished by the College. This work should make it possible to obtain much valuable information regarding the production of alfalfa and corn in Saskatchewan and will serve to indicate the value of demonstration farms where a greater variety of crops and general farming methods can be brought under view. Perhaps in a year or two the agricultural societies which have a larger area of land than they require for exhibition purposes will undertake to use a part of it for a similar purpose. Such a feature at the summer fair would possess great interest and profit for its members.

What Are Brains For ?

By W. C. Palmer.

It has been well said that a man from his eyes down is worth a dol-

lar and a half a day, while from his eyes up he is worth up to hundreds of dollars a day. The reason that so many people are not worth more is that they do not use their brains, being content to follow methods and practices that have been handed down, that perhaps do not meet present day conditions—at any rate can not meet them as well as what has been worked out lately. It is necessary to find out the best that is known on any subject that one has in hand; then with that as a starting point, work out new methods and practise. Oftentimes one finds a farmer who does not have a good library of agricultural books and does not even take agricultural papers and no one had more time to read and study.

Go into the doctor's or lawyer's office and you will find a library costing from five hundred to five thousand dollars or more, and several medical or law journals. When a difficult case comes up they ransack their libraries, going through the books that treat of the particular subject in hand and the journals. Then they will call in fellow doctors or lawyers. They do not propose to take any chances that it lies within their power to avoid. Does the farmer turn to his library, to the agricultural papers and to the experiment station bulletins when he has a problem? A good many do, but why not more of them? When a crop is to be grown, the best that

is known on the growing of that crop should be brought into play in preparing the soil, in selecting the seed, in caring for the crop. When stock is to be raised the best knowledge available should be used in selecting the stock, in breeding them, in feeding them, in caring for them, and in marketing them. And so on with the different operations on the farm. This is where the man from the eyes up comes in, and remember that it is this kind of work that pays.

The farmer should have a library containing the latest agricultural books, the experiment station bulletins and the agricultural papers. This will bring into his home the best that is known on the different phases of farming. One hundred dollars, or even twenty-five dollars would make a pretty good start. And if use was made of it, its teachings applied to the different farm operations, the returns would be several times one hundred dollars greater each year than under the hit and miss plan. What would be even more of a remuneration would be the interest and satisfaction that comes from work well done, from being master of conditions, instead of slaves to them. We like to do what we can do well. The farmer cannot afford to take chances any more than the doctor or the lawyer. It will be his own fault if he does, as the information is to be had if he will simply work his brains.

Small vs. Large Seed Potatoes.

In 1908 a trial was made in the use of small and large seed. It was found for that year that when large tubers were planted (using about 35 bushels of seed per acre) the value per acre of the crop, less the cost of seed was about twice as large as was the value of the crop when small tubers were used for seed, planted at the rate of about 5 bushels per acre.

The same experiment was repeated in 1910. The Vermont Gold Coin was used in this trial. The large tubers used for seed were very large, and many of the small tubers were large enough for cooking. A third plot was planted as a check plot, using cut pieces for seed. The following table gives some of the results:

Comparative Value of Large and Small Potato Tubers for Seed.

Tubers.	Seed per Acre - Bushels	Weight of Seed - Pounds	Stalks per Hill	Total Yield per Acre - Bushels	Per cent Marketable	Value of Acre - Dollars	Cost of Seed - Dollars
Small	13.6	20	3.5	88.9	92.3	\$ 80.32	109.20
Large	76.5	120	9.9	162.3	92.4	109.20	109.20
Cut	9.4	15	2.8	115.7	90.0	109.20	109.20

The tubers were valued at thirty cents per bushel at planting time, and at one dollar per bushel at digging time. The spring price was the very highest obtainable, while in the fall potatoes were being retailed at \$1.50 per bushel. For conditions of 1910 the very large amount of seed used is seen to be justified. No allowance is made for the increased cost of planting or for the increased cost of digging and marketing, but, making a generous allowance for these items, the heavy seeding would still show excellent profits.

It is very well known that the increased sowing of potato seed will increase the yield, but it is often a question to what extent the heavy seeding can be carried at a profit. In the spring of 1910 potatoes were a drug on the market. Many farmers could not sell what they had on hand. The seed costs but a little, the heavy seeding will produce an increased yield, and as a general rule potatoes are a good price in years following low prices.

From the table it is seen that the check plot with cut seed produced a greater yield per acre than the small seed, although the amount of seed used in the check plot was the smallest of the three plots.

The heavy seeding had the greatest number of stalks per hill, but we did not find an appreciable larger percentage of small potatoes on this plot. Particular attention was paid to this, and a study was made of the number of stalks and the number of small and large tubers for each hill.

a rotary frame as in the IXL picker used by the Avery Manufacturing Company are used. These pickers supplement the action of the racks and tear all bunches of straw apart. In the next lesson we will illustrate some of these devices.

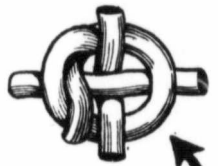
The balancing of separators is an important consideration and is one that must be given careful thought in every well developed machine. If there are any heavy parts moving in a certain direction, or even light parts moving at a high rate of speed, these parts set up unbalanced forces that have a tendency to move the whole machine in the same direction unless their effect is counteracted by an equal mass moving in the opposite direction at the same time. Where two or more racks are used, one may be used to counteract the effect of the other by being made to travel in the opposite direction. Where only a single long rack is used, balance is effected by making the grain pan vibrate in the opposite way. In rotary machines there is no such need for balancing because a rotary motion, when the rotating part has the same weight at all points around the circumference, has no tendency to cause oscillation of the whole machine.

The evil effects of vibration make themselves evident in a number of ways. In the first place it tends to shake the machine to pieces and causes loosening of all the joints. This causes either rusting or rotting at those points. It also causes a varying tension on the main drive belt, which causes irregular running of the whole machine, and this, of course, results in poor threshing. All of the machines are pretty well balanced for the speed at which they are supposed to run and it is interesting to take note of the manner in which this balancing has been accomplished. In any case, a machine is better that requires little if any balancing. Where an unbalanced force is set up and this is counteracted by another force acting in the opposite direction, the starting and stopping of these masses must be taken up by some part of the frame work of the machine, with the result that there will be a continuous recurrence of strains at those points. The need for careful balancing also explains why all the moving parts of all these machines are made so light. It is a well known fact in mechanics, that the lighter a moving part is the less will be its momentum, and therefore it will have less capacity for disturbing the whole machine or of causing strain at any particular point.

Note.—Through an error it was stated in the last lesson that the speed of the straw on the racks was about one thousand feet per minute. It should have been about one hundred feet per minute. In some machines this speed is somewhat exceeded. The speed of the racks varies from two hundred and thirty vibrations per minute to one hundred and seventy-five per minute.

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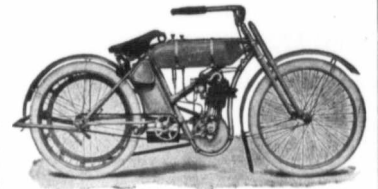
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Practical Talks to Threshermen

Continued from page 40

of each rack, the straw is greatly thinned and torn apart. This same idea is carried out in a number of machines and has been found to be a decided advantage in the matter of good separation. In other machines pickers working either by means of cranks in the top of the machine or set in

The Retailer's Creed.

We offer the following creed for the dealer in the hope that it may put somebody on the road to better things:

I believe in the square deal.

I believe in the square deal between the dealer and his supply house.

I believe that the square deal between dealer and customer, and between customer and dealer, works both ways.

I believe the square deal pays, and pays big.

I believe that the secret of attracting good customers is good goods plus good treatment.

I believe in being pleasant, but not in palaver.

I believe in dignity, consideration and kindness, but not gossip, nor yet hot air.

I believe that my store should be a place for business, and not a rest cure.

I believe that good goods are worth good prices; that good price means fair price, and that fair price is never high price.

I believe that fair price is the full price the dealer must charge if his goods are as good as he claims.

I believe that it pays to display goods, and to advertise the goods displayed.

I believe in giving the customer the utmost value for his money, believing that a satisfied customer is the best advertisement.

Expensive Boarders,

If you had boarders on your place who ate your food and never paid you a cent, you would get rid of them, wouldn't you? Have you ever figured up the amount of grain the gophers on your land eat—what they cost you to keep them?

By investigating the facts experts have proved that one gopher will eat at least 90 kernels of wheat before it sprouts and will put away for future use 125 kernels. This makes 215 kernels in all. The increase which would have been realised from these 215 kernels of seed wheat amounts to 43,000 kernels or 3 lbs. One gopher will also destroy fully 170 plants by eating the tender sprouts, and 150 heads of wheat before harvest. This makes what would amount to 320 heads of wheat which, on the basis already used, would figure out one more pound of wheat lost, making 4 lbs. in all. This means that the value of the grain destroyed by only one gopher is at least 10 cents.

This sum does not seem large, but when you figure that in a 40-acre field there will be from 500 to 1,000 gophers, and that each pair of gophers will raise from 20 to 30 more each season, you will see that the loss amounts to \$50.00 or \$100.00 on very 40-acre field.



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IN the organization and construction of rural telephone lines, this book "How to Build Rural Telephone Lines," is a practical guide. It is a carefully classified volume, covering everything you need to know, from the inception of the idea to the moment the telephone is hanging on your own wall, ready for you to use. No question on the building of rural telephone lines can possibly arise without your being able to find the answer to it in this volume. It offers explanation on every point—the solution for every problem. If you are even the least bit interested in the subject, all you have to do is to clip, sign and mail the coupon and

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cannot do; you will be interested in the straightforward way in which it comes out with vital information. Systems of rural telephone lines are spreading a network throughout the Dominion in the form of community-owned companies. Sooner or later someone will organize such a system in your locality. Why shouldn't you be the man to do it? In any event you owe it to yourself to know all there is to know about this subject. Better send the coupon NOW, while you are thinking about it.

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Please send me FREE, one copy of your 100 page, bound and illustrated book on "How to Build Rural Telephone Lines".

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Now the sensible thing to do is to make up your mind to put an end to this loss at once. The next thing to do is to kill the gophers quickly, economically and surely. There is a gopher poison—Mickelson's Kill-Em-Quick Gopher Poison—that's so reliable it has been used by the Forest Service of the United States Department of Agriculture in the Pecos National Forest with great success. That is an excellent test of its value to you.

Thousands of farmers who have used Kill-em-Quick say it is the only sure gopher poison. It is so powerful that the smallest bit of it will kill a gopher stone dead. And it's simple and safe to use. Just soak some wheat in water over night. Next morning drain off the water and mix the poison with the grain so that it sticks to the kernels. Then put the grain where the pests are and the poison will do the rest. Its peculiar odor attracts gophers—they prefer it to shoots or anything else—and a mere taste kills instantly.

Mickelson's Kill-Em-Quick Gopher Poison is the result of careful experiment and study by Mr. Anton Mickelson who has been for years in the drug business in North Dakota. Many farmers told him they could not get a poison that would surely kill gophers. Then Mr. Mickelson began to experiment with different preparations. And he made a careful study of gophers and their habits. His experiments required skill and great knowledge of pharmacy, costing a good deal of money and extending over many years. But the result was worth the effort and the expense—the discovery of the only gopher poison that is sure death to these expensive pests.

Some farmers have tried strychnine with very little success because strychnine is so very bitter that most gophers don't eat enough of it to kill them. Strychnine also has other disadvantages: a large amount of water must be added to dissolve it and a lot of grain to absorb the mixture. A gopher might eat several grains

soaked in this way without being killed. Kill-em-Quick is better than strychnine in every way. An ounce of strychnine, which usually sells for \$1.00 will kill only 874 gophers, according to tests. But 75 cents worth of Kill-em-Quick is full strength on every grain—its odor and taste are attractive to gophers—and the smallest bit of it, when taken into the stomach, is enough to kill a gopher.

Mickelson's Kill-Em-Quick Gopher Poison complies with the Food and Drugs Act of June 30th 1906, Serial No. 29689. That is a guarantee against misrepresentation. Back of this is the guarantee of the company on every box. If you are dissatisfied in any way, get every cent of your money back. Mr. Mickelson would like to have every reader of this paper write him so that he can send you free several little folders that it will pay you well to read at once.

Address Mr. Anton Mickelson, Mickelson Kill-Em-Quick Co., Dept. C., Winnipeg, Man., Canada.

THE FUNNY WORLD

The matter on this page lays no claim whatever to originality. The one idea is to amuse, to provoke a smile. If it fulfills this mission we shall feel amply repaid for the time and labor expended in its preparation. Have you read or heard something that has made you laugh? Has it chased dull care away for a time? Then pass it along for publication in our Funny World. Such contributions will be greatly appreciated.

It was Sunday evening. Angelica had invited her "best young man" to the evening meal. Everything had passed off harmoniously until Angelica's seven-year-old brother broke the blissful silence by exclaiming:

"Oh, ma! yer oughter seen Mr. Lighted the other night, when he called to take Angie to the drill; he looked so nice sittin' longside of her with his arm—"

"Fred!" screamed the maiden, whose face began to assume the color of a well-done crab—quickly placing her hand over the boy's mouth.

"Yer oughter seen him" continued the persistent informant, after gaining his breath, and the embarrassed girl's hand was removed, "he had his arm—"

"Freddie!" shouted the mother, as in her frantic attempts to reach the boy's auricular appendage she upset the contents of the teapot in Mr. Lighted's lap, making numerous Russian war maps over his new lavender pantaloons.

"I was just going to say," the half-frightened boy pleaded, between a cry and an injured whine, "he had his arm—"

"You, boy!" thundered the father, "away to the wood shed!"

And the boy made to the nearest exit, exclaiming as he waltzed, "I was going to say Mr. Lighted had his army clothes on, and I'll leave it to him if he didn't."

The boy was permitted to return, and the remainder of the meal was spent in explanations from the family in regard to the number of times Freddie had to be "talked to" for using his fingers for a ladle.

Cholly—"I know my income is small, but don't you think we could get along?"

Miss Newgirl—"I'm afraid not."

Cholly—"You told me that you went to a cooking school."

Miss Newgirl—"Yes, but they did not teach me how to make wind pudding."

"Hey, boy, where's your brother?"

"In the barn, shoein' horses."

"Where's your mother?"

"In the backyard, shoein' chickens."

"Where's your father?"

"In the hammock, shoein' flies."

"Say, papa, you was tellin' Mr. Crum-mage 'bout shootin' an eagle on th' wing? Which wing was it?"

"You don't understand, Bobbie. It was a soaring eagle I shot."

"Did it make him sore when you shot him, papa?"

"No, no, Bobbie. The eagle was up—up in the air—enjoying a long fly."

"Do eagles eat long flies, papa?"

"Jane, why don't you put the child to bed?"

They were on the sofa, side by side, when he asked her to be his bride; she murmured "yes," then he cried:

"Excelsior!"

Around her waist he placed his arm, as if to shield her from all harm;

Once more he cried—now with alarm:

"Excelsior!"

Two sprucely dressed, prim old ladies were having the usual struggle on the California street car over who should pay the fare. The successful competitor drew what she supposed was a two-bit piece from her purse and handed it to the conductor with the remark:

"Take two out of that."

The conductor was polite, but he turned red and finally stammered:

"But, madam, that is only good for one."

"Good for one! What do you mean? What is it?"

"It's a beer check, madam."

A Philadelphia lawyer, who spends most of his time at his country estate, employs a sturdy Irish gardener, whose one desire in life is to live until the banner of freedom is unfurled over Ireland.

One evening the lawyer strolled through the grounds of his place and stopped to have a chat with the gardener.

"Michael, do you know that while we are here enjoying the beautiful twilight, it is dark midnight in Ireland?" he asked.

"Faith, an' Oi'm not surprised," replied the gardener. "Ireland never got justice yit."

The grocer's boy was lumbering up the kitchen stairway with his arms full of packages.

"Boy," said the mistress of the house, somewhat sharply, "are your feet clean?"

"Yes'm," he answered, still climbing the stairs. "It's only me shoes that's dirty."

"Johnson," said a schoolmaster, "can you tell me how iron was first discovered?"

"Yes, sir."

"Well, tell the class what your information is on the point."

"I heard father say yesterday that they smelt it!"

"I suppose, Eileen," she remarked to the new girl, with feigned indifference, "that you overheard my husband and me conversing rather earnestly this morning. I hope, however, that you did not think anything unusual was going on?"

"Niver a bit, mum. Oi wanet had a husband meself, an' niver a day passed that th' neighbors didn't belave one or th' other uv us would be kilt entoirly."

A lady and her little son were walking through a fashionable street when they came to a portion strewn with straw, so as to deaden the noise of vehicles passing a certain house.

"What's that for, ma?" said the child; to which the mother replied—

"The lady who lives in that house, my dear, has had a little baby girl sent her."

The child thought a moment, looked at the quantity of straw, and said:

"Awfully well packed, wasn't she, ma?"

"You have been fighting again, Tommy!"

"I couldn't help it, mamma. That Stapleford boy sassed me."

"That was no reason for fighting. You should have remembered that 'a soft answer turneth away wrath,' and given him a soft answer."

"I did. I hit him with a chunk o' mud."

Irate Employer—See here, you young Rip Van Winkle, I hired you only yesterday, and I believe you've been asleep ever since!

Sleepy Joe—That's what I thought you flashed, sir. Here's your advertisement: "Wanted, an office boy, not over sixteen years of age; must sleep on the premises."

"Robert, dear, how do you suppose those dozens and dozens of empty bottles ever got into the cellar?"

"Why, I don't know, my dear. I never bought an empty bottle in my life."

He was a commercial traveller of the more flashy type, and had just finished telling a startling story to his newly made acquaintance in the railway car.

"That reminds me of one of Munchausen's yarns," remarked the victim, for want of something better to say.

"Munchausen! Who is he?"

"Why, don't you know about him? He is the most colossal example of mendacity that civilization has produced."

A brief, painful silence ensued, which was broken by the traveller, in a tone that was almost timid.

"Excuse me, my friend," he said, "if I seem inquisitive, but would you mind telling me what house he travels for?"

"I been thinkin' 'bout gettin' married," said a member of his flock to Brother Williams. "You reckon I could get a marriage license for a dozen water-melons?"

"I reckon you could," replied Brother Williams, "but my wholesome advice ter you is ter eat de watermelons!"

"Well, Bobby, how do you like church?" asked his father, as they walked homeward from the sanctuary, to which Bobby had just paid his first visit.

"It's fine!" ejaculated the young man.

"How much did you get, father?"

"How much did I get? Why, what do you mean—how much what?" asked the astonished parent at this evident irreverence.

"Why, don't you remember, when the funny old man passed the money around? I only got ten cents."

Teacher—What is velocity?

Pupil—Profanity.

Teacher—Where did you get that idea?

Pupil—Well, when Jones's bulldog bit pa last night, ma said he came into the house with "remarkable velocity." And I thought—!

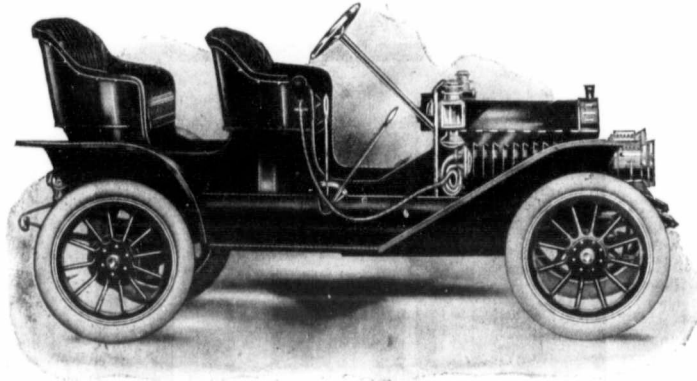
Your Last Chance To Get This Automobile FREE

Never again will such an opportunity be offered you to get a magnificent

\$1200.00

McLaughlin - Buick Automobile

absolutely without cost.



There is yet time for you to enter our Wheat Guessing Contest, and place yourself in line to win this Automobile. Remember you have the same chance as any one else of winning this beautiful machine.

Don't let anyone Persuade you that you cannot get it

If you have been unsuccessful in other contests, don't let that discourage you, because our system of conducting contests is entirely different from others. We publish The Canadian Thresherman and Farmer, and this is the third successive Wheat Guessing Contest we have put on. 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; and we guarantee to forfeit \$2000.00 to any Charitable Institution if anyone can prove that our contest is not conducted in a fair and square manner.

GET YOUR ESTIMATES IN AT ONCE

THE CONTEST

The Contest is on how many Kernels there are in twelve pounds of No. 2 Northern Wheat. The Contest is open to everyone in Canada except residents of Winnipeg.

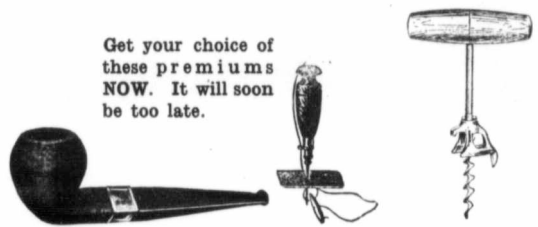
THE WHEAT is a fair clean sample of No. 2 Northern and was procured from the Dominion Grain Inspector's Office, Winnipeg. The wheat and bottle were taken direct from the Grain Inspector's Office to the Dominion Weights & Measures Office, and exactly twelve pounds of the wheat was weighed out and poured into the bottle. The bottle was then immediately sealed up by the Ass't. 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.

To secure estimates all you have to do is to send in a subscription for The Canadian Thresherman and Farmer. Three estimates are allowed with each one year subscription.

EXTRA SPECIAL OFFER

Twelve months' subscription for The Canadian Thresherman and Farmer three estimates on our wheat guessing contest and your choice of a straight stem briar pipe; Awl-U-Want sewing awl; Self Pulling Cork Screw; or Cook Book—For \$1.00.

Get your choice of these premiums NOW. It will soon be too late.



Get Your Estimates In At Once

Pin a dollar bill to this coupon, and if you are not more than satisfied back goes your dollar

Rush This Order Blank

E. H. HEATH CO. Limited,
Winnipeg, Canada.

Please find enclosed \$..... for..... year's subscription for The Canadian Thresherman and Farmer and..... (premium) to be sent to

Name

Address

My estimates on the number of Kernels in 12 lbs. of No. 2 Northern Wheat are

Five Landmarks in Western Canada's Development

At whatever point of the future the history of Canada may be written, there is nothing in the rise and progress of the country that will be regarded with greater pride and satisfaction than the story of new railroads. When the Canadian Pacific was first mooted, politicians and business magnates scoffed at the idea, and when it was completed all the world wondered and the scoffers are now in their graves. They courted the oblivion that has become their lot or left.

"A name at which the world grew pale—
To point a moral or to adorn a tale!"

Still more marvellous are those chapters which describe the development of the latest Trans-continental, the Grand Trunk Pacific, a transportation service which is likely to hold the world's record for some time to come in several outstanding features of railway construction. Among these is the system of handling the townsites.

Most railroads lay out townsites for the purpose of selling lots and making money on them, but the Grand Trunk Pacific at the beginning of its career adopted an entirely different policy. Instead of selling the lots in townsites along the main line to the highest bidder, it laid out these townsites uniformly and placed the same prices upon lots in all the townsites. These prices

upon them to reap the benefit of these improvements. The result has been that there has been no "boom" and no reaction in the history of these Grand Trunk Pacific towns. They have grown steadily, real estate values have increased steadily as the towns

increased in value within two years from 500 to 1,000 per cent."

That is a wonderfully cheerful bulletin to send out, and it is all the more satisfactory reading since it is in accord with actual fact and does not merely express the hope of some sanguine real

estate optimist, banking on a remote possibility.

In a brief space it is impossible to express in type any just appreciation of the tremendous energy that is finding an outlet at so many points along this great highway. Melville, which but 3

of its geographical position it must become a great distributing centre to the surrounding territory which is being rapidly populated by the very best type of men and women who have ever come into Canada from the American Republic, from the Mother country and from the Continent of Europe.

Still further west, Watrous (the Moose Jaw of the G.T.P.) occupies a unique strategic position for the business man, the investor and the health seeker. It is practically midway between Winnipeg and Edmonton and has been located in the heart of one of the finest farming sections of Saskatchewan—in a direct line between Regina and Prince Albert.

Watrous is the terminus of the branch line of the Grand Trunk Pacific to Prince Albert, the last named city being one of Canada's rising industrial centres as a lumber and agricultural shipping point. As the central divisional point between Winnipeg and Edmonton, it is expected that the central shops of the road will be located at Watrous.

While thousands of dollars are being paid out monthly by the Grand Trunk Pacific to its employees at this point, not the least of its attractions to the investor is the proximity of Watrous to Little Manitou Lake. This wonderful lake of medicinal water is bringing large numbers of tourists and health seekers to the place, and it is in line with developments that have taken place around all such natural health assets that a Sanatorium and fine hotel accommodation should in a very brief space be located on the shores of the lake. Medical men do not hesitate to make the prophecy that Watrous will in the near future become the Carlsbad of America.

Biggar, another of the five G.T.P. divisional points between Winnipeg and Edmonton is situated in the south-western part of Saskatchewan. It is the junction point of the G.T.P. lines to Battleford and Calgary which are now being hurried to completion. Apart from its great natural resources and railroad facilities, a large body of citizens of the most



One of Melville's Three Banks

increased in population, and there has been no speculative or fictitious prices placed upon real estate.

The effect of this has been something that is almost unheard of even in the mushroom growth of this country's progress. For

example: A few weeks ago an enthusiast writing from Melville, said: "Three years since, this town had one building, now it has over 500. During this time the population has increased from 0 to 2,000. Present real estate value \$1,792,000. In many instances Melville lots have in-

years ago had no existence, is now a fully equipped town with banks, hotels, churches, schools, a fire department, a number of well-stocked stores and a still larger aggregation of fine residences. Even wholesale houses are already being established in view of the certainty that because



Scott from one of the Elevators

were low—in many cases, but a small fraction of what the lots would have brought if put up at auction.

