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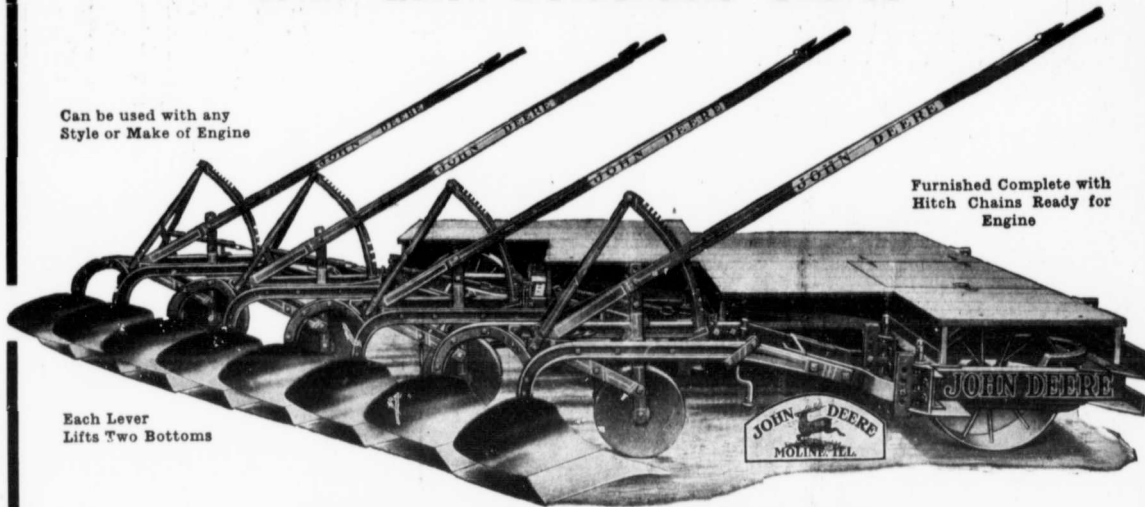
THE
CANADIAN THRESHERMAN & FARMER
CANADA'S FARM- MACHINERY MAGAZINE
WINNIPEG CANADA
MARCH, 1912



H. Heath COMPANY LIMITED Publishers
OUR TENTH YEAR

John Deere Engine Plows

With Quick Detachable Shares



Can be used with any
Style or Make of Engine

Furnished Complete with
Hitch Chains Ready for
Engine

Each Lever
Lifts Two Bottoms

MADE WITH 4, 6, 8, 10, 12 or 14 BOTTOMS

The Money in Engine Gang Plowing

On many quarter-section farms an engine plowing outfit brings solid profits. On larger farms it is absolutely necessary if one is to get the best he can make out of the land. Getting first rate plowing done in time has everything to do with the crop results. Short seasons will not fit in with horse power except at a ruinous cost. The increased product from soil that has been properly handled when in the best condition for plowing will in a season or two pay for the complete outfit of engine and engine gang plow. In a perfect seed bed, uniform work is imperative. You'll always get it with big crops from a John Deere Engine Gang.

The Two Bottom Lift

One man can easily handle all the bottoms. They are built in pairs and each pair of bottoms will rise over a hummock or go down into a depression without disturbing the others. Attaching Beams and Bottoms in pairs gives plenty of spread between the clevises, preventing winging and passing around obstructions instead of over them. With the John Deere Two Bottom Lift you get absolutely uniform work. There are no slanting furrows and the plows cannot tip.



Quick, Detachable Shares

John Deere Engine Plows are equipped with quick detachable shares that can be put on or taken off in a small fraction of time required for ordinary shares. Only one nut to remove. An eyebolt attached to the share passes through a hole in the bracket and one nut holds the share firmly in place. A lug on the share fits into a slot on the land side of the frog. This holds the share rigid and true.

The Screw Clevis

Each clevis on a John Deere Engine Plow is provided with a screw adjustment which raises or lowers the beam points just the amount needed. This adjustment can easily and quickly be made while the plow is travelling. Screw clevises are a great convenience in giving the plows exactly the right set, and are operated by an ordinary wrench, though a handy socket wrench for the purpose is furnished with each plow.

JOHN DEERE OLD GROUND
BOTTOM WITH
QUICK DETACHABLE SHARE.

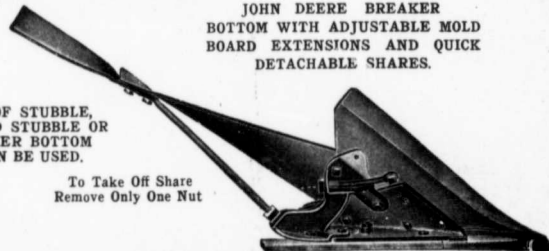
SHARE
QUICKLY
REMOVED
BY TAKING
NUT OFF
EYE BOLT.



ANY STYLE OF STUBBLE,
TURF AND STUBBLE OR
BREAKER BOTTOM
CAN BE USED.

To Take Off Share
Remove Only One Nut

JOHN DEERE BREAKER
BOTTOM WITH ADJUSTABLE MOLD
BOARD EXTENSIONS AND QUICK
DETACHABLE SHARES.



Write for free Illustrated Booklet on Engine Plowing
and all it means

JOHN DEERE PLOW COMPANY, LTD.

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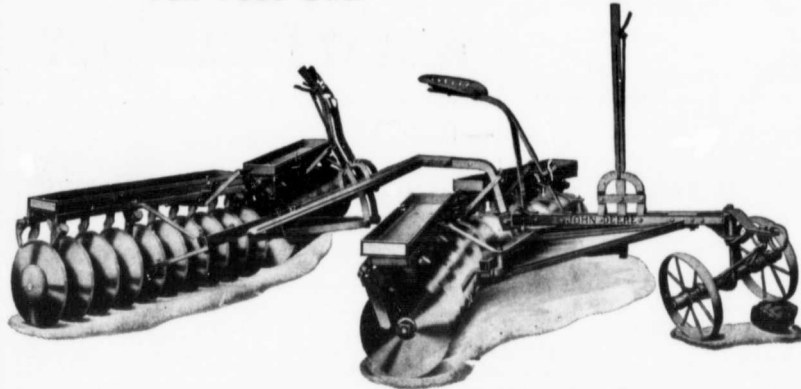
Saskatoon

Lethbridge

JOHN DEERE DOUBLE-ACTION Engine Disc Harrow

The greatest implement made for the preparation of the soil. One trip will do twice the stirring and pulverizing of the old method, while the biggest job can be done perfectly and done to time. No unnecessary packing. Leaves a smooth, level surface.

Ten Foot Cut.



SPECIFICATION

The front section is out-throw, the rear inthrow, and sections are hinged together so that dragging around corners is avoided. By uncoupling rear section, a complete out-throw disc harrow is left which may be used as such. Levers are reached from seat on front section, and a ribbed steel platform is built into the frame of this section. Larger pressed steel weight boxes are provided and hard oil cups are on all disc bearing boxes. Bushings are of oil-soaked hard maple, the best and most easily-maintained disc harrow bearing made. Swinging steel scrapers with lock-off and lock-down features are used on both gangs which keep the discs perfectly clean.

Built to stand the severest strain from any tractor to which it may be working. For light tractors the harrow is a fair load alone. With a more powerful engine, it can be hitched behind the plow so that plowing and discing may be done in one operation, in which case the plowed land is not beaten down by the tractor.

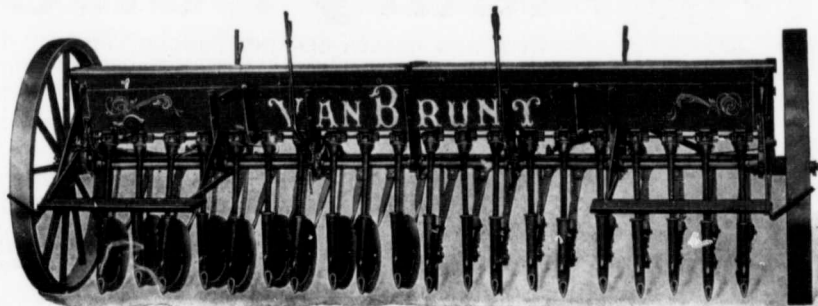
BEFORE YOU START SPRING WORK DONT FAIL TO GET COMPLETE INFORMATION ABOUT THIS HARROW.

*In buying a Drill, be sure
that the name "VAN BRUNT" is on the hopper.*

AN IMITATION IS NEVER SO GOOD AS THE ORIGINAL

Light Draft with new boot discharge — boot and discharge **within** instead of of **without** the circle of disc.

New Models with 12, 14, 16, 18, 20, 22 and 24 Single, Double Disc and Shoe, Interchangeable.



There are a number of poor copies of this machine being sold under different names, but there is only **ONE VAN BRUNT**. We challenge the most severe comparison and test with any competing seeder by the only test that counts—**RESULTS**. The VAN BRUNT is stronger and more durable by far than many of these imitations; while it carries less dead weight by from 300 to 400 pounds. You'll have no wasted seed grain if you seed with a **VAN BRUNT**.

Write for Complete Literature of our Tillage Tools.

JOHN DEERE PLOW CO. LTD.

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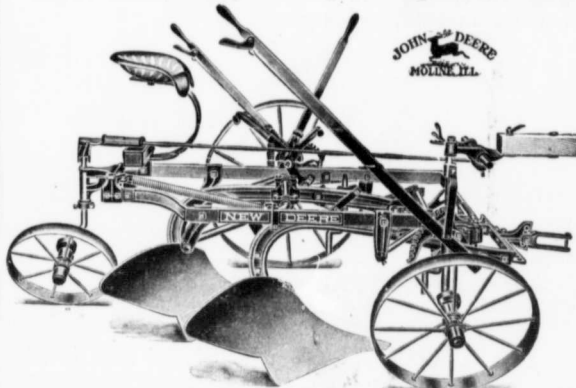
Saskatoon

Lethbridge

John Deere Light Draft Gang Plow

represents the last point reached in the production of a perfect riding plow. It means to the farmer everything that Quality of Work, Easy Management, Strength and Durability means to him, and what Lightness of Draft means to his Horses.

Get to know what scores of your neighbors are doing with it and you'll have it before anything else



WHY IT PULLS EASY

The shape of the bottom and the extreme lightness and ductility of the material of which the implement is constructed make it the

Easiest of all Riding Plows

on horse flesh and men's patience.

THE LIGHT DRAFT NEW DEERE derives its name from the **FACT** that it does not throw one pound of unnecessary strain on the horses that are pulling it. The weight is distributed equally on all wheels, with perfect adjustments at every point of the plow. If you would **SAVE MONEY**, you'll do it with a **LIGHT DRAFT NEW DEERE** in the saving you will effect in time, in valuable horses and in repairs which you will **NOT** have to provide for.

THIS PLOW WILL BE IN ITS PRIME WHEN OTHERS ARE IN THE SCRAP HEAP.

CRUSH the SOIL but SAVE the HORSES

The average Pulverizer is simply a dead drag on the necks of the horses. It may roll and flatten the clods but it does not pulverize them to that fine powder that is necessary for the conservation of moisture and the perfect seed-bed.

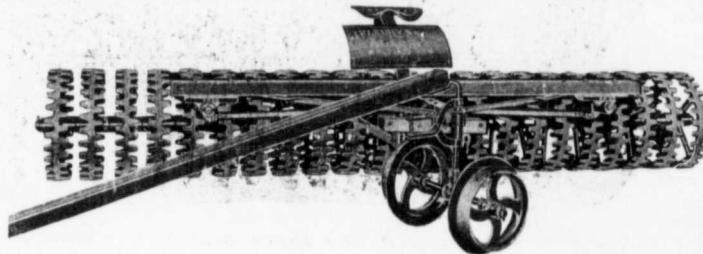
The Fleury Pulverizer

WITH NEW ROLLER BEARING TONGUE TRUCK.

is guaranteed to leave behind it a perfect seed-bed if the soil is there, while the **FREE OSCILLATING TONGUE TRUCK** accommodates itself to the least deviation of the implement and takes half the burden from the horses.

Dust Proof Roller Bearings

take the place of the obsolete "friction" equipment of the two main axes and the **TWO DRAFT IRON BEARINGS**. These are made absolutely dirt-proof by close-fitting washers screened to both ends of bearing case.



No jolting on horses.

The castings in which the roller bearings revolve are accurately Bored not "Cored," so that the bearings fit perfectly. In other makes the shafting "takes its chance" in the core of the casting. We use only the finest Reeled shafting which is **CLEAN** and **TRUE** throughout its entire length as distinguished from the common and irregular cast shafting of competitive machines.

Made in sizes 16, 22, 24, sections with or without tongue trucks. Any of these sizes may also be had with **SUB-SOIL WHEELS**.

EASE and ENDURANCE in PLACE of WEIGHT and WEAR

WRITE FOR LITERATURE, PRICES AND TERMS.

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BARTH



WITH this Jack two men can raise or lower a load of 6 tons (12,000) lbs. a distance of eleven inches in one half minute. Ask your dealer for the Jack. Ask us for a catalogue.

BARTH MFG. CO.
126 L ST., MILWAUKEE, WIS.

JACK

PICKLED POPLAR POSTS

These fence posts are thoroughly impregnated with a wood preservative and are water proof, weather proof and worm proof.

THEY ARE ESTIMATED TO LAST AT LEAST TWENTY YEARS

They are barked, pointed and wire bound at top to prevent splitting when driven. They are flatted on two sides to a minimum thickness of three inches.

ORDER IMMEDIATELY FOR SPRING DELIVERY

FULL INFORMATION FROM
THE CARBON OIL WORKS, LIMITED

Creosoting Dept., WINNIPEG, Man.

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

About Ourselves

As we write this, Feby. 26, the breath of spring is in the air. This does not mean that winter is over for old March may "hump up her back" and demand that we again go back to our furs and fire-sides for a brief spell.

A spirit of unrest, however, is beginning to invade the breast of every Western Canadian farmer and he longs for the smell of the freshly turned furrow and the rattle of the seed as it runs through the drill pipes into the warm moist earth.


This to us is a period of more or less regret. During the winter months, when the cold outside compels the farmer to sit by his warm fireside, we always feel that we are getting close to him and that he is one of us. When spring comes his own labors engross his attention naturally, we sometimes wonder whether or not the Canadian Thresherman and Farmer comes to him with the same satisfaction as it does during the winter months. We hope so and do our best to give our readers reading matter so vital to their interests and so interesting that they will relish it during their every spare moment.

Our next issue, for example, will be devoted largely to traction cultivation. Now we are not so narrow as to assume for a minute that all our readers

are interested in traction farming. We make no such claims, but we do feel that it is more or less interesting to the majority of farmers and vitally so to not a few.

The traction plowing numbers of this magazine are land marks along the pathway of "Power Farming." We have published more material on this subject than any other magazine published today and while some people who have tried to slop over into a game about which they know nothing have accused us of changing our point of view in order to swell our advertising patronage, we would simply state that we followed the "Power Farming" proposition sufficiently close to always be in the lead when a change in equipment and conditions were demanded. Some people make a lot of noise pulling their feet out of the mud they have already thrown.

We want our readers to watch carefully for our April issue. It will be a big one in every way. Big in size. Big in quality of matter presented. Some day, if you are not already in it, you will want to get into the "Power Farming" game and the man who has read this magazine continuously and conscientiously is miles ahead of the man who hasn't. Think it over and then see to it that you don't let that subscription expire.