The management of the Grand Trunk Pacific repeatedly announced that its policy was to allow the people who purchased the lots and put improvements

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Little Manitou Lake, Watrous

All Eyes Turned Toward Western Canada

MORE THAN ONE HUNDRED MILLION DOLLARS WAS MADE BY REAL ESTATE OWNERS in Western Canada Last Year

From the most accurate figures obtainable more than ONE HUNDRED MILLION DOLLARS was made by real estate owners in growing cities and towns of Western Canada last year. This vast wealth was exclusive of improvements and represented actual increase in land values alone.

Original records gathered by the Winnipeg Free Press prove that in eight Western Canadian cities the value of land alone—not counting improvements—increased 562 per cent. for the last five years—an annual increase of 112 per cent. for each city during the last five years. These figures show conclusively that investments in live growing cities in Western Canada are as safe and sure as an investment can be, and that 100 per cent. profit each year is almost a certainty.

Millions of people will find homes in Western Canada. It is a country so vast in area and so rich in natural resources that it is capable of maintaining in plenty a population equal to that of the most thickly settled portions of the continent.



BUY REAL ESTATE NOW AND SHARE IN THE BIG PROFITS BEING MADE

You have an opportunity right now to share in the One Hundred Million Dollars that will no doubt be made by Real Estate Owners in Western Canada this next year. The Grand Trunk Pacific offers you choice lots in Watrous, Melville, Wainwright, Biggar and Tofield—the fastest growing towns in Western Canada today—all Division and Junction points on their Main Line—at prices that assure you a good profit on your investment in a very short time. The Company is basing the value of these splendidly located lots on present conditions—not on future demands. It is the purpose of the Grand Trunk Pacific to build up these towns quickly, and they know that the best way to do this is to allow the purchasers of these lots to make the big profits on their increase in value.

These 5 GREAT TOWNS are to the Grand Trunk Pacific what Edmonton, Calgary, Moose Jaw and Regina were to the Canadian Pacific a few years ago. Think what it would mean to you now if you had bought property at low prices in those towns only a few years ago! It would have meant fortune. And that is just the kind of an opportunity the Grand Trunk Pacific is offering you now in Watrous, Melville, Wainwright, Biggar and Tofield. Western Canada is growing faster now than ever before—yet lots which sold in Moose Jaw and other Canadian Pacific Division Points only a few years ago for \$100 each are worth \$2,000, some \$3,000, and some as high as \$5,000 to-day.

This said that if our foresight was as good as our "hind sight" we would all be rich. Here is certainly an opportunity for you to exercise your foresight so that your hind sight will never be buried under vain regret. Buy lots in Grand Trunk Pacific Division and Junction towns NOW—buy at the low prices at which these lots are selling—on the easy terms of payment. Take advantage of the 5 TOWN COMBINATION. There's 5 CHANCES TO GAIN, NONE TO LOSE. The Grand Trunk Pacific does not offer townsites or additions so located as to make investments in them of questionable value. Read every word of this great announcement, and don't lose sight of the future—don't forget the lesson of the past. You can't take care of the past—but you can grasp the opportunity of the present and compel the future to pay you big interest for your foresight.

Grand Trunk Pacific's Great Combination 5 Town Lot Sale

For some time the Grand Trunk Pacific has been advertising and selling lots in each of the towns of Watrous, Melville, Wainwright, Biggar and Tofield separately—and we are still selling on that plan. A great many purchasers have bought lots in each of the five towns on the regular terms of 10 per cent. of the purchase price down and 10 per cent. per month. It has occurred to us that a great many more would like to invest in each of these towns who cannot afford to do so under the regular terms, so we have decided to make a GREAT FIVE TOWN COMBINATION LOT SALE with special terms.

During this sale—which will last only as long as the lots set aside for this purpose last—we will sell you FIVE BIG DOUBLE LOTS, 50x140 feet, at \$100 each—or \$500 for 5 lots—one lot in each of the towns of Watrous, Melville, Wainwright, Biggar and Tofield—to-day the fastest growing towns in Western Canada.

Four of these towns are Division Points—one a Junction. All on the Main Line of the Grand Trunk Pacific, and all surrounded by as rich agricultural lands as farmer ever put a plow into.

The lots are splendidly located in each town and are sure to increase in value, and should make you a good profit before you get them paid for.

TERMS:—\$25 down and \$25 a month, without interest and no taxes to pay until the year 1912. We will select the lots for you or you may make your own selection, subject to previous sales, from the town plats below. If you want two lots in each of the towns, just double the cash payment and double the amount of each of the monthly instalments, and so on for as many lots as you care to purchase on this GREAT FIVE TOWN COMBINATION LOT SALE PLAN.

The advantage of buying the FIVE LOT, FIVE TOWN COMBINATION, over buying 5 lots in any one town, is the opportunity it offers for greater profits. No doubt some one or two of these towns will increase in population and grow faster than the others. No one knows, and we could not predict in which of these five splendid towns real estate values will increase most rapidly. We believe lots in any one of them will prove most profitable investments—yet it is absolutely certain that one town will grow faster, and the demand for real estate will be greater in one of them than in the others, therefore, the lot or lots you own in that town, purchased through this FIVE TOWN LOT COMBINATION SALE, will increase your profits just that much more. This means FIVE CHANCES TO GAIN—NONE TO LOSE. The response to our offering shows that investors are awake to the advantages we have mentioned. Let us urge you to make your five selections at once. You may remit \$25 for each combination, with the assurance that if the lots reserved for this sale are all sold when your application arrives, the Grand Trunk Pacific Railway Company will send your money back to you by return mail.

TOFIELD

Tofield has been referred to as the town of many resources. All the necessary elements of a great manufacturing centre abound in Tofield. Large coal fields are within a mile, and natural gas is to be had in commercial quantities. Drill tests have shown that 5,000 to 6,000 acres near the city are underlain with rich veins of from 5 to 10 feet of coal. Four mines employing 50 men are now in operation. Coal can be had at the mine for \$1.50 per ton, or \$2.50 delivered in Tofield.

Situated on the main line of the Grand Trunk Pacific and at the head of one of its most important branches, Tofield is peculiarly favored with railroad facilities which will aid in rapidly developing the manufacturing and jobbing business at this point.

WAINWRIGHT

Wainwright is 666 miles west of Winnipeg, in the eastern part of the province of Alberta, noted the world over for the high quality and its enormous yields of wheat. The National Buffalo Park of 110,000 acres, established and maintained by the Canadian government, is located here and is one of the important attractions for tourists.

Wainwright is already a wholesale distributing point of considerable importance, and has the advantage of being a Grand Trunk Pacific division point.

WATROUS

Watrous is the geographical centre of the growing Canadian West—the centre of the finest farming section in all Saskatchewan. Watrous is the central and one of the Principal Division Points on the Grand Trunk Pacific west of Winnipeg and the most attractive young city in the new Golden Empire.

Watrous, in addition to all of its other advantages, has a wonderful attraction in Little Manitou Lake. This wonderful lake, filled with medicinal water, brings tourists and health seekers to Watrous by the thousands. This lake will become a great health resort—the "Carlsbad of America." Many of those who go to Watrous will decide to make it their permanent home because of the near-by lake and the wonderful business opportunities there.

BIGGAR

Biggar is situated in the southwestern part of the Province of Saskatchewan and is one of the five Grand Trunk Pacific Points between Winnipeg and Edmonton. Biggar is the junction point of the Grand Trunk Pacific Lines to Battleford and Calgary, which will be hurried to completion. The Winnipeg-Edmonton Line of the Canadian Pacific Ry. also runs through Biggar. Aside from its great natural resources and railroad facilities, Biggar is fortunate in having the right kind of citizens—men who do things—and in the course of a very few years Biggar will certainly be one of the busiest as well as one of the most important cities in Western Canada.

MELVILLE

It is inevitable that Melville must become a city of much importance. But few other railroad centres in Western Canada can approach Melville in the matter of transportation facilities. It is both a divisional and junction point on the Main Line of the greatest of transcontinental railways—the Grand Trunk Pacific. Branch lines of this railroad go from Melville into the richest and most fertile agricultural sections of the entire Dominion. Past Melville's door must go agricultural products worth millions and millions of dollars. It is certain to become a manufacturing and distributing centre of importance.

WRITE TODAY

It is impossible in the limits of a page advertisement to present the proposition we have outlined here in its entirety. We have been compelled to omit so much, that you no doubt will want to know, that we cannot leave you without asking you to write for complete literature, thus getting all the facts and figures. We have prepared a splendid line of illustrated folders which we have been told present Western Canada as it never was presented before—without boast or exaggeration. And yet the half has not been told. Send for the folders and see if the half we have told does not make you want a slice of the soil that is growing in wealth so rapidly. We send them all FREE—write for them today.

For further information, Address INTERNATIONAL SECURITIES CO., LTD., Sole Agents for Grand Trunk Pacific, 644 Somerset Building, Winnipeg, Manitoba.

Send all money for lots to LAND COMMISSIONER, Grand Trunk Pacific Railway, Winnipeg, Manitoba.

C.T.F.

International Securities Co.

Exclusive Selling Agents Grand Trunk Pacific Ry. Co.

644 Somerset Bldg., Winnipeg, Man.

Please forward to me by return mail full particulars regarding Grand Trunk Pacific properties in Watrous, Melville, Wainwright, Biggar and Tofield.

Name

Address

INFORMATION COUPON

progressive type have had hold upon the interests of the town and are making it one of the finest self-contained communities of the West.

In the heart of a magnificent crop-raising country, it will become a distributing and collecting centre of great proportions and already the bustling aspect of the town in its hotels and stores gives the strongest assurance of a great future for the town. There are large numbers of the surrounding farmers devoting themselves to the raising of live stock, particularly in heavy draft and general purpose horses. It costs little more to raise a high priced draft than a steer, returning less than a fifth of the price the well-bred horse will bring, and if you pass through the Main St. of Biggar any day you'll see units of the best horse flesh the West is now producing.

Wainwright, the first Alberta divisional point on the Grand Trunk Pacific, has been baptised as the "biggest, busiest and best town between Saskatoon and Edmonton." Its population in the first two years of its life increased from 0 to 1,000 and its property valuation from the same decimal to \$750,000.

The centre of a rich agricultural district, it is the site of the National Buffalo Park containing in an enclosed space of 110,000 acres the largest herds of buffalo in the world. It has become one of the world's leading attractions for tourists, and as the tendency to travel is increasing with every

stone Park and the other great haunts of the "globe trotter."

Alberta has not a better farming district than that which coils around Wainwright, and the record of its abnormal yields in cereals is something that can scarcely be credited until the stooks have been threshed and

A Slight Discrepancy.

The aged motor-van was somehow always getting out of repair, and it usually indulged in a little breakdown about once a week, in order to vary an otherwise monotonous existence.

Slowly it snorted its way into the broad stream of traffic, when



Oats, Crop of 1910, Grown by J. H. Mills, Near Wainwright. Yield, 85 Bushels to the Acre.

day of the world's new life, it is far from improbable that the crowd of sight-seers who will visit Wainwright in the course of the next few years will not fall short of the multitude that taxes every new season the very best that local effort can provide for its accommodation in the Yellow-

actual net weight of grain has been credited or paid for at the elevator.

There is practically no waste land about Wainwright, and the numerous lakes perform an important function in providing an abundant supply of good water for stock.

there was a sudden whirring of wheels, a loud snap, and the weary and worn framework came to a dead stop.

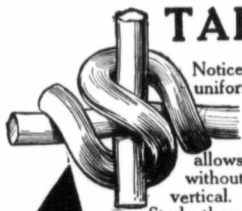
"Look here," said the policeman to the driver, "this kind of thing is occurring too often. Let's see what's your number? Yes, 1588!"

"Garn!" said the precocious youth who was in charge of the cart immediately behind. "That ain't its number. That's the year it was built!"



G. T. P. Yards at Wainwright, Looking East. Roundhouse and Shops in Rear.

TAKE A LOOK AT THE "IDEAL" LOCK



Notice how it wraps itself around the upright and cross wires in a smooth, uniform curve? No sharp angular turns to weaken the strength of the lock.

Yet it grips the wires in FIVE PLACES—twice on the upright, twice on the horizontal, and again at the junction of the two wires. Thus it positively prevents either wire from slipping at all—while it allows just enough play so the fence can be erected on hilly ground without kinking the line wires—but keeps the uprights perfectly vertical. No other fence lock compares with the "IDEAL." Study them all and see why you should

BUY ONLY "IDEAL" WOVEN FENCE WIRE

Made wholly of large gauge No. 9 HARD STEEL WIRE, heavily galvanized. No soft wires; no small wires; strongest, staunchest, most serviceable fence money can buy. Learn all its superior merits—write and ask us to tell you.

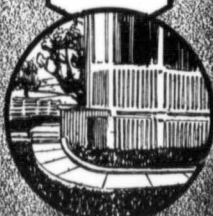
Drop us a card and receive promptly catalog telling of "IDEAL" features and many different styles of "IDEAL" fence. Sample lock comes with it

Ask for Catalog



Ideal Fence Company, Limited,

WINNIPEG - MANITOBA



\$3,600 in Cash Prizes for Farmers

ARE you one of the thousands of Canadian farmers who have used or intend using Canada Cement for the construction of some farm utility? If you contemplate building anything whatsoever of concrete, make up your mind right now to build it with a view to winning one of the prizes we are offering. Read the rest of this announcement and you will learn how you may try for a share in the \$3,600 we are giving away, to encourage the use of cement upon the farm. Throughout Canada the farmers have taken such a keen interest in our campaign that it has inspired us to go further along these educational lines. We have decided, therefore, to offer a series of four \$100.00 prizes to each of the nine Provinces, to be awarded as follows:

PRIZE "A"—\$100.00 to be given to the farmer in each Province who will use during 1911 the greatest number of bags of "CANADA" Cement for actual work done on his farm.

PRIZE "B"—\$100.00 to be given to the farmer in each Province who uses "CANADA" Cement on his farm in 1911 for the greatest number of purposes.

PRIZE "C"—\$100.00 to be given to the farmer in each Province who furnishes us with a photograph showing best of any particular kind of work done on his farm during 1911 with "CANADA" Cement.

PRIZE "D"—\$100.00 to be given to the farmer in each Province who furnishes the best and most complete description of how any particular piece of work shown by photograph sent in, was done.

In this contest no farmer should refrain from competing, because of any

feeling that he may have little chance against his neighbor who he thinks might use more cement than he does.

For it will be noted that Prizes "C" and "D" have no bearing whatever on quantity of cement used. The man who sends us the best photograph of so small a thing as a watering trough or a hitching post, has as much chance for Prize "C" as a man who sends a photograph of a house built of cement—and the same with Prize "D" as to best description.

Canada Cement is handled by dealers in almost every town in Canada. Should there not happen to be a dealer in your locality, let us know and we will try to appoint one.

Contest will close on November 15th, 1911, and all photos and descriptions must be in our office by that date. Awards will be made as soon as possible thereafter. The jury of award will consist of: Prof. Peter Gillespie, Lecturer in Theory of Construction, University of Toronto; W. H. Day, Professor of Physics, Ontario Agricultural College, Guelph; and Ivan S. Macdonald, Editor of "Construction."

Now, you cannot hope to do concrete work to the best advantage unless you have a copy of our free book, entitled, "What the Farmer Can Do With Concrete." This book tells how to construct well-nigh anything on the farm, from hitching post to silo. Whether you enter the contest or not, you'll find this book most helpful. A post-card asking for the book will bring it to you promptly. Send for your copy tonight. From your cement dealer or from us, you can obtain a folder containing full particulars of contest. If you send us for it, use the coupon provided in this announcement.

Please send me full particulars of Prize Contest. Also a copy of "What the Farmer Can Do With Concrete."

Name.....

Address.....

The Canada Cement Co.
LIMITED
MONTREAL, QUE.

An Address Delivered before the Annual Meeting of the National Gas and Gasoline Engine Trades Association.

Continued from page 30

be easily interchanged on the jack shaft.

In working out the balance of the details, it is entirely an engineering proposition. The question of wisely selecting and adopting properly proportioned parts with thoroughly reliable bearings; both front and rear axles are provided with the famous Timken roller bearings, ample in size to carry all loads with a large element of safety, and the fact of all loads being carried on roller bearings

must not be overlooked as a decided advantage, for the appointment of such devices reduces friction to a minimum.

The motor design and construction will be taken up next, although equal in importance to any other feature. We have designed a motor especially for this work. It is equipped with the five bearing crank shaft. All bearings are die cast babbit. These babbit bearings are cast under pressure and all are duplicates. The recesses are uniformly machined so that they can be all interchanged and new ones supplied if occasion should require. The cylinders are cast separate which al-

lows for perfect distribution of the metal and obviates any difficulty form expansion and contraction. The cylinders are provided with air rings below the water jacket to aid cooling, while the water circulates into the water jacket, just under the exhaust valve chest and is delivered at the top of the cylinder to the radiator.

A constant level splash system of lubrication is employed. The cylinder oil is placed in the crank case from the stand pipe. When the supply in the crank case reaches the proper place it overflows through the passage ways provided into the sub-tank cast

integral with the crank case and in which is provided a small gear pump which returns the oil to the crank case, delivering it to the cranks at all times while the motor is running.

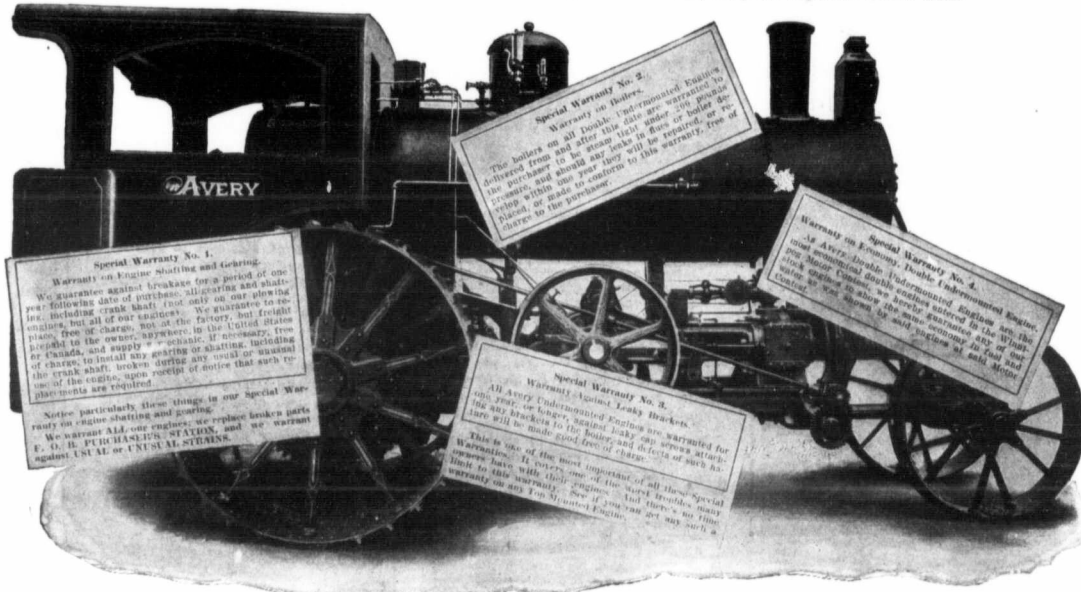
The honeycomb Mercedes type of Radiator has been adopted and the water is circulated for cooling the cylinders with a gear pump.

In addition to the cooling system a supply water tank is provided with a capacity of five gallons and suspended on the frame so that the machines may make very long trips without the necessity of replenishing the water supply.

There are two Questions which a Wise Buyer always Investigates How do You Guarantee Your Machines? What has been the Experience of Others?

HERE ARE THE AVERY COMPANY'S ANSWERS TO THESE QUESTIONS

HERE IS HOW WE GUARANTEE THE AVERY UNDERMOUNTED ENGINE.
Every man who buys an Avery is backed up by these Strong Warranties. They are printed right in the order blank.



These Letters tell what the Experience of others has been with Avery Undermounted Engines.

Avery Uses Less Coal and Develops More Power

Will say that the 30 H. P. Avery Engine that I bought last year is working fine and giving me the very best of satisfaction. I have plowed all spring, pulling ten plows and it handles them nicely with the reverse hooked up in last notch, and I can say that it uses less coal and develops more power than any other make of engine in my locality and they are all represented here. Neighbor, if you are in the market for an engine for plowing or threshing, make no mistake. Buy an Avery. I also have two Avery separators that I have run for the last four falls, and they will thresh faster and do better work with the least repairs of any machine on the market. Gentlemen, if you want to know more about the Avery Threshing Machinery and what it will do, call on me or write. ANDREW BELLER, Mitchell, S. D., July 7, 1910

Undermounted Engine Fine For Pulling Stumps

Your Undermounted Engine will pull anything that can be pulled in the line of trees, just as well as a stump machine. We had a 4 wire cable double and the engine broke it. We don't have to jerk it to pull a stump, we can start very slow and she will make the stump come and not hurt any part on the engine. All the other engines have given up pulling hedge now since we have our Undermounted Engine. FRED ALBRECHT, Ohio, Ill., Sept. 8, 1910.

Finds Many Advantages in Avery Outfit

The 30 H. P. Double Undermounted Engine and 42x70 Separator is a Hum Dinger. I have been using the Engine for Plowing and I find it the most powerful Engine of its rated H. P. that I ever saw. With the Screw Steering Device it guides much easier than a chain, besides it is always running in a straight line, and no trouble to make a straight furrow. By the use of the Gould Balance Valves, it does not consume any more water and fuel than a single engine. I am thoroughly convinced it is the best Outfit on the market today. Neighbor Threshermen, don't be afraid to try one. E. P. DUHN, Humboldt, S. D., June 10, 1910.

The Only Plow Engine

Since receiving the new 20 H. P. Plowing engine, we have been plowing in ground that could not be plowed with horses, and plowing 8 in. deep. We pulled the old plow to pieces, as it was not strong enough in the tough ground. Everybody that has seen this engine says that it is the only plow engine on four wheels. We are pleased with it, as it pulls everything that we hitch to it. RUSSELL ADAMS, ADAMS BROS., Albert City, Ia., Nov. 10, 1910.

A Fuel Saver and a Money Maker and Can be Handled by a Child
The 30 H. P. Undermounted Avery Engine purchased of your agents the Pingree Hardware Co., has given me the best of satisfaction. I have plowed and harrowed

800 acres this spring. I have had no breakage whatever, and have had no delays. The engine is easy to operate as my 13 year old daughter ran the engine all through the spring. The Avery Undermounted Engine is a fuel saver and a money maker. HENRY MEYERS, Pingree, N. Dak., June 25, 1910.

Moved the Whole Town with His Avery Engine

These few lines are to certify that I owned and have been using one of your 40 H. P. Engines for the last two years plowing and for moving buildings. I have moved store buildings from 50 to 80 feet long with all the goods in the building. I moved the whole town of Lamo, S. D., and I think that the Avery Engine is the only engine that is durable and economical and is the easiest engine to keep in shape. I have used it 8 months and the expense was 75 cents and if I was to buy another engine it would be an undermounted Avery Engine. For my part I think it is the only engine made that is worth having. AMOS QUARNSTROM, Winner, S. D., Dec. 29, 1910.

After 30 Years Experience Finds Avery Undermounted Engine Beats Them All

I have had thirty years experience in the threshing business, and have used several different makes of engines, but for convenience, ease of management, durability and cleanliness and everything in the make up of an engine, the Avery Undermounted Engine certainly beats them all. W. J. PARK, Butler, Mo., R. R. No. 4, Nov. 3, 1910.

If you are going to buy an Engine, Separator, or Plow, investigate Avery Machinery fully. Think what these strong warranties mean to you. Ask any Avery user about the kind of work that Avery Machines do.

Avery Company, 675 Iowa Street, Peoria, Ill., U.S.A.
Haug Brothers and Nellerhoe Co., Ltd.
Canadian Jobbers, Winnipeg, Manitoba

HERE IS HOW WE GUARANTEE THE AVERY "YELLOW FELLOW" SEPARATOR.
Every man who buys an Avery is backed up by these Strong Warranties. They are printed right in the order blank.



These Letters tell what the Experience of others has been with Avery "Yellow Fellow" Separators

Threshes Faster Than They Can Feed

We thought we would write you a few lines in regard to our 36x54 Separator which I finished in 1906 as it runs better every season. We started on the 20th of July this year and threshed 1000 bushels of oats for John McPeck, of Strang, Neb., in one hour and fifteen minutes, and it would thresh it in less time if we would get it in the machine. For further information see John McPeck of Strang, Neb. Hurrah for the Avery Separator for doing good and fast threshing. EICH BROS., Strang, Neb., Aug. 8, 1910.

Can Find No Grain in an Avery Stack

I am operating your "Yellow Fellow" Separator and I am pleased with the work it does. The farmers say it is the best grain saver they have ever had on their farms. It is far ahead of anything I have ever seen for handling all kinds of grain and seeds. I have had farmers, whom we thresh for look for grain going over, but they found no grain wasted. The style cylinder grates on front of straw racks and the I. X. L. Ficker thoroughly separate the grain from the straw, and the Avery fanning mill cleans the grain to perfection. I can cheerfully recommend the Avery Separator. EDW. DAVIS, Williston, N. Dak., Sept. 30, 1910.

If you are going to buy, do this—Take a postal card or a sheet of paper right away and write for a copy of the 1911 complete Avery Thresher Catalog and say what size machine you are thinking of getting.

In a Canvas Test "Yellow Fellow" Saves 99 99-100% of the Grain

I finished my run this season with my 22 H. P. Avery Undermounted Engine and 42x70 Avery "Yellow Fellow" Separator, and I find in checking up the season's run the following is the summary:

Total season's run.....85,326 bushels
Biggest day's run.....3,243 "
Expenses for repairs during season.....\$1 75

I also made a canvas test, threshing turkey wheat, which appeared to be just a little damp, and found I was making a saving of more than 99 99-100% of the loose grain in the straw. I threshed the entire season without using a cylinder wrench in my cylinder. I am certainly well pleased with this record with my Avery outfit—it has made me money and pleased my customers. ALEX. DECHANT, Nov. 19, 1910, Hays, Kan.