Profit From Your Fields

It is more than likely that new varieties or fresh strains of seeds would increase your grain yields by several bushels per acre. That's why it is worth your while to try out

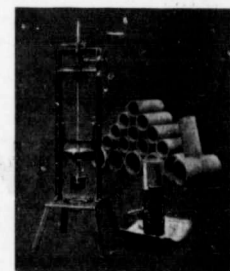
EWING'S Reliable Seeds

The extra cost of a few bushels of seed is a trifle compared with the profit from the larger crops. Ewing's Seeds, in thousands of tests during the last forty years and more, have proved heavy croppers.

Write for our illustrated catalogue, and if your dealer hasn't Ewing's Seeds buy from us direct.

Wm. Ewing & Co.,
SEEDSMEN
McGill Street,
Montreal.
19

Make Your Own Tile



Cost \$4.00 to \$6.00 per 1000. Hand or Power. Write for Catalogue.

Farmer's Cement Tile Machine Co.
WALKERVILLE, ONT.

OUR OFFER

One Thresherman's Settlement Book and the Canadian Thresherman and Farmer one year for

ONE DOLLAR



HAMILTON

HEAD OFFICE AND FACTORIES

CANADA

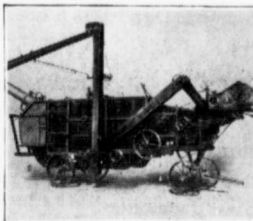


You Men of the Country that still have Grain to Thresh Have no Time to Lose

You know that 1912 business is opening up with a rush.

You know what it means to you, if you do not get your land cleared and your grain threshed early this Spring.

Now right here is a truth that will prove to you the quality and popularity of Sawyer-Massey Machines.



The "Great Wee" built in five sizes for Medium and Heavy Work

The demand for our Separators last Fall, was so great, we were completely sold out.

Our Factory, keeping always in mind the needs of the Farmers of Western Canada, especially those who were caught last Fall by the early snow and other causes, have just completed and shipped to us a few more of the Machines, illustrated below.

We can make immediate delivery,

For 75 years the Sawyer-Massey Co. have withstood all competition

The Sawyer-Massey Company is an independent individual Firm, building Threshing Machines for the needs of the individual farmer

We can supply you with a Separator to suit any power

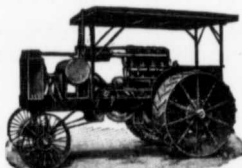


The "Eclipse" built in one size, suitable for light work and for use with an 8 to 10 H. P. or small gasoline engine

We can supply you with power of any size for any purpose

We are anxious to serve you, in the best and most profitable way to you, so write quick, for we are busy shipping out our Steam and Gas Engines for the important work of Spring Plowing, and from Orders now on hand we are going to be a great deal busier.

If you are interested in Plowing Engines, communicate with us, we are not in a combine, we have no School; but let us tell you this—we have the Engines and we have the men—men with knowledge and practical experience, that can, and will go right out into the field with you, and give you a Schooling



The Sawyer-Massey Gas Tractor, built in one size 22-45.

worth while; the best Schooling you can obtain is that of practical experience under actual field working conditions.

This is the kind of knowledge and experience you want and need—this is what will tell when you get right down to work this Spring

Let us hear from you.

SAWYER-MASSEY Co. Ltd.

Saskatchewan and Alberta Branch: Regina, Sask.
Manitoba Branch: Winnipeg, Man.

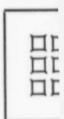
NOT IN A COMBINE



BRANCHES-WINNIPEG MAN. AND REGINA SASK.



Vol.



It is success in doing business



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A MAGAZINE FOR THE FARM AND HOME

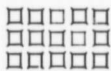


THE CANADIAN THRESHERMAN AND FARMER

Vol. XVII.

WINNIPEG, CANADA, MARCH, 1912.

No. 3.



How I Would Farm a Section of Land

By CHAS. L. COLDRICK.



It is a well-known fact that the success of our large manufacturing concerns is due largely to the businesslike and systematic methods employed in conducting same.



As They Still do it in Japan.

Without system all would be chaos. No matter how large the profits or how small the cost of labor and materials, without systematic methods being employed in manufacturing and placing the finished product on the market, these companies would soon go into liquidation.

There are few farmers who realize—though some are now beginning to do so—that farming, especially as applied to these western prairies, where so many acres are tilled, is just as much a business proposition as the largest manufacturing plant in this western hemisphere. And it is just as necessary to the successful and profitable operation of a farm to employ systematic methods as it is for a machine company to do so.

Also every year, as time goes on, science and invention claim more prizes from the hitherto unknown, and human brains triumph over some new time or labor-saving product. This is especially true with regards to farm

machinery and motive power; and it is up to our farmers to take advantage of these new appliances, and by combining their brains with their brawn, develop their old, haphazard, tedious methods of farming into a more modern, up-to-date, and businesslike proposition.

Now, to get down to the headline of this article. I propose to show how I would bring a section of raw prairie into cultivation with the aid of gasoline power.

I would begin by choosing a section of land as near level and free from stone as possible. I would also choose land that was somewhat loamy, so that the drive wheels of the engine would not leave any injurious effect in passing over the soil. I would also purchase four good young horses of about 1,500 lbs. weight. Next I would obtain a good heavy packer.

I will presume that I have already on the ground a good internal combustion tractor, and not less than 30-horse tractive power. So much for the engine. I now have to procure an engine gang plow. After studying all makes I will buy a seven or eight furrow, 14 in. engine gang. Be sure and get it strong, as breaking is severe work. These plows may be raised at the back, which allows of easy access when replacing plow lays. I would also endeavor when buying the plow to purchase

one where the platform came within easy stepping distance of the engine, as I would figure to run the engine and plows single handed.

Now just as soon as the snow goes off in the spring, and the ground is in shape to break, I take my engine and hitch on, say, six breaking plows and a heavy weighted packer. I will not break over 3 in. deep, as the sods will then lay over good, and I will be able to get another inch in the fall when back-setting.

I might here mention that I will follow Prof. W. H. Campbell's system of scientific soil culture as far as possible, as this system appeals very strongly to my own common sense.



Plowing in India.

Now an engine, such as I have described above, and developing thirty tractive horse power, will easily handle 6 breakers, breaking 3 in. deep, and a heavy

weighted engine—especially gasoline—down packer in any soil where the moldboards will scour nicely. So I would knock off one plow, and break away with the six bottoms and a packer until I had 200 acres broken. This I should easily be able to accomplish in 20 working days. This figure is very conservative, and the daily amount of breaking would probably be nearer 15 acres than 10. By working days I mean actual engine running days. I might here say that it is

a very unwise thing to load an engine—especially gasoline—down to the heaviest load that it will possibly draw, as the constant strain will inevitably lead to a breakdown, and no time will be gained, but rather lost in the attendant expense and loss of time. It is much better to give your engine just a good comfortable load, and go steady, and keep going. With regard to the packer, I believe a roller would do the best work. But if you do not happen to own a roller, and do not wish to purchase one specially for the breaking, I would buy a Campbell sub-surface packer. This implement will make a good job of packing the breaking, making a good contact between the furrow slice and the sub-soil, also eliminating the air spaces, and so conserving the moisture. Then we will have this packer available for use when we get to stubble plowing.

Well, you will say, how about your four-horse outfit! Well, I will have a man hired to tend to these, and I can keep both the man and horses busy during the fore part of the spring hauling lumber for building purposes, and gasoline for the engine. I might here mention that it is my intention to divide my section into three plots of 200 acres each, allowing



Slow and Not Very Sure.

40 acres for buildings and pasture.

About the 10th day of May, I will start the four horses drilling flax with a 20 or 22 double disc drill, drilling the seed about one-half inch into the sod. Some authorities claim that a shallow discing helps toward a seed bed, but my experience has been that



It is still done this way

on account of the tough nature of the sod, but little benefit is derived from discing. Also that if the discs are set the least bit too deep the sods are liable to turn turtle which is worse than ever. My experience is that as good a crop of flax may be obtained on spring breaking by not discing at all as by discing.

Now comes a very important part of our business that must not be overlooked on any account. That is the matter of seed selection. The greatest care must be taken not to sow any seed having noxious weeds therein. The farmer who neglects this will regret it as long as he owns his farm.

Now I get the inquiry—"Why not do your drilling with the engine?" This is easily seen. It is necessary in the first place to have some horses for hauling gasoline, etc., and in order to profit by these horses you must keep them employed. Again, in order to use your engine economically and profitably you must utilize the bulk of its power while operating, and this would mean the purchase of about five seed drills. It is probably not necessary to remind the reader that machinery, especially in these quantities, is very expensive. Again, by attaching a drill behind the packer while plowing, the chances are you would have more load than the engine could carry, and would have to knock a plow off, so nothing would be gained. Also you would have a longer string of machinery behind the engine, which becomes more unwieldy as it becomes longer. Try always to utilize your power to the fullest advantage with the least expense.

By the 10th of May I could have this land broken. If, on account of an accident I found I was getting behind with my work, I would put on a night shift, so as to get the required amount broken by the above date.

Assuming this was accomplished, I would start the team in drill-

ing, which operation should be completed by the 25th of May, which would be nice time. I would not drill any flax after the 1st of June, as I consider it too late, and too much of a gamble. Do not gamble. Get your seed in to time, and Nature will likely be kind to you. Anyway, we would not hear so frequently the oft repeated cry, "If I had only got my grain in by so-and-so time."

This would complete my spring work for the first year, and I would take my engine and go custom breaking. My horses I would give a few hours of light work, such as hauling each day, turning them on to the grass for the balance of the day, which they would greatly appreciate, and at the same time keep in prime condition.

By the 1st of July I would start the horses in haying. By this time it would probably be too dry to break any more, so I would run my engine into the shed that I had previously built for this purpose, and make any repairs or adjustments that were necessary.



A Poor Seed Bed. The Crop will be a Hit and Miss One

Here, again, is where my engine shines. After breaking several hundred acres of land, I simply run it into a shed that would hold no more than four horses and my expense stops. Surely an economical power. No feed necessary, and no crew to board over till harvest time.

I would now give a hand with the haying. Just hay for horses. This would be a small job. When the hay was up, we would turn our attention toward improving the farm, building, well digging, etc. This would keep my man and I employed till harvest time, for there is one thing that I have never experienced since I have been farming, that is, the want of a job in the summer time.

We now have the harvest at hand. I will purchase two 8 foot binders, one binder hitch for engine haulage, and two sets of 8 foot disc harrows. Now we come to the question: What kind of disc harrows? I mentioned in an early paragraph that new inventions in the way of farm machinery were continually coming

to the front. There has recently been placed on the market a new style of double action disc harrow. This implement to my mind supplies a long felt want. It consists of two sets of harrows one set an outthrow, the other an inthrow, and mounted on the same frame. This implement should make a very good job of creating a suitable surface mulch, so necessary for the conservation of the moisture.

Now just as soon as the crop was ready to harvest I would hitch my two binders to the engine, and attach my two disc harrows behind the binders, one to each binder. This is where I begin to adapt the Campbell system. Why would I haul the disc harrows behind the binders? This is very easily seen by any casual observer who will think a little. Just as long as the crop is standing, the ground remains sheltered from the direct rays of the sun. Now when you cut this crop off, the ground becomes absolutely bare to the full glare of the sun, which is usually very strong at this time of the year. Does it not ap-

engine, binders, and harrows are in position. We will set the harrows, so as to cut about two inches into the sod, but not deep enough to turn any sods over. Nature and the rains will have rotted the sod to a considerable extent, the flax also has a large tendency to rot the sod, and we should have no difficulty in obtaining a fairly good mulch. About this time I may get the question: will the engine not haul more than two binders and two discs? Well, it might, and it might not. If it would there would probably be considerable side draft with three harrows hanging behind. Also the two binders and harrows would pull heavy enough over the rough sod and it would not take much more than a week to cut the crop running day shift, and less than a week running day and night. Also by running two binders and harrows only, it would save the purchase of a third binder and harrow. Here is another chance to keep down expenses. Never have any machinery laying around idle the most of the year that it is possible to do without. Remember that economy means increased profits. Don't overlook these things. Make it a part of your business to study them.

Having cut the grain and just as soon as it is ready to thresh, I will hook on to the threshing machine, and thresh it out. Having this done I will haul away any of the straw I may need for stable use, and burn the rest. I will now immediately hook on to my plows, and proceed to backset. I will backset to a depth of 4 inches, thereby turning up one inch of subsoil. Now we begin to receive the benefit of our discing. The loose soil goes to the bottom of the furrow slice, making a good connection with the subsoil, and few air spaces. The land, having been double disced in the right time, retains its moisture, the soil is not baked, but moist and friable, and the furrows turn over nicely.

Behind the plows I will hitch the Campbell packer, and 8 feet of drag harrows. As the plows turn the soil over, the packer



A Fine Tilling that Preserves Moisture

compact how silt and leaf the dra perfects moisture time is plot cot harrow running

I would thresh and there should would p on the land a g ing off the eve coming another the dou should four ho to pur horses. as horse and ther for then an extra or two harrows six hors ground drag ha subsequen pen also heavy to

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compacts the bottom of the furrow slice, making a firm seed bed, and leaving the surface loose, and the drags following the packer perfects the loose mulch, and any moisture that the soil has at this time is retained. The 200 acre plot could be plowed, packed, and harrowed in less than a week by running a double shift.

I would then couple on to the threshing machine again, and go and thresh for my neighbors. If there should come a good rain I would put my four horses to work on the disc harrows, and give the land a good double discing, finishing off with the drag harrows. In the event of another good rain coming I would give the land another good drag harrowing. If the double action disc harrows should prove too heavy for the four horses, it would be necessary to purchase another team of horses. This would be all right, as horses are cheaper in the fall, and there would be plenty of work for them the following spring. If an extra team was purchased one or two extra sections of drag harrows could also be bought, the six horses put on, and more ground covered. I would put the drag harrows to work after any subsequent rain that should happen along that was sufficient heavy to pack the surface mulch.

Here I might call attention to one of the fundamentals of successful farming. Always aim to get your work done in the right season and the right time. A man that gets badly behind with his work, loses any system he may have organized and the chances are he will find it will take him two or three years to catch up again. Here is another place where the gas tractor will help us out by enabling us to do the right thing at the right time.

This will complete our operations for the first year. In the spring of the second year as soon as the ground is in fit condition. I will put the horses to work on the fall plowed land, and give it a good shallow double discing. This will loosen the mulch, and prevent any evaporation. At the same time I will get to work with the

engine, and break out my second plot of 200 acres.

Also, after I get plot No. 1 double disc'd, I will give same a good double drag harrowing. And by the time this is complete, which should be about the 25th of April or thereabouts, it will be late enough to sow this land with oats. This land should be drilled in by the 10th of May, when I would turn the drill on to Plot No. 2, and sow to flax as in the previous year.

Now by keeping ahead with my work the previous fall, I am enabled to complete my spring work without any undue rush or worry. When the spring work is completed, I can again turn my attention to custom breaking, the profit derived from same helping out nicely on the engine payments.

Now when harvest time comes again, I will hitch on the binders and harrows as before, and by running a night shift should cut the 400 acres in little better than a week. I will then burn the straw that is not needed as before.

I believe six horses will handle this work if left at it all fall.