Runs Two Pitchforks Through His Cylinder without Even Stopping

In regard to your Separator I bought last year it is a good one and does all that is claimed for it. It threshes all kinds of grain in any condition, and as for the cylinder teeth there are no better. I ran two pitch forks through my cylinder last fall and it did not hurt the teeth a bit, and I did not have to stop. The "Yellow Fellow" is a dandy, and anybody intending to buy a separator, I would advise them to see the Avery tested. W. R. PRAPE, Bellevue, Iowa, March 7, 1910.

Thresherman Says Avery "Yellow Fellow" Puts All the Rice in the Bags

The "Yellow Fellow" which you shipped us on Sept. 29th, from Peoria, has certainly done good work. When this Separator was started, we searched the stack to see if it was not throwing over rice, and when we had baled the straw we were yet unable to find any. In other words, we are sure that your Separator put all of the rice into the bags. In threshing our rice some persons willfully hid five crack bolts in the bundles, and two of them went into the machine. The first one bending two of the spikes which were straightened in less than five minutes, and when the machine was again started, the fan of the Wind Stacker threw the bolt out on to the stack. The second bolt went into the machine about ten minutes later, bending two more of the spikes, and was taken out of the machine. The other three bolts were discovered before they got to the machine. We are more than pleased with your Separator, and would recommend it to anyone who would inquire. F. KIECH & BROS., Nettleton, Ark., Nov. 12, 1910.



NEIGHBOR o' Sandy Glegg's asked him wan day if he could spare a man wi' a horse and cart to help him wi' his flittin'.

"Sandy said he hadna a 'man' he could spare, but he had a boy that he was welcome to that was worth twa men at a job o' the kind. He meant Johnnie Lundie, and Johnnie made his first half-croon 'on the side', as it were, movin' that man's furniture and effects on the afternoon of May Term day.

"But he made something better nor that. That Saturday afternoon's job (it was his ain time, ye know) meant another turnin' point in his life.

"When he got the stuff safely intae the new hoose, he was given a great barra load o' auld books, papers and magazines tae mak' a bonfire.

"They were mainly Methodist magazines, Aberdeen journals, almanacks, Family Heralds, and seed catalogues, patent medicine truck o' that kind; but there were twa books that he couldna very weel mak' oot that took Johnnie's fancy, and as he was aye an awfu' inquisitive beggar o' a loon (boy) he was determined tae find oot what they were a' about.

"Wan was a geometry book that had gotten its back broken an' some o' the inside leaves were missin'. The ither was a French grammar that had been gie badly handled. It had been lying in a damp place till it was a' mouldy an' nibbled in places by the mice.

"Well sirs, what wad ye think but Johnnie set to work on the geometry first thing he did when he got hame, an' afore he went tae bed that night he had learned tae 'bisect a given straight line,' and what was meant by an 'equilateral triangle.'

"On the Sunday afternoon he got the French grammar (his mither had dried it on the hob and snodded it up a bit wi' a wax-cloth back till't) an' took it up tae a poor sick chap he was in the habit o' visitin'. The chap had been at the Grammar School in the city but had come hame tae dee wi' the decline. His folk were fairly weel off and he had a lot o' books, but poor fella, he wasna very likely tae want them again—'cept the story books an' ither that didna need muckle studyin'.

"Weel when he saw Johnnie's eagerness tae learn French, he gave him his dictionary tae keep, and helped him tae pronounce some o' the queer fangled French soonds. He advised Johnnie first of all, however, if he wanted tae be a real scholar tae get a good grip o' the latin, as it wad help him mair than anything else tae a proper understanding o' English, French, or any ither o' the languages that are now spoken.

LANDMARKS
IN THE LIFE OF
JOHNNIE LUNDIE
"THE ALBERT MEDAL OF THE THIRD CLASS"
By JAMIE SOUTAR

Stories in the making of a great manhood from a poor start; told in the "Brandon Local," and elsewhere

"Johnnie took his advice. He was a fair glutton for books and he stuck tae the geometry and latin like a hero till his grannie declared he wad ruin her wi' the can'les he burned at nights. But his uncle Bob said: 'Nae fears, mither. I se get Johnnie a lamp fae Mistress Gibson, an' I'll pay for't mysel' and a' the licht he cares tae burn till he's able tae pay for his ain can'les.'

"Gosh lads it was grand tae see hoo that family o' hard workin' young folks clubbed the gither tae help that boy wi' his education. His uncle Bob determined they wad hae him tae college some day, an the ither agreed wi' him that it wadna be their fault if he didna get the best chance a man ever got at a University.

"He was gettin' five shillins a week frae Sandy Glegg at that time, and he reelegiously laid by a shillin' o' it in the Savins' Bank and paid in the rest to his mither.

"But John Melvin the wheelwright said that Johnnie was wastin' his time wi' Sandy Glegg. The mechanical instinct was born in him and John declared he could handle a jack plain nearly as weel as any o' of the auld hands in his employ. He was like a square cork in a round bung-hole, the wright said and there was nae doobt about it, he was fit for somethin' better than drivin' Sandy's nag an' sellin' 'n carrot and ingin' (onion) seeds tae the wives in pennyworths.

"Although the village was less than twenty miles frae the Granite Ceety, Johnnie never saw the big toon till he was fourteen years auld. His Uncle Bob (that was his mother's oldest brither, ye know) gae him the treat o' his life when he took him to see it on wan o' the days that the Channel Fleet lay in the roadstead.

"Ay sirs; that was a great day for Johnnie. Ye ken, boys, there's an awfu' quantity o' folk in this warld that gang about lookin' at things just like a bunch o' steers lookin' between the slats o' a box car on their way tae the stockyards. As the scripiter says: 'Eyes have they but they see not,' but Johnnie saw wi' baith'een, and when he became a boss, we thoct whyles that he had an optic nerve located somewhere about the back o' his head.

The sicht o' them great battleships made an awfu' impression on him and his Uncle Bob (he was an engine driver on the Great North) tell'd me he could hardly get him oot o' the engine room o' the 'Thunderer,' the biggest in the fleet at that time.

"The chief engineer heard the boy ask his uncle some questions

that struck him, and when he saw how keen the lad's interest was in the machinery, the good chap went tae the trouble o' castin' off the fine uniform he was wearin', pit on a suit o' overalls and took the pair o' them intae every hole and corner o' the engine room even through the shaft alleys.

"In the efternoon o' the same day, they saw a big steamer bein' built in Eslesmont's yard. She was intended for the Calcutta trade, and was the biggest craft by fifty feet keel that had ever left the stocks at Aberdeen. It was the day before the hydraulic rivetter, and the rivetter chaps wackin' away there in pairs fairly 'rivvetted' Johnnie tae the spot for a whole hour.

"As they were leaving the yard one o' the foreman that knew Bob hailed him and efter a freendly crack, asked Johnnie what he intended tae mak' o' himsel'. Johnnie said he wasna sure. His uncle told the foreman the story o' hoo the boy saved the geometry book fae the bonfire and that he had done nearly the whole of the problems with a set of instrument he (Bob) had given him.

"'Be an engineer, my boy,' said the foreman. Start at the bottom an' work up, and ye can begin here if ye like to-morrow mornin'.

"Goin' home in the train that night, Bob said Johnnie didna open his moo' for a lang time but at last woke up and said: 'Uncle, if mither will let me, I think I wad like tae be an engineer.' That was what Bob had been tryin' tae lead him up till fae the first, and (again in the langidge o' the scripiter) 'he rejoiced excedingly.' Its nae good tryin' tae drive young folks intae likein' a thing any more than ye can compel a mule wi' the mumps tae take an interest in his work.

"There's naething sae easy tae manage as the common bare-legged, back-yard boy if ye take the richt way wi' him; and there's not wan o' God's craiters sae thravn (obstinate) and impossible tae handle if ye try tae coerce him intae line wi' your ain pet notions or whims.

"It gives me a beelious attack, boys, everytime I see the way some o' the so called 'farmers' oot here deal wi' their boys and girls. 'Tae begin wi', thae auld hayseeds take nae mair interest in a book or a newspaper than a Hampshire hog wad take in an article on the 'Sow Thistle' that was thrown in wi' its meat.

"That's their misfortune maybe, and no their crime; but whether it is wan or the other, the effect is a' the same. The young folks have been accustomed tae look on the business o' the farm as if it were a species o' drudgery that

had tae be endured as a kind o' ancestral curse pronounced upon their forebears, and from which there was no escape on this side o' hell. I tell ye, sirs, that kind o' thing is hell itsel', and it might be made a real heaven's delight—and it is, thank the Lord, in many cases I know of, in this same Manitoba.

"I know a farm where there are five sons an' three daughters where the father (that left school tae earn his livin' in a coal pit when he was only ten year auld) grudges naethin' that money can buy in the way o' books or education—anything tae mak' his young folks tak' the same interest in the pigs an' the poultry, the geese and the gas-engine as they would in a baseball tournament or an afternoon at Buffalo Bill's. If he never had the help o' buiks himsel', he's determined that his bairns'll nae be hampered wi' his limitations. But there! I'm wanderin' fae my story.

"The end o't was that a week fae that day at the Channel Fleet (it was Monday) Johnnie started in tae heat rivets in Eslesmont's yard. It was a ten hour day, knockin' aff at twelve o'clock on Saturdays, unless they had tae work overtime; and although ye wad think that a boy o' his age wad be gie played oot by the end o' the day, Johnnie attended three nights a week at the Mechanic's Institute.

"He only got four shillins a week to begin with, and that wasna what ye wad ca' a princely stipend tae draw upon for meat, claes, lodgins and books, and an odd saxpence on rare occasions tae see a show. For a' that, he managed to save a bit because his folks at hame pieced him oot in a' sorts a' ways that they could.

"He paid eighteence a week for a wee bit garret he had frae a weedow woman at Footdee, near tae the yard. (And afore I forget last year when he was home for a holiday, what do ye think He paid a visit tae his auld haunts tae the same garret room where he did a' his ain washin' and cooked his ain breakfast an' supper, and pensioned that auld wife tae save her frae the poorhouse. The poor body grat (wept) like a bairn when the great big man stepped in tell'd her who he was, an' took her in his arms as if she had been his mither. An' that same woman is livin' the day nae less happy an' comfortable than oor Empress Queen.

"His mither sent him ait meal bannocks and odds and ends she could mak' hersel', and the rest o' the family a' sent some little thing in the box that went by the carrier every fortnicht—half a pund o' butter, a pot o' jam, jooks' (ducks) eggs that Johnnie preferred tae hen's onyday; and his Uncle Bob paid for his class fees and sent him an odd book as he needed it.

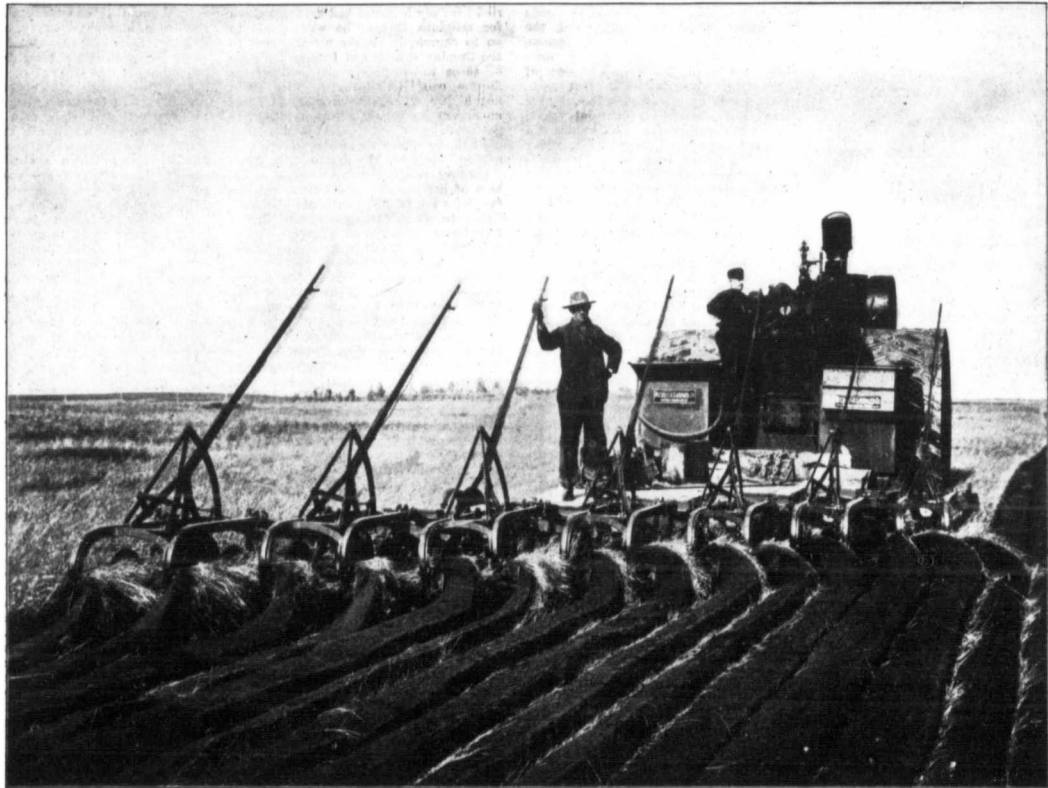
"'Boys will be boys' and Johnnie wasna ahind the rest o' them at a bit o' harmless fun, but when it came to doonricht mischief, Johnnie's horse sense—a kind o' retrainin' influence that was born in him—rose in revolt when it

A Deep Furrow

16 feet and 4 inches wide. Every mile of travel plowed practically two acres.

Easily Averaged 35 Acres Per Day

USING ONLY 1 1/2 TONS COAL



Nichols-Shepard 35-horse Double Cylinder Engine turning 14-inch furrows.

H. L. Fluke's Outfit, near Westport, South Dakota

Just as Good for Threshing

1/4-INCH BOILER SHEETS
DRIVING GEARS OF STEEL

SPUR DIFFERENTIAL GEAR
ROCKER GRATES

ALL CASTINGS SOLID STEEL
POWERFUL and STEADY RUNNING

Will Plow more and Thresh more and Thresh better than any other power—Steam or Gasoline. To thresh, the power must be ample, strong, steady and smooth-running. The Nichols-Shepard Double Cylinder Engine has no equal in these features. Don't bother with the weak, jerky and insufficient power of the incompetent steam engine or inexperienced gasoline engine to run your thresher. Get the Nichols-Shepard Double Cylinder and have ample power, insuring a good, strong, steady motion to your thresher.

THEN YOU CAN DO GOOD WORK

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



Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



A NEW LEAF.

Lord God, Thou testest the green things start

A new life every year;
Out of their sunken selves they rise,
Erect and sweet and clear.
Behold the lily's pure white leaves,
Unfolding by each mere.

Out of my own self let me rise,
For God, if it can be,
A new and noble growth may spring
From yon decaying tree,
Surely a strong, pure life may mount
Out of this life of me.

PECULIAR WIVES.

By Reverend J. L. Gordon.

A sermon was delivered last month in Winnipeg by Reverend J. L. Gordon, and I thought at the time that I should like every one of my readers to hear it. But, since they could not, I felt that it would indeed be a privilege if they could have the opportunity to read it. As I know Reverend J. L. Gordon to be a man who is always ready to lend a helping hand, I asked him if I might have the sermon to publish for my readers in this department, and he very kindly consented. I am sure it will help every woman who reads it.—Pearl Richmond Hamilton.

I presume that for all practical purposes the greatest science in the world is the domestic science. The science of housekeeping. The science of kettle, pots and pans. The science of parlor, sitting-room, and kitchen. The science of bringing up a family and keeping down expenses. To put it in a word, the science of making and keeping a happy home.

Scores of women have told me that one of the most difficult things in their experience is to get a good domestic—a good servant—a faithful worker in the home—who will blend skill, economy and good cheer—someone who will share with the queen of the house the burdens and responsibilities of daily life.

Considering how difficult it is to master the details of domestic science, is it not a marvel that so many young women, who have had little or no responsibility in the realm of home administration, when called upon to act in the capacity of wife and mother, measure up so well to all the duties and demands of their new relationship?

The happiness of a home depends upon a rare combination of good sense, good management and good cheer, which, of course, means that married people shall travel in the middle of the road; avoiding the extremes of life in character, conduct and all the affairs of mutual intercourse.

Seek for the golden mean of Christian moderation. Avoid the extremes of such eccentricities of character as passion, temper, needless criticism, personal selfishness, extravagance, undue anxiety and unchristian doubt.

In this discourse on "Peculiar Wives" I have selected extreme cases and illustrations, which, I trust, are unusual in the actual experience of those whom I am addressing; hoping by the twofold law of contrast and comparison to arouse the thoughtless, alarm the indifferent, and quicken the consciences of those who may be drifting dangerously near the Niagara of social and domestic trouble.

First, let me speak of the woman who has no practical idea of the value of a dollar. She has a notion that

money was made to be spent; and she spends it. She has no conception of the relationship which exists between the dollar which is coming and the dollar which is going. Madame Income and Mademoiselle Outgo never once shake hands in the drawing-room of her mental cogitation. Present need, as measured by personal desire, is the standard by which all financial transactions are measured. She knows but one art—the art of distribution. For every department in home life there is a financial leakage. Who will invent a cash register for this eccentric genius of the home circle? Even her husband's financial standing in the commercial world is not sufficient to arouse her to the need of care in the matter of household expenditure. Woe be to the man of moderate means whose wife is a poor financier. The best savings bank I know of for a young and growing family is an economical wife.

Second, I have a word for the woman who is economical after economy has ceased to be a virtue. I know of a woman who is wearing her life out to "save a farthing," and her husband is worth a quarter of a million dollars. She is just as much of a slave to-day as twenty years ago, when a dollar in her home was as scarce as a greenback on the average collection plate.

She is inspired with the same perpetual concern for the "fragments which remain." A piece of coal, a crumb of bread, a silver nite, an old garment, a worn-out rug—these inspire her soul with a religious anxiety. No rest, no composure, no relaxation, no enjoyment, no bodily ease or mental rest, to atone for all the long years of toil, grubbing and ceaseless care. Nothing but drudgery, needless drudgery. There is a time to save, a time to spend, a time to give and a time to relax and enjoy.

Third, let me speak a word to the woman who is careless in her conversation concerning the business affairs of her husband. She has no knowledge of the value of words. Do you desire, as a commercial competitor, to secure secret information about any particular department of her husband's business—here is the most direct route. She will tell you, if anybody will, and do it all too ignorantly of the fatal effect on her husband's affairs. The tick, tick, tick of the machine in the stock-broker's office is not more persistent than the cling-clang of her ever-rattling tongue. Said Gladstone, the young and rising statesman, to his wife: "Shall I tell you everything and you say nothing, or shall I tell you nothing and you say whatever you please?" She made a woman's choice, and Gladstone never had reason to regret the confidence reposed in his wife.

Fourth, I address myself to the woman who is so unwise as to laugh at her husband's enthusiasms. It may be his enthusiasms for books, for business, or legitimate sports, or photography, or fraternal organization, or, best of all, for religion. Enthusiasm is a sacred thing, too sacred to be sneered at. I like the man whose eye kindles with the fire which burns in his soul. Many a man's enthusiasms has saved him from not a few temptations. Have a regard for your hubby's hobby.

"I made the greatest mistake of my life," said a young married woman to me, whose husband had staggered into my church on a certain Sunday morning, and who, in his condition of intoxication, almost ventured into my pulpit—

"I made the greatest mistake of my life—it was in the first year of my married life; my husband had an enthusiasm for religious things; he wanted me to go to church, to prayer meeting and to the Sunday school, and I cared for none of these things." So she lost her influence over her husband. He could not highly regard the woman who had no regard for religion. So he began to go down.

Fifth, let me speak to the woman who attempts to force her own peculiar views regarding religion on the adult members of her family—albeit there may be few who are enough concerned about religion to make this mistake. Now, I like to see a religious woman. What is more beautiful than a woman whose soul is aflame with holy zeal? But religion is a sacred thing. In a very vital sense it is a personal thing. Religion must find its own expression in each individual life. I can't pray like you, and you would have small use for my methods of devotion. When I was a youth I could not talk freely with my parents on religious themes, and what they tried to say to me, directly, was more of an embarrassment than an inspiration, and I don't think I was worse than most young persons of my own age. If ever a father needed tact and a mother wisdom, it is here. I have heard parents talk to their children on the subject of religion in a way which would do me no good. A word in due season. A word fitly spoken. A look! A glance! A utterance. O, how powerful! If uttered in the right way and at the right moment.

I think one of the sweetest things I ever heard was a remark which fell from the lips of a friend who had married a woman who was a devout member of the Roman Catholic communion. I had preached a sermon on the subject, "Should a Protestant Marry a Catholic?" and they were both there. He said to me aside: "All I know, practically, about the Roman Catholic religion is what I see in the character of my wife," and, he added, "I think it is beautiful." You can recommend any religion that way. Let your religion be like the opening of a flower, beautiful in its bloom, and persuasive in the subtle atmosphere of its fragrance.

Sixth.—Let me offer a word of exhortation to the woman from whose lips there may always be heard the accents of a perpetual sigh. Upon her face is written the geography of universal trouble and infinite despair. On her mind she carries the burden of innumerable household vexations. The domestic is unkind—the stove will not burn—the telephone refuses to work—the children will not behave—neighbors are inconsiderate—the storekeeper 'always fails to send an order at the most embarrassing moment—and so the vexations of life increase more rapidly than the moments fly, and life becomes an unbearable burden.

This good woman may be glad to learn that her experience is in no way exceptional. The average successful business man finds that sort of thing in his everyday life, but he has reduced it to a science. What some people call Christian Science he calls Business Science. Call it what you please—it's the same thing. It's the science of taking hold of things, rather than permitting things to take hold of you. I believe in such science. And the people who need it most are the people who are well and strong and vigorous, with

more nerve force and brain vitality than they know what to do with.

O Woman! The incarnation of fret and fume, hurry and worry, concern and anxiety, fear and caution! I have a word for you. No sensible man can be indifferent to the attractiveness of a beautiful home. But a home may be too attractive for use and too beautiful for comfort. A sane man has small use for carpets which are too good to walk on, furniture which is too good to handle, rooms which are too good to occupy, books which are too beautiful to be read, and instrument of music which are too fine to be touched.

O, Woman! Listen to me! The color in your cheek is more fascinating than any beautiful design in yonder carpet. The light in your eye is sweeter than the glory of the morning sun creeping in through the fleecy clouds of well curtained windows. The laughter of your voice is more thrilling than all the silver notes of music that ever leaped from the keyboard of costly instrument—grand, square, or upright. The expression on your face means more than the most winsome portrait hung by the divinest artist on parlor wall. When your husband stood at the marriage altar it was to secure the prize of an helpmeet. He married you and not an accumulation of household hardware and drawing-room bric-a-brac.

Better than costly oil paintings, better than beautiful water color, better than Persian rug, better than flaming chandeliers, better than the scintillations of cut glass, better than the deep glow of rich mahogany, better than rare china, better than imported upholsteries, better than ten thousand things which sparkle and gleam—is the radiant face of a cheerful soul. The divinest creature in the world is the queen of the home circle, who picks up the little responsibilities of life and carries them laughingly through a world of mysterious drudgery. O, woman! Bring to the altar of your home the divine laughter and good cheer of a soul sweet with the mellowness of a serene and hopeful disposition.

Seventh, the last person I wish to speak of this evening is the strangest character which I have ever found in all the social experiences of my life, namely, the heartless woman. Here we have the form of beauty bereft of the glow and fire of love and sympathy. Eyes of glass, brow of brass, cheeks of marble, lips of ice, face of granite, and a breath colder than the chilling wind of the storm-swept prairie—a heartless woman.

When God wished to reveal His motherhood He created woman. I know that God is Love, for I have felt the touch of a mother's fond affection. The love she had for me made her kind to every mother's boy. And in the light of that love I have found a mystery, a paradox beyond the power of my soul to penetrate—an unsympathetic woman—a loveless woman—a heartless woman. No tear for the fallen, no sympathy for the unfortunate, no consideration for the weak, no compassion for the poor, no concern for the homeless, no anxiety for the suffering, no love for the wandering—a heartless woman. The faint regard and withered affection which she seems to possess for the members of her own family never dared the expanding breath of a larger sympathy. Write on her tombstone these words:

"Her Sympathy Was Never Known to Pass Beyond the Boundaries of Her Own Home."

News From Our Manitoba Home Economics Societies.

We appreciate very much the splendid letters that come to us from our women readers. Will the Saskatchewan and Alberta women kindly send me letters telling about the work they are doing in their agricultural societies? We can make this an interesting and helpful department. Our Manitoba women have sent in some helpful letters this month, and we are grateful for every one. A letter from Birtle, Manitoba, says:—

Dear Mrs. Hamilton,—I have enjoyed the woman's department in The Canadian Thresherman and Farmer. I have cut several good recipes and items from your paper, and have put them on file with others I have. My plan is to follow Miss Juniper's suggestion of cutting from all magazines any subject which will be of interest to our society, and paste them in scrap books for the use of the society in preparing papers for the meetings. The following are the magazines I am studying: Ladies' Home Journal, Woman's Home Companion, Farmers' Advocate, Nor'-West Farmer, and Canadian Thresherman and Farmer. I already have quite a collection. Our society was organized last November, and started with twenty members, and has been steadily increasing until now we have nearly sixty.

Very great interest is taken in all the meetings, and a large number of ladies are always present. As our society is still young, we do not confine our meetings to members only, but invite all interested.

On April 18 we purpose holding an open meeting, and invite the men to be present. At this meeting we will have a programme and a debate, the subject of which is, "Should Women be on the School Board?" Refreshments will be served at the close of the debate. I quite agree with you about the need of helping make work easier for the busy farmer's wife, also to give them more interest and pride in good house-keeping, which is the aim of the society.

I shall only be too pleased to send you reports of our meetings or papers that have been read if you think they are worth publishing. I will enclose a paper that was read at our last meeting.