Now, someone will say: If you have to have eight horses besides your engine, you might as well use all horses! Not so. In order to work a section of land and work it right, you would require at least sixteen horses in the field. This would mean 20 horses in the barn, as one or two of them would be sure to get placed "hors de combat." I might also mention that it would take quite a large barn to accommodate this number of horses. Also twenty head of horses at \$250 per head would cost \$5,000, practically the same amount of money that you would pay for your 30-horse engine and eight horses. So you see you are 16-18 horses to the good to start with for the same outlay of money. Again, you could not work your horses day and night as you can the engine. And in the fall, by having your engine on the ground, you can turn to and thresh your grain when ready, and not have



Easy but slow

better. Also to turn the engine on to Plot No. 3, and break it out. This spring you will need your eight horses all right. I will hire two men, and place four horses on each disc harrow, one outfit on Plot 1, and the other on Plot 2. It is only necessary to shallow disc, so four good horses will handle the discs easily.

Now Plot No. 1 will need to be summer fallowed, and Prof. Campbell says, "Disc your land early in the spring, so as to loosen the mulch, also shallow disc after any rain that might come that was sufficiently heavy to pack this mulch." He also says that the discing will destroy the weeds while young and tender, also that by allowing the weeds to grow up before you get at the plowing you rob the soil of its moisture; also that the moisture so lost is worth much more to the following crop than any humus that the weeds might supply to the soil when plowed under. I must say that I quite agree with Mr. Campbell on these points. So I will keep one outfit of horses with disc harrow, busy on Plot No. 1 until ready to plow, which will be the end of May or early in June, or, in other words, as soon as the spring work is completed.

The second outfit will be busy on Plot No. 2, double discing, harrowing, and seeding to oats, just as Plot No. 1 was treated in the second year. When the oats are drilled this team will be put to work drilling in flax on Plot 3.

Now, by putting "system" into our work, and by having everything planned beforehand, we have each man and each team in their right place, doing the right thing at the right time. Everything is mapped out, and there is no confusion.

Now we come to the operation of summer fallowing, or more correctly speaking, summer tilling. Well, we have eight horses, and we must find work for them. It would be quite possible to attach plows, packer, and harrows to the engine. But seeing I have two outfits of horses I will merely attach the plows to the engine.

Seeing that the land is only plowed at this time to a depth of

Continued on page 77



The Aborigines that paved the way for the Tractor

and turn to and backset Plot No. 2.

It might now become necessary to purchase two more horses, making eight in all, and keep both teams busy all fall cultivating the 400 acres. Plot No. 1 would only need drag harrowing after any rains that might come. Plot No. 2 would need a further double discing, then dragging to form the loose mulch as in the previous

to wait on some Good Samaritan to come and thresh you out.

Did you ever figure what you have lost by not getting your grain threshed when ready. Did you ever figure what you have lost by your grain standing in shock all fall when you wanted to get busy with the plow? By the ravages of mice, gophers, birds, by the loss of grade through the grain getting wet and molding. And even, to many farmers' deep regret in 1911, by having your grain left under the snow all winter.

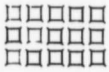
These are losses in our business that do not receive the attention they deserve, and stand out very boldly on the debit side of the ledger.

Now we come to the third year. This year there will be sufficient work for the engine at home as there will be 600 acres of land to turn over, 200 acres of breaking, 200 of summer fallow, and 200 of fall plowing.

I will begin as early in the spring as possible to double disc Plots No. 1 and 2, the sooner the

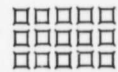


Any Combination in an Emergency



Three Years in the Red River Valley

By J. C. DRYDEN.



Modern farming is essentially a business proposition, and all the scientific principles of agriculture may be applied to the management of our western farms. The successful farmer of to-day must first of all be a business man, and

buildings are situated, is exactly two miles from a station and town. This kind of land is particularly well suited to engine work, but as the farm is a small one the purchasing of a traction outfit would hardly be feasible, as the extra

paying due attention to the purity of the grain fed to the horses there need be little to fear from this source. The growing of flax has also been condemned chiefly for the reason that many of the worst weeds are spread in the fields from the seed sown. Also if all the land be broken up in the first two years, too great a summer fallow area in one year will result, which besides being larger than the force of the farm could properly handle would cause a considerable falling off in the year's production on account of the much smaller acreage in crop. As the worst weed to be dealt with is the perennial sow thistle (*Sonchus Arvensis*), which is disseminated from the wind blown pappus, and infests all the fields alike, land of the same age must all be summer-fallowed at the same time. It is because of this weed that the four course rotation of—1. Wheat; 2. Wheat; 3. Oats or barley; 4. Summer-fallow is practised. The frequent stirring of the soil with the cultivator having the desired effect on the thick rooting intruder. Very often timothy or western rye is sown with the oats or barley the third year after removing the

continued growth of hay crops. Also the timothy roots add fibre to the soil, improving its texture mechanically, and preventing it from drifting the following spring. Two of the weeds will have dropped their seed before the hay is cut, and the tame hay is found to give much better results for feeding than the wild prairie grass.

Brome is used almost entirely for a permanent pasture grass, and if it secures a good sod when the land is clear, there is little chance of weeds gaining entrance. For this reason thirty acres will be seeded to brome the third year, the field fenced, and a small reservoir dug in it. About twelve pounds of grass seed should be sown per acre, and the reservoir dug in a corner, so that the field may be cultivated again without it proving an obstruction.

Deep fall plowing of all the land on which wheat is to be the next crop is necessary, as the disintegrating action of the frost has the desired effect in preparing a seed bed in land that tends to become packed and stiff. Oats, on the other hand, requiring a much looser seed bed, do better on spring plowed land. The barley land is frequently plowed twice, skim plowing the fall before, especially if wild oats are plentiful.

Whether prejudiced or otherwise the average farmer of this locality does as little mixed farming as possible, and while there is no doubt that on the older cultivated farms cattle and sheep should be much in evidence; for the beginner with a clean farm, and lacking feed, no additional stock should be bought.

The buildings with which the farm is supplied consist of a small barn 16 ft. x 28 ft., and a one-storey house, 16 ft. x 20 ft., both of which are temporary structures. These with twenty acres of land constitute the improvements of the property. No fencing has been done, but as the herd law prevails there will be no



"How found did they drive their team afield."

must regard his vocation as a business enterprise in which he has invested, and from which he expects a substantial dividend. He should be a man who understands markets, and be able to follow their fluctuations intelligently, that he may dispose of the products of his industry to the best advantage. The high rate of interest, the scarcity and cost of hired labor are all obstacles of formidable proportions, with which the western farmer must deal. Above all a thorough practical knowledge of farming in general and in the selected district in particular is required.

Following the general rules of farm procedure in the district selected, it is not a difficult matter to outline a programme to be followed through the first three years the farm is occupied. Almost every district has its own style of farming, which seems to be best adapted to all the conditions incident to that district. This essay will confine itself entirely to one part of the country, and will endeavor to show the general methods and ideas prevalent and most satisfactory in that locality only.

It is necessary then before proceeding with farm operations that some idea of the prevailing local conditions be conveyed to the reader, in order to justify the line of farming followed.

The property consists of three hundred and twenty acres of real Red River valley land. The soil is a heavy clay loam, free from stones, and all fit for cultivation. It is drained on the north by a government ditch, and faces a graded road on the south and east. The centre of the farm, where the

pense entailed would necessitate a much larger capital. Breaking is done with the ordinary gang plow, having the breaking moldboards attached; this is handled quite easily by six horses, turning about four acres a day. Rolling

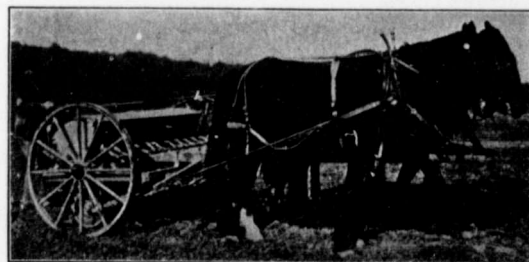


"The furrow of the stubborn glebe has broke."

the newly broken land with a sod pulverizer has the effect of flattening the sods, allowing them to rot much better, and consequently backset easier. Early breaking and backsetting yield much the better crops.

Noxious weeds are the cause of considerable expense in this land, and as prevention has always proved to be cheaper than eradication, all the farm operations should be conducted with the object of preventing their introduction. To this end the boundaries of the farm should be found, and marked to prevent trespassing. Sufficient seed grain pure and to weeds and variety both should be secured to sow the twenty acres broken in wheat and oats. This will be a basis to work on, and

crop the next year the land is plowed and cultivated in the late summer and fall. This system gives very good results, since it does not exhaust the soil moisture supply to such an extent as the



The fast re-ceding "Seeder."

necessity third year The altogether be necessary the first

Unimp for two and may ing term cash, an ments c with into the first second w een mon 1st, 1912 of \$3,000 make the the farm etc.

To con plete to followed be purely and valu the farm year in ther wit of each y cipal item farm wo

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10 Ac
10 Acres

April 1st, To paymen To 6 horse To seed g oats To oats an To gang 1 To 300 in. servoir to

The fir mainly by The lanc quarter, a horses s feed, if c tained. T very ofte lowing ye the amou wild oats way. Als ling acro the adjoin change of always a strip of fields, in c ill repu

necessity for doing any till the third year.

The water supply is obtained altogether from reservoir. It will be necessary to dig one of these the first year.

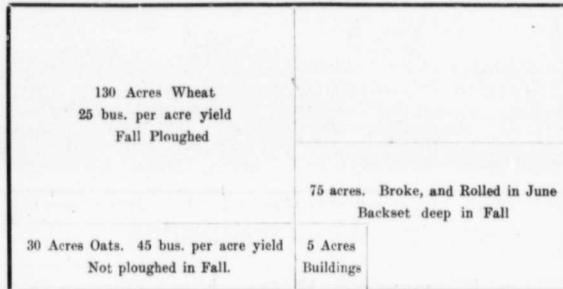
Unimproved prairie land sells for twenty-five dollars an acre, and may be bought at the following terms:—One thousand dollars cash, and balance in yearly payments of one thousand dollars, with interest at 6 per cent. Making the first payment on April 1st the second will not be paid till eighteen months after, or November 1st, 1912. For the start a capital of \$3,000 would be required to make the first payment, and equip the farm with horses, seed grain, etc.

To construct a programme complete to the minutest detail, to be followed with exactitude, would be purely theoretical, impractical, and valueless; but the lay out of the farm will be shown for each year in accompanying cuts, together with the approximate value of each year's crop, also the principal items that the books of the farm would show.

The plan of the farmstead is of sufficient importance to be dealt with separately, and some idea of the manner of arrangement of the buildings, windbreaks, etc., that has given the best satisfaction in the district, will be given:—

The crop from the twenty acres taken off, this field is plowed about four inches deep that fall. Altogether one hundred and sixty acres are left ready for crop in 1912.

1912



	Cr.	Dr.
To feed oats, 300 bus.		\$90
To harrows		35
To seeder		140
To 8 in. binder		160
To wages, 7 months at \$30 ..		210
To threshing		300
To mower and rake		100
Nov. 1st, cash payment and interest		1630
By 3000 bus. wheat at 9c.	\$2700	
By 300 bus. Oats at 30c.	90	

1912

The second year will mean a considerable outlay for additional machinery, all of which can be paid for in the fall.

Harrows first of all are necessary, and as they will be used the

established, the grain sown should be cleaned and treated for smut. Copper sulphate at the rate of one pound in five gallons of water is used. This latter operation may be dispensed after two crops, as

by that time there will be little danger of smut, and the continued use of the treatment has been proved to have a weakening effect on the grain vitality. Wheat is sown at the rate of one and three-quarter bus. per acre, and an effort made to secure the reliable Red Fife or Marquis as the varieties to be grown.

Oats are usually sown two and a half bushels per acre, and the rust resistant varieties, such as Yellow Russian, are to be preferred.

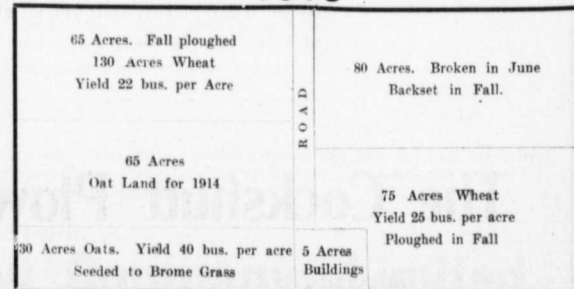
Lime is found to break and backset seventy-five acres on the east quarter, and the wheat land for 1913 plowed, which will amount to about two hundred acres, and allow thirty acres for oats.

1913.

The increased area for crop this year will require another team of horses, in order that two four horse outfits may be driven.

This year the remainder of the farm, eighty acres, is broken up, and the thirty acres seeded to brome grass. In the fall sixty-five acres are left unplowed for the oat land of 1914. Two hundred and twenty acres are prepared for wheat, and the pasture of thirty acres leaves the farm all broken and in good shape to yield profitable crops.

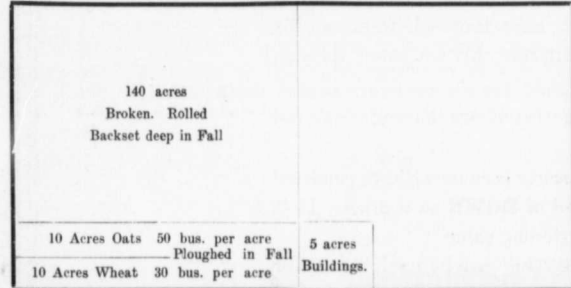
1913



	Cr.	Dr.
To 1 team horses		\$500
To wages		225
To two cows		70
To threshing		455
To payment on farm		1360
By 4300 bus. wheat 90c.	\$3870	

The house should be set nearest the road, and be surrounded by such ornamental trees and shrubs that will add to its appearance. An elaborate ornamental design is

1911



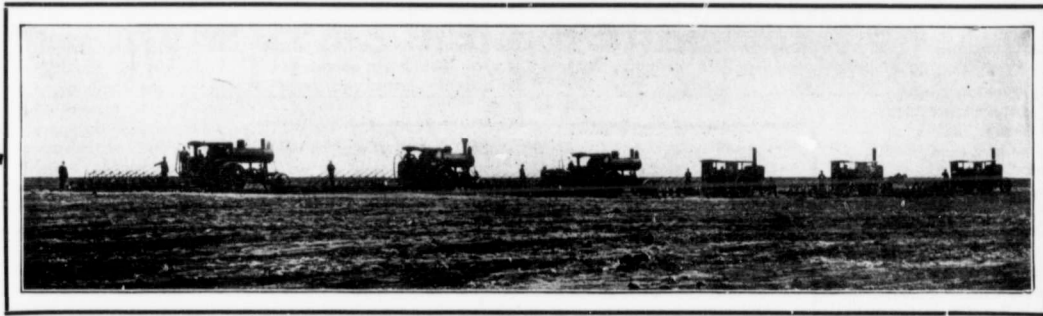
	Dr.	Cr.
April 1st, 1911	\$3000	
To payment on farm		\$1000
To 6 horses		1300
To seed grain, wheat and oats		35
To oats and hay		140
To gang plow, complete ..		100
To 300 in. piping from reservoir to barn		

The first year's work will be mainly breaking and backsetting. The land is all broken on one quarter, and during this work the horses should be fed, crushed feed, if clean oats cannot be obtained. The importance of this is very often not realized till the following year, for it is astonishing the amount of wild mustard and wild oats that are spread in this way. Also in many cases travelling across the same headland as the adjoining farmer means an exchange of weed seeds, so that it is always advisable to sacrifice a strip of sod between unfenced fields, in order to give the farm of ill repute a wide berth.

first few years on new, soddy land they should be of the heavy, long toothed make, in order to pull down and pulverize the sods. The six section, with changeable stretcher, is the favorite outfit. One harrowing when there is still a little frost in the ground will accomplish more than three, when the land becomes dry and hard. It is the better plan to do most of the harrowing before sowing, as the sods are apt to drag and uncover the seed.