I shall look forward to the hope that you will sometime in the near future come to Birtle and attend our meeting and become personally acquainted with each other.—Sincerely,

A Member of the Birtle Society.

I think the Birtle Society deserves great credit for the work they are doing. The plan of the debate is excellent, and the aim of the society—"more interest and pride in house-keeping," is certainly highly commendable. I shall be pleased to publish papers that are read at the meetings, as I feel that they are just what our women want. Thank you very sincerely for the invitation to visit your society. I may have an opportunity this summer to do so, as I want to meet personally more of our readers. I have a little four-year-old daughter, and my time and attention to her have prevented me from personally representing our woman's department of the Woman's Institute. I am planning to take her with me this summer, however, and hope to visit the different societies that have so kindly invited me.

I hope to hear from your society often.—Sincerely,

Pearl Richmond Hamilton.

Report of the Manitou Home Economics Society, as sent in by the Sec.-Treas., Mrs. W. J. Rowe.

This Society was organized Nov. 30, 1910, with the following officers in charge:—President, Mrs. G. H. Brown; vice-president, Mrs. C. MacNamara; sec.-treas., Mrs. W. J. Rowe; directors—Mrs. A. Swanson, Mrs. (Dr.) MacCharles, Mrs. R. R. MacFavish, Mrs. J. Tait. Meetings are held third Saturday in each month in Normal School building. The membership is large, and a keen interest is taken by all the members of the society. The Normal class in session here at the present time attended our March meeting in a body.

A programme committee see that every meeting is made interesting and worth the coming to, and all subjects pertaining to the home are discussed. At the April meeting house-cleaning and gardening are the subjects to be taken up.

Although organized such a short time, we already have lost one member through death in the person of Mrs. J. Huston, who was the first white woman in the old town of Manitou. She had lived here for twenty-nine years.

When the Minister and Deputy-Minister of Education visited here a few days ago, a deputation of home economics women waited upon them, asking that domestic science be taught in our Normal School at Manitou, also that a technical school be established in our midst. So interested did the delegation seem to be in the betterment of school conditions in their midst that the Education Department immediately sent several books bearing on the work for the use of the society.

Papers have been given on the following subjects—Meat curing, St. Valentine's Day, home-making and house-keeping, bread-making, and Easter thoughts.

Refreshments—home-made confectionery—are served at an intermission of ten minutes, which takes place after the business part of the programme and before the papers are read, and discussions take place. This is to promote a social feeling and also to give members a chance to become acquainted. I am sure this report will be read with great interest. The Manitou Home Economics Society has the largest membership in Manitoba, and we are anxious to hear from them every month. I wish we might have some of the papers to publish in this department; I should like the one on gardening. P. R. H.

A letter from a member of the Minnesota Society expresses appreciation for the privilege of referring difficulties to our department. I hope to receive reports from their society, as I learn it is in a prosperous condition.

One of the Headingly members writes me that she will send us good papers that are read at their meetings. I shall be pleased to receive them.

The influence of the Carman society is far-reaching, and promises splendid results. One member writes me that they are deeply grateful for the interest the different magazines are taking in the work of the newly formed societies. She furthermore states: "To those who, like myself, feel responsible in a measure for the progress of this undertaking, your kindly offer of assistance is very greatly appreciated. I think we shall avail ourselves of your willingness to help us through the pages of the Canadian Thresherman and Farmer; and we also ask you to address one of our meetings in the future if you could arrange to do so.

I will arrange with one of our members to send items of interest for publication in your journal."

I wish to remain, yours very truly,

A Member of the Carman Society.

I shall be pleased to receive all items of interest from your society, and hope to arrange my time so that I may address your society some time this summer.—P. R. H.

From Morris we have this letter:—

Dear Mrs. Hamilton,—Thank you very much for your kind offer of assistance through your department. I have enjoyed reading the copies of the Thresherman very much. Will send you reports of our meetings, also any other information that I think would be interesting to you from time to time. Hope to have the pleasure of seeing you at some of our meetings. The usual monthly meeting of the Home Economic Society was held in the County Court Hall, Morris, on the 18th ult. There was a good attendance, and five new members were received. A paper on The Ideal Wife, by Mrs. Graham, was read by her sister, Mrs. A. G. Swain, and was much appreciated by all. The paper given by Mrs. McClung at the Household Science Convention at Winnipeg on The Importance of Social Life in a Country Neighbourhood was read by Mrs. Lewis and was much enjoyed by those present. The society intend

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Signed by one of the Members of the Morris Society.
I trust I may attend one of your meetings. Thank you very much for your report.—P. R. H.

Morden.

Poultry and gardening will be discussed at the next Morden meeting.

The membership of the Morden Home Economic Society is steadily increasing, and the meetings are largely attended.

"Hints and Helps on House-cleaning" was the subject of the paper read at the April meeting, followed by a general discussion, in which many practical hints were exchanged. Mrs. Ching, who has had a vacuum cleaner for over a year now, gave an interesting talk on the great labor and time-saving properties of the machine, which was followed by a practical demonstration given by Mr. Spencer, agent for the "See-saw" vacuum cleaner. This was very much appreciated by the ladies present, as few of them had ever had the opportunity to see a vacuum cleaner being used. The general opinion was that with such a help within reach house-cleaning would cease to be the bug-bear it is in many homes.

At the May meeting, poultry and gardening will be discussed. Papers on talks on the care and management of turkeys, ducks, and chickens will be given by members who have been particularly successful along these lines, also a paper on home gardening will be given.

R. Lloyd, Secretary, Morden H.E.S.

This report is instructive, because it is full of suggestive ideas. I wish we might hear from the Morden Society every month.—P. R. H.

I have here a letter that I know will help many readers. I had heard of the very excellent butter this lady makes, and last winter I was pleased to meet her personally and ask her to write a letter to our department, letting our readers into the secret of the art of butter-making—for it is an art that is an accomplishment in every sense of the word. Last week she sent me this very interesting and helpful letter, and I feel greatly indebted to her.

A Few Hints on Good Butter-Making.
A number of people will say that they can eat almost any kind of butter, but I think that to relish a meal you must have good butter.

One of the first essentials to good butter-making is to thoroughly cleanse all your utensils, no matter how small they are. When we lived on the farm we used to keep about five or six cows, milking all year, which I think was a very good idea, because then you have about the same amount of butter all the time.

With the cream from that number of cows, I churned in the summer time as often as four times a week, and in the winter about three times. I never put warm cream into cold cream; I never really knew the reason why I should not, but it seemed to me that the two should be an even temperature. For example, suppose I churned on Saturday, then there would be Saturday's cream and Sunday morning's cream. I would mix them Sunday night, after so doing I would have an ordinary creamer full of cream, which I would churn Monday morning. In the summer I always kept the cream in a tank, into which we put fresh water twice a day, and also kept the tank in the shade.

In the winter I kept it in the cellar with cheese cotton over the can, to keep any foreign matter from the cream.

When preparing the churn (of course, it had been left clean from last churning), I would first scald it out and then give it a good dash of water right from the well. I always strained the cream through cheese cloth, and if there happened to be any milk in the cream it, of course, was sour, and in the straining it would be caught, and anything else that might have been in the cream was taken out in the same way.

I tested the cream with an ordinary dairy thermometer, and would in the summer time get the butter to come in twenty minutes with a temperature of about fifty-two or four; and in the win-

ter about sixty-two or four; but I churned about half an hour generally in the winter time. When I stopped churning, the butter was in rather large lumps. After the butter came, I drained all the butter milk off, and this is where it seems to me a number of people fail—that is in washing the butter. I used no less than seven waters anyway, and then I would have a good pailful of water each time and strain it into the churn (for I always washed it in the churn). I just mixed it well in the water until it was free from butter milk.

When I drained off the last water, which had to be clear, I put it into the dish and salted it right away. I generally had between eight and ten pounds from that amount of cream, and to that many pounds of butter I would put an ordinary tea cupful of fine butter salt. I mixed the salt thoroughly through the butter and then set it where it was not too cold until the next morning or afternoon, and then thoroughly mixed all the streaks out of it and made it into pound prints, which I wrapped in parchment paper. The butter was then ready for use.

The reason I let the butter stand a day before printing it was to dissolve the salt; most people print it as soon as they put salt into it. I do not consider that right, for it stands to reason that the salt has not time to dissolve, and the flavour of the butter is lost; it also makes butter streaky, and the salt will nearly always be on the outside in a day or so.

I must not forget to say that after I salted the butter I immediately washed and cleaned the churn and scalded it; it was then ready for use next time. Quite often in saving butter milk people leave it in the churn, and that certainly sours the churn, and they can't help but make bad butter. Do not go away with the idea that I had a dairy to work in, for I just had the ordinary utensils essential to good butter-making, and especially lots of good water about one hundred yards from the house.

SYSTEMATIZED HOUSEKEEPING.

Read by Mrs. Wheatley before the Birtle, Manitoba, Society.

This is really a very comprehensive subject, and can hardly be fairly or intelligently treated in one short paper. Let us look at the subject as it stands for a moment. Systematized house-keeping—what is system? One authority says:—A combination or assemblage of things adjusted into a regular and connected whole, a number of things or parts so connected and arranged as to make one complex thing; things connected according to a scheme; and the same authority tells us a scheme is a combination of various things into one view, design, or purpose—a plan. What is a housekeeper? One who keeps or guards a house, one having the management of domestic affairs, the care of a household. Now, housekeeping may be by some considered as a very commonplace thing, but can the importance of commonplace duties be over-estimated when we consider that ordinary or commonplace circumstances form the framework of our existence? And as it is just the manner in which we perform these commonplace duties which makes the world a comfortable, pleasant place or otherwise, they form at once the discipline and true test of our character and nature. One feels instinctively on entering a house the home atmosphere, be it pleasant and refreshing, or otherwise. If the house mother is worn out with her many duties, too often in this new country of ours being mother, nurse, and housemaid all in one, she cannot give the same attention to detail in her work as though she had only one branch of the work to do. It is hardly conceivable how many busy housewives "get along" as best they can without the many modern devices and helps of various kinds which make housework endurable to the women of refinement and small physical strength, who still must do their own housework without the assistance of a permanent maid. Many times it is a matter of so-called economy, very doubtful economy indeed, which saves the pocket-book at the expense of physical health. Every

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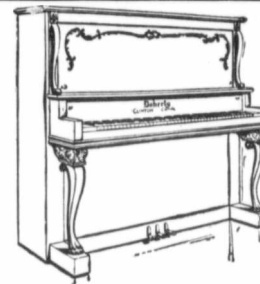
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little convenience which saves the housewife and mother time and strength for her family and for a little personal rest and recreation should be welcomed, and not looked upon as a kitchen extravagance. What is usually designated as kitchen work is gone through by the conscientious woman as a necessary if somewhat disagreeable duty. It is shirked, whenever possible, by the careless and inconsiderate and left altogether to the hired help whenever chance or fortune allows. Some women—the mistaken—say nothing, but think it rather lowering and don't like to be caught doing it; others—both mistaken and foolish—loudly call it dirty work. To the first might be asked: Which is more lowering or deteriorating to the character, the actual doing of the work or the doing it in a grudging, must-be-done, martyred sort of spirit? Again, how can making things around us sweet and clean be called dirty work? So long as there are women who so stigmatize the work of making the house beautiful, so long may we expect the unsatisfactory hired help which we at present experience or hear so much about. Domestic work must first be held in higher honor before we can hope that a woman working for a wage will take it up with her whole heart or as other than a last resort. Having to turn out the pots and pans, to use a common household phrase, is not a pleasant thing, but this is the work of mismanagement or want of resolution, and need never be. The great thing is to prevent the work from accumulating, and unless under special or unusual household conditions it need not accumulate. Cleaning a pot thoroughly outside and in every time it is used may seem superfluous, but it is the only way to avoid that big turn-out which is a good way for upsetting the comfortable routine of a household for the whole day. There are so many little things which must be done each day that are necessary for the welfare and comfort of the family, and which do not make any showing until they are left undone, that it is difficult to enumerate the duties falling to the lot of the one in charge. However, separate days for different parts of the work, and as much as possible the same work each week on the same day will do much to simplify matters. In the matter of the laundry work for the family, it is a great help to have separate laundry bags for each bedroom, and a little training will ensure the laundry being at one's hand instead of having to hunt up each individual's belongings. The careful folding of the clean clothes will do more to facilitate the ease of the ironing than those who do not give much heed to this part of the work would realize. A good plan is to have one's work basket at hand when folding the clothes, and missing buttons and small rents could then be attended to, as the separate articles of clothing each and all pass through one's hands at this time. If the meals are arranged for so that the work is not interrupted at inconvenient stages, it will save both time and temper, as having to stop in the middle of ironing some large, complicated article of dress and running the risk of its drying too much, while the potatoes are made ready or a pudding put together, is not conducive either to good temper or good morals. In the matter of house-cleaning it is a much better plan to so arrange one's weekly cleanings that every room in the house is gone over thoroughly once a month than that the whole house should be only superficially gone over each week and everything left for the usual spring and fall cleanings. This is really a good deal easier than it looks at first sight if a regular system is adopted. It really does not take very long to wipe the backs of the pictures as well as the fronts when dusting a room, and while the picture is in one's hand a clean cloth soon takes all the dust off the wall behind it, and the paper looks so much fresher and lasts so much longer for this treatment that one will soon find it pays in the always fresh look of their rooms. If the rooms are large and contain a lot of pictures and ornaments, and one finds reaching up tiring, do only two walls one week, and some other rooms in the house which do not need so much done to them for that

week's work, and you will soon find that the work is easier for being done regularly and often. No woman is doing her duty to herself, her husband, or the children God has given her, if she does not give a little time each day to the improvement of her mind. Nothing can be more humiliating to a man than to find that his wife—the mistress of his house and mother of his children—cannot hold any intelligent conversation with friends he may bring to his home on the topics of the day or any subjects that might arise in ordinary conversation, and it must be a great grief to a mother not to be able to help her children in the simplest matters of school work.

This may seem to be quite aside from the subject in hand, but it all means that just as we arrange our work badly or well, just so much or so little time can we devote to ourselves, and let it be remembered that those who have time for a little recreation, be it reading, writing, music, or any other pleasure, will longer keep their youth of mind and body, and consequently longer be of use practically and socially in the communities in which they live.

Hints and Helps on House-cleaning.

Read at the April meeting of the Morden Society. (The name of the writer was not sent with the paper.)

House-cleaning time is drawing on. Some of our neighbors are already beginning to groan about it, and some husbands are talking of taking business trips that will be necessary about that time. Husbands seem to think house-cleaning a joke until it is right on to them, and then they are usually in bad humor until the passion for cleanliness on the part of their wives is past.

The wives know it is no joke, and they have to stagger along under the work and discomfort of it. Now, in the present day, it does not seem to me that house-cleaning needs to be the bogey it is. I cannot see how a house should get so frightfully dirty if kept reasonably clean during the year, nor any particular reason for putting the piano on the porch for a spell, eating meals from the mantelpiece, leaving pails of water in places where you are sure to fall over them, and not being able to find anything you want. Cellars, of course, have to be white-washed occasionally, bureau drawers and closets turned out and cleaned, but I cannot see any special reason for compressing the work into a few certain days.

Now, it seems to me that rugs and vacuum cleaners and the elimination of bric-a-brac are death-blows to the house-cleaning bogey.

The vacuum cleaner appears to be one of the greatest aids. Some people say they cannot afford one, but would not some of these labor and time-saving house-cleaning helps be of more value to them than a fifteen-dollar plume on their hat or yards and yards of embroidery on their petticoats? To be sure, many people prefer plumes to vacuum cleaners, but, with labor-saving helps and the money furnished in modern sanitary style, house-cleaning would no longer be the burden it is to many of us. Cold air registers are no doubt receptacles for dust to collect during the summer. A good plan is to cut pieces of cardboard the proper size and put them in the registers; they can be easily moved and dusted frequently. It is a great mistake to keep your heavy portiers and curtains up during the summer. Nowadays there are many pretty and inexpensive fabrics to take their places. An excellent plan is to keep one or two pairs of extra bedroom curtains on hand. By this means a room can be quickly freshened up when required. Do not, I beg you, shut out the sunlight from your room. If it fades your paper a little, or perhaps takes "the new look" off your parlor, one can buy new furniture, but one cannot buy health, and sunshine means health.

Sometimes one wonders where is the best place to commence our house-cleaning. Some say the attic, others the cellar. We think the cellar the most essential part to begin with, then the kitchen. It is a most comforting feeling to survey everything bright and shining in the kitchen, and we are sure if you try this plan you will not return

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32



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WINNIPEG, MAN.

IT REQUIRES AN

ALARM CLOCK

To attract the attention of some—
there are others who hear a

DOLLAR BILL DROP

If you are among the latter class and therefore capable of appreciating a proposition that will drop DOLLARS into your pocket while you sleep, get our information on shipping cream and eggs. We are waiting to send it to you.

The Brandon Creamery & Supply Co., Ltd.

"The Old Reliable"

BOX 1023 - BRANDON, MAN.

Don't Forget That Renewal.

WHEN YOU SEND IT IN, GIVE US YOUR GAS ENGINE
TROUBLES ALSO

to the old plan of leaving the kitchen to the last, so many do. Next ascend to the attic, so as not to have a second moving of articles to be stored away—washing the floors with turpentine is most sanitary and helps to keep away moths, which is necessary, as the winter furs and other things are usually stored in the attic.

Let us recommend everyone to use dust bane. A little scattered on the floor keeps all dust and fluff from rising. A sense of humor is a valuable asset for a woman to possess during house-cleaning if she wishes to keep her hair from turning grey. Let's change that "all-tired-out" look for a smile, and enjoy a comfortable home with happy faces around.

A Dower Law.

Dear Editor,—“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. Show your tender good to make a real helpmate.” The lady who wrote this has a far insight into men's nature, and how to overcome men by gentle, womanly ways. How different is “A Lover of Rights,” who counsels getting her “rights by fair means or foul—the lion's share she has made!” Give me the lady of gentle nature; such have little need of a dower law, for the husband will try to be as good as his wife, and is often “made” by her.

All the letters make a general attack on men all round, as though the good husbands were all gone. They say: “Men give nothing but unkindness and abuse for a woman's work. They give no money, and cut her off at death. I confess I think farmers are (except odd cases) considerate and generous to the wife. “A Lover of Rights” says: “If the family and wife had a right by law to what they earn, only a small share would be left to the farmer.” “A Farmer's Wife” says: “Women earn most of what the farm makes.” It must follow the farmer has an easy, soft snap. I think of plowing, harrowing, etc., on icy cold, chilly days, there days when dust and grit blow into eyes, ears, and mouth, these days, scorching, enervating in the overpowering sun, mosquitoes, flying ants, no water to drink, stooking hay, harvest time—but, no, these women blind their eyes to man's hard work, difficulties, and hardships in winter exposure. If “A Farmer's Wife” says “farmers are all pretty well off,” she must live in a wealthy spot, for the average farmer has a severe struggle to get along and make ends meet. I live in a long settled district. The worst of it is, few wives understand business or can look at things from a business standpoint, and it is difficult to teach them. I know women who claim they should have half of all the farm makes, say they are equal partners, though they bring nothing at marriage, but are full of “rights” after it. Happy is the man who has a reasonable, contented wife, who has some knowledge of business principles.

We know a servant girl gets paid, but the man does not find her pocket-money, clothing, pay doctors' bills, railway fares and the rest. Nor does he leave her a goodly portion of his farm and property. But “Women's Rights” forget the differences. The wife does not buy the farm, provide house and furniture, the horses, stock, implements, and the living for two assured. Yet the women writers claim they make the greater half of what there is, and therefore men should not sell anything without taking the wife with him to sign and consent, as though he were a kid under age or incompetent, unable to manage his affairs without her, and his own property, too, before his marriage, when he was free to handle it as he thought best.

The law now gives a wife the right to own and fully control her own property she had on her marriage. Also, if a man dies without a will, the wife and children get his all. The women are writing wholly in ignorance that in Saskatchewan and Alberta the law gives the wife one-third of all the farmer is worth if he wills her nothing or less than a third. Surely this is a

dower law. But women (some) want to control the whole of a man's property from the time of marrying him. I let my wife manage her own business in her own way. Why should she want to interfere and control me in mine, when I am doing the best possible for all the family—not the wife alone?

I know men who tear out any pages with women's dower letters, in the mail, because it starts the wife's discontent, hot tongue, and nagging. We farmers are joined in grain-growers' associations because we are fighting against high tariffs, combines and trusts, excessive railway freights, grain manipulations, and many other things that rob us of our hard earned money. And wife and growing children worry the poor beggar, too, to get out of him the last cent. We had a severe drought last year, and scant crops, with unpaid store and implement bills, and dunning letters to keep him awake nights. We are likely to get nearer the truth by

Another View.

MOTHER'S CORNER

A Great-Grandmother.

The best of all is this:—
A happy mind that dreams of work well done,
Of life, of flowers, of children, of the peace
That comes too soon and not too soon.

A little girl said to her mother the other night: “Mother, I don't know how God made you so nice.” She saw God in her mother because she loved her—she had learned the lesson that many older people have not learned—that God is Love.

One of our magazines very justly takes up the cause of “father.” Several times I have tried to give some words of praise for “father.” I give here a few quotations from the letters in the above-mentioned magazine:—
“I have known the depths of a father, and am sure that its parental love is as pure and devoted as that of a mother.”

“There are fathers just as noble and self-sacrificing as the mothers, and perhaps the number would be increased if they received a little more praise and appreciation from the family circle. Give him a few flowers while living, in the form of kind words. Watch his face light up with pleasure when you speak. A kiss on the forehead will often do wonders. I wish I could tell you what I know some good fathers have done right here in my home town.”

I know many splendid men who deserve unending praise, but who are simply taken for granted without a word of praise.” E. M. G.

“I have always contended, in my 26 years of married life, that there are thousands and thousands of men who are not appreciated. Talk about ‘flame-enveloped martyrs,’ compared to a man with a selfish, complaining, never satisfied, nagging wife! There are thousands of just such wives. In my own observation I have seen just as many, if not more, patient, unselfish men, as women. When I would speak of it (to a woman, of course) she would say, ‘Never disparage your own sex.’ All right; but don't wait until the men are gone and then say, as one old lady I know did: ‘I had three of the best men I ever lived.’ They are all that, after it is too late for them to hear it.” Mrs. M. F. H.

Next month I will give a few helps on “Baby's Teething Time.” There is not enough space this time.

A Lover of Birds.

I saw a lady kneeling
To take the heavenly bread,
With twenty cruel egrets
Upon her thoughtless head.

The verse about the sparrows
She had not lately read,
But, “All ye fowls, bless ye the Lord,”
She most devoutly said.



Grow Flax for MONEY

Flax to-day possesses potentialities for advancing the farmer's position greater than any other crop. Flax seeding season extends from middle of May to middle of June and later.

Flax responds to good cultivation equal to any and gives paying returns on “fresh breaking” where another crop would fail.

Flax harvesting is the simplest and least expensive of any crop.

Flax sowing requires about half a bushel per acre, which at the most is not expensive.

Flax prospects are for returns next Fall realising from \$20.00 to \$40.00 per acre.

Flax, May Make or Flax May Break, depending largely on the seed you sow.

Freedom from Weeds is the first consideration in selecting seed.

Freedom from Weeds, Purity and Good Germination our “Paragon” brand of Flax is the finest obtainable in the west to-day. We have examined critically over 100 lots of flax offered for seed this season and none approach our “Paragon” brand.

It will save your present farm and help to buy you another. Price \$3.75 per bushel, including bags.

If you want lower priced Flax we can supply it. Outside of our “Paragon” brand it is equal to any lots offered to-day. Write us for the price.



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BROME GRASS—(Bromus Inermis) the surest grass for all conditions of the West. moist or dry, light or heavy soil, cold or heat, yielding heavy crops for hay, affording early and late pasture, and filling the land with root growth, so essential, especially on light or long-worked soils, for succeeding grain crops. It has a fault, being somewhat hard to get out of the ground, when firmly established. This however, can be overcome by ordinary, proper methods. Our stock is choice, being grown in Saskatchewan by most reliable parties. Sow 14 to 15 lbs. per acre. Price for best seed \$14.00 per 100 lbs., bag included.

WESTERN RYE GRASS—Native of our Western Prairies—many growers prefer it. Makes good hay. Price, Fancy seed \$16.25 per 100 lbs., bag included.

TIMOTHY—Medium and low grades are plentiful enough this season, but really choice lots were never before so scarce. Our “Marten” grade is the best in every way. Price, \$15.00 per 100 lbs., bag included.

DWARF ESSEX RAPE—Pasture for cattle, sheep and swine. A good crop will furnish at least 12 tons of green feed and its nutritive value is nearly twice that of clover per acre. Our stock is the True Dwarf Essex Rape. Price: 1 lb., 16c.; 4 lb., 60c.; postpaid; 10 lbs., \$1.00; 25 lbs., and over, 9c. per lb., by express or freight at customer's expense. Railways give half rates on grain and grasses to the grower.

Free to Customers:

- Booklet 1—“Alfalfa and How to Grow It.”
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- Booklet 5—“How to Grow Sweet Peas.”
- Booklet 6—“Lawns—How to Build, Repair and Maintain.”
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(This last by a Minnesota Authority.)

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SELECTED, TESTED SEEDS FOR WESTERN CANADA.

Write us and mention this paper.



Steele, Briggs Seed Co.
WINNIPEG.

RECIPES

Raisin Brown Bread.—Mix three cupfuls of yellow corn meal with one and one-half cupfuls of graham flour, one and one-half cupfuls of white flour, and one cupful of New Orleans molasses. Add one teaspoonful of soda dissolved in one-half cupful of warm water, one teaspoonful of salt, and enough sour milk to make a soft batter. Mix flour and salt, then molasses with the soda, stir until foamy, then add milk and one and one-half cupfuls of raisins. Fill mold half full and steam three hours.

A Delicious Pudding.—Mix together one cupful each of molasses and yellow corn meal. Pour over one quart of boiling milk, one-half cup butter, one level teaspoon of salt, cinnamon and ginger. Let the batter become quite cold, then turn into a buttered dish, pour over top one pint of cold milk. Do not stir the milk into the pudding, bake slowly three hours, serve warm with whipped cream.

Scalloped Corn.—Butter the bottom of a pudding dish, then put in a layer of corn, then a layer of biscuit crumbs, salt, pepper and butter, then a layer of corn, followed by a layer of biscuit crumbs, salt, pepper and butter. Pour over all nearly a half-pint of milk, and let set an hour. Then bake in oven a half-hour till top is brown like custard. This takes a can of corn.

Chocolate Pie.—One and one-half cups milk, two eggs, three-fourths cup sugar, one-third cup (scant) Baker's chocolate (melted), two tablespoons corn starch. Heat milk, sugar, and chocolate, when hot, add corn starch mixed with a little cold milk, then add well-beaten yolks of eggs; boil until thick. Bake crust first, then pour in chocolate. Beat the whites of eggs for the top, and just brown in a quick oven.

Lemon Pie.—One cup sugar, yolks of two eggs, butter size of a hickory nut, one cup water, one and one-half tablespoons corn starch, grated rind and juice of one lemon, cream, butter and sugar; add eggs and water, and boil; then add corn starch and lemon. Bake with one crust. Beat whites of eggs with one-fourth cup of sugar spread over top of pie when nearly baked, then set back in oven to brown.

A Flower Salad.—A pretty salad is made of lettuce, radishes, and small onions. I cut the lettuce into shreds and put in a dish, then I cut down in the upper part of the radishes through the centre three times, making the radishes look like tulips. Then I put in the centre of each radish a tiny part of the white part of the little green onions, making the centre of the onion higher than the radish. The radishes with the centres of onions look very much like tulips, as they are placed in the bed of shredded lettuce. Put a little salad dressing over the green.

Salad Dressing.—One tablespoonful mustard, 1 teaspoonful salt, ¼ teaspoonful cayenne pepper, ¼ cup vinegar, ¼ cup water, 1 tablespoonful sugar, mixed together; 3 eggs, ¼ cup of cream or milk. When on stove, add 3 teaspoonfuls butter. Cook till like cream.

Ginger Nuts.—Use one cup molasses, one-half cup brown sugar, one-quarter cup lard, one-half cup sour milk and one teaspoon ginger. Mix very soft, form into half the size of nuts, and bake in a quick oven.

Cinnamon Cookies.—Mix one cup of butter and two cups of brown sugar. Add three beaten eggs and flour enough to make a soft dough. Roll out, cut into small cakes, sprinkle with cinnamon and sugar, and bake in a quick oven.

Salmon Loaf.—Mince one can of salmon, add 1 cup stale bread crumbs, 2 beaten eggs, ½ cup milk, season to taste with salt, pepper, parsley and lemon

juice. Put in a mold and steam or bake 30 minutes. Serve hot with white sauce.

EXPERIENCE EXTRACTS

Boiled milk is good for chicks and will help bowel trouble.

Milk is a great poultry feed. That's why the dairy hen is such a profitable one.

To remove spots on table caused by hot dishes or steam, take a woollen cloth dampened with wood alcohol, then polish with a soft dry cloth.

Planting Tomatoes.

Don't be in too big a hurry about getting them out while small. Get them big and long, dig your hole large and long enough, lay the long stem down leaving only a small top out, say two or three inches, cover the long stem with fine, mellow soil. Don't squeeze bad, wet dirt on them, better have it too dry and pour a sufficient amount of water on. Don't pack but cover this with dry soil. This long body and root in the wet unpacked soil will take care of the top. The whole stem under the ground will take on roots in abundance and push out a strong thrifty fruit bearing top. The more roots the better. Don't wait for it to vine but wait for the plant to get long. Don't set the plant upright and then hill around it so as to make it look like an inverted funnel but try it both ways this year and next year you will try it my way.

Honey for Cancer.

A writer in the American Bee Journal has the following to say of the virtues of the delicious food product:

"A farmer had contracted blood poison from helping lay out a friend, and, after two years' treatment, had been given up to die by doctors and friends, and had made his will. Honey harvest had been unusually heavy that year and he noticed that as soon as he began eating it he began to improve, and in a few weeks the symptoms disappeared and have never returned. Since then he has cured three very bad cases of cancer, two of blood poisoning, one extremely bad case resulting from vaccination, one of eczema and one of eruptions on the face.

"The honey should be strained, as the virtue is in the nectar, and taken very moderately at first, taking a tablespoonful only three times a day, gradually increasing until as much as a gill can be taken at a meal with impunity. Every one afflicted with cancer or blood disease of any kind should give the remedy a fair trial, as it is cheap, safe and sure. For many years they have been trying to find a remedy for cancer. Here it is; give it a trial and be convinced.

"A certain doctor to whom I gave the remedy free, asking only that he make public the discovery, has been planning to coin millions out of the afflicted people's pockets. I want every one to know and use it free. It is Nature's medicine."

"Who gave the bride away?"
"Her little brother. He stood up right in the middle of the ceremony and yelled: 'Hurrah, Fanny, you've got him at last!'"

He was an observant little chap.
"Pa," he said, "Uncle Joe is going to be married Friday, isn't he?"

"Yes, son. Uncle Joe has only three more days to wait."

The little boy sighed.
"The last three days," he said, "they give them everything to eat they ask for, don't they, pa?"

Mrs. McSosh—Do you mean to tell me, sir, that you were sober when you came home last night?

Mr. McSosh—Absolutely, my dear.
Mrs. McSosh—Then will you explain why you filled the refrigerator with coal and put six shovelfuls of ice in the furnace?

It Is For You To Say



Try Blue Ribbon once. Then it is for you to say if you will use it after that. If you find that it is not superior to the tea you have been using you may take the packet back and your money will be refunded. But we know you will like it.

GOOD BREAD
GOOD CAKES
GOOD PIES

Everything on baking day supremely
GOOD—always—if you always use

FOR PIES



FIVE ROSES
FLOUR

"UNBLEACHED
YET WHITE AS SNOW"

FOR BREAD

FOR CAKES

Good conscientious housewives with the highest ideals as to purity in the food they serve, use only FIVE ROSES FLOUR

BETTER BREAD
BETTER CAKES
BETTER PIES

Never a criticism if you always use FIVE ROSES FLOUR
LAKE OF THE WOODS MILLING CO., LTD.



W. H. SHAW, Pres.

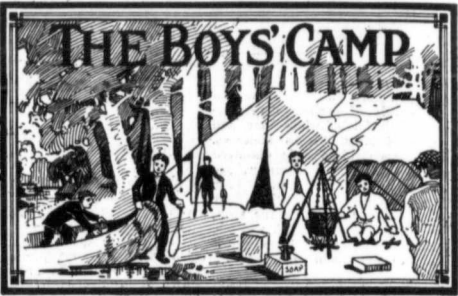
What About Home Study?

Have you any spare time? If so, why not use it for self improvement and for winning promotion. We can provide useful practical courses for very little money. If interested in getting into line for a good salary and for better things write us at once. Address W. H. Shaw, President.

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391 YOUNG ST., TORONTO



College Building.



THE Girls' Cozy Corner

Twenty Times a Day.
 Twenty times a day, dear,
 Your mother thinks about you,
 At school, or else at play,
 She's busy in the kitchen,
 Or she's busy up the stair;
 But like a song her heart within,
 Her love for you is there.

There's just a little thing, dear,
 She wishes you would do,
 I'll whisper, 'tis a secret;
 Now, mind, I'll tell it you:
 Twenty times a day, dear,
 And more I have heard you say,
 "I'm coming in a minute."
 When you should at once obey—

At once, as soldiers instant
 At the motion of command;
 At once as sailors seeing
 The captain's warning hand.
 You could make the mother happy
 By minding in that way,
 Twenty times a day, dear,
 Twenty times a day.
 —Margaret E. Sangster.

PRIZE LETTER.

Tompkins, Sask.
 Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. I am twelve years old the 13th of July. I am in the fourth book at school, and my teacher's name is Miss Bailey. I have a nice little canary bird which I got a year ago for Christmas. I have three sisters and three brothers. One sister is married. My youngest brother often goes out hunting rabbits. He has a Billy goat. It often gives us rides. I must tell you about when we were down at Pense; we had to go five miles to school. One day when we had gone about a quarter of a mile, we saw ten objects moving about ahead of us. As we came closer we saw that they were wolves. As my two brothers were with us they jumped out of the sleigh and ran home for ponies. After running about three miles they caught four of them, took them home, skinned them, and sold their hides. Well, I will tell you how to play a game called "Pigeon." One person tells the rest that if she named one of them "Pigeon" she has to run out of the house before the rest catches her. Of course, the one who names them, names them all "Pigeon," and they will all be trying to get out of the house at once. I will say good-bye, wishing to see my letter in print. How is Cousin Doris's little girl? I remain, a girl of the Cozy Corner, Lillian McEwan Thomson.

My little girl is well and happy, Lillian, I thank you for asking about her. She plays with her dolls while I write the Woman's Department and the Boys and Girls' Department. She likes to see me bake or work about the house, but she does not like to see me write, because she cannot talk to me then. Is she not a funny little girl?—C. D.

Blooming Prairie, Alta, Feb. 23, 1911.
 Dear Cousin Doris:—Please let me come to your Cozy Corner and chat awhile. We started only a while ago

to take the Canadian Thresherman and Farmer, and we think it is a fine paper. I believe Clara Henderson, of Sunny Slope, Alta., would like to correspond with me; anyway, I would with her. She is very fond of music and likes to read books, and I love music and can play quite a few pieces on the mandolin. I like books, too. If she wants to correspond with me, will she ask Cousin Doris for my name and address?

Jean Barber need not be shy about sending recipes, for it is nice to exchange them. Don't you think so, Cousin Doris? Here is a candy recipe that I think Clara would like:—Molasses candy—2 cups molasses, 1 cup sugar, 1 tablespoonful of vinegar, 1 dessertspoon butter. Boil twenty minutes, stirring, pull till white.

I will say good-bye for this time, hoping all the girls can use the recipe, and with best wishes to the Cozy Corner.
 Nancy.

Adair, Sask.
 Dear Cousin Doris:—This is the first time I have written to the Girls' Cozy Corner. My father takes the Canadian Thresherman and Farmer, and he thinks it is a good paper. I like reading the letters. I live on a farm ten miles south-east of Wolesey on the C.P.R. and fifteen miles southwest of Grenfell on the C.P.R. I go to Westfield school. My age is eleven. I am in the fourth reader, and the sixth grade. My studies are, reading, writing, spelling, arithmetic, Canadian History, geography, grammar, and our teacher gives us music lessons. Her name is Miss Hunt. We have 13 horses, counting the little colts, and about 29 or 35 head of cattle and two pigs. I have two brothers and two sisters. I am the eldest. My oldest brother is in Parry Sound. My mother and two sisters were in visiting in Yellow Grass and I baked a cake when they were away. I will give you the recipe for the cake:—Cake without eggs—To 1 cup sugar add 1½ cups of butter, beat together; add ½ cup molasses, 1 cup of milk, 3½ cups flour, 3 teaspoonfuls of baking powder. Add any kind of fruit and spices desired.

Well, I will close for now, as my letter is getting long and I hope to see it in print. Wishing the club every success, I remain, your cousin, Alice Caswell.

Rose Lynn, Alta.
 Dear Cousin Doris:—This is the first letter I have written to you. I am eight years old. We are living in a newly settled country, and haven't got a school yet, but hope to have in the spring, and I shall be glad when we get one for I should like very much to go to school. I have never saw inside of a school, but have had a governess teaching three of us here at home since the 22nd of November. Well, I guess I will close for this time, and if I see this letter in print I will try to write again. From Marie Oscar.

You have had a good governess, Marie. Your penmanship is better than is in some letters I receive from girls twelve years old.—C. D.

Rose Lynn, Alta.
 Dear Cousin Doris:—Papa takes the Canadian Thresherman and Farmer, and I have been reading the letters from the girls and boys, so I thought I would write a letter. We have never lived here I could go to school, and I don't

suppose my letter will be as good as the ones that are from the girls who have been going to school. I am very fond of reading. I like to cook, too, especially making cakes. I will close for this time, and hope to see my letter in print. I remain, yours sincerely, Daisy Oscar.

You write a beautiful letter, Daisy. Write again and tell us some of your experiences. You might win a prize.—C. D.

Pipestone, Man.
 Dear Cousin Doris:—I am eleven years old and I am in the fourth grade at school. I go all the time when it is not too cold. I have a large doll, and I make its clothes. My sister and I are patching a quilt. I would like if some of the members would send me some patches. I can also cook a little. Here is a receipt for making muffins:—Take 1 egg, ½ cup of sugar, 1 cup of thick cream, 2 cups of flour, 2 teaspoonfuls of baking powder, and a level teaspoon of salt mixed into the flour; add water or sweet milk to make a batter and bake in muffin tins half an hour. Wishing your paper every success, yours truly, Florence Bayne, Pipestone, Man.

Russell, Man.
 Dear Cousin Doris:—This is my first letter to the Cozy Corner. I have read the letters of other boys and girls, so I thought I would write. I am twelve years old, and go to a school four miles from our home. My studies are reading, writing, spelling, arithmetic, drawing, painting, geography and history. I have three dogs, and I call them Ethel, Edna and Jean. I will send some riddles for the boys and girls to guess.

1. Black within, red without, four corners round about. Ans. A chimney.

I will close, wishing Cousin Doris and her paper good success, your Cousin, Edith McNichol.

Elkhorn, Man.
 Dear Cousin Doris:—This is my first to the Canadian Thresherman. My brother takes your paper and likes it very much. I have two brothers and one sister. My father has 35 head of cattle and 15 head of horses. My brother owns a team of horses. I go to school, and am in the second reader. My studies are arithmetic, reading, spelling, writing and drawing. I am nine years old. We have two dogs and four cats; the dogs' names are Tony and Prince. The cats' names are Trixie, Tom, Smoky and Dixie. Well, I think this is all for this time. Wishing your paper every success, I remain, Prairie Lily.

Whitewood, Sask.
 Dear Cousin Doris:—This is my second letter to the Cozy Corner; I saw my last letter in print. I do not go to school in the winter, for it is cold and too far. I think I will tell about my Jennie horse. When little Jennie sees me near she will come up to me and will follow me around. I sometimes take her a piece of bread or a piece of apple. Jennie is a bay, and not a year old yet. Well, I think I will send some tongue twisters for after dinner. "A haddock, a haddock, a black spotted haddock; a black spot on the black back of a black spotted haddock." I remain, your cousin, Tressie Daymon.

Meadow Creek, Alberta.
 Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. I go

to school in Meadow Creek schoolhouse. I am eleven years of age. I am in the fourth reader. My studies are spelling, arithmetic, writing, drawing, grammar, Canadian and English history, geography, reading and agriculture. There are about nineteen going to school. I hope I will see my letter in print. I think I will close for now, as it is getting late. Yours sincerely, Carine Vadenais.

THE Canadian Boy's Camp

The Boy to the Schoolmaster.
 You've quizzed me often and puzzled me long,
 You've asked me to cipher and spell;
 You've called me a dunce if I answered wrong,
 Or a dolt if I failed to tell,
 Just when to say lie and when to say la',
 Or when nine-sevenths may make,
 Or the longitude of Kamchatka Bay,
 Or the I-forgot-what's-its-name lake.
 So I think it's about my turn, I do,
 To ask a question or so of you.

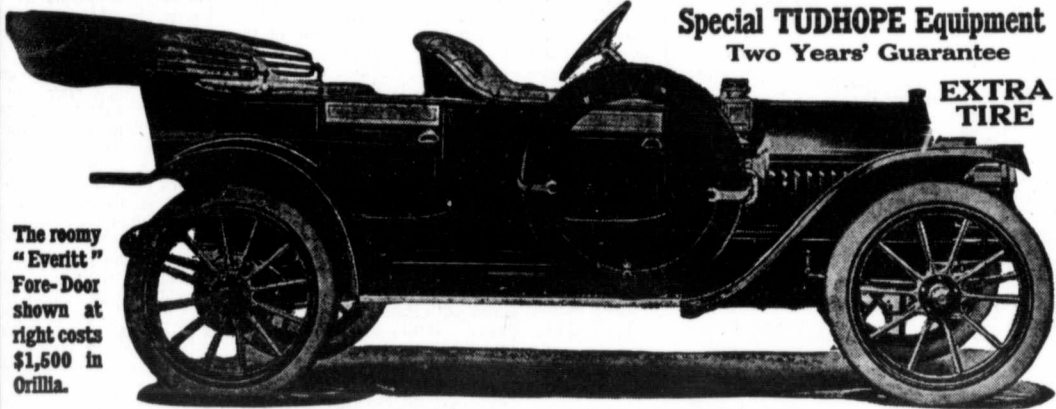
The schoolmaster grim—he opened his eyes,
 But said not a word for sheer surprise.
 Can you tell where the nest of the oriole swings,
 Or the color its eggs may be?
 Do you know the time when the squirrel brings
 Its young from the nest in the tree?
 Can you tell when the chestnuts are ready to drop,
 Or where the best hazelnuts grow?
 Can you climb a high tree to the very tip-top,
 Then gaze without trembling below?
 Can you swim and dive, can you jump and run,
 Or do anything else we boys call fun?

The master's voice trembled as he replied:
 "You are right, my lad; I'm the dunce,"
 he sighed.
 —Edward J. Wheeler.

PRIZE LETTER.

Content, Alta.
 Dear Cousin Doris:—May I come into your camp tonight? I am breaking a dog to go in a sleigh. It is very easy. The first time sometimes they lie down and won't go any more. But if you take a piece of cake and a stick and make it, the stick will reach just far enough ahead so that he cannot reach it then he goes after the cake and he can't catch it because the faster he goes the faster the cake goes so that's the way to make them go. My brother has been trapping weasels and has made good money on them. He caught eight. I have got a rifle and my other brothers have too. I live three and a half miles west of Content. There is a store, a hardware store, a blacksmith shop, butcher shop, three dwelling houses and a school. My father is away at Stettler to-day with beef and seed oats. We have got most of our farm brushed off and hope to have it all in crop. Last year we had a hundred bushel to the acre and had the best oats around in Great Bend. My father and some other men went hunting deer

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Long-stroke, unit-cast "Everitt" motor has spiral gear valve drive, magneton, quick-spark magnet, special "Everitt" carburettor. These mean dependable and regular motor action. Every motor part reachable and interchangeable. Great flexibility and power at low gasoline cost. Extra Tire and special Tudhope Equipment make an "Everitt" purchase absolutely complete. Get the catalogue. Complete details of weight-saving construction with strength and long wear.

one day. They saw a deer. After my father and one man fired at him he ran and they had to track him up. They followed him for three days and one morning saw him and shot him through the chest. The meat was no good. I guess it has been too hot because it didn't keep and spoiled. We have been in the country four years. We have the phone in now and have lots of fun talking to our neighbors. We have a hired man working for us. I have got a lot of pigeons and to-day found 6 eggs on the floor and 3 nests with an egg in each one. We have twenty-five now and hope to have a great deal more. We have a house with 10 windows, 8 doors and 8 rooms. It is painted white and has green and red trimmings. It is a very pretty house and is the biggest in the district; all the others are log houses. All the others are telling games so I guess I will have to, too. My game is "White Sail." Two boys choose sides. The one stays and the other goes away, then the captain draws a plan where they have gone then if they find them they have a race to the drawing. The first one there has to shout "Whit Sail." If he does not and if the others shout if they win the game. I am 9 years old and am in the second class. I do writing, composition, arithmetic, spelling, reading, geography, history. There are five in our class, our teacher's name is Mr. R. B. Dack; I think he is the best teacher we have ever had. I hope I will see my letter in print. Wishing your Club every success, I am a member of the Boys' Camp, H. Kenneth Allison.

HONORABLE MENTION.

Taber, Alta.

Dear Cousin Doris:—As this is my first letter I will not write and write and never stop, but will just tell you a few of the main things which have crossed my daily path. First of all I will send a game and then have more leisure for other things. The game is called "Dare Base" and it is a jolly and interesting game for all the boys. Directions are as follows: Choose up sides and have an equal numbers on each side—not less than four can play it. Draw a long line, about nine or ten feet long and divide

this in two parts. One side gets on one half of the line and the other gets the other half. If anyone gets outside of the line (No. 2) side No. 1 can touch them, and 2 will have to go on base, which I will describe. For side No. 1, the base (which is a mark of any kind, a rock or stick) is placed even with side No. 2, only about twenty or thirty feet straight out from the line and No. 2's base is just even with No. 1, the same distance as base No. 1. Then one of the persons on side No. 1 volunteers to go out and touch their base with their foot. As soon as they do so, side No. 2 takes after him and the side No. one runs after the ones in side No. 2 who has just gone out to touch the one who has made the dare. The one who makes the dare tries to get back to his line without being touched. If he, or any of his side are touched by side No. 2 they have to go out on their base and stay there until someone on their side gets a chance to come out and touch one of them. He can only touch one off at a time. After he has touched one of them they may go back to their line, keep trying to get chances to get your side off the base unaware of No. 2's side. Don't let them touch any of you or you will have to go on base too, and stay there until someone takes you off; also No. 2 side beware of No. 1 at all times. Stay inside of your line when you are there, and when you are out in the fields try to dodge out of the way of your enemy. If side No. 1 gets all of side No. 2 on the base and therefore there is no one there to beat them off, side No. 1 beats. Anyone of No. 2 side can touch any of No. 1 side, no matter where they are outside of the line if they leave their line last. I don't know whether anyone can understand my way of describing it, but I didn't know it was quite so hard until I had started it.

I am a farmer's son, as I guess you all know or guessed before I had told you and I love all kinds of farm work and life. I also like pets. I have a very nice dog which is my constant companion. He is a good dog, I call him Watch. I guess you know the reason why I call him that. If you don't, I will

tell you. He watches everything. Now do you know?

Last summer I caught the cutest little bird and really the sweetest. I believe it was a tame one and got loose or flew away from someone. It was about as large as a Canary bird. It had a large beautiful black fan tail and its breast was yellow. Its back was blue and it had pretty shiny wings of purple and yellow. I made a cage for it and made a little swing for it. I hung it up in the house and it would catch all of the flies that came anywhere near it. But one day I put the cage out in the sun and my little brother opened the door and let it go. I felt very sorry about losing my bird. I had had it about two weeks. It never sang but chirped or rather whistled. I know my letter is very long and so will close. Hoping not to cause dear Cousin Doris too much bother. Blue Eyed Ben.

A Time to Laugh.

Would you kindly put this in if you find it worth the while:

Griggs—As I was passing in front of the jeweler shop I saw something very peculiar; a man was sitting in a window looking right straight at me and making faces.

Briggs—What kind of faces?

Griggs—Clock faces.

Signed, Blue-eyed Ben.

Lavenham.

Dear Campers:—This is my first letter to your camp. I was reading over the paper last night and was reading a few of your letters. I am ten years old, and will be eleven on the 10th of May. I think I will have a birthday party. My father takes the Canadian Thresherman. It is a good book. My father has 13 horses and a stud horse. We have six mares; they are all in foal. In the evenings I play cards and read, and play with the cat and dog. Sometimes I write a few letters. In holidays I go over across the river to my brother-in-law's. The river is about a mile south of our place. I have four brothers and five sisters living and two dead. I have three sisters married and a brother married. We have no church on Sun-

day. The preachers can't come. The roads are blocked. All I do is read books and play. I like to work on the farm very much; I like driving horses; I like to run an engine. My father has a threshing outfit; I go with him in the fall. I don't know what the prize will be. I would like to win the prize, as I have not written to you before. I think I will close. Yours truly, J. Melvin Dobbin.

Langham, Sask.

Dear Cousin Doris:—This is my first letter to the Canadian Thresherman and Farmer. I am 14 years old. We live six miles west of Langham. My brother and I are taking care of a neighbor's stock, and we have to do our own cooking too. We have to feed 4 horses, 1 cow and a cow and calf, and we also have 135 hens and 2 pigs. It is a rather lonesome job to stay there all alone, especially when it is too stormy or too cold to drive home, which is two miles north of here. This man and my father own an International Harvester Gasoline Engine and an Aultman & Taylor Separator. I worked on it all fall. My father has taken this paper for three years; he likes it fine and so do the rest of us. I have four brothers and one sister. We have no school here in this district. I was in the fifth reader before we came out here. I think my letter is getting long enough, so I will stop. Wishing the Club every success. From your cousin, Jacob E. Epp.

Will you write and tell us about your experience in working with the threshing machine, Jacob? I am sure the boys in the camp would be interested.—C. D.

50 Cents Worth of Merchandise For 10 Cents.

Send only 10 cents

For this beautiful 18-inch tray cloth, one Fine Art Linen, your choice of Washcloth, Kysiek, Mt. Melick, Violet or Holly design and we will include FREE OF CHARGE, one year's subscription to "Art Needlework" Magazine. The tray cloth regularly sells for 25 cents, and one year's subscription to our beautiful Art Needlework Magazine would ordinarily cost you 10 cents, thus making a total cash value of 35 cents. The above bargain offer will be sent to any address upon the receipt of 10 cents and the names and addresses of five lucky friends. Send us your order today.

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How I Would Equip, Lay out and Operate a Given Half Section of Land in Saskatchewan

Probably the best time to balance up the year's operations is about April 1st. At this time there is likely to be very little of the marketable produce left on hand so that the results of the season's work can be very closely arrived at. An inventory should also be made at this time.

During the year some form of accounts should be maintained, and the one that is undoubtedly the best and simplest for the farm is the plain cash account. This shows just what is expended and what received. If it is desired to keep a special account of any particular part of the work it can be done separately.