Having the land prepared the selection of a seeder is the next consideration. Owing to the land being new we must as with harrows choose a seeder that will work in this land best. The general opinion in this case would be altogether in favor of the double disc type. Its ability to cut through sods, and deposit the seed evenly, is its chief advantage.

For the first two years till the purity of the seed has become well



Cockshutt Engine Gang at work on Canadian Wheatlands Co. Farm, Suffield, Alta.

"He is a Wise Farmer Who Knows a Good Plow"

When you decide to buy an Engine Gang, get a **POPULAR** one, which has a stronghold in public favor—a **REPUTATION**—and get a

Cockshutt Engine Gang

Perfect in mechanism, made of the very best materials, assembled with exact precision and finished with most thorough workmanship a Cockshutt Engine Gang does its work smoothly and surely through long years of service.

Better plowing—cheaper plowing—bounteous harvests—it's all combined in the Cockshutt.

It endures the most severe strains solely because we have persisted in building **UP** to a standard instead of **DOWN** to a price. It is **poor economy, always**, to ignore sterling value.

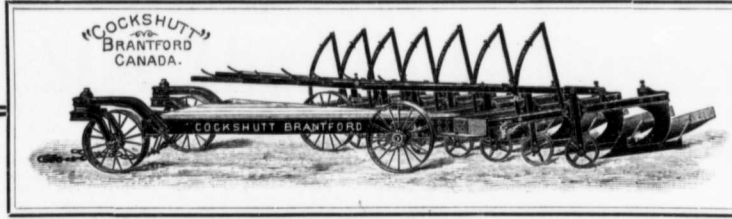
But words like "best" and "sterling value" can be used, rightly or wrongly, to describe **any** plow. The **real** significance of the term itself, however, is not in the **dictionary**, but in the plow **itself**. It means **nothing to say** that the Cockshutt is best, but it **does** mean something to **know**.

And **thousands of farmers KNOW**. We issue a catalog which by word and picture tells you all about it. Get it from your Dealer, or write for it **to-day**.

The Cockshutt Plow Company, Limited

BRANCHES :
Winnipeg, Regina, Calgary, Saskatoon.

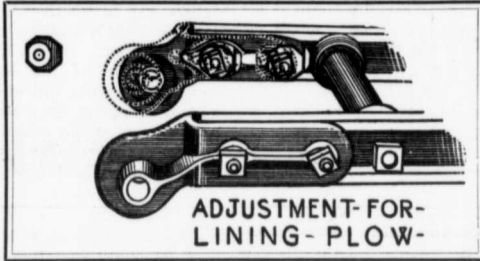
DISTRIBUTING WAREHOUSES :
Red Deer, Lethbridge, Edmonton, Brandon, Portage la Prairie.



7 Furrow Cockshutt Engine Gang.

While the Cockshutt Engine Gang is the result of a thousand great and small things which do not all appear in Catalogues and specifications—which **figures** will not always account for—it has certain features which are **exclusive**, features that will change all your past ideas of plow-perfection the minute you look them over. For instance:

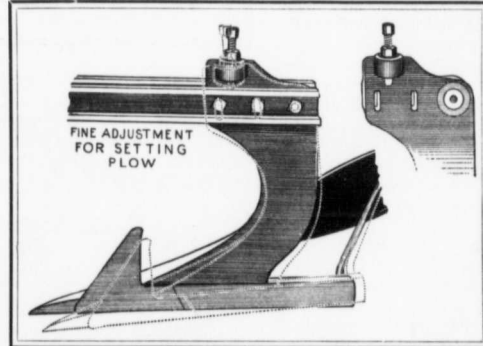
Adjustment for Lining Plow



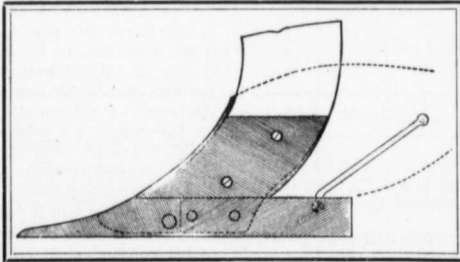
This illustration shows the eccentric lock washer as used on the right beam, where the beams join the draw casting on the frame. By loosening the bolts in the malleable hinge casting, the beam can be adjusted **backward** or **forward**. When set so that even width of furrow will be cut, these washers lock the beam in position and the plow is kept aligned with the line of draft.

Fine Adjustment for Setting Plow

Illustration shows the set screw as placed in the top of each standard for adjusting the suck of the share and for levelling the bottom. The two front bolt holes are slotted, the standard swinging on the rear bolt. By loosening these bolts as well as jam nut and turning set screw up or down the bottom can be adjusted to as fine a point as desired.



Construction of Share and Landside



Hidden rocks and heavy roots sometimes cause great strains on the share points. The illustration shows the landside part of the share, which extends well back beneath and is bolted to the standard. This extension adds greatly to the strength of the share and supports it against strains which might shear the bolts or break off the nose of the standard. Dotted line shows lower edge of standard where it passes down to support the landside and share.

From this you will notice that **building** the right kind of a Plow is something more than arithmetic, and you will find that **selecting** the right kind is, too. **Everything** has been thought out in the Cockshutt Engine Gang—it plows as you have always **wanted** to plow! No matter what the condition of the soil, you will find the **Cockshutt** most adaptable.

Write for the Catalogue.

The Cockshutt Plow Company, Limited

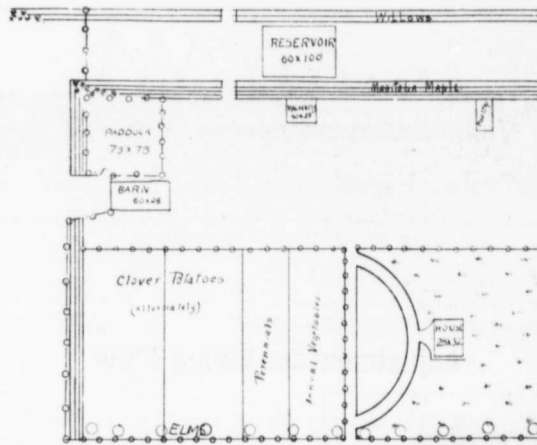
BRANCHES
Winnipeg, Regina, Calgary, Saskatoon.

DISTRIBUTING WAREHOUSES
Red Deer, Lethbridge, Edmonton, Brandon, Portage la Prairie.

not necessary, but such trees and shrubs as White Spruce, Lilac, Elms, and the Tartarian Honey-suckle do well in this country, and certainly add beauty to any farm house.

About the garden little need be said further than a rich easily tilled soil is a requisite, that it be easily reached from the house, and be sufficiently removed from the poultry and hog departments, to escape their deprivations.

A well designed neatly kept farmstead gives a prosperous appearance, and is always time and money well spent. The farmer who takes time apart from the growing of wheat and coining of dollars to improve his home surroundings is contributing just that much to the district in which he lives, for a tidy outfit of buildings, and a well kept garden give expression to a contented thrifty population that is not desirous of selling their land as soon as they have amassed enough of the



world's goods to retire to the city, leaving their farms in such a condition that they give the district a farming generally, to use a slang expression—"a black eye."

April 1st, 1914.

The improving of the land in this district is a very profitable investment; hence we find in making an inventory that this is the

principal item. Easily ten dollars per acre may be added in three years. Ten per cent depreciation in value is allowed on all the machinery, and placing the increase in stock at two yearling colts covers most of the details.

By 320 acres land at	\$11,200
By 8 horses	1500
By 2 colts	200
By 2 cows	65
By machinery	425
By feed grain, 600 bus. at 30c	180
By seed grain	450
To mortgage on farm	\$6000

In closing. The writer has endeavored to give some idea of farming as it is carried on in his own district. The theoretical side has been avoided, and while the figures may be incorrect in some cases, and totally absent in others, the main object was to convey some estimate of the district's merits and demerits, and while not wishing to assume the attitude of a land agent would conclude by saying "It has been found a goodly land wherein to dwell."

BEFORE starting out to make a home on a Western Canadian farm, a man ought to have a clear idea as to what line he intends to take up, and then choose a piece of land that is most suitable for his purposes. Hence if he is going to raise stock, he would be wise to settle in a district that is partly wooded, the bush affording natural shelter for cattle and horses in winter. He would also be able to buy this land, which will serve him just as well, or perhaps better, for grazing purposes, cheaper than the open prairie, which even then is more suited for wheat raising. Another essential which it is necessary to secure is water, and the prospective settler should try to locate along some spring or creek, or, failing this should choose a locality where an abundant supply of water can be had within reasonable distance of the surface. There is a strip of land lying along the north side of the C.P.R. east of Regina which offers all these advantages. This land, gently rolling, dotted with poplar bluffs, that often surround sloughs, the soil a rich black loam full of humus, easy to work and a good crop producer can be bought for \$15 an acre.

In this era of advanced agriculture, when land, stock, implements, and hired labor are so high, it is necessary that the new settler possess a reasonable amount of capital, and taking everything into consideration, the man starting with \$8,000 has a fair chance of success on 320 acres in average seasons and under average conditions.

In this specific instance the beginner is a young married man, who has bought a half section from the government at the auction sale of Indian Lands, held last fall. This land is sold under

SETTLING IN THE WEST

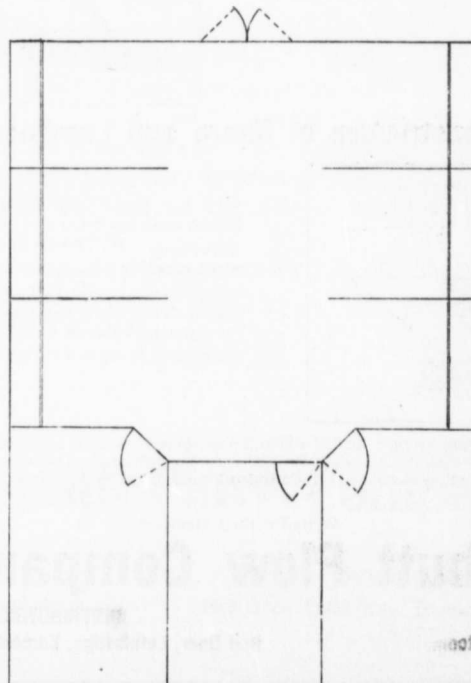
By P. F. BREDT

a ten year contract, with interest at 5 per cent per annum, and at \$15 an acre, the first payment amounted to \$480. As it is very important for him to have his buildings up in good time in the spring he gets in touch with a builder, and lets the contract for a

house and barn immediately. A cottage, 26 x 30, with same size cellar, 4 rooms, including the kitchen downstairs, and 2 small bedrooms upstairs, makes a very convenient farmhouse, and can be built for \$1,200, while a stable 30 x 40, with 14 foot studding,

boarded on the outside with siding does not exceed \$600. Under these contracts the builder has to do all the work, except to get the material on the ground. This means that the young man has to buy horses and sleighs to haul the lumber in order to get the carpenters to work, and have the buildings, or, at least, the barn, ready when the spring work commences.

After careful consideration of the horse market, and the bright prospects that are ahead of the breeder of high class draft horses, he decides to go in for the breeding of these and buy mares only that possess draft conformation to the highest possible degree, and do his farm work with them, even at the expense of having it done a little slower than with geldings. Being obliged to make a start in buying his equipment for hauling the lumber, it is to his advantage to concentrate his purchases as much as possible, as, for instance, to buy all his implements from one firm, and in this way getting the benefit of a discount. With the live stock it is a different proposition: he must exercise the utmost care in selecting the foundation for his breeding operations, and one man or firm is not likely to have eight mares that come up to his standard, eight being the number required to work a half section farm, especially when these mares either in foal or suckling a foal are supposed to perform the farm work. Buying his mares he selects animals weighing from 14-1,600 lbs., and as he intends to breed horses, half of them are in foal, for this in the first place is a guarantee for him, that they are breeders, and in the second place it saves him a year and puts him on equal footing with a man who has started a year



Barn Plan designed by P. F. Bredt.

And Still The World Rushes On

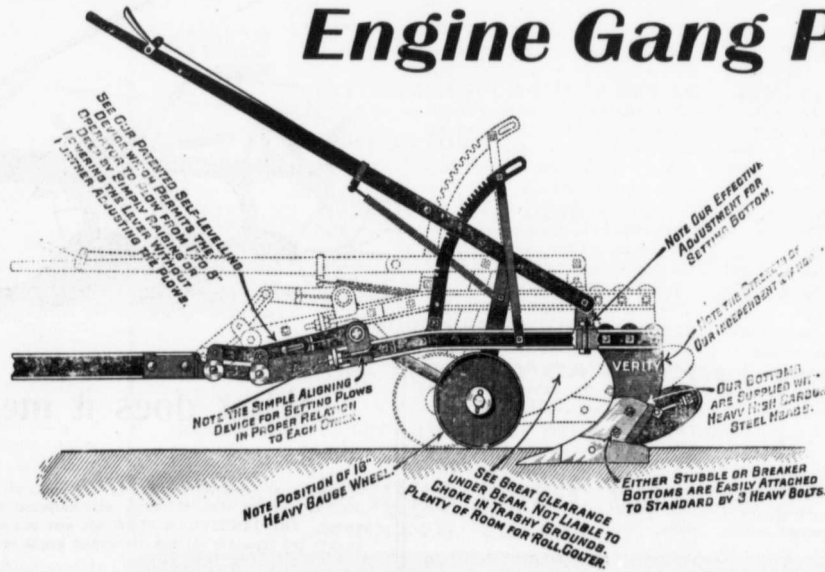
As the seasons roll round each year, various improvements are introduced in connection with the different farm implements. What is now attracting the attention of Engine Gang Plow experts and users, and that which has been pronounced by men who speak from experience

The best Power Plow Improvement yet made is the Automatic Self-Levelling Device

TO BE FOUND ONLY ON THE

MASSEY-HARRIS

Automatic Self-Levelling Engine Gang Plow



Cypress River, Man., May 30, 1911.
Massey-Harris Co., Ltd., Winnipeg.
 Gentlemen:—The Eight Furrow Engine Gang I bought from your Agent has given me entire satisfaction since the day it started. That Self-Levelling Device is the best I have yet seen.
 Signed—S. G. JOHNSTON.

Russell, Man., July 3, 1911.
Massey-Harris Co., Ltd., Winnipeg.
 Gentlemen:—Your Engine Gang Plow fills the bill in every particular. It is a strong plow, capable of doing excellent work. It makes good every claim made for it by you—and more.
 Signed—HARRY MOONEY.

Just a Simple Twist of the Wrist on the Lever and you Plow Deeper or Shallower—No Tedious Adjustments to Make

Call upon our Local Agent, or write for Folder fully descriptive of our New Plow

WINNIPEG REGINA MASSEY-HARRIS COMPANY, LIMITED SASKATOON CALGARY EDMONTON

earlier, as far as breeding operations are concerned.

The following itemized account approximately covers the equipment of a 20 acre farm. In this is also included the feed required to carry him over till fall, and the necessary seed grain:—

4 teams of mares at an average of \$600.00 a team	\$ 2,400.00
3 milk cows, one milking, the other two to calf in 4 and 8 months respectively	150.00
3 young pigs to be fattened during the summer	15.00
40 hens at 75 cents	30.00
4 sets of harness	150.00
2 sets of sleighs	\$ 62.00
1 wagon	90.00
1 single Disc Drill	123.00
2 fourteen inch breaking plows	43.00
1 six sec. set of drag harrows	29.00
2 disc-harrows	80.00
1 mower and rake	94.00
1 eight ft. binder	175.00

\$896.00

Taking the machinery in this way from one firm he gets a discount of 5 per cent on the above prices, which brings the total down to \$661.20.

Wheelbarrow, forks, shovels, and garden tools	\$ 20.00
50 bushels of seed oats at 50 cents	25.00
20 bushels of seed wheat at \$1.00	20.00
100 bushels of feed oats at 30 cents	180.00
3 tons of bran at \$20.00 per ton	60.00
10 tons of hay at \$5.00	50.00

The feed for the mares is mixed in the proportion of three parts of oats to one of bran, and is fed at the rate of 8 lbs. per meal per head when working. The value of the bran in this mixture lies in the fact of its increasing the palatability of the feed, its laxative properties and its cooling effect on the blood, three things that are of the utmost importance in the feeding of broodmares.

To get the lumber for the buildings out quickly, he hires a man on March 1st for nine months for \$260, and begins to haul material with two teams. While doing this he is living in town, but the first day the contractor is out he puts up a small shack 12 x 16 on skids for a temporary dwelling, at a cost of \$75. This is used as a granary after the house is built and no loss is occasioned thereby. As a plentiful supply of good water can be got in this locality within 18 feet of the surface, he sets to work, and digs a well, putting in a 3in. cylinder stock pump, which lets an enormous amount of water, and is not expensive. The cost of cribbing the well with 2in. plank, and putting in the pump amounting to \$30.

By the beginning of April he has finished hauling lumber and material, and this being an early spring he breaks 15 acres more, and instead of putting all the land into oats he sows 10 acres to wheat, which will give him the seed for the following year. As it is not advisable to sow oats before the beginning of May on account of late night frosts, which would severely injure the oats after it is up, he fences the 20 acre run for the mares shown in the accompanying sketch of the farm. A small outrun for brood-mares is indispensable, and any day that

some of the mares are not working, they are turned in here, where they have pasture and exercise, and are also close to the yard in case they are needed unexpectedly. The farm yard proper is also fenced. This comprises about 5 acres, and a little over an acre in

this enclosure is broken up and worked down fine, it being intended for garden purposes in the years to come, while for this year a small patch about 1 acre

of last year's breaking is used for potatoes and a vegetable garden. In fencing the yard, cedar posts are put in at intervals of one rod and 5 strands of smooth wire put on, while for the run posts are used every 2 rods apart, with 2 willow posts in between, and only 4 strands of wire are used. The run approximately requires 120 posts and 960 rods of wire, making a total of 240 posts at 15c—\$36—and about 1,600 lbs. of wire, which at \$3.60 per 100 lbs. amounts to \$57.60. Having finished sowing and also the fencing of the yard and run in the beginning of May, he fences the pasture of 65 acres in the same way as the run, using about 240 posts and 2,000 lbs. of wire at a cost of \$108. All the willow posts used are cut on the farm, and consequently only the time taken in cutting them can be charged for them.

Breaking is started about the middle of May, and is done with walking plows, as better and more accurate work can be done with them, and the work is also easier on the mares, four of which are suckling foals. The remaining 115 acres on the south farm are broken up about 4 inches deep, and put into shape for next year's crop. The soil is a black loam of a sandy texture, and does not require back setting. The work is only interrupted in the summer for about two weeks to put up 30 tons of hay, which is cut on the upland of the farm and in the sloughs of the surrounding unoccupied land, and then again in the fall for harvesting and threshing. He uses about 100 lbs. of twine for his crop, and threshes 260 bushels of wheat and 1,400 bushels of oats, the 10 acres of wheat averaging 26 bushels to the acre,

HAVE YOU TROUBLE

with your plowing outfit? Whatever your difficulty—even if you are absolutely stuck, we will take you out of the mud and place you beyond the possibility of foundering for all time to come with the

JANESVILLE NORTHWESTERN GANG

We know by hard and costly experience what many Western Canadian farmers have to encounter in the stiff, unyielding gumbo soil common to great tracts of the North West Provinces. No ordinary plow can face it and make headway while doing good work.

THIS GANG PLOW

will successfully tackle the toughest job any man will ever have to face on those lands. Its extra heavy beam and other structural points give it all the strength and a bit over.



What does it mean?

It means that where previously with an ordinary plow you were never done with werry from breakages and consequent loss of time and money, THE JANESVILLE PLOW will save you a fortune, and work quickly and smoothly through the stiffest gumbo in Western Canada.

THE JANESVILLE FOOT TRIP horse lift is found only on this plow. You simply trip the "lift" with your foot while riding or throw the hand wheel lever while walking and the horses will pull the plow bottoms into the ground at the start and out of the furrow at the end. In entering the ground the heel of the plow bottom is held up so that the point must go down first. In leaving the ground the heel of the bottom is held down so that the point must come out of the ground first. Write us for complete illustrated particulars. No "ad." can even outline what the JANESVILLE GANG PLOW means to the farmer.

MANUFACTURED BY

The Janesville Machine Co.

The American Seeding Machine Co.

KING and JAMES STREETS, WINNIPEG
CANADIAN SALES AGENTS

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the oats 90 bushels on the 9 acres of old breaking. After the breaking is worked sufficiently, and in proper condition for the drill next spring, one team starts cultivating the stubble, discing and harrowing, until it freezes up, while the other man hauls lumber and builds an implement shed in the form of a lean to the stable the whole length on the south side, and 16 feet deep. As this will be used as a stable in a year or so, when he has more stock, a good shingle roof is put on, and the end boarded up with matched siding, which increases the cost, and brings the bill for lumber up to about \$75.

After the hired man has left at the beginning of December, he does the work himself during the winter, looking after his cattle and horses, and doing such jobs as hauling firewood and willow fence posts, cutting down a bluff on the field that is to be broken the next spring, and cleaning his seed grain. One of the three box-stalls shown in the plan of the stable is used for the chickens the first winter, the other two holding 2 foals each, while the rest of the stable is taken up by the mares and the three cows, the calves having been sold as veal.

During January the owner of the stallion that he bred his mares to, comes around collecting, and as 5 of his 8 mares are in foal, he has to pay him \$169, \$20 being the insurance fee for one mare.

As he intends to fence the whole of his farm during the summer of 1912, he hauls the cedar posts and the wire out during the winter, and also the lumber for three granaries 10 x 14, which will be used in the fall for storing the wheat. On fine days he works on these portable granaries, and finishes them before the winter is over, thus saving valuable time in the fall. For all this material he has to give his note, payable in the fall of 1912, as his bank account is nearly exhausted, and he has to keep a little money on hand for emergencies and running expenses. After he has cleaned out his

Canada's Best SEEDS THAT SUCCEED

GET THE VARIETY---MAKE YOUR WORK COUNT!

These Seeds Are The Seeds The West Needs

Marquis Wheat

The world's prize winner—our stock is the genuine early strain. Bred by Prof. Saunders.

Victory Oats

with heavy yield, thin hull and fine quality.

NEW WHITE—Bred by Prof. Nilsson. Grown for three years on our Saskatchewan farm. Thoroughly acclimatized. The stiffest straw known, coupled

Red Fife Wheat

REGISTERED—The true stock with its high quality and general excellence. Certificate with every 100 pounds.

American Banner Oats

REGISTERED—This pedigree strain never quits the field—an immense yield—certificate with every 100 pounds.

Premost Flax

The new pedigree variety—introduced to the West by Steele Briggs. Earlier, better yielder and more wilt proof than the common variety. You will get the genuine from the House that introduced it.

GRIMM'S Alfalfa

For the Genuine we will consider only one source—This Genuine GRIMM'S ALFALFA is held by the grower at such a high price that it can not be sold in Canada for less than \$1.20 per pound postpaid, or 100 pounds for \$115.00 by freight or express. Growers wanting, please write us.

Turkestan Alfalfa

Specially selected—the true stock—imported by ourselves, \$25.00 per 100 pounds.

Northern High Altitude Dryland Alfalfa

A very fine lot, which our manager will use on his own farm in Saskatchewan, \$25.00 per 100 pounds.

Siberian Millet

An entirely distinct variety from Russia—rapidly taking the place of other varieties—heavy stooler with many joints on the stem, just covered with blades—introduced to the West by Steele, Briggs. Our stock is the genuine.

Honey Pod Wax Bean

Should be sown from Port Arthur to the Rocky Mountains. Why? Because it is the earliest bean in cultivation—if it does not succeed no other variety has any chance.

Glory of Enkhuizen Cabbage

The best general-purpose cabbage in cultivation—introduced to the West by Steele, Briggs five years ago. It has become a Western leader — once tried always used. We safe guard our stock to keep it true.

Sensation Garden Pea

Get this latest and best variety.

The above varieties are an index of the class of seeds we supply.

ASK US FOR THE BIG CATALOGUE

We also publish, for our Customers, Booklets on Cultivation compiled for the West, in which the Secrets of Success are told for growing 25 varieties to the greatest perfection.

Become one of our customers. Write to-day and kindly mention this paper.

Steele, Briggs Seed Co. Limited
WINNIPEG, CANADA

"IT ALL DEPENDS ON WHAT YOU SOW."

1912 Statement March 1st, 1912.		Dr.	Cr.
Jan. 2	Cash on hand.....	\$8,000.00	
	First payment on land.....		\$ 480.00
	Contract price of house.....		1,200.00
	Contract price of barn.....		600.00
	8 mares.....		2,400.00
	3 cows \$150.00; 3 pigs \$15.00; 40 hens at 75c, \$30.....		195.00
	4 sets of harness.....		150.00
	Implements and small tools.....		681.20
	50 bushels of seed oats at 50c, \$25.00; 20 bushels of wheat at \$1.00, \$20.00.....		45.00
	10 tons of hay \$50.00; 600 bushels of oats \$180.00; 3 tons of bran \$60.00.....		290.00
	Shack for temporary dwelling.....		75.00
	Well-cribbing and pump, \$30.00; Cedar posts and wire \$201.60.....		231.60
	Furnishing house.....		400.00
	100 lbs. twine \$10.00; threshing 260 bush. wheat at 8c, \$20.80.....		30.80
	1400 bushels of oats at 6c.....		84.00
	Lumber for lean to stable.....		75.00
Dec. 1	Wages.....		260.00
Jan. 2	2nd payment on farm and interest part payment.....		396.00
	Stallion fees for 5 mares.....		100.00
	2 tons of bran \$40.00; fanning mill \$40.00.....		80.00
	Household expenses incl. flour and potatoes.....		150.00
	Sold during summer 60 doz. eggs at 20c.....	12.00	
	Sold 2 calves for veal.....	25.00	
1912			
Mar. 1	Cash on hand.....		113.40
		\$8,037.00	\$8,037.00

seed grain he takes a small load of wheat to the mill and trades it for a supply of flour, which will cut down his living expenses during 1912. The following statement drawn up on March 1st, 1912, shows his standing at that time:—

On April the 1st he hires a man for \$325 for one year, as he has to haul out his wheat during the winter, and more stock to attend to. Five of his mares being in foal, the work will naturally be slow, and may have to be interrupted now and then, especially during the foaling time. Whenever these periods of rest are forced upon him, or on wet days during the harvest, when no work can be done in the fields, the fencing of the farm is pushed ahead and finished some time during the

season. Out of the 150 acres he has ready for crop, he sows 110 acres of the breaking to wheat, and the remaining 40 acres to oats.

After sowing he breaks up the 75 acre field on the north farm, and starts cultivating it, leaving this only to put up hay and to harvest his crop. For haying purposes he leases half a section from the Hudson's Bay Company, and cuts about 40 tons of hay on this. About the middle of July he hires a second man for 2 months, to assist during haying and harvesting, and also in finishing the fence. To be able to haul out his wheat with two teams, he purchases another wagon before threshing. He uses approximately 350 lbs. of twine for his crop, and

threshes 2,860 bushels of wheat, the average per acre being about 26 bushels, and 1,600 bushels of oats. After the threshing, and before it freezes up, he cultivates as much of the breaking stubble as possible and then starts hauling out his wheat, receiving an average price of 85c per bushel. During the fall he has also built a hen-house 12 x 20, using 6 foot studding, shiplap, paper, and siding on the outside and half-inch lumber on the inside, which makes the building comfortably warm and dry. Hauling out the wheat, drawing firewood, looking after the stock, and cleaning the seed grain keeps both men fairly busy during the winter. The following is his standing on April 1st, 1913:

	Dr.	Cr.	
1912			
Mar. 1	Cash on hand	\$ 113.40	
Apr. 2	2 Shares for plows \$7.00; repairs \$2.00		9.00
Apr. 2	3 Pigs		15.00
Apr. 15	2 tons of bran		40.00
June	H. B. Co. lease 320 acres at 3c		9.60
Dec. 15	By 2650 bushels of wheat at 85c	\$2,252.50	
	Wages 2 months at \$40.00		80.00
	Threshing 2860 bushels wheat at 8c		228.80
	Threshing 1600 bushels oats at 6c		96.00
	Note for lumber for granaries \$180.00 at 8% 12 mos		194.40
	Note for cedar posts 350 at 15c	\$ 52.50	
	3000 lbs. wire at \$3.00 per 100 lbs.	108.00	
	At 8% for 12 mos.	\$160.50	
	1 Wagon		173.35
	350 lbs. of twine at 10c		35.00
1913	Lumber for hen-house		125.00
an.	Bal. of last years payment on land & interest		315.00
	Part of 3rd pay ment of \$672.00		272.00
Feb.	Stallion fee for 3 mares		60.00
	Household expenses		150.00
	From sale of eggs 80 doz. at 20c	16.00	
	2 tons of bran		40.00
	Wages to man for year		325.00
April 1	Cash on hand		123.75
		\$2,381.90	\$2,381.90

In the spring of 1913 he hires the same man again, agreeing to pay him \$350 for the 12 months. As only three of his mares are in

foal this year he can push the spring work, and after sowing 100 acres to wheat, 45 to oats, and 5 to corn for fodder, he buys a gang-plow and summer fallows the 75 acres on the east side of the south farm. He continues to do this, i.e., summer-fallowing 75 acres a year, so that he has 150 acres in crop each year, half of it being summer-fallow and the other half summer-fallow stubble. In later years he breaks up the natural grass land, and sows brome for permanent pasture, while on the cultivated land he practices a crop rotation, using timothy, which is excellent horse-feed as a grass crop, cutting it for hay one year, and raising it as a pasture the second year. In this

way he will necessarily raise less wheat and devote his time and energy more and more towards the raising of horses. If he can

	Dr.	Cr.	
1913			
Apr. 1	Cash on hand	123.75	
	Drill and plow repairs		6.00
	2 Pigs		10.00
June	H. B. Co. lease of 1/2 section at 3c per acre		9.60
	Mower and binder repairs		11.00
Oct.	Threshing 2200 bushels of wheat at 8c		176.00
	Threshing 1600 bushels of oats at 6c		96.00
	By 2000 bushels of wheat at 85c	1,700.00	
	Gang plow \$90; twine 350 lbs. at 10c, \$30.00		125.00
	Material for implement shed		250.00
1914			
Jan.	Bal. on last year's payment		420.00
	4th payment on land		648.00
	Stallion fee for 4 mares		80.00
	By 1 team 3 year old fillies	550.00	
	By sale of eggs 100 doz. at 20c	20.00	
	Living expenses		160.00
	Wages		350.00
Apr. 1	Cash on hand		52.15
		\$2,393.75	\$2,393.75

Assets.	
Land, 320 acres at \$30.00	\$ 9,600.00
Stock:	
8 mares at \$300.00	2,400.00
2 fillies 3 years old at \$275.00	550.00
5 two year old foals at \$175.00	875.00
3 yearlings at \$125.00	375.00
3 milk cows at \$50.00	150.00
6 head of young cattle	100.00
60 hens at 75c	45.00
Farm machinery less depreciation at 7% per annum	730.00
Feed, 1200 bushels of oats at 26c	312.00
20 tons of hay at \$5.00	100.00
200 bushels of wheat at 85c	170.00
Cash in bank	52.15
Household goods	300.00
Provisions, vegetables, flour, hams, etc.	50.00
Total	\$15,809.15
Liabilities	
Balance due on land	\$ 2,880.00
Net worth	\$12,929.15

A STRONG ROBUST PLANT from EVERY SEED

McKENZIE'S SEEDS

We are the only ALL WESTERN SEED HOUSE. We Study the Needs of the Country and Supply Specially Selected Seeds Fully Tested for Germination and Type, Suitable to the Soil, Adapted to our Western Climate, that Grow from the Start, and Give Best Results.