The following is the cash account for the first year:—

April 1	Cash on hand	\$3000 00	
"	4 horses at \$250 each		\$1000 00
"	2 sets of harness		80 00
"	Oats for feed and seed, 450 bus. at 30c		135 00
"	Lumber and labor for house		200 00
"	" " barn		300 00
"	Digging and cribbing of well 35 feet deep		50 00
"	Potatoes, 15 bus. at 75c per bus.		11 25
"	4 tons of hay at \$8 per ton		32 00
"	Paid for cow		60 00
"	Hire of seeder, at 20c per acre		3 80
May	Breaking 160 acres at \$3.50 per acre		560 00
July	Lumber for portable bin		50 00
Aug	Hire of binder at 25c per acre		4 75
"	Twine, 40 lbs. at 10c per lb.		4 00
Sept	Threshing 950 bus. of oats at 6c		57 00
"	Sold 150 bus. of potatoes at 60c	90 00	
Oct.	Borrowed of Bank of	100 00	
Nov	Paid on machinery notes, including wagon		180 00
"	Interest on land		288 00
"	Cow		60 00
"	Miscellaneous		50 00
Mar.	Balance on hand		64 20
		\$3190 00	\$3190 00

Although the above does not include every small detail, it shows how the cash account should be kept. Of course, in actual practise, everything can be put down as it is bought or sold. This is a very simple method of keeping accounts and may easily be followed by anyone whether versed in the art of bookkeeping

or not. In conjunction with the inventory it gives a very good idea of the success or failure of the enterprise.

The Second Year's Work.

As soon as the snow has disappeared the land broken the previous year should be harrowed and seeded as soon as possible

after the first of April. Including the 20 acres which were in oats last year there will be 220 acres of land to be sown. I would put 190 of this into wheat, leaving 30 acres for oats. I would buy a seeder at this time, which I think would be of the double-disc pattern, one reason being that the disc drill works well in new land, cutting through the sod as deep as may be required. About 300 bus. of wheat will be necessary for seed, and great care should be exercised in buying it. It is very much easier to keep a farm clean if weeds are not introduced in the seed. If really clean seed cannot be obtained a fanning mill should be bought and the wheat thoroughly cleaned before sowing. The seed oats should be well fanned also. Both wheat and oats should be treated for the prevention of smut, using a 40 per cent. solution of formaldehyde, at the rate of 1 lb. (16 oz.) in 32 imp. gallons of water. The grain may be either sprinkled or immersed in the solution for five minutes, spreading out to dry after either method. I would sow 1½ bus. of wheat per acre, and 2½ bus. of oats per acre, putting the grain down into the moisture whether it was one inch or three inches from the surface.

During this spring time I would purchase another 4-horse team, having at least two of them mares, which I would breed, also any mares from the first team

bought. I would purchase a 14 inch gang plow with breaking attachments, and break up the remaining 80 acres, treating it in the same manner as was previously advocated. It will, of course, be necessary to hire a man to drive the extra team.

During the summer I would fence the farm, even if only with barbed wire, a couple of strands of which would keep off stray stock in both summer and winter. It will be impossible to keep the land free of weeds if bands of horses or herds of cattle are allowed to roam over it at will. Small willow posts will suffice for fence posts and these should have been cut and pointed during the previous winter. Granaries should also be gotten ready before harvest time. I would build a permanent granary in the yard to hold about 2,500 bus. of grain; also space for fanning mill, etc. In addition I would buy portable steel granaries into which the grain could be threshed in the field.

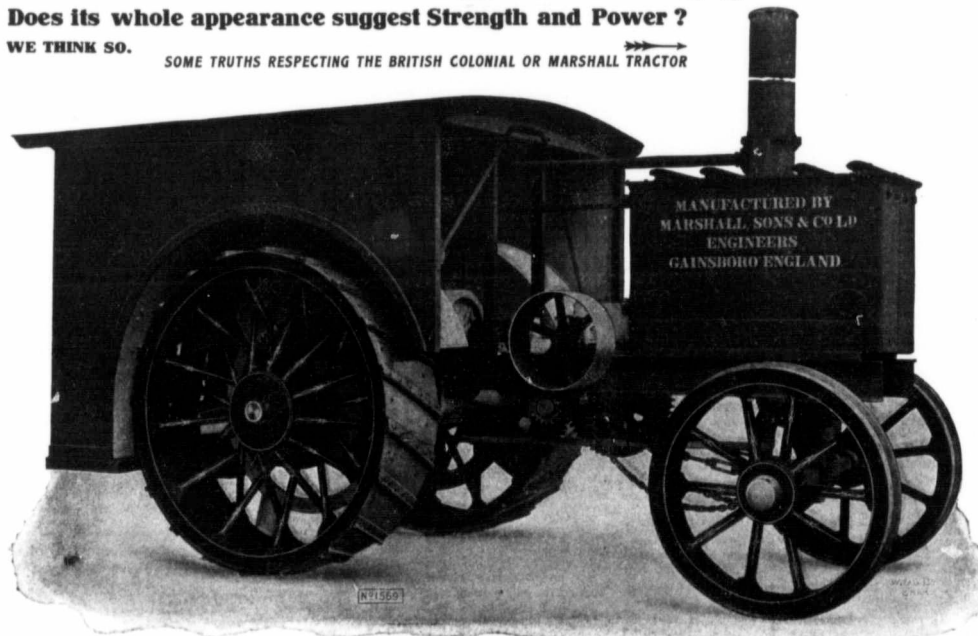
At harvest time I would hire another man and if the grain did not ripen too rapidly I would keep one team and a man at work on the land, using the other team for the cutting. If the grain ripened very quickly it could be cut in a few days by changing teams frequently. Wheat should be cut when in the dough stage; i.e., when it may be easily indented with the thumb nail, yet not soft. If allowed to get too

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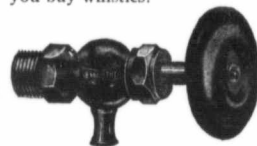
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Sight Feed Lubricator

We have made some decided improvements on the KING Lubricator this season. You will note the filler has a wood handle, thus preventing the engineer from getting his fingers burned. We have put a lipped shaped extension on the filler opening so that the cup can be filled with a coffee pot or can with a large spout. Does away with the use of a funnel, and saves oil as well. The glass can be taken out easily without the use of any special wrench. The KING Lubricator will give the best of satisfaction if rightly used.

ripe it shells very easily, especially in a wind. Stooks should be made round, or nearly so, with about 12 sheaves in each stook. Oat stooks should be built long, as they do not dry out so readily as wheat.

Whether to stack or thresh from the stook is a question that depends largely on circumstances. If a threshing machine can be obtained within a reasonable time of cutting—as can now be done in most places—I would certainly thresh from the stook, as it saves a great deal of work and enables one to commence fall plowing early. If, however, no machine is readily available, stacking should be begun as soon as the grain is fit to stack, and the first cut grain will usually be ready to stack by the time cutting is finished. For the purposes of this article I shall assume that the grain is threshed from the stook.

As soon as the grain is off, the plow should be started, if the land is not too dry. I would again follow the plow with the packer and harrow so that any moisture in the ground might be kept there. About 1 inch or 1 1/2 inches of sub-soil should be taken. I would keep one team at the plowing and with the other 4 horses I would haul the grain to market, having the hired man drive one team and myself the other. If the wheat is to be shipped by the carload it will be necessary to either have a special bin in the elevator or hire enough teams to load the car in one or two days. I would fill three cars of wheat, and get enough money to meet all the debts which have accumulated during the summer. This would occupy about one month, and after that I would put the other team on the land also, and finish hauling the wheat at some future time when the ground would be frozen too hard to work. As soon as the cars were filled one of the hired men could be dispensed with, the other one being kept on for a while, or for the winter if thought necessary. However, as there are very few chores, I would dismiss the other man at freeze-up.

During the winter the rest of the wheat could be marketed, another year's supply of wood gotten out, and other necessary work done. Everything should be done which would help on the work of the busy season, such as the fanning of grain, etc. The horses should be allowed to run out every day, unless the weather is too rough, and they will be much healthier than if they were stabled all the time. Toward spring they should be given a few days' work, if possible, so that they will not be too soft when work is begun on the land.

On the first of April the cash account is again balanced up and is as follows:—

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3 FEEDS FOR ONE CENT

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PROVED ITS INVALUABLE WORTH.

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April 1	Cash on hand	\$ 64 20
Oct.	Paid on 4 horses paid on note, \$250 each	\$1040 00
"	" 2 sets of harness at \$35	70 00
"	" Seeder	125 00
"	" Seed wheat, 300 bus. at 90c	270 00
"	" Lumber and labor for granary	200 00
"	" Wire for fencing, at \$4 per 100 lb.	100 00
"	" Binder	160 00
"	" Twine, 550 lbs. at 10c per lb.	55 00
"	" Paid Bank Loan	110 00
"	" Two steel granaries	200 00
"	" Balance on machinery notes	180 00
"	" Payment to C.P.R. Land Department	768 00
"	" Sold 150 bus. potatoes at 60c	80 00
"	" Wheat, 3,000 bus. at 75c	2250 00
"	" Threshing 5,700 bus. wheat at 8c	456 00
"	" Threshing 1,500 bus. oats at 6c	80 00
Nov.	" Wages—one man, 7 months, at \$35	245 00
"	" Wages—One man, 2 months, at \$40	80 00
Dec.	" Sold wheat, 2,350 bus. at 75c	1762 50
Mar. 1	" Balance in hand	17 70
		\$4156 70 \$4156 70

It will be noticed that no mention is made in cash account of the purchase of the things in the summer. These, of course, were purchased on note and a record kept in a separate book. Although the cash account does not show a great profit, owing to the expense incurred in buying horses, etc., I think that an inventory would show a satisfactory state of affairs. Such an inventory ought to be made each spring, but for the purposes of this article I have chosen to leave the inventory until the end of the three-year term.

The Third Year.

Again the first work to be done will be the harrowing of the breaking and of the fall plowing. Any plowing not done last fall should now be finished, care being taken to harrow and pack immediately. If it is thought advisable the spring plowing may be packed after seeding also. There will be this year 280 acres to put in crop, the 20 acres of land which has been in oats for a couple of years being left for summer-fallowing. I would put 240 acres in wheat and 40 in oats.

The land to be summer-fallowed should, if possible, be disked the previous fall in order to germinate weed seeds and volunteer grain and to conserve the moisture. As soon as the crop is sown in the spring, the disked-up land should be harrowed in order to kill some weeds and start others into growth. Then plow the land about an inch deeper than has been done before—until a depth of seven or eight inches has been reached—packing and harrowing immediately. This should all be finished before the end of June and given repeated cultivation and harrowings during the season. The best implement for destroying weeds is the broad-shared or duck-foot cultivator, and such an implement should be bought just as soon as there is a large amount of summer-fallowing to do.

During the summer I would build a machine shed, because I am convinced that it would add

years to the life of much of the machinery. It also enables repairs to be done during the winter which cannot be done when a machine is sitting out in a snow-drift.

If the mares have foals it would be well for both if they were allowed to run at pasture during the slack time. If a woven wire fence were put around the pasture it would be very much safer for horses to run in than with the barbed wire around. I would also break up one-half the pasture and seed down to brome grass, which can be done while the stock are running in. This will provide much more feed than the native grass and remain green longer. If it is not eaten down, however, it should not be allowed to ripen seed as the seed may blow around and get into places where it is not wanted.

The previous remarks as to harvesting will apply again this year. As soon as possible the plows should be started again in order to get an area as large as possible turned before winter sets in.

During the summer some building would again be done. If the chicken flock has increased appreciably it would be well to provide better quarters for them. Also, at this time, it may be well to get a few pigs—if only a couple—to eat up the screenings which are sure to come now that a considerable amount of grain is being raised. Another cow

might be purchased and so help out the production of butter which up to now has been regarded as a mere sideline. Temporary quarters will need to be provided for the cows and calves, as the original barn only contains space for 12 animals, and we have now eight full grown horses and several colts.

I would market the grain in a similar manner to that in which it was done last year. There should be about 6,400 bus. of wheat and 1,800 bus. of oats. I figure that the 80 acres of new

land would yield 30 bus. per acre and the other 160 acres which is growing its second crop I will place at 25 bus. per acre. The oats will be growing on similar land and cannot be expected to yield quite so heavily as on new breaking, therefore, I place the yield at 45 bus. per acre. I do not figure on having many oats to sell as there are now several colts to be fed, in addition to the horses.

Following is an account for the third year's operations:—

April 1	Cash on hand	.....	\$ 17 70
Oct.	Received for wheat, 3,000 bus. at 75c per bus.	.....	2250 00
"	Paid on lumber for chicken house, etc.	.....	300 00
"	Woven wire	.....	120 00
"	Fanning mill	.....	30 00
"	Cow	.....	50 00
"	Threshing 6,400 bus. wheat at 8c per bus.	.....	512 00
"	Threshing 1,800 bus. oats at 6c	.....	108 00
Nov. 1	Payment on farm	.....	739 20
"	Wages—One man, 2 months at \$40 per month	.....	80 00
"	Wheat sold, 3,100 bus. at 75c per bus	.....	2325 00
"	Potatoes sold, 150 bus. at 60c	.....	90 00
Mar. 1	Wages—One man, a year	.....	300 00
"	Balance on hand	.....	2433 50
			\$4672 70 \$4672 70

It will be noticed that in all these accounts no mention is made of household expenses, nor of many minor details which would necessarily appear in a strict cash account on the farm. As to the household expenses. I have considered all along that these could be met from butter, eggs, etc., and did not need to appear here. Also that the insertion of all the small details was entirely unnecessary and of little interest and would take up too

much space. However, in keeping an account on the farm these small items should not be overlooked.

In the balance sheets of the last two years it will be noticed that no entries are made until quite late in the season. The reason for this is that no cash was available and the purchases were made on fall notes. In these cases notice of purchase would be made in a ledger so that a record of the debts contracted

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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 Warehouses at any time.

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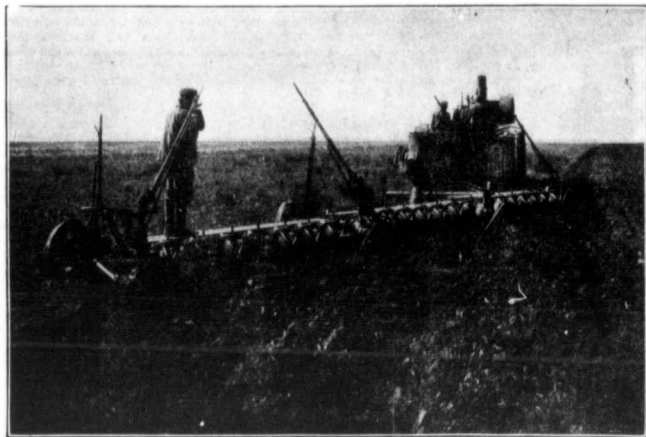
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Send for special engine plow catalogue, which tells how to lay out a field for engine plowing and other valuable information for users of engine plows.

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

would be available at any time.

These balance sheets could be struck at the end of the calendar year just as well as in the spring if so desired. As they appear in this article the intention is to give some approximate idea of how the thing ought to work out. At best they are but theoretical, in so far as they are not the result of actual operation. I have endeavored, however, not to paint too rosy a picture. Indeed, I am firmly convinced that if the system of cultivation outlined was as strictly adhered to, the yields of grain would in each case be greater than is allowed for in the accounts. It would be easy to show how a great profit could be realized, but over-strained statements are likely to be misleading, and cannot be of any true value to those who are searching for data upon these things.

As I have previously intimated, the making out of an inventory has been purposely left until this time. In actual practise it is a wise plan to make an inventory every year, preferably on the first of April. The inventory resembles the account or statement gotten out by business houses at stocktaking time. It is the balancing of the assets against the liabilities and shows the true financial position of the undertaking. Following is the inventory showing the position of the farm under consideration, at the end of the three-year term.

INVENTORY, APRIL 1st, 1914.

	Dr.	Cr.
ASSETS.		
320 acres of land with improvements, at \$20 per acre	\$ 6400 00	
8 horses	1500 00	
4 colts	500 00	
3 cows	154 00	
6 calves and young stock	80 00	
50 hens	25 00	
Farm machinery, wagon etc.	479 00	
Hay, 10 tons at \$4	40 00	
Wheat, 300 bus. at 75c	225 00	
Oats, 1,200 bus. at 30c	360 00	
Cash in bank	2433 50	
	\$12,236 50	
LIABILITIES.		
Still unpaid on farm		\$4224 00
Total assets	\$12,236 50	
Total liabilities		4224 00
Net worth		\$ 8012 50

Like the cash accounts, this inventory is but approximate. In actual practise many things would be included which are not included here. It will be seen that all live stock, machinery, etc., has been valued at less than the purchase price. An annual depreciation of 10 per cent. has been allowed for. I think this is a fair, all-round depreciation. In the case of live stock, especially horses, some record of the value of each animal should be kept so that the correct depreciation can be made each year.

In my estimation the foregoing inventory shows a quite satisfactory state of affairs, considering the conservative manner in which figures have been handled, and I see no reason why these results could not be attained—or even excelled—by any capable settler.

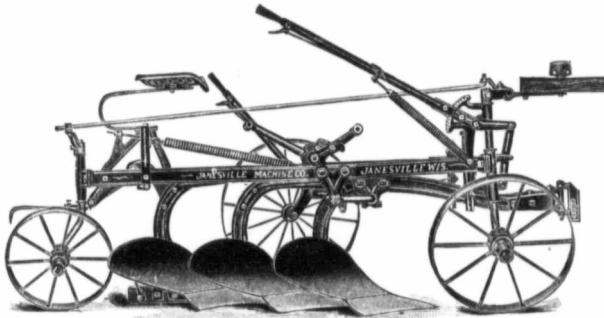
While the plan has been to grow grain largely, there has also been a desire to gradually work into a system of diversified farming, because we realize that that is the only permanent basis. I would, as I have pointed out, gradually build up a herd of dairy cows, weeding out the poorer ones all the time so as to get only large producers. I would get some of the land seeded down to alfalfa which is one of the very best of the legumes, and is proving quite hardy in the West. On land which was intended for summer-fallow I would sow corn for fodder. It has been proven that in a normal season land which has grown a crop of corn will produce as good a crop of wheat as will land that has been in bare fallow, and the crop is much less liable to lodge. The cultivation necessary for corn

helps to conserve considerable moisture, and also destroys many weeds, so that the following crop may be just as clean as when grown on bare fallow. Corn fodder is excellent feed for cattle and is becoming very popular in the West. Land on which corn is to be grown should be disked early in the fall, so that the weeds may start at the first opportunity. In the spring this cultivation should be continued until about the middle of May, when the land should be plowed, and the corn sown about the 24th of that month. It may be sown with the ordinary drill by stopping up some spouts, leaving the rows 30 in. to 36 in. apart. If not too high it may be cut with the ordinary grain binder, but if a large field is sown a corn binder will pay for itself, and be much better than the grain binder.

I would summer-fallow or grow corn on one-third of the land each year until a proper rotation system was decided on. It has been proved beyond a doubt that this system is much more profitable than that of continuous cropping, or even of summer-fallowing every fourth or fifth year.

During the fourth summer I would erect a new barn, and either a new house or have the other considerably enlarged. I would also begin to make the raising of swine a fairly important part of the operations. If dairying is to be carried on to any large extent, there will be quantities of skim-milk available and

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)

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

The Janesville foot-trip horse-lift is a big feature found on no other plow. Simply trip the "lift" with your foot while riding or throw the land wheel lever while walking, and the horses will pull the plow bottom into the ground at the start and out of the furrow at the end. The point of the plow bottom always goes in and comes out first just like the walking plow, because the movement is just like your arms. In entering the ground the heel of the plow bottom is held up so the point must go down first. In leaving the ground, the heel of the bottom is held down, so the point must come out of the ground first. This Janesville feature eliminates the objections to the foot lift as compared with the hand-lift. Our self-leveling device is unequalled on any other plow made. You have absolute control of the Janesville Plow Bottoms at all points

All levers are spring balanced which makes it possible for even a mere boy to operate them. The bottoms and beams on the Janesville Northwestern Gang Plow are not held rigidly in the frame but are balanced over the single bale which permits adaptability to the unevenness of the surface of the ground, which has a great effect on the draft. The single bale feature also permits raising the Plows and leveling at the same time, which is not possible with a two bale construction.

The connection between the front and rear furrow wheel is automatic in action and in place of forcing the rear furrow wheel around in turning at the corners it simply permits it to follow along behind in the corner of the furrow. All the side and down pressure caused in turning over the soil is carried on the wheels. We use nothing but steel and malleable iron in the construction of the frame. The shares furnished on all Janesville Northwestern gangs are 1-16 inch thicker and made much stronger than the ordinary kind. The front furrow wheel is 24 in. high; the rear 20 in.; the land wheel 30 in.; all with 21 in. tire. There are so many other features and advantages of Janesville Northwestern Gangs that we want you to know them all before you decide on any plow. Let us send you

All Janesville Books Free

We will give you the name of our dealer in your town so you can see the Janesville. We also make the famous Janesville Walking Plows, Riding or Walking Cultivators, Disk Cultivators, Disk Harrows and Janesville Corn Planters. When you write for Janesville Plow Book, say whether you are interested in any of our other implements. We'll gladly send you all the Janesville books free—postage prepaid. Send postal or letter now to

CANADIAN
SALES AGENTS:

this can be put to no better use than that of feeding hogs.

If there are no trees around the building site an attempt should be made to furnish these as early as possible. During the first summer a strip of land about 28 feet wide and enclosing five or six acres, should be broken, and may be sown with grain. Thein the following year backset the land fairly deep, treating it as a bare summer-fallow so as to conserve moisture. The third spring trees may be planted, and if the land is well worked up and has a fair amount of moisture in it, the chances of the trees living are fairly good.

If there are any scrubby or stony spots they should be cleaned up as soon as possible. Stones are very destructive to implements, while patches of scrub dotted here and there through a field are very unsightly and cause a waste of time in working around them.

The majority of the people who come to settle on our Western prairies do so in order to make a home for themselves where, with a fair measure of comfort, they may live and work and perform the duties required of them as citizens; where they may bring up their children in a pure, healthy atmosphere so as to produce a virile race of people. This being so, our aim should be to make our farm homes the most attractive places on earth. Environment has a great effect on the development of persons and things,

much greater than that of heredity, as is plainly evidenced in plant and animal life; while in man the effect of environment on character is constantly before us. Let us aim, then, to do our little part in the development of our agricultural possibilities; in the building up of our beloved Dominion; and in making the world a better place in which to live, so that those who follow us may say: "He hath done what he could."



W. J. Thorpe

The above illustration is that of Mr. W. J. Thorpe who has recently come to Winnipeg as Branch Manager of Gaar-Scott and Company.

Mr. Thorpe, while a comparatively young man, is an old one in the machinery business. He was born and raised on a farm in Indiana. At the age of seventeen he went to Nebraska, when that State was scarcely more than a prairie. Ten years ago he accepted a position with the J. I. Case Threshing Machine Company as traveller, which position he held for four years. His next move was with Gaar-Scott & Company as salesman, working out of their Lincoln, Neb., house. On the first of April, 1910, Mr. Thorpe left Gaar-Scott & Company to accept a position with the Moline Plow Company at Great Falls, Montana. While there he worked out of the Minneapolis house and had considerable of the Montana territory under his charge. This position he held until coming to Winnipeg for Gaar-Scott & Company.

This is Mr. Thorpe's first experience on Canadian soil and we trust that the "Tiger" will lose none of his stripes under Mr. Thorpe's supervision.

Another stripe has been added in the person of Mr. A. J. Donovan who has recently been appointed sales manager of Gaar-Scott and Company, Richmond, Ind.

Mr. Donovan is a native of Illinois. He spent most of his life in the State of Nebraska where his family moved in 1878. He is a threshing machine man of eleven years' experience, most of which has been spent with Gaar-Scott



A. J. Donovan

and Company. The past four years he spent in charge of the Lincoln, Neb., branch of the above concern. The ever-increasing business of Gaar-Scott and Company has made this addition to their force necessary.

Mr. Donovan is a thorough threshing machine man in every sense of the word. His genial disposition, combined with his thorough knowledge of the business, should make him a valuable supervisor of the Gaar-Scott sales force. Our congratulations go with him in his new field of work and we trust that the "Tiger" sales sheet will be considerably enlarged under his direction.

You and Your Horses needn't Work like Slaves



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

Take Advantage of the Opportunities around you

PURCHASE AN

"Ohio Tractor"

AND TAKE LIFE EASIER

You can do more work and better work with better results. You have less expense, less worry, less work and less trouble in every way

WRITE US FOR PARTICULARS, PRICES AND TERMS

Sawyer-Massey Company, Ltd.

HAMILTON

(Sole Representatives for Canada)

WINNIPEG

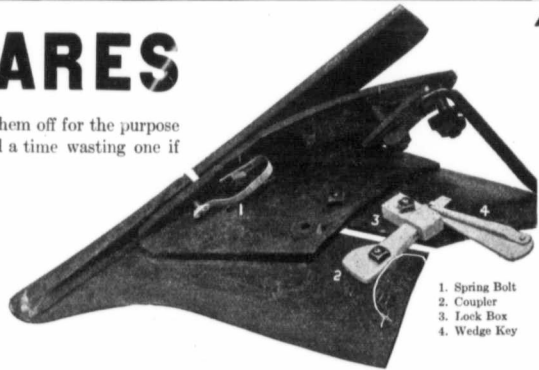
DULL PLOWSHARES

You know it and so does your engine but you dread the task of taking them off for the purpose of sharpening them and putting them on again. It is a tedious task and a time wasting one if you do it the old way but if your plowshares are equipped with

Parks-Coughlin Plowshare Fasteners

you will find the job an easy one and the time required to remove from five to ten or twelve shares so small as to be scarcely worth consideration. Every traction plowman knows that his success depends largely on his ability to keep going and anything that will save time must, therefore, be a money maker for him.

Fully . . .
Guaranteed
Saves Money
Saves Time



1. Spring Bolt
2. Coupler
3. Lock Box
4. Wedge Key

The Most Talked of Agricultural Device in Western Canada

EVERY PLOWMAN NEEDS IT!

Because

- It eliminates burr and bolt troubles.
- It eliminates sprung share troubles.
- It works satisfactorily on engine plows as well as others.
- It eliminates the need of night man to change shares on engine gangs.
- It eliminates the need of hammer and punch to force holes in share into line with those in the frog of the plow.