ALFALFA

The possibilities which the proper utilization of alfalfa presents are almost unlimited. It has made good everywhere. It can be successfully grown in any province; east or west, on any soil except wet or swampy land. Alfalfa presents more uses, value and possibilities than any known crop. It converts the resources of the soil. Is unequaled for all kinds of stock even to the smallest chick.

Our Stocks are Plump, High Germinating, Fully Matured, Clean, Free from noxious seed, and Fine Color

PRICE F.O.B. BRANDON.

25lbs.	50lbs.	100lbs.
Montana - \$6.50 - \$12.50 - \$24.00		
Turkistan - 6.50 - 12.50 - 24.50		

PRICE EX WAREHOUSE

CALGARY

25lbs.	50lbs.	100lbs.
Montana - \$7.00 - \$13.00 - \$25.00		
Turkistan - 7.50 - 14.00 - 27.00		

A FINE GARDEN SELECTION

PRICES POSTPAID

Beans—McK's Golden Wax	5c	—	30c
Beet—McK's Extra Early	5c	—	20c 2.00
Cabbage—McK's Winningstad	5c	—	25c
Carrot—McK's Oxheart	5c	—	20c
Cauliflower—McK's Early Snowdrop	25c	3.00	—
Celery—McK's White Plume	5c	—	30c
Corn—White Cory	5c	—	25c
Cucumber—McK's Long Green	5c	—	20c 1.40
Lettuce—McK's Prairie Queen	5c	—	30c
Onion—McK's Yellow Globe	5c	—	20c 1.65
Onion—McK's Red Wethersfield	5c	—	20c 2.10
Pea—McK's Manifold	5c	—	30c
Pea—McK's Prosperity	5c	—	45c
Radish—McK's Rosy Gem	5c	—	20c 1.00
Tomato—McK's First of All	10c	—	35c

SEE OUR LARGE 1912 ILLUSTRATED CATALOG FOR VEGETABLE, FLOWER, GRAIN, GRASS AND CLOVER SEED

A. E. McKenzie Co. Ltd.
Brandon, Man. Calgary, Alta.

SEEDSMEN TO THE WEST

Western Farmers require a Disk Harrow with the greatest possible capacity for Speed and Results. Here it is. The BISSELL DOUBLE ACTION DISK HARROW gives two cuts full width, in half the time taken when only one Harrow is used. One Disk is OUT-THROW, the other IN-THROW, which gives it the name Double Action. For a double quick and effective Harrow, buy the BISSELL DOUBLE ACTION. Connect a group of 4, 6 or 8 of these Harrows together for use with engine power on a large scale. Our Wide 14 ft. Six Horse Disk is also a boon for the West.

Write to Dept. L for free particulars.

"THE BISSELL" DOUBLE ACTION DISK

Manufactured exclusively by

T. E. Bissell Co. Limited, Elora, Ont.

JOHN DEERE PLOW CO. LTD., Winnipeg, Sole Agents

Patronize those who patronize this Magazine

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A POST CARD WILL BRING OUR CATALOG

THE CHARACTER OF THE SEED DETERMINES THE OUTCOME

Right about face! commands the



Drill Master

Each Succeeding year strengthens the proof that, for filling the farmers' needs absolutely as they must be filled, the LEADER, and truly the MASTER, of all is the

MASSEY-HARRIS NEW No. 11 DRILL

Extra Strongly Built. - Everlasting Frame.

Even Pressure on Short and Long Drag Bars direct from Levers.

Largest Grain Hopper on the Market.

Call upon our Local Agent to see Sample

Also ask for copy of our 1912 Catalogue.

**Winnipeg
Regina**

MASSEY-HARRIS COMPANY, LTD.

**Saskatoon
Calgary
Edmonton**

pull through the first few years, then keep a stock of 15-20 broodmares, raise an average of 12 foals every year, and sell these as 3-year-olds for \$250-\$275, he will find this a very profitable business.

Having to plow only the 75 acres, which do not need as much cultivation as new breaking, he does not hire a man until harvest. He cuts his hay on the land that he has again leased from the Hudson's Bay Company. During the summer while the man is plowing he erects an implement shed 24 x 40, and also fixes up the lean, which has so far been used for storing the machinery as a cattle stable. His crop consists of 2,200 bushels of wheat and 1,600 bushels of oats. The winter, as usual, is taken up by hauling out the wheat, getting firewood, cleaning the seed grain, and also getting his 4 3-year-old fillies accustomed to harness as this raises the price considerably. His standing on April 1st, 1914, after three years' work, is as follows:—

Deducting the \$8,000 that he began with, and the interest, that the money could have brought him, had he loaned it out at 8 per cent., amounting to \$1,920, for the three years, he is still \$3,009.15 ahead. This means that the farm, besides paying 8 per cent. interest on his investment, has given him a living, and his

work on the farm has resulted in a yearly gain of a little over \$1,000, and this will materially increase, as he now has practically all the necessary buildings for a 320 acre farm, and is beginning to sell horses of his own breeding.

New Realty Firm for Winnipeg.

A business change has taken place in real estate circles within the past few days. The C. N. Maywood Realty Co.'s business Bank of Nova Scotia Building, has been absorbed by a new organization under the name of the Maywood, Gifford Land and Investment Company, Ltd., with an authorized capital of \$100,000.

The new company will handle general real estate, investments, financial brokerage, loans, insurance, rentals, etc.

All of the stockholders are well known business and professional men of Winnipeg. The active members of the new company, Messrs. Maywood, Gifford and Oliver, have been representative business men in Winnipeg and Western Canada for a number of years, and all are known as men of ability and sterling integrity.

Mr. Maywood was the founder and principal owner of the Winnipeg Piano Company, but re-

tired from the business and engaged in the real estate business about a year ago.

Mr. Gifford came to Winnipeg nine years ago as manager of the collection department of the J. I. Case Threshing Machine Company. He remained in that position until September, 1906. Subsequently he became general manager for Canada for the Northwest Thresher Company, of Stillwater, Minnesota, and moved to the company's headquarters at Brandon, Man., where he resided until a year ago, when he removed to Winnipeg.

Mr. Oliver formerly resided at Ochre River, Man., where he was engaged in the hardware and implement business and also held the position as postmaster for the past nine years, when he retired and moved to Winnipeg.

We bespeak for them a liberal share of the patronage in their lines of business.

How to Relieve the Grain Blockade.

Mr. Bury, vice-president of the Canadian Pacific Railway, is recently quoted by the Mail and Empire as having made the following statement as being an important

factor relieving the grain blockade problem:—

Buy More Granaries.

"A corrugated steel granary building holding a thousand bushels can now be bought for \$65 at Winnipeg, and with a large demand the cost of manufacture and the price should fall. A farmer with a full quarter section under cultivation might expect to reap 3,200 bushels of wheat. In that case would it be too much to expect him to provide two granaries at a cost of \$130 to protect it?"

"If insured, banks will advance him money on wheat in granaries, and in most cases he could more than pay the insurance and interest from the increased price obtained by marketing at the most favorable moment.

"The adoption of mixed farming in large portions of the West seems to me the easiest, in fact, the only, solution of our troubles. It would arrest the impoverishment of the soil; guard against the possibility of a calamity which might follow two or three successive failures of the wheat crop, and would render this country independent of the day when a great fall in wheat prices might result from the sudden development of Asiatic countries admittedly fertile, which are now inhabited by backward races with primitive institutions."

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The Canadian Thresherman and Farmer

CANADA'S FARM MACHINERY MAGAZINE

PUBLISHED MONTHLY BY
E. H. HEATH COMPANY
LIMITED

WINNIPEG - CANADA

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E. H. HEATH
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E. W. HAMILTON
SECRETARY

F. C. BRAY
TREASURER

1912



"Everything begins and ends with the soil."

THE HOME HABIT

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THE ONLY WAY to keep the young folks of the farm at home is to make home really worth while, a place that is charged so completely with the magnetism of the "homing instinct" that they cannot keep away from it. Young people are a long time in reaching that enthusiasm. Some men—and women—so completely acquire the taste for the almighty dollar that they will put up with any physical discomfort and the most unsightly environment so long as they are making or "saving" a little bit of money.

THAT IS A MISERABLE POLICY, and with all the experience of fatherhood and motherhood we say frankly that if we found any difficulty in providing the sheet anchor of a real home we would blame ourselves. "How to Keep the Young People on the Farm" is the problem we are more than anything else familiar with in these days at Agricultural meetings, but it is one of easy solution, in which the way is clear and easy to travel if the will is set in the right direction.

THE LURE OF THE CITY will never have the fascination it is supposed to dangle before the eyes of the lads and lasses of the farm if the presiding genius of the farm home plays his or her part. And it can be done so easily, without sacrifice, and with such certainty of a responsiveness in the hearts of the youngsters that not only they, but every friend and visitor who crosses the threshold will be stirred and elevated.

ONE OF THE FACTORS in home attractiveness that we find is beginning to exercise the intelligent interest of a great many men and women who had never found the time to think of it in years gone by is the beautification of the little acreage that more particularly encompasses the home buildings. A remarkable demonstration of what can be done with a bald patch of prairie was recently given at Manitoba Agricultural College by Norman Ross, of the Forestry Dept. at Indian Head.

He exhibited a series of slides the first of which was that of the Superintendent's house on the Experimental Farm, photographed shortly after it had been erected some six years ago. Not so much as a prairie rosebush was in sight, but after a judicious planting of shrubs and trees, the place was photographed regularly every year afterwards, from the same spot until, last of all, in the full blow of summer, 1911, the effect was simply amazing.

Now we are striking into nothing that is new to most readers of the "Canadian Thresherman and Farmer," but have the majority of our farmer fathers and mothers really figured out what it means to their young people to have such a delightful retreat for them and for their play mates? Horticulture takes a far different position in our public school curriculum than it did in the early days, and from personal experience that we are thankful for, we can say that above most things in the farm home economy we know of nothing that is so fascinating and so lasting as a taste for this sort of thing.

THERE IS A GLAMOUR about home gardening, a captivating quality in the idea of seeing something else than wheat and barley growing to perfection as the outcome of ones own intelligent handiwork that nothing else one can indulge in can take the place of. Apart from the uplifting and satisfying character of the pursuit, it has its value even from a mercenary standpoint. Every dollar that is wisely spent in this way can certainly be accounted for when it comes to selling a place, but it is the duty and the pleasure of the thing we are after.

"I wouldn't live in the City if I could help it" was the remark made to the writer the other day, by a farmer's daughter from Southern Manitoba. It was made in the street car in Winnipeg, following an evening spent at Manitoba College during the recent "Farmers' Short Course" at that institution. This lady was on the teaching staff of one of the City schools, but her heart was still on the farm, and her enthusiasm as she spoke of the home life and its garden glory which she helped to create was in refreshing contrast to the blase wail of some of our city bred maidens.

PROBABLY NO ONE in these prairie provinces has any idea of what is growing and what can be made to grow in perfection on our prairie sod. We are yet in a primitive state so far as our horticultural development is concerned. "Full many a flower is born to blush unseen," and there are scores of remarkable discoveries yet to be made of these, "wasting their sweetness on the distant air" even in Manitoba. Last summer we saw specimens of several orchids and of the extremely delicate "Oak Fern" growing on the shores of Lake Winnipeg, of all places. True, they were sheltered by the balsams and other fine indigenous evergreens growing around Victoria Beach, but these are the index fingers that pointed to a vast mine of undiscovered sub-tropical wealth that is positively there, and it is well known that these delicacies are not to be found where they have to stand the continuous rigor of an arctic climate.

OUR GUARANTEE

No advertisement is allowed in our columns until we are satisfied that the advertiser is absolutely reliable and that any subscriber can safely do business with him. If any subscriber is defrauded by K. 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 occurrence, 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."

The Great Originals

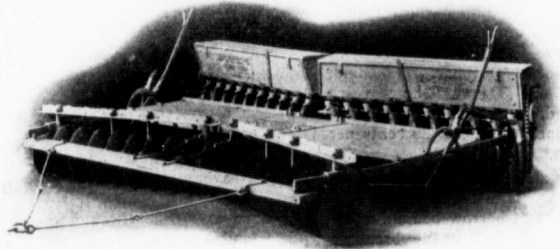
For

Engine Power in Field Work

New Emerson Engine Disc Harrow with Seed Attachment

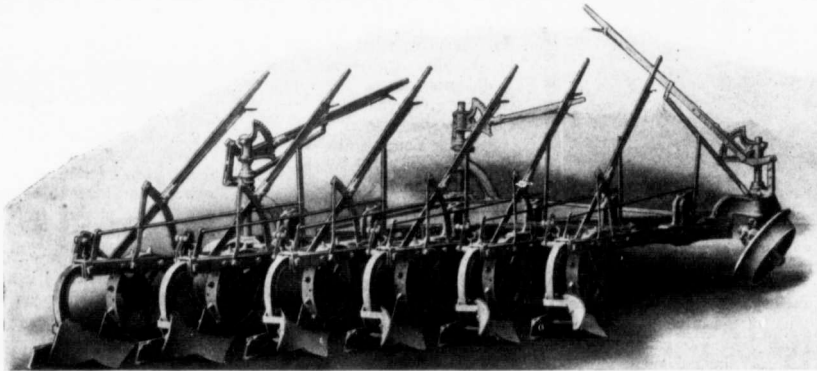
THIS HARROW is the most perfect soil pulverizer that has yet been designed for this purpose. Built in 2 sections with a large weight pan between. The front section is set so the discs throw out while the rear section discs throw in, thus pulverizing thoroughly, completely cutting the entire surface of the field and preparing your seed-bed with only one passing of the engine over the field. With all the discs set straight it makes a first-class sub-surface packer.

THE FORCE FEED SEEDER on rear harrow plants every seed grain uniformly at required depth. It handles seed as small as alfalfa and not a kernel is left on the surface or so near to it that rain or wind storm may afterwards expose it.



The Emerson Engine Gang

The latest and the greatest Machines yet produced for perfect cultivation are the Emerson Engine Gang Independent Beam Plow with Automatic Power Lift, and the Emerson Engine Disc Harrow with Seeder Attachment. For extensive or intensive work, these implements provide an absolutely perfect seed-bed with perfectly uniform seeding at the proper germinating depth.



Where the Emerson Plow Differs

It makes a continuous furrow from center of the field without a stop to turn corners, thus plowing a considerable distance while the ordinary plow is turning. There is no hauling across plowed land.