IT HAS STOOD EVERY TEST!

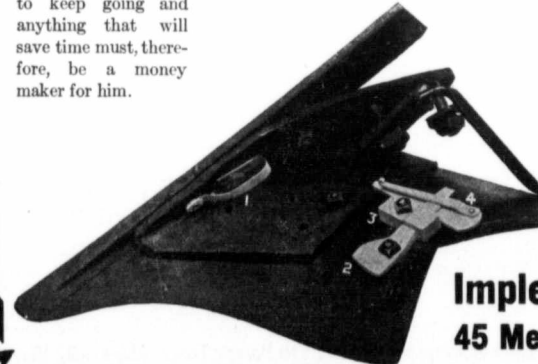
It holds the share on with an iron grip, in spite of gumbo, rocks or stumps, and yet permits it to be removed so easily that your boy can do it.

CHANGE SHARES IN FORTY SECONDS!

Simply lift the plow out of the ground, loosen the wedge key by tapping it at the point with your wrench, remove it, unsnap the spring bolt and lift the share off. Place the new share into position, insert the wedge key, secure the spring bolt, and drive the wedge key in with your wrench.

IT FITS YOUR PLOW!

The fastener is easily attached and need not be removed until the plow is worn out. The value of time and bolts saved, not to speak of shares and the better grade of work done by changing shares often, will more than pay for a set in a year. One set lasts a lifetime.



Implement Specialties Corporation Ltd.

45 Merchants' Bank Building

Winnipeg

Lightning as a Destroyer.

It is an old and true saying that lightning scarcely ever strikes twice in the same place, yet it strikes sufficiently often in different places to make its consideration a serious one.

Sometime ago the Monetary Times gathered together some statistics and for the benefit of our readers we give these as they appear in the West. These statistics apply for 1910.

Date.	Place.	What damaged.	Estimated damage.
June 15	Boisvevain, Man.	Granary	\$2,500
"	15—Minnedosa, Man.	Church	250
"	20—Coulter, Man.	Residence	500
"	22—Arnaud, Man.	Barn and contents	2,000
"	22—Saskatoon, Sask.	Barn and contents	3,500
"	22—Goose Lake, Sask.	Residence	500
"	23—Watson, Sask.	C.N.R. Station	—
"	29—Bulyea, Sask.	Residence	250
"	30—Dominion City, Man.	Barn	1,000
July	4—Perdue, Sask.	Station	—
"	4—Wadena, Sask.	Barn and live stock	3,000
Aug. 29	Portage la Prairie, Man.	Stables	10,000

The following table shows the number of persons killed and injured by lightning:

Date.	Place.	Killed.	Injured.	Remarks.
June 15	Buchanan, Sask.	1	—	Building house.
"	19—Windthorst, Sask.	—	—	Breaking up ground.
"	19—Calgary, Alta.	—	1	Working on farm.
"	21—High River, Alta.	—	—	Poisoning gophers.
"	22—Weyburn, Sask.	—	—	—
"	23—Rouleau, Sask.	—	—	Driving a horse.
"	25—Watson, Sask.	—	2	House wrecked.
July 24	Pakán, Alta.	—	1	Struck house.
Aug. 1	Ellisboro, Sask.	—	—	Working outside.

The above would indicate that there is need for lightning protection. There was a time when the lightning rod man was considered with a certain amount of disfavor, but thanks to a few honest minded individuals, it has now been brought to a system whereby the service and the protection are sure.

The purchase of lightning rods is like the purchase of fire insurance. You never know just

when you are going to need them. You may go on for years and never be visited with a lightning's flash and you may be struck and completely burned out at the next thunder storm. It is a matter of investment, an investment that means your own protection. The cost is slight in proportion to what your loss may be. It, therefore, behooves you to get into line.

Parsons-Hawkeye Organize Canadian Company.

This well-known house, in response to the continued increase of its Canadian business, and with the purpose of facilitating matters at this end, has found it necessary to organize in Canada.



E. E. Lyday

The new Canadian company is capitalized at a minimum of \$50,000; and while the name will now be that of the "The Maytag Company Limited," it will have its

headquarters at the old address, 753 Henry Avenue.

The Maytag Company wishes to be looked upon as a thoroughly Canadian institution. Its business relations extend to every part of the Canadian West, where its "Ruth" and "White Wings" feeders and other harvesting as well as general farming and domestic specialties are household words.

The business of the old Parsons's Hawkeye Co. has grown and prospered under the able management of Mr. E. E. Lyday, who has been in charge for the past three years. Under his supervision the phrase, "We are the Feeder Men of Canada," has been very ably demonstrated.

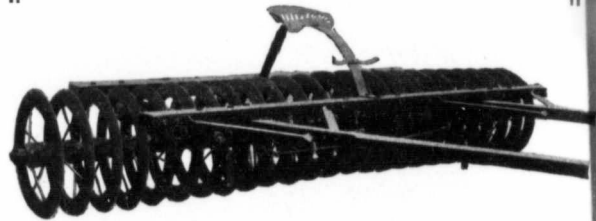
Mr. Lyday retains his position of manager of the Maytag Co., and we have pleasure in presenting our readers with a reproduction of his well-known and genial countenance.

Consolidated Schools

E. D. TUTTLE, Architect,
701 McArthur Building,
Winnipeg.

SPECIALIZING IN SCHOOL BUILDINGS.
CORRESPONDENCE WITH SCHOOL
BOARDS SOLICITED.

Brandon Sub-surface Packer



Sub-surface packing is not only necessary immediately after spring plowing, but it is also the best means for preparing land after plowing for summer fallow. The more moisture you conserve this summer the better the condition of your land next spring.

THE BRANDON SUB-SURFACE PACKER IS THE ORIGINAL MACHINE.

It is built expressly for the purpose intended, and always does it right. The horses are hitched closer to their work than with any other, making easier draft. Made in the West for Western people

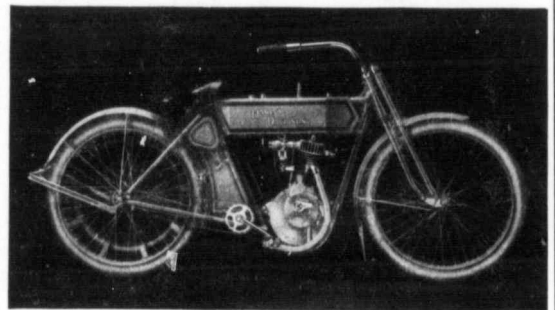
Write for full particulars to

Brandon Implement & Mfg. Co. Ltd.

BRANDON MANITOBA

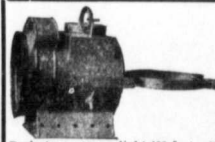
STOCKS AT REGINA, SASKATOON AND CALGARY

A SALARY RAISER is found in the Harley Davidson Motorcycle



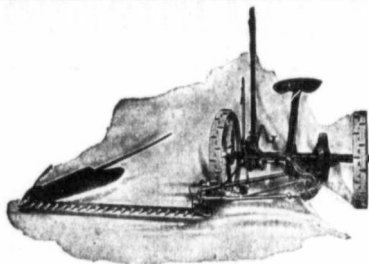
4 H.P. Single Cylinder. Battery Model, \$325.00. Magneto, \$350.00
Travelling expenses being reduced three-fourths by adopting the Motorcycle. City travelers and residents in the suburbs have the most economical and comfortable vehicle when they have the time-tried HARLEY DAVIDSON. If desired we can supply Spring Shock Absorber Frame, equal in comfort to any spring frame machine made. Catalogues on request. Call on us or write for anything required in Motorcycles, Bicycles or Accessories.

Dominion Sewing Machine and Motor Co. Ltd.
Phone Main 176 378 PORTAGE AVENUE WINNIPEG



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 plowing at night or moving over rough fields and bad roads. Projects a strong light 400 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



The Noxon No. 3 Mower

The Noxon Mower

Vertical Lift
Deflected Cut

Automatic Gear Shifter
Wood or Steel Pitman

Roller and Bronze Bearings

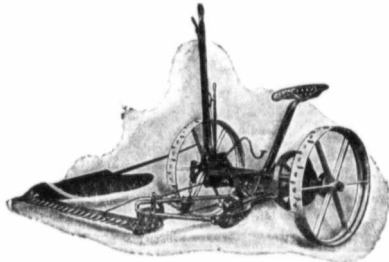
**The Most Compact,
Durable and Service-
able Machine Made**

WESTERN AGENTS

The Tudhope Anderson Co.

LIMITED

Winnipeg Regina Saskatoon Calgary



The Noxon No. 3 Mower

Landmarks in the Life of Johnnie Lundie

Continued from page 62

meant the destruction o' somebody's property.

"Well sirs, he got mixed up in a scrape that as nearly ended in his disgrace as that theevin' affair I tell'd ye about in the 'Brandon Local' last night.

"There was a sma' building near the manager's office in the yard that was used as a sort o' engineer store where a lot of cotton waste was kept, and where the men had lockers for their coats and ither personal property. For some reason that wasna to his credit, a chap that had charge o' this store got fired, and Johnnie succeeded him.

"All went well for a while until first one man and then another began to miss thigs and it was gettin' desperately hot for Johnnie. He kept the key and nobody was supposed to enter that store without his knowledge, and when it was usually tae dole oot a supply o' the cotton waste. He had been cautioned from the first never tae use matches in that place, and as a matter o' fact he never used a light in it except a closed safety lamp.

"Well sirs, wan Friday night about nine o'clock that store suddenly burst intae flame, and before the night watchman could send in the alarm, not only was the place beyond all hope, but it had set fire to the fine offices of the company that were only a few yards away.

"Ye see it contained so much inflammable material in oil and waste, there wasn't the ghost o' a chance to save the place from the moment the fire started. There was a great ootry aboot it, and Johnnie was heckled an' hustled till the poor chap's life was a fair misery tae him.

"The manager received an anonymous letter written in a somewhat illiterate hand, in which the writer affirmed that not only was Johnnie tae party who had fired the buidling, but that the articles

which had disappeared from the men's lockers had been stolen by him.

"The letter did some temporary damage tae the manager's faith in the boy, but he was too much of a man to accept as evidence the unsupported statement of the cowardly sneak that had written it.

"Apart from this letter, there was nothing about Johnnie's movements or his belongings that proclaimed the slightest evidence of his guilt. The police had ta'en possession of the anonymous letter but it looked as if they were not likely tae mak' much oot o' it, and the whole thing hung over Johnnie like a nicht-mare, day and night, till one fine day who should come in aboot but his auld freem Peter Mathieson, the Gawdieburn chief o' Police!

"Peter had been sooth on his holidays, and only heard of the incident for the first time on his return that mornin' tae the village; but as soon as it was tauld him, he bolted his breakfast, it is said, as if his ain hoose was on fire, an' took the first train for the city.

"Peter got a grip o' the letter and did what nane o' the sharp city officers had thoct o' doin'. He dug up some of the writin' o' the chap that held the job o' store-keeper before Johnnie, compared it wi' the letter, and saw for himself without the help o' any expert that one and the same party had written both.

"He tracked the viper to his lair and found him — where dae ye think? Lyin' nearly at death's door wi' blood poisonin' in the city Infirmary. He was in a low state, and the doctor was for stoppin' Peter frae speakin' tae him aboot the business, but Peter kent his book as weel as the doctor did, and havin' had a look at his man, he sat doon by the bedside and in a quiet fatherly sort o' way asked the lad if he knew anything aboot that letter.

"The poor wretch collapsed at once and confessed that not only

had he written it, but he it also was who had stolen the men's money and watches and had fired the building. He begged for mercy if they couldna forgive him, and pleaded that it was a companion that had set him on to it. Probin' a bit farther, Peter discovered what probably he had suspected from the first, that this 'companion' was nae less than the brither o' the seondrel Muchalls who had so nearly done for Johnnie when he was employed in Sandy Glegg's warehouse.

"Peter was a hero tae mair than 'his ain valet', I can tell ye, in that ship-yard when he unravelled the plot and let some licht intae the manager's mind aboot Johnnie's antecedents, and hoo his folks behaved themself at hame. And it happened in the end as it did at Gawdieburn when his enemy there was 'hoist wi' his ain petard'; every sowl in the yard hungered tae dae something for the boy, and promotion to the machine shop followed almost on the spot.

"Well, boys, Johnnie Lundie ploddit away, week in, week out, at the engineerin' for some eighteen months efter that without mishap or any incident o' news value. What wi' his classes an' the buiks he read at night, I can tell ye he hadna much room left for idle ploys (tricks) far less for sawin' wild oats.

"Did ye ever think, men, what a damnable doctrine that is that some bloated auld roue preach, that it is 'necessary' for a lad tae 'saw his wild oats' afore he can be a man?

"Would any o' you fellows that happen tae have a boy o' your ain relish the thoct that that lad had tae pay for his manhood in a course o' dissipation and unbridled license? I don't believe sirs, that there's a man livin' wi' the merest spark o' the feelins o' fatherhood in him that wadna gie his right hand if he could save the white soul o' that innocent lad frae gettin' scorched an' blackened by the sin he had suffered

frae himself in the days o' his thochtless folly.

"I believe, gentlemen, that hell itself can inflict no greater punishment on a man than the sicht o' his ain follies and crimes breakin' oot in the persons o' his progeny. 'Occupation is man's salvation.' 'An idle brain is the deil's workshop,' an' Johnnie Lundie fell intae nae mischief worth speakin' aboot, simply because he hadna time tae kill.

"No that he didna hae his bit hobbies. He was awfu' fond o' flooers an' had the window o' his bit garret stuffed fu' o' 'Pelargonium Geraniums' and 'Wanderin' Sailor' and so forth, an' spent his Saturday afternoons in the summer time, for the maist part, in the foreman's garden. The foreman was a great horticulturist an' took prizes everytime at the annual flower show for his pansies an' hollyhocks an' dahlias; an' he admitted he had tae thank Johnnie as muckle as himself for the fine blooms he raised.

"Johnnie was like a fish in the water. He learned tae swim in the 'Black Hole' up Donside when he was a bit nipper, and that 'minds me tae tell ye that he has an Albert medal o' the third class, and hoo he got it for savin' life at sea.

"It was his third year at Esslemonts, an' he was wan o' a party o' machinists that were sent oot wi' the 'Dunstaffnage Castle' on her trial trip tae test her engines on the measured mile. The owners, wi' a party o' their swell freends, were on board, and a fine luncheon had been prepared in honor o' the occasion. I was there on the invitation o' my brither-in-law, the chief engineer.

"The weather was gie thick when we left the harbor, but shortly after the ship cleared Girdleness and headed south, it got awfu' coorse. The chief engineer was a determined chap, and his hale sowl was aflame tae show the owners what his ma-

Farmer Up-to-Date—Farmer Good Intention

Their Farms adjoin. Both of these Farmers live in your neighborhood. You know them and they know you. Are you one of them? If so, we sincerely hope you are the right one.

FARMER UP-TO-DATE	MAY	FARMER GOOD INTENTION
	1911	
<p>Mother:—Over 80 chickens out of my new incubator. I certainly stole a march on those old hens that do nothing but set. We will have some nice chicken fricassee just as soon as they are fat enough. I am going to fill the incubator up again. No more late chickens on this farm.</p>	<p>1 Mon.</p>	<p>Father:—I should be in the fields today but the discs on the disc harrow are getting so dull I can't use them. I intended to have gotten them sharpened last winter but concern it I forgot to bring it in and the harrow got frozen down before I could get it.</p>
<p>Father:—I do not believe we ever had as good looking wheat at this season of the year. The north eighty is covering the ground and it is a most beautiful stand. It pays to have the land in first class condition before seeding.</p>	<p>2 Tues.</p>	<p>Mother:—Did you bring me those seeds I sent for yesterday? Father:—No, I forgot them. I met Sharpe yesterday and he wants me to take the agency for a new fence that he is selling. I believe I could make some money out of it and it wouldn't take over one day a week.</p>
<p>Henry:—That new hitch that you rigged up from the description given in The Canadian Thresherman and Farmer works fine. It is a great improvement over the old chain contraptions that we have tried to use before.</p>	<p>3 Wed.</p>	<p>George:—The boy colt is all used up. Those old sweat pads that we put on have completely "hunged" up its shoulders. It looks as if it might be a sweeny. We haven't another horse to take its place either.</p>
<p>Mother:—Father can't you spare a team for a short time today to plow the garden? The father is so nice and warm that I believe I can risk planting a few seeds. I tested all of those I got from the—Seed Co. and they have turned out very well.</p>	<p>4 Thur.</p>	<p>Mother:—May I have a little piece of the garden plowed today. Father:—No. We are too busy in the fields. We aren't half through with our wheat yet. Never mind the garden this year. Buy some canned goods. It will be less work.</p>
<p>Father:—I believe we will turn the cows out on the pasture if this nice growing weather keeps up. A little green feed will do them good. We must however, keep up the grain ration for some time yet so that they won't go back on their milk.</p>	<p>5 Fri.</p>	<p>Father:—George we had better disc that fall plowing only once. We haven't time to do any more. Besides I believe this thing of having your fields like a garden before you sow is all bosh. The seed will grow once it is in the ground.</p>
<p>John:—Hurray! The old bay mare has given us another beautiful colt. It came while I was in the barn looking after the horses. He is a dark bay and you should see how strong he is. Looks just like her colt last year. They will make a good team.</p>	<p>6 Sat.</p>	<p>George:—All of the cows were not home last night and this morning when I went to look for them I found that grey heifer was missing. They got through that place we took down last winter to make a short cut to the wood lot.</p>
<p>Mother:—What a beautiful morning. We must all go to church this morning. A new minister from— is going to preach and they say he is real good. You boys better take a new buggy and we can bring him home to dinner with father and me in the auto.</p>	<p>7 Sun.</p>	<p>Mother:—It does seem impossible to get those men folks out of bed on Sunday morning. The cows have broken out of the yard and have gone away without being milked. However it won't hurt them as they don't give much.</p>
<p>Father:—I have been reading considerable of late about alfalfa and I am going to try some this year. We have lots of upland prairie hay but the calves need some tame hay for a change. I see that it is better to sow it without a nurse crop than with one.</p>	<p>8 Mon.</p>	<p>Father:—I must go to town today and look for a hired man. I suppose he will want the biggest kind of wages. It does beat all what a price men put on their services these days. Next year I believe I will get a traction engine.</p>
<p>Father:—Good Intention was complaining to me yesterday about his poor stand of wheat. He says that it is not more than half of a crop. Guess he did not clean or treat his seed thoroughly. You can't raise a crop now-a-days unless you look after it properly.</p>	<p>9 Tues.</p>	<p>George:—The new man is certainly no good with horses. This morning he harnessed his team and did not clean them. I'll bet they will have sore shoulders within a week.</p>
<p>Mother:—Can't we have dinner a little early today. The Ladies' Aid meet here this afternoon and I want to get my dinner dishes out of the way early.</p>	<p>10 Wed.</p>	<p>Mother:—Father I want twenty-five cents for the collection at the Aid Society at Mrs. Up-to-Date's this afternoon. Father:—What do you want to waste your money on such things for. It is all nonsense. Nothing but a bunch of women gossipers.</p>
<p>Father:—I believe we will sow less oats this year and more barley. Barley makes a better crop to feed provided it is ground. We can buy a mill and run it with our gas traction engine. It will give us something to do during the winter days.</p>	<p>11 Thur.</p>	<p>Father:—It does seem as if we never would finish sowing our wheat this year. This fall we must get more plowing done. It does seem as if everything is going against us in the way of our getting our work done.</p>
<p>Henry:—Our crop of little pigs is the best this year that we have ever had. It certainly does pay to give the old sows good care during the winter. I am going to build some of those portable hog houses I read about in The Canadian Thresherman and Farmer and try them.</p>	<p>12 Fri.</p>	<p>George:—Our pig crop this year will be mighty small. But it don't matter much as we haven't a decent place to keep them anyhow. I found another sow dead this morning. That is the second within a week.</p>
<p>Mother:—My hens are laying so well this spring I am going to buy that new piano I have wanted so long. I believe I will go to town this afternoon and look over some. Father:—I wondered what all those piano catalogs meant and I see now.</p>	<p>13 Sat.</p>	<p>Father:—Mother, you have got to keep this grocery bill down somehow. It is piling up to such an extent that I shall not be able to pay it. When I got those things today Jones hinted that a little cash would come in very handy.</p>
<p>John:—Two more calves this morning and they are daisies. That bull we got last summer is certainly showing results. Mother:—Hurry up you men folks to breakfast. Your coffee and bacon will be cold.</p>	<p>14 Sun.</p>	<p>Father:—I must go to town today if it is Sunday and get that plow I left yesterday. I could have brought it home with me last night but I would have had to wait too long.</p>
<p>Father:—Wasn't that a fine rain we had last night? It will just make the grass and the grain jump. It is too wet to do anything in the field today so we had better look over the pasture fence for loose wire or broken posts.</p>	<p>15 Mon.</p>	<p>George:—Here it is raining and the barn is half full of water. That's what we get for not keeping the manure cleaned out in the winter time. I wonder why it is that we can't do things like other people?</p>
<p>Father:—Boys you had better start sowing oats today on that piece that you disced and harrowed last Tuesday with the engine. It certainly is an easy job to get the work lined up with such a machine. Next year we are going to do more of our work that way.</p>	<p>16 Tues.</p>	<p>Father:—We must try and finish sowing wheat today. I want to put in quite a lot of oats this year. It is a good thing to have to sell in the winter time when money is short.</p>
<p>Mother:—Those trees came yesterday and I think they should be planted as soon as possible. The old windbreak is good but we need more of it. I would like some planted to the north of my garden as a protection for the berry bushes.</p>	<p>17 Wed.</p>	<p>Mother:—The man was here with those trees yesterday but he would not leave them without the money. Father:—Careless anyhow. Here we are so busy and I've got to go to town and borrow money from the bank for something I never did want.</p>
<p>Father:—I am going to start harrowing the wheat today. It was drilled into a good compact seed bed and all of the bulletins say that when that is the case, the thing to do is to drag it.</p>	<p>18 Thur.</p>	<p>Father:—That agent left those trees with Smith the implement dealer and they are all dried out. I wish he had left them with any one else as my credit isn't any too good with Smith now. He told Smith why he didn't leave them.</p>
<p>Henry:—Gee my back and legs ache this morning after setting out all those trees yesterday and what do you think. Just as I thought I was all through mother came out with a lot of early cabbage plants for me to set out. She tried to make it easy by telling me about the nice salad it would make.</p>	<p>19 Fri.</p>	<p>George:—That plow you had fixed last Saturday simply won't scour. If we don't get an implement shed and keep our tools in it, it won't be long before we won't have any at all.</p>
<p>Father:—Well boys I know you would like to play ball with the town boys this afternoon but we must make hay while the sun shines and finish sowing oats. Boys:—Never mind the ball father. We want the best crop in this neighborhood this season.</p>	<p>20 Sat.</p>	<p>George:—I am going to town and play base ball today. Father:—What and us with all of this work on our hands. I know the hired man is going but then he is a hired man and I can't refuse him. No you will have to stay at home and work such foolishness out of your head.</p>
<p>Mother:—I hear they are going to take up a collection at church today for Foreign Missions but from what I have seen lately I am of the opinion that we are badly in need of some missionaries right here in our own town. Let us begin at home.</p>	<p>21 Sun.</p>	<p>Father:—I believe we had better fix the fence around the back pasture today. I know it is Sunday but we have no other time to do it and then everybody else will be at church.</p>
<p>Father:—I must water that nursery stock today. It doesn't pay to buy trees and then not attend to them after they are planted. I saw Good Intentions yesterday at church and he hasn't finished sowing wheat yet. I wouldn't give much for wheat sown as late as this.</p>	<p>22 Mon.</p>	<p>Mother:—Don't you think you had better plant those trees today. They are beginning to look pretty well dried out. Father:—What plant trees and with no oats sowed yet. I guess they will keep for a while yet. If they can't they can spoil.</p>
<p>John:—I see that the Canadian Industrial Exhibition at Winnipeg are holding another motor competition this year. I am certainly going down and follow the engines carefully. One cannot know too much these days about traction farming. It is the coming thing.</p>	<p>23 Tues.</p>	<p>Father:—Johnson the seed man was trying to sell me some alfalfa seed last night when I was in town but you bet your life I am not going to be fooled by any of this new fangled stuff. Prairie grass is good enough for my cows.</p>
<p>Mother:—Everybody to town today for a holiday. You have all worked hard for the past six weeks and a rest will do us all good. Even the horses can have a good rest because we can take the auto.</p>	<p>24 Wed.</p>	<p>Mother:—I am going to town today if I have to walk. It is nothing but stay at home around this place, wash clothes, mend socks, and cook meals. I hardly have anything fit to wear though.</p>
<p>Father:—I am going to write for catalogs of reparators. We have an engine and we might just as well do our own threshing. We lost considerable grain last year through waiting for a rig to get around. There are several reparators advertised in The Canadian Thresherman and Farmer.</p>	<p>25 Thur.</p>	<p>Father:—Did you bring me that chewing tobacco I sent for yesterday? Mother:—No, indeed I didn't. If I can't have a horse to go to town once in a while why can you look after your own chewing tobacco. Besides I just can't ask for any more credit from Jones.</p>
<p>Henry:—The Canadian Thresherman and Farmer has asked us for our gas engine experience. Shall I give it to them? Father:—By all means. A paper that is as live and up-to-date as it is should be given every possible encouragement.</p>	<p>26 Fri.</p>	<p>George:—Here is another letter from The Canadian Thresherman and Farmer asking for our subscription. I would like to take it. Father:—As he takes a chunk off from a 50 cent piece of tobacco you haven't any time for reading this summer, besides I haven't got a dollar to spare just now.</p>
<p>Mother:—Well the garden is all planned. I would as soon try to run a house without a stove as not to have a garden. There is nothing that helps to keep our appetites in such good shape as plenty of fresh vegetables.</p>	<p>27 Sat.</p>	<p>Mother:—I go wish I could get my garden all plowed. I was over to Mrs. Up-to-Date's yesterday and she has hers all ready. I suppose I will have to spade up a piece myself same as I did last year.</p>
<p>Father:—Let us all get to church early today. If there is anything that spoils a sermon for me it is to see a woman come down the aisle with a new spring bonnet after the sermon has begun. It looks as if she did it to attract attention.</p>	<p>28 Sun.</p>	<p>George:—The grey mare has a colt this morning but it is so small and weak that I don't believe it will live. It doesn't pay to work a mare with foal so hard during the spring. She has been the hardest worked horse on the place this spring.</p>
<p>Father:—You boys had better clean out the manure that has accumulated in front of the barn and spread it on that piece of timothy sod. Use the manure spreader and it will not interfere with the mower at haying time.</p>	<p>29 Mon.</p>	<p>Father:—I don't believe we will sow a great deal of oats after all. It is getting so late and besides we can increase the amount of our summer fallow. Some of the land is getting pretty weedy and needs it.</p>
<p>John:—I am going to have a new buggy this summer. The old one is getting pretty shabby. Henry:—Oh I see. John is figuring that it will be necessary for him to use both arms at times when he is out riding this summer and the auto will hardly do.</p>	<p>30 Tues.</p>	<p>George:—John Up-to-Date tells me he is going to have a new buggy. Father can't I have a new single harness this spring? Ours is pretty well worn out. Father:—No, I can't afford it this spring. If we get a good crop we can probably get one this fall.</p>
<p>Mother:—I would like to have a cement walk this summer from the house to the barn. It would save me a lot of dirty floors. Father:—I am glad you mentioned it. We will get busy right away.</p>	<p>31 Wed.</p>	<p>Mother:—I do wish we could have a cream separator. I'm getting tired lifting heavy milk cans and besides it makes such a mess around when milk is handled as it is now. If we don't get one pretty soon I'm going to stop taking care of any milk at all.</p>

on know hope

chinery could do in drivin' her up to a head wind.