It is an Engine Plow carried on wheels with long distance axles, made in sections with patent flexible connections to conform to uneven surfaces. Turns either way, right or left, plowing all the time.

The Emerson Independent Beam Plow with Automatic Power Lift can be easily operated by a boy. Automatic lift operated by trip raises or lowers plow instantly as desired. Furrow wheel insures even width of furrows without attention. With flexible hitch the engine may vary the distance from last furrow while width at first furrow remains uniform. Gauge wheel on each bottom gauges depth. Pivoted beams allow each bottom to pass over or swing round obstructions. Suction is regulated by levers for shallow or deep plowing. Made in 3 sizes: 6, 8 and 10-14 inch bottoms for old land or prairie breaker. Change from one size to another as desired.

Either or both moldboards and discs for same frame at little additional cost. 16-inch bottoms are used regularly but 12 or 14 inch can be furnished if desired. 24 inch discs are used regularly but they may be had in 26 inch size.

Mr. Farmer: The "luck" or the fate of your 1912 crop lies in the SEED BED. Whatever your failures in the past, here is a chance to get the very best results your seed can make. These ingenious and inexpensive implements will not only save many dollars' worth of valuable seed but you will get the very highest percentage of crop from the seed used. Further: So perfectly does this harrow treat the soil that in many cases it will be found sufficient to plow the land only once in 3 years. A 25 H tractor will pull 2 of these harrows—each 10 ft. wide with 40 16-inch disc blades.

Write for complete information, to

TUDHOPE-ANDERSON COMPANY, Limited, AGENTS FOR WESTERN CANADA
 Warehouses at Winnipeg Regina Calgary Saskatoon
 Distributing Branches: Brandon, Yorkton, Edmonton, Lethbridge, Swift Current

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.)

Two Gallons of Gasoline per Acre.

Our experience in traction plowing is rather limited. Ours is 20 horse power International engine. In the spring of 1910 we did some stubble plowing, drawing five 14-inch plows with two sections of harrows behind.

On one 30-acre field that we plowed, we used 60 gallons of gasoline, which cost 26 cents per gallon.

We also disced some breaking, drawing two 8-foot discs and one 16-foot harrow behind, doing the work well. In breaking time we drew one 24-inch heavy scrub breaker. This is principally what we got the engine for, as scrub breaking is very

times, but no more than could be expected.

Yours truly,
Nelson Kydd,
Moosomin, Sask.

More Than Pleased.

I got my engine about 22nd August, 1910, and started to thresh about 27th August, and threshed for 20 days, and in that time I threshed 27,678 bushels altogether—wheat, oats and barley—an average of 1,318 per day.

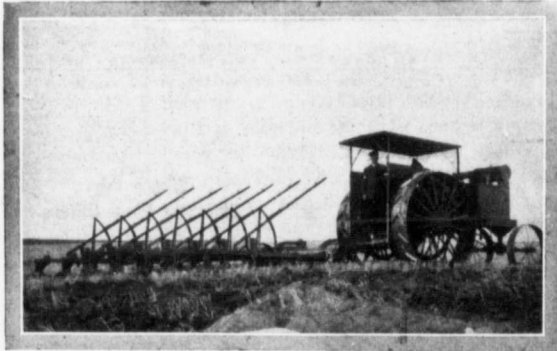
I have a Hart-Parr 22 horse power and a J. I. Case separator with all attachments. I had lots of power at all times. I started my engine with gasoline, and as soon as warm enough used kero-

toms on a Cockshutt engine plow and then put on eight. I found I had lots of power and might say that I am more than pleased with my outfit.

I only use two gallons of gasoline to the acre on the average. I averaged about 12½ acres per day, running from daylight until dark. Our engine is water



Gas Tractors and John Deere plowing and packing.



The Flour City doing the work of a string of horses.

hard on horses, some scrub being quite large. From some clumps of willow we cut fence posts four inches through. I wish to say that the engine did this work well, pulling plow through everything. The cost of breaking was about \$1.30 per acre for gasoline and oil, and two men could plow about three acres in a ten hour day. You may think this is pretty dear for breaking, but it was cheaper than we could do it with horses, and did much better work.

The plowing was harder than threshing on engine on account of the dust that was blowing around.

We threshed for about 22 days, threshing 2,100 bushels of grain with a 28 x 42 Goodison separator.

I wish to say that I had had no experience whatever with gas line engines. We had trouble at

times, which I found very satisfactory. I used about four gallons of gasoline per day, and from 35 to 40 gallons of kerosene per day. I am sending you a photo of my outfit threshing.

After threshing, I plowed about 375 acres, nearly all back-setting in heavy clay land. I started with six 14-inch bot-

I ran the engine myself, and had one man on the plow. I take a tank for water, which lasts about one week, which I find saves a lot of time. I am intending to run my outfit night and day this coming season and keep as accurate account of all costs as possible, so that I can tell exactly what it costs to break, plow stubble and thresh. I did not do so this year, so cannot give you that information.

Yours truly,
E. W. Cooke,
Cary, Man.

Costs \$1.25 per Acre for Breaking.

The make of our engine is an International gas tractor, 20 horse power, and our plows are John Deere plows. Last season I only employed two men at the outfit beside myself, and one man to drive the team for hauling gasoline and water. One team can do the work with ease.

cooled and I use about one barrel of water per day.

For breaking, I draw four 14-inch bottoms and for stubble I draw six 14-inch bottoms and a harrow to cover the width of the six bottoms. I also hitched four disc harrows, one four section drag and a float the width of the four sections of harrows, and pulled all this with ease.

As to the hitch, I got an oak 4 x 6 timber 14 feet long, but I wish to enclose a hitch sketch. As I said before, I drew four 14-inch bottoms for breaking, and I broke from four to five inches and stubble plowed from five to six inches deep.

I have not done any threshing with our engine, so I cannot say which is the hardest on the engine.

Our average cost per acre for breaking this last season was \$1.25 per acre.

If you should desire any further information along these lines I will be perfectly willing to give all I can.

More Power

OILDAG

(Reg. Trade Mark)

Builds a film that is lasting. It is the only oil that contains Deflocculated Graphite. This graphite is not available in powder form. Oildag is put up in condensed form for mixing with 1, 5, 10 or 40 Imperial gallons of oil. You mix it with the oil you use regularly. As all Acheson-graphite sold as a lubricant is of highest purity, and Deflocculated Graphite is of molecular fineness, it is plain that Oildag has no equal as a lubricant to be used in place of plain oil, that drips, drips and drips away without affording enduring benefits.

To secure the greatest efficiency from either gas or steam engines, the cylinders should be lubricated with Oildag. Oildag and Gredag are lubricants that afford cumulative benefits.

GREDAg

Gredag is the only grease containing Dis-integrated Acheson-Graphite. It will easily do twice the work of plain grease, because it forms a film that has wonderful endurance. The smoother that you can make surfaces that come in contact the less will be the need of lubrication, for friction will be reduced. We are General Agents for Gredag, made by the International Acheson Graphite Company

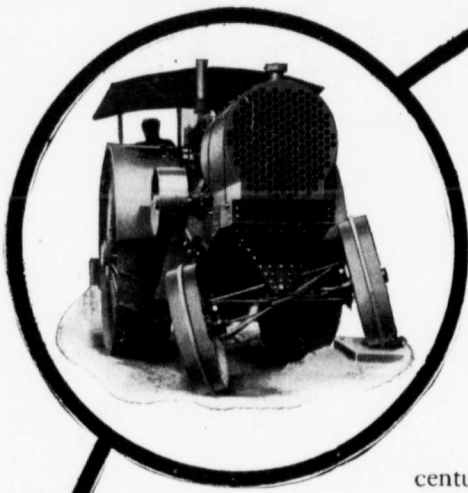


Ask your dealer or write for more particulars

Acheson Oildag Company

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The Twin City "40"

All Steel Gas Tractor is Backed by 25 Years of "Know How."

WE have been leaders in the West in the manufacture of engines, transmission machinery, and structural steel work for over a quarter of a century. Some of the Twin City Corliss Engines which we manufactured twenty-five years ago are still running and doing good work today. We have built up a strong reputation for quality in everything we turn out.

The first gas tractor we ever made was a wonderful success. It was a marvel of strength, power, simplicity and reliability. If it were combined the successful features of our famous engines, transmission machinery, and the strength of our steel bridges. It was the masterpiece of our expert engineers and master mechanics with their many years of experience in this line of work. In designing the Twin City "40" Gas Tractor we were aided by a man who is a recognized authority on gas tractors, a man who has supervised the designing of almost every gas tractor on the market today, a man whose long experience with gas tractors was of great value in designing the Twin City "40."

There was room for little improvement on this first gas tractor of ours, but a few strong features, found in no other gas tractor, were added, so that the Twin City "40" All-Steel Gas Tractor, as we make it today, is as near perfection as it is possible to get.

Among these features is the oscillating front axle which is like the axle on an automobile, easy to guide. It is so set as to move up and down, from side to side like a teeter-totter, thus balancing the tractor in going over rough ground, and eliminating the danger of the tractor tipping over when one of the front wheels hits a bump or falls into a rut. Thus the motor is always on a level, and is permitted to deliver its full power without strain. See illustration above.

The Twin City "40" is the lightest gas tractor for its horse power on the market. It has all the power of the heavier and clumsier machines, in fact it has more power for actual work in the field. While it is rated at 40 horse power, it will really develop from 43 to 46 horse power at the draw bar. It is built to last, to stand up under the heaviest strain, to do the utmost amount of work at smallest cost, to combine power, simplicity, strength, and all the desirable features of other gas tractors in an honestly constructed, reliable machine.

Our Guarantee and What It Means

We absolutely guarantee the Twin City "40" All-Steel Gas Tractor. Back of this guarantee is a \$1,250,000 corporation which has for twenty-five years maintained a high reputation for square dealing, for living up to its claims, for standing behind its guarantees, and for making good the slightest defects in any piece of machinery that goes out of its factory. This is a guarantee that means something, as every piece that enters into the construction of the Twin City "40" All-Steel Gas Tractor is manufactured in our own plant. The motor is of our own make.

This is a vital point to consider when you are buying a gas tractor, as most gas tractors are only assembled in the shops of their manufacturers, the different parts being bought at different places. If any defect is discovered in such a tractor there is considerable delay and annoyance in having it made right.

All-Steel Framework
"Built like a bridge"



Let Us Help You Solve Your Labor Problem

We will advise you honestly whether or not you can use a gas tractor with profit. We will help you decide the question: "Do I really need a gas tractor?" We will tell you whether or not you can have your work done cheaper or better with a gas tractor than by the old method. Write us fully and in confidence stating the number of acres in your farm, the kind of crops you raise, the number of men you hire and the number of horses you have.

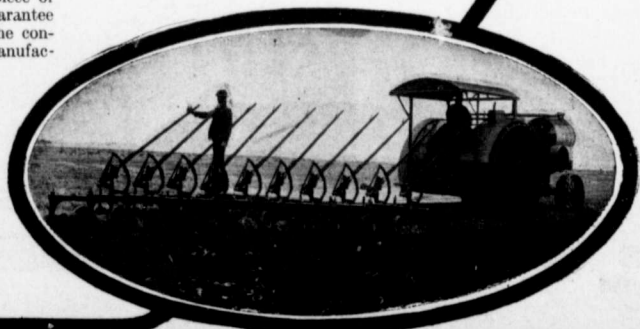
If you have already solved this problem for yourself, if the figures have convinced you that you need a gas tractor, or if you have a gas tractor that is not doing satisfactory work, we want you to write and let us tell you more about the Twin City "40" Gas Tractor.

We want to tell you where there is an agent near you who can show you our tractor, point out its strong features, give you an actual demonstration, so that you can see for yourself that everything we claim for the Twin City "40" All-Steel Gas Tractor is true.

You had better write today while the subject is fresh in your mind.

Ask for Catalog No. H

**MINNEAPOLIS
STEEL & MACHINERY
COMPANY,
MINNEAPOLIS - MINNESOTA.**



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I must say that I have not hitched any drills on engine as we have enough teams to do that work, and we like the team's work the best for seeding, although it can be done with the engine.

Yours truly,
J. H. & F. A. Schlueter.
Milk River, Alta.



A Hart-Parr seeding at Caron, Sask.

Solves the Help Problem.

I have a Hart-Parr gasoline or kerosene engine, 45 brake horse power. For breaking plows I use six 14-inch Cockshutt plows, and for stubble plowing I use the Emerson disc plow, two sections of six furrows each and 18 feet of harrows behind the plow, which makes a good job, as there is no time when the harrow does so much as immediately after the plow, and in using an 18 foot harrow I harrow my land twice over.

I run the engine myself, and with one man to attend to the plows this is all the help I require. For plowing I use about one barrel of fuel (kerosene) and about half barrel of water per day. Threshing takes less.

I think plowing the hardest work you can put an engine to, yet where a man is running a large farm I consider gas traction power the cheapest.

I can't figure it cost over 85 cents per acre for the fuel and labor, and for threshing, especially where water is scarce, this power is just the thing.

For threshing, I use a 32 x 52 inch Nichols and Shepard separator, and think I can thresh a little faster than steam outfits of the same size.

I remain,

Yours truly,
J. H. Penfold.
Lang, Sask.

Repair Bill Practically Nothing.

Last spring we bought a 20 horse power gasoline tractor from Mahoney and Armstrong, implement dealers at Carmangay. We also bought a P & O bottom breaker from the same firm.

The average day's work consisted of breaking from eight to ten acres with four bottoms, or of plowing from 12 to 15 acres of stubble with five bot-

toms. This took about 25 gallons of gasoline, and as we did the work ourselves, figured the day's work cost us about \$10.

We used the breaker bottoms for stubble work, but are going to get a disc plow in the spring, as I have seen them used with great success and satisfaction. One can pull more bottoms.

Deere eight bottom plow, and have had some experience on outside work. I use two men regularly on the engine and plow, one for the engine and one for the plow, and I generally draw the oil and supplies for them.

Last summer I broke and back set about 275 acres, for which I received \$1,515, and the gasoline for the same cost me \$555, including lubricating oil and other oils. But I cannot state exactly how much other oils we used. Blacksmith work and repairs cost me \$35, and labor \$510, including my own work. So I figured on clearing about \$400 on plowing.

I cannot tell exactly how many days we were on the job, for I had to be home quite a lot myself, and at times when I had to work on the plow on account of not being able to get a man, I would have to stop when I was needed at home.

We double disced and harrowed 10 acres with 90 gallons of gasoline.

Last year was very dry, and consequently the plowing was slower and more expensive than on the average year. I figure that, throwing our work in, the breaking cost us \$1.00 per acre, the stubble 70 cents per acre, and the double discing and harrowing 35 cents.

I never had any experience in the threshing line, but always figured that threshing was easier on the engine than plowing.

This 20 horse power International engine will develop 23 horse power on the pulley and about 16 on the draw bar. My repair bill for the past year was practically nothing.

The gasoline, in my opinion, is almost a necessity in a new country, such as we have here.

Yours truly,
G. W. Talbot.
Carmangay, Alta.

Plowing Harder than Threshing.

I own a 22 horse power or 45 brake horse power Hart-Parr gasoline engine and a John

I consider plowing a little harder on the engine than threshing, with a 33 x 52 Gaar-Scott separator with high bagger and blower.