"The captain backed him up, an' I tell ye them two fellows made that big hulk slap intae the teeth o' a gale and a seaway that few sane men wad hae attempted. She was light, of coorse, and baith hull and superstructure stood high oot o' the water, and that made it a' the harder task tae make speed. Sometimes her heels kicked high oot o' the heavy seas, and then the propeller raced like the devil.

"We had forged ahead about ten knots and were about five miles off the land when, unfortunately, wan o' the bearin's got heated. The engines were put to dead slow and the ship went aboot for hame, but ten minutes later the machinery stopped entirely, and then there was the deuce o' a mess until that bearin' was cooled again. Cross seas struck the vessel, chiefly astern, and swung her till she lay broad-side on to the weather.

"Two young ladies were aboard, Miss Norah Hallglen, the seventeen year auld daughter o' one o' the owners, and a freend. They were as good sailors as any man on board, and kept the bridge almost frae beginnin' tae end o' the trip, an' frae that position they witnessed for the first time in their lives what savin' life at sea means under what looks like impossible conditions.

"One of the boats caught the full force of a heavy sea that tore her stern from the davit and left her hangin' free over the ship's side wi' her nose in the air. Several members o' the crew were doin' their best to have the boat secured when a terrific wave was seen astern, coming ahead like a fiend exasperated and mad for destruction.

"The captain shouted to the boys at the boat to stand by, and the young ladies screamed as they took in the horrible plight of the brave lads. They heard the captain's warnin' an' ye could see them griffin' like grim death to whatever they could lay their hands upon. The sea caught the ship on the starboard quarter and tore forward the full length of her broadside, and for a full minute there was nothing tae be seen but a pandemonium o' white foam and green sea on the spot where the men had been working.

"As the ship gradually rose and shook her decks free from the water, ye could see the men like drowned rats still hangin' on to stanchions and ropes, but to the horror of the folks on the bridge—one of them had gone!

"Man overboard!" was shouted frae stem to stern, and the captain ran as far oot on the bridge as he dared to look for the poor fellow, if he had not already been killed and carried down oot o' sight.

"There he is father!" It was the keen young sight of Miss Hallglen that was the first tae pick oot the sailor like a small speck o' flotsam in the white foam that was everywhere around the ship. He had been

Hart-Brown Wing Carrier

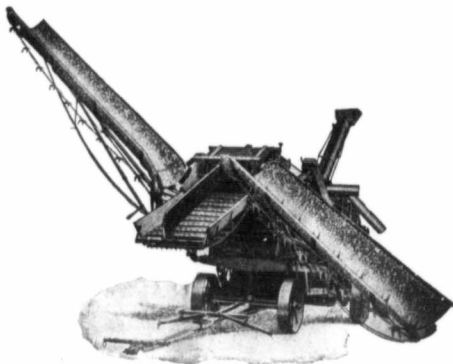


Hart Universal Thresher Rack

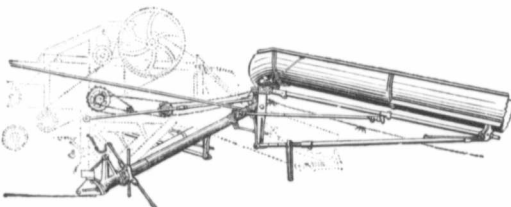
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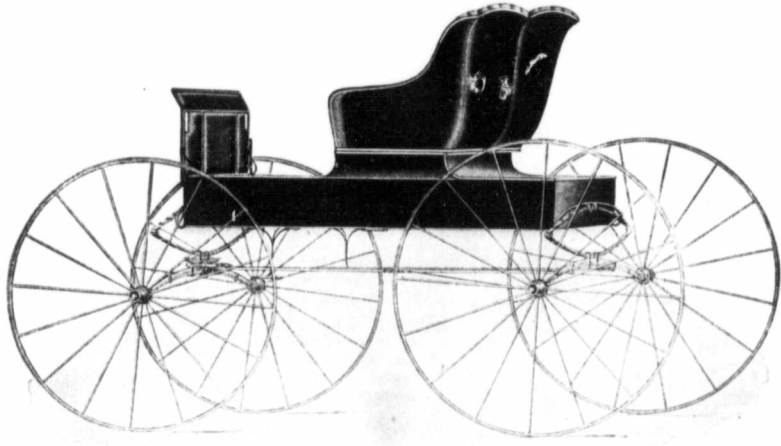
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 Buffalo Pitts Co., Buffalo, N. Y.
 The John Goodison Thresher Co. Limited, Sarnia, Ontario, Canada.
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carried some fifty yards away from the ship's side, and to the horror of everybody, it could be seen that he and the vessel were drifting slowly apart. Lifebuoys were flung, but of course they fell far short o' the puir fellow at that distance, and a party of his mates were rushin' one of the forward lifeboats from her davits to get at him.

"While this was goin' on, a young chap wi' a face as black as a coal-heavers and stripped to the waist mounted the bulwarks at a point nearest to where the man was struggling wi' his fate in that hell o' water.

"The next moment he was in head foremost and making splendid headway for the drowning man. As ill luck would have it, the lifeboat fouled in the launchin' an' had to be hauled on board again. But it had been late anyhow, for the darin' fellow who sprang overboard had the presence of mind to take a line with him an' was now alongside his mate. We could see him signal to the men on board, and afore ye could say 'Jeck Robinson,' they had both men safely on deck.

"That chap that had been carried away by the sea had got his left arm dislocated at the shoulder. In spite of that, however, he bore up like a hero, but fainted the moment that brave boy seized him in the water.

"Both men were carried into the chief officer's cabin and nothing that thought or skill could do for them was neglected. The

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young ladies were anxious to render help, but the captain would not allow them to leave the protection of the bridge house until things improved a bit. Fortunately, just as the rescue had been completed, the engines were started again, and in something over an hour we were within the shelter o' Girdleness.

"As we were steamin' slowly up the harbor fairway, I took a peep into the chief officer's cabin in my curiosity wi' the rest to see the young hero and the man who owed his life tae him. The young ladies were aheid o' me. I couldna see the lad, but I was struck wi' the look in Miss Hallglen's eyes. She was gazing on one of the men as he lay in his berth, and that look interpreted to me

for the first time Ossian's words: 'Deep pools of dream.'

"I squeezed in and craned my neck to get in line wi' that look and, lord sirs! I got the grandest electric shock o' my life: it was Johnnie Lundie! As sure as daith, that Johnnie Lundie was the chiel I saw spring 'frae the ship's side after that droonin' man was the last thoct that wad hae come intae my heid. I kent he was workin' in the engine room, and there in my mind I had him a' the time, but he had come up on deck tae get a braith o' air at the moment he heard the cry o' 'Man overboard,' and the rest ye ken.

"The end o't was that the boy was recommended for the Albert Medal o' the third class, and that

same year when the royal party cam' north tae the shootin', Johnnie was summoned tae Abergeldie Castle, and wi' her ain hand Her Royal Highness, the Princess o' Wales, preened (pinned) it on his richt breast. A' his folk were there by invitation, and a' his freends that could win awa frae their wark were there without an invite. It was one o' the proodest days o' my life, and Johnnie stood it a' as quietly as gin he had been called up by his auld dominie tae repeat the twenty-third psalm.

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Gasoline Traction Engines

Continued from page 24

Before I finish I would like to say something about a hitch for disc harrows and drills. I made last summer one which works very satisfactorily. I took a piece of timber 4 x 6 inches, 14 feet long, cut off the ends like for an axle, so that I could put on a wheel on each end. This I fastened with eye bolts (three feet each way from the center) and rings with the same plow chains to the drawbar. Then I put some big clevises on this long axle to fasten the disc harrows or drills in the proper places. I can fasten two drills on this axle and to make them follow one another in the right way I put the tongues of first one over the axle and fastened with a chain in the clevis, so that it leaves plenty of room to travel.

Yours truly,
John Tomberg,
Biggar, Sask.



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Adrian, Mich.

Never handled Engine Before.

Last September I purchased a Winnipeg gas tractor 25 H. P. and plowed over four hundred acres, averaging about 20 acres per day. I used from 1 1-2 to 2 gallons of gasoline per acre. On level ground we can plow an acre with a gallon and a half, but on hills it takes about two gallons.

I use a seven furrow Cockshutt gang with a nine foot packer attached, and can plow and pack two acres in an hour. On hot days can do nearly three.

I have never had any previous experience with either steam or gasoline engines, but I found this engine very simple and easily managed.

About once a week we added a barrel of water. In hot summer days I expect it will take more.

Yours very truly,
C. S. Touchburn,
Alexander, Man.

An Oil Pull.

I bought my engine late in the fall, so I have had very little chance to know what it can do. I plowed about three hundred acres, eight inches deep, with a Cockshutt eight furrow fourteen-inch gang, and did splendid work. The engine handled the plows with ease.

My engine is a Rumely 45 horse power oil-pull engine. I employ from 6 to 12 men through season. I have been keeping six pair of horses and four yoke of oxen, but I am now doing away with my oxen and two team of horses, as I figure my engine will do the hard work.

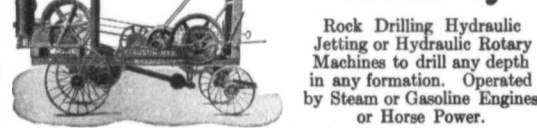
I can plow about twenty-five acres in ten hours.

I threshed about 400 acres in November and part of December with a 40 inch J. I. Case separator. The engine worked with ease.

I could not say which is harder on my engine, plowing or threshing.

Yours truly,
Thomas Sunderson,
Kinistino, Sask.

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Extra Stout
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These well known malt beverages are brewed from barley malt and hops only. Always uniform in quality and flavor.

Traction Plowing

Continued from page 36

care and bad weather, the cost has been \$2.00 per acre.

I might also state that I used the engine for threshing, and find it much easier on the engine than plowing. I had about \$25.00 on repairs on my engine during the plowing season and none in threshing. I had a first-class engineer, and that is where a large part of success in traction plowing lays.

Hoping this will benefit someone, I remain,

Yours truly,
C. N. Bonsall,
Rouleau, Sask.

Just Suits Him.

I bought a 35 horse power Nichols and Shepard Alberta Special engine last May, and it just suits me. I am very well satisfied. We pull twelve fourteen-inch Cockshutt plows with ease, and plow on an average of three acres an hour, using about 300 pounds of coal and 15 barrels of water an hour. The expense for an hour's running is about as follows: Coal, 80 cents; water, 50 cents; hired help, 70 cents; and other expenses, 50 cents; making a total of \$2.50

We use on an average four men and four horses to supply us with fuel and water, etc.

I know positively that plowing is harder on my engine than threshing, for there is so much extra wear on the gearing.

Our cost per acre would not exceed \$1.00.

We use about 3,000 pounds of coal per day. I think the Crow's Nest is fine. Our plows certainly do nice work.

If there is any more information I can give you I will gladly do so if you will let me know.

Yours truly,
John S. Mills,
Scott, Sask.

The Constant Steady Move Counts.

I have had three seasons' experience in traction plowing work and four at threshing. The first two seasons that I was plowing I was working on the engine and in the spring of 1910 I bought a steam outfit, consisting of 32 horse power Cross Compound Reeves engine and a 10 furrow Cockshutt plow, which I think is a good steam plow combination. I also have a 12 1-2 barrel steel Reeves tank mounted on a Davenport roller bearing steel wagon, and a large four horse tank, which I made myself, four ten-inch planks high, and fourteen feet long, which holds a trifle more than two of the small tanks full. On long hauls I use the big tank and on short hauls I use the small one, all of which has given satisfaction.

On account of my not getting the outfit until late I lost about six weeks in the spring of the very best breaking. This cut the season's work considerably, but after then we broke a little better

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DO YOU KNOW

THAT IF YOUR 'D' SLIDE VALVE HAD AS LONG A TRAVEL AS THE PISTON YOUR ENGINE WOULD NOT DEVELOP ENOUGH POWER TO DRIVE THE VALVE?

DO YOU KNOW if an eccentric as large as the crank were devised, with the travel of the valve equal to the stroke of the piston, and if the valve were as large in area as the piston, there would not be enough power developed by the cylinder to drive the valve.

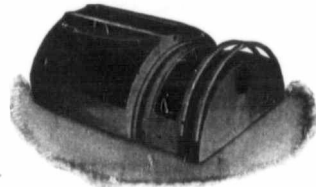
DO YOU KNOW that it is the steam pressure on piston head that causes piston to move, and it is the same steam pressure on the back of the valve that causes the load of from two to three tons on the valve?

DO YOU KNOW that you have the same pressure per square inch on the back of the valve that you have against the head of the piston, and that therefore the energy developed by the movement of the piston is neutralized by the pressure and travel of the valve?

DO YOU KNOW that live steam only moves the piston two-thirds of the travel, at which point live steam is cut off and expansive pressure carries it the balance? The piston head is exposed to live steam pressure two-thirds of the time; the valve is exposed to it continuously.

DO YOU KNOW, therefore, that if the valve had a ten inch travel, the same as the piston, and the area of the valve was the same as the area of the piston, the engine would develop no power? It is only on account of the short travel of the valve and the strong eccentric power required to drive it that the engine develops more power than is necessary to drive the valve.

Our catalogue explains this fully, and tells you why we make a gain in power over the common 'D' slide valve in any make of traction engine. Send for our catalogue.



Gould Balance Valve Company
Kellogg, Iowa, U.S.A.

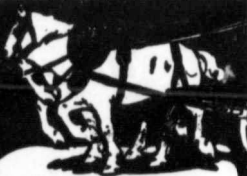
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than 1,325 acres. We moved about 100 miles with the outfit, starting work about fifteen miles southwest of Drinkwater and finishing 7 miles southwest of Regina. The land was all about as heavy gumbo as any place in the country.

We can pull 9 and 10 plows. Some jobs are heavier than others, and I find it best not to overload. My advice is to take what you can and have about 25 pounds of steam to run on. Then if for any cause the steam gets a little low you can still keep moving. It is the constant steady move that counts, not a record breaker one day and nothing more for a week. Our best run was 14 miles with 9 plows in one afternoon from one o'clock to eight. I call 16 miles a fair day's work, but 20 miles is quite common which means from 20 to 25 acres with 9 plows.

We burn from 3,000 to 3,500 pounds of steam coal. Our coal bill including coal for moving and the cook car amounted to 65 cents per acre, and we can run three miles on one small tank of water, 12 1-2 barrels, pulling 9 and 10 plows in the heavy land, breaking real deep.

All our work, which was very easy on the coal and water, was pleasing to our customers. Our best time for speed was 2 miles in 45 minutes, and our poorest was 2 miles in 10 hours, getting held up in the mud; just out of one mud hole into another, and you know that cuts the profit.

I think it pays best to run a mile round, making 2 miles in from 50 to 45 minutes, according to the smoothness of the ground.

My expense for last season's run was about \$2.00 per acre. My help consisted of engineer, who did a good share of the firing, man to steer, waterman and team, coalman and team and a handy man and team to help around, besides myself to do odd jobs. One can't always figure on a certain number of men and horses, as the distance to the water varies, also the distance to the coal. I think one is better with an extra man than to run short in good plowing season.

We were out of work a month on account of dry weather, not because we could not do it but because we couldn't get it to do. Small jobs far apart don't pay, as they won't pay any more than on a large job and there is nothing made while on the road and the expenses goes on just the same. The outfit that pays best is the one that is kept in coal and water, good men and horses. A poor man and a balky horse is dear to have at any price. In fact, I think one running a traction plowing outfit should employ good men and horses, and use the best oil, coal, etc. In fact, everything for the best is none too good and is the cheapest in the end.

I think plowing a good bit harder on my engine than threshing. My engine would run two large threshers as easily as it will plow, for plowing most always is a dead heavy load; but I think threshing would be as hard on an



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OUR LINES OF WINDMILLS, STICKNEY ENGINES and WELL DRILLS are COMPLETE. Consult us before you buy.
 Inglefids, Man. (Near Portage la Prairie), Nov. 22, 1910.
 Ontario Wind Engine & Pump Co., Wpg., Man. Gentlemen,
 I beg to advise that I have plowed twenty acres per day of ten hours in breaking with 14 inch bottom plows, and plowed from 4 to 6 inches deep. The engine can pull from six to eight bottoms according to the depth we plow and the condition 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. CRANT.
Ontario Wind Engine and Pump Co., Ltd.
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Established 1875
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Highest Awards at Centennial, Paris,
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engine, except the traction part, if it took the same brake-horse power.

I will say traction plowing is a business of itself, and if a man does not know the business I would say don't go into it; for if you depend on someone else running your business you might get fooled. But if you do try it get the best up-to-date outfit with all modern conveniences and time and labor saving devices; for time is money.

I have my engine equipped with Gould Balance valves, which gives perfect satisfaction. We pull a plow more than other engines the same as ours without these valves. I think all steam engines should be equipped with some sort of balance valves.

I am figuring on adding to my outfit a storage tank, 16 ft. long, four ten-inch planks high, and 7 or 8 wide, thus saving time waiting for tank or tank waiting for engine. I will attach a crane to raise a bucket of coal and dump in bunker, so that the engine will stop only long enough to take water. I will also have the steering device, so that one man can run it alone, thus never stopping the outfit for noon, etc., but leaving one man to attend to everything.

Hoping I will have a more interesting letter next year, telling of a more successful method of plowing, I remain,

Yours truly,
James Butcher,
Regina, Sask.

Thinks All Engines Good.

My experience with traction plowing has been of several years duration, and the more my experience extends the more I am in favor of traction in preference to horses, especially when we desire to accomplish a volume of work in a given time.

My experience has led me to believe that on small farms the horse is perhaps the most economical, but on large farms where you are obliged to keep a large number of horses, many of them being idle a good share of the year, and only used in the rush season, the horse is far the most expensive to farm with. Why? Because your horse eats 365 days a year and your engine only when you use it.

At present there is quite a diversity of opinion between plowmen as to which is the best method of traction plowing, the steam engine or the gasoline engine. They both have their friends as well as their enemies. Every man for his own opinion. My observation has been that some make a success out of both, while others make a dismal failure out of either steam or gasoline.

As to the economy of the steam and gasoline, I believe that local conditions govern that more than anything else. As for myself I prefer the gasoline engine. If there is anything that a steam engineer does not like more than alkali water for his boiler, is no water at all. Where good water is hard to get and fuel to haul

Are you protected
Against lightning?
The
**TOWNSLEY
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GUARANTEED TO
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Such a system is based on scientific principles—principles that are absolutely correct; and while they do not in any way weaken the force of the lightning's flash, they direct it in such a way that it is transferred to the earth and no harm is done. With every thunderstorm there is sufficient lightning to devastate a whole city of buildings, but if all buildings were protected by a proper system there would be no danger whatsoever. Such is the

Townsley System

It is the result of years of research and investigation.

It is built to protect your buildings and your's and your family's life. You need it. It is absolutely guaranteed. Write us.



MY SON

I have been a thresherman for 30 years, and now that you have decided to take up your father's profession, it makes me feel proud. When you get ready to buy your outfit, I want to say to you—buy a good one. And by that I mean for you to remember that a piece of machinery will always show the personality and the integrity of the firm that makes it. You will find that will be true also with the additional tools that you will need. You know that old "Weller" Jack out there in the shed—well, I bought that from the Barth Company in 1898, about a year after they started to build Jacks. It is still doing good work, though. I see that their new "Barth" Jack is a simpler and much better tool. I know the reputation of that firm, and I believe that it is that type of a manufacturer whose machinery and tools will give you the most for the money in the long run. I know the reputation of that their 18 years of Jack building stands back of every Jack that they put out.

This Jack can be bought from any good dealer or thresher supply house. Write factory for catalogue.

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several miles, the gasoline engine is superior to the steam. With either the steam or gasoline outfit you may do as nice work as you ever want to see, or you may do as poor work. The quality and quantity all lies with the operator and not with the engine and plows.

All engines and plows are made to work and they will work if intelligently handled.

The past year I have used a 20 horse power International engine and pulled four fourteen-inch breakers, five inches deep, wet or dry; and backsetting five plows and two sections of lever harrows weighted down.

I use the P and O Mogul engine gang. I like these on account of their swivel gauge wheels for plowing trashy ground, for a rigid gauge wheel will throw the trash against the throat of the plow and will naturally choke the plow and cause a few cuss words, if not a skinned hand or knuckle.

I operate my engine and tend to the plows all myself. I use the best engine gasoline I can buy on the market, and find it cheaper and gives better satisfaction than the cheaper grades.

I have found that for economical consumption of gasoline, the magneto will give far more satisfaction than batteries. The hotter the spark the better the results you obtain. With the magneto I can plow an acre of ground with 2 1-2 gallons of gasoline, while with the batteries 3 1-2 to 3 3-4 gallons slip away, and then I do not get the power that I do with the 2 1-2 gallons exploded with the magneto.

I use about 60 gallons of water per day on an average.

I believe that traction work is harder on the engine than threshing, for the reason that a person will invariably pull their engine harder in proportion to the power it will generate than they will on the belt, and further, your engine is subject to greater strains going in and out of holes and on rough ground.

Regarding the actual expense per acre plowing, my cash outlay for the past year averaged me 85 cents per acre, while this allows nothing for depreciation on engine and plows, but includes bill for extras, which was 30 cents for the season.

Yours truly,

Edward Gerselin,
Winnifred, Alta.

Started with Small Outfit.

I may state that traction plowing or traction cultivation is with us purely in the experimental stage. We have been in the threshing business for the past twelve years and have had experience with several makes of traction and portable engines and also several makes of separators. We would therefore be able to speak with authority regarding threshing, viewing it from every standpoint.

As we had about 100 acres of old land that had grown up to grass and the breaking or re-

THE DESMOND MODEL "U" INJECTOR

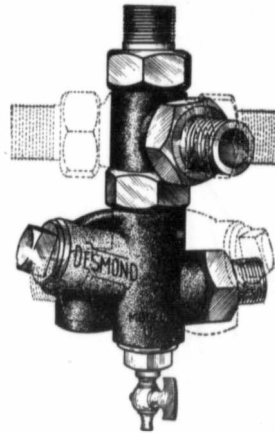
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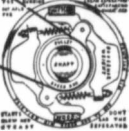
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breaking of this would necessitate the pressing horse power into the service, and as we had considerable wild land, we decided to invest in a small four bottom engine gang plow. As we were novices in plowing we decided to be on the safe side and take a small plow. Our engine, by the way, is a Sawyer-Massey tubular boiler compound engine of 20 horse power, geared only on one side. After thorough investigation our choice fell upon the four bottom gang stubble plow of the John Deere make.

Our plow was attached to the draw bar of our engine (the bar being a swinging one), with chain. The chain was attached at each side underneath the frame of the plow.

We had no difficulty in steering, as our engineer was a past master of the art. On starting we found that our engine had sufficient power to pull our plows through almost any kind of soil. The plows too seemed to do the work even better where the sod was close and tough, laying the sod over beautifully and making a first class job. Where the sod was not so strong it would sometimes fall back into the furrow. The land being hard and dry we weighted down the plows; in fact, we carried considerable wood for firing purposes on the plow. The falling of the sods back in places was due to the fact that the plows on the side next to the plowed land could not be lowered quite deep enough, there being about two inches difference in the depth of the plowing of the two furrows. I think this could be remedied by the dropping of the plow more on that side. In softer land perhaps this would not be practicable, but it is a defect, however slight, when plowing land like that described.

As to the area of land which could be plowed in one day of about twelve hours with the above mentioned outfit, I could not state definitely as we had to haul our water some little distance from the stream, there being no well convenient to this field. The tank used for hauling water was a five-barrel one, built of two inch planks. We had barrels distributed at certain distances along the field. These we filled with water after having filled the two small engine tanks on the engine platform.

When plowing one side of this field I might state that part was virgin prairie, plowing down willows of considerable size, some as large as three inches through. The work done on this land was such as to gladden the heart of the most particular plowman.

The land thus plowed will be seeded to oats and wheat this spring after part of same is disced. In conclusion, would say that, with my limited experience in plowing with an outfit of this kind, between eight and twelve acres could be turned per day on clear prairie land.

Yours truly,
 Thos. & John Hay,
 Gonor, Man.

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