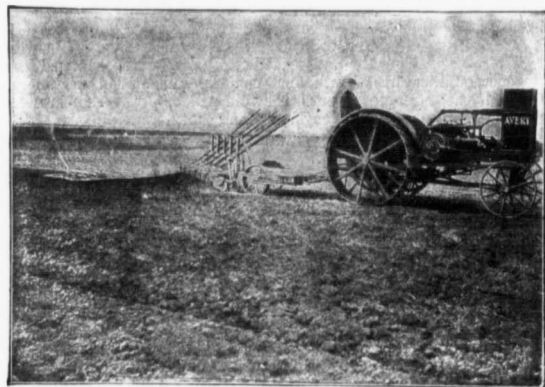
Yours truly,
A. Minard.
Fannystelle, Man.

Gasoline Ahead of Steam.

With regard to gasoline engines, I think that a gasoline engine is the only power for the farm for allround work, and, after using a gas engine for plowing, a man would not go back to horses. I also think the gasoline engine is ahead of steam, as in some parts of the country it is hard to get wood, coal and water.

I have a 21 horse power International harvester engine. A man can plow 10 acres in a good long day, using two gallons of gasoline to the acre. Our engine can pull four plows and in stubble five. When threshing we handle with ease a 27 or 28 inch separator.

I find that it does not pay to run too long without changing the water. I always use the highest grade of gasoline and the best cylinder oil procurable. Buffalo is very good.



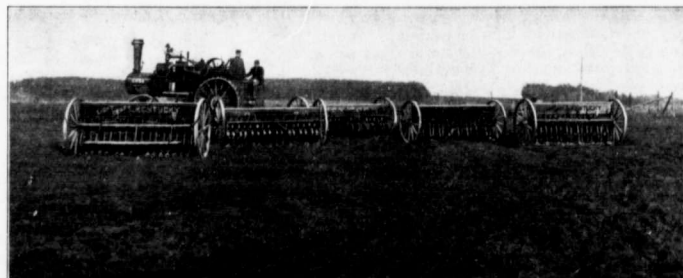
The Avery Tractor and a Cockshutt Engine Gang.

In very cold weather a gasoline torch should be kept on hand to warm the cylinder well. It also pays to warm the first charge of gasoline.

Yours truly,
Edward Greenstreet.
Lloydminster, Sask.

The HANSMANN LINE

SOLD ONLY BY THE BIGGEST IMPLEMENT HOUSES



Turning at end of field is an easy matter when using the Hansmann Drill Hitch, because the drills do not "bunch up!"
Hansmann Manufacturing Co., Long Prairie, Minn.

Farmers who use traction engines should acquaint themselves with **Hansmann Plow Engine Guide, Drill Hitch and Binder Hitch.**

Your equipment is not complete without these devices. Let us tell you how to get the most service out of your engine.

I Am The Oil Pull

Q I am the *Oil Pull* born of the spirit of man. My ribs are of iron and my sinews of steel. I breathe the vital air of heaven. I feed on oil of the earth. Swift lightning courses my nerves of copper. Fire and power awake at their flash in my bosom and drive my sturdy legs to action.

Q I serve the children of men. At their bidding I become a thing of life, to draw the plow. I lift the yoke from their shoulders and bear the heaviest burden of their toil. By day and by night, unresting, I upturn the hidden depths. Hand in hand with sun and frost and rain, I crumble the wild plain to fertile dust.

Q I sow. I reap and glean. I winnow corn from the chaff and fetch it to give new life. I bring the dumb beast rest. I bring to the toiler his daily loaf. I bring happy occupation to hosts on railway and sea, in the mill and the factory. I am today's beast of burden. I am the hope of food and life for tomorrow's millions.

Q I am the *Oil Pull* born for labor unending.

Q "Toiling and Tilling the Soil" tells the complete story of the *Oil Pull*. Send for your free copy today. Address:

M. RUMELY COMPANY

MACHINERY FOR

Plowing, Threshing, Hulling, Hauling, Shredding, Husking, Shelling, Sawing, Pumping, Etc.

1931 ROSE STREET

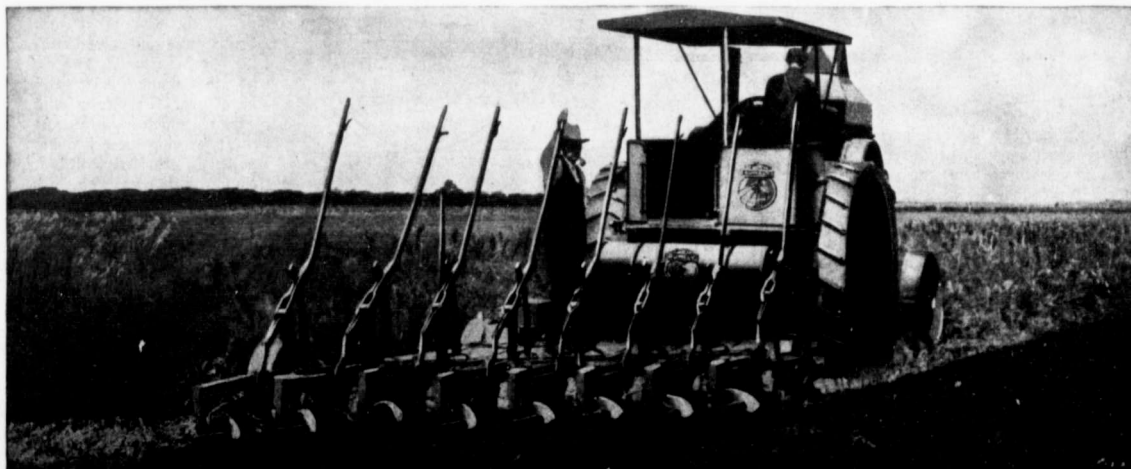
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Course in Gas Engineering

Conducted by D. O. BARRETT.

This is a new series of lessons that will continue for two years. These will consist of a number of practical talks on the theory and practice of the gas, gasoline and oil engine. They will be simple, illustrated where necessary, and of such a nature that the gas engine owner may easily adapt them to his daily engine work.

LESSON XVI.

The "Buffalo-Pitts" was the only tractor employing a three cylinder engine. This machine embodies some rather novel features of construction, departing, we might say, from conventional lines. The cylinders are vertically arranged, parallel with the frame and over the rear axle. The fly-wheel of the engine is at the rear. A shaft extends forward from the crank shaft of the engine, carrying two spur gears, F and F, and also the bevel gear H at the end. Another bevel gear H is placed on a cross shaft, which carries the belt pulley. The gear H is arranged so that it may be slid out of mesh with gear G when the belt pulley is not being used. The frame of the tractor is not designed along the lines of a truss, and below the engine are two shafts, carrying the spur gears E and E, which mesh with F and F respectively. Clutches are placed in the gears E and E, so that they may be locked to their respective shafts on the ends of which are the bevel pinions D and C, which mesh with the bevel gear B, which is placed on a cross shaft, and carries at its outer extremity the chain sprockets J. The differential gear is enclosed in the bevel gear B. From the sprockets J the drive to the rear wheels is by means of a heavy malleable iron chain. It was neglected to mention that there is a friction clutch in the belt pulley. The rig is spring mounted both front and rear, the rear axle turning with the wheels. Only one front wheel is provided. The platform is on a level with the engine.

The Kinnard-Haines might be called the prototype of the four-cylinder gasoline traction. This tractor uses extremely high wheels, has rotating rear axle and double gear drive. The cylinders of the engine are cast in pairs, the engine being placed parallel with the frame, with fly-wheel at the rear. The front end of the engine shaft carries a bevel pinion F, which meshes with two bevel gears D carried on a cross shaft, on the right side of which is the driving pulley. Both these gears rotate freely on the shaft, friction clutches being provided for each. On the left end of the cross shaft is a spur pinion E, which meshes with the idler C. C in turn meshes with the intermediate gear B, which carries the differential. The gear E may be removed from the cross shaft when the engine is being used for belt work. Cooling water is carried in the plain tank W.

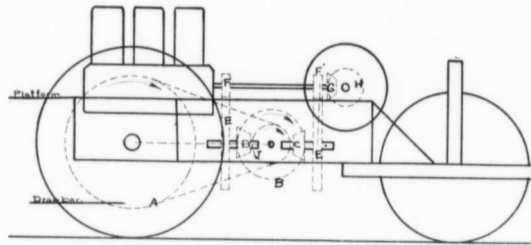


Fig 6—Buffalo-Pitts "Triplex."

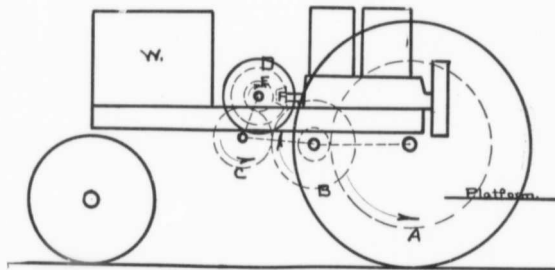


Fig. 7—Kinnard-Haines.

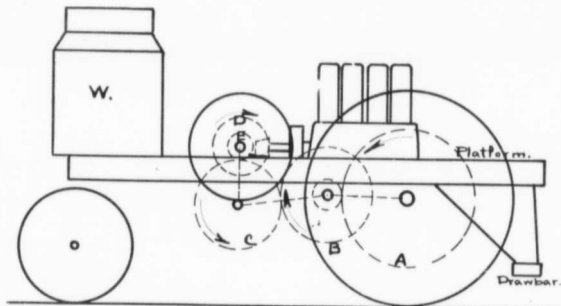


Fig. 8—Gaar-Scott.

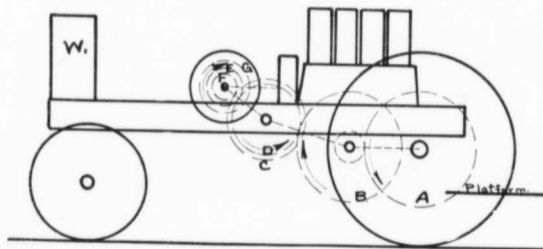


Fig. 9—Sawyer-Massey.

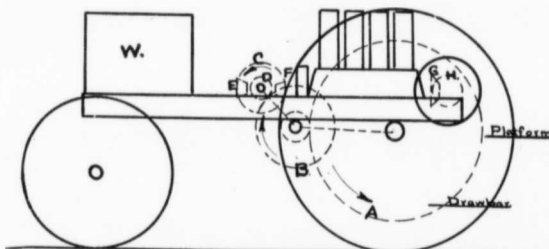


Fig 10—Gas Traction.

The design of the Gaar-Scott is very similar to the one previously described, having two clutches on the bevelled gears for the forward and reverse movements. The engine in this machine is somewhat larger than the Kinnard-Haines, and the valves of the engine are carried in pockets at the side, while in the latter they are directly in the head. Also the cooler W is provided with radiating surfaces, the air being drawn up through same by means of a horizontal fan at the top.

The arrangement of the Sawyer-Massey engine is somewhat similar to those just described, the most noticeable difference being that it is provided with two speeds, the two-speed gears C and D, and the intermediate gear B being placed inside of the frame at one side of the engine. Only one clutch is provided, this being in the fly wheel of the engine. The extension of the crank shaft carries a bevel pinion, which meshes with the two bevel gears G, these gears are locked to the cross shaft by means of dog clutches. When the engine is being used for belt work the pinion E and F may be slid out of mesh with their respective gears. A fan is provided to aid in the circulation of air through the radiator W.

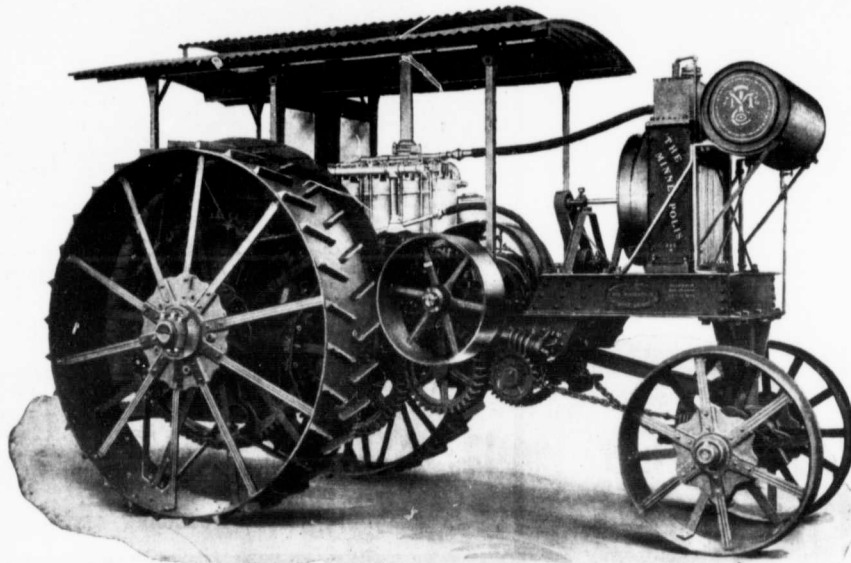
The Gas Traction is another tractor which uses extremely high rear wheels. In this rig only one intermediate shaft carrying the gear B is provided between the bevel cross shaft and the rear axle. The crank shaft is extended at the front, and carries the two bevel pinions E and F, which mesh with the bevel gear C attached to the cross shaft carrying the spur pinion D. The pinions E and F are locked to the extension shaft by means of a dog clutch. Of course the cross shaft carrying C and D does not extend completely across the frame. The rear end of the crank shaft carries the bevel gear G meshing with the gear H, which is on a short cross shaft carrying the belt pulley. The pulley is provided with a friction clutch of its own. This construction places the belt pulley at the rear, so that the belt must also be taken off from this direction. For threshing work the engine is not uncoupled from the separator, a short belt being provided between the two. The radiator W has a fan to aid in cooling the circulating water.

The most noticeable feature of the Aultman-Taylor is that its four cylinder engine is placed cross-wise of the frame, and the

Continued on page 37

THE GREAT MINNEAPOLIS LINE

OF ENGINES, THRESHERS AND FARM MOTORS



The Minneapolis 25 H.-P.

is exactly what it looks—a machine capable of standing an enormous strain and of overcoming difficulties and obstacles that mere brute strength could never tackle.

It will go where a horse or any number of horses can travel and will do work which horse flesh would never get through except at ruinous cost.

Most reliable and serviceable 4 cylinder tractor built, it has no equal in value and in simplicity of construction. It is built of steel in every detail where cast iron can be superseded.

You cannot buy a more easily operated engine at any price.

The Minneapolis Standard Separator

Guaranteed to stand the hardest work that can be imposed on any threshing outfit, and to give the most satisfactory results in threshing any kind of grain. All cylinders are double-steel bars and fitted with self-oiling boxes. Cylinder sides are of cast iron, in one piece solidly bolted to the cylinder post and frame. Grain pan extends to the length of the machine and is of corrugated sheet steel.

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Questions and Answers For Gas Engine Operators

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

Q. W. J. P. How would you figure out the actual horse power of gasoline engines of different makes and sizes?

A. The accepted formula for the h. p. of a piston motor is $P \times A \times L \times N = 33,000$; where P is the mean effective pressure per square inch on the piston; A is the area of the piston in square inches; L , the length of the stroke in feet; N is the number of power strokes of the piston per minute. In the case of a gas engine, N would represent in the number of explosions per minute.

When an indicator is used P can be found directly, otherwise it must be calculated. A formula given by Grover for mean effective pressure is as follows:— P equals $2P_b / OI_2/b$; where P_b is the pressure at the end of the compression stroke. To illustrate, if P_b were 80 pounds, as it generally is for gasoline engines, the mean pressure on the piston would be $160 - 0.1 \times 6400$ equals 96 pounds. In a four-cycle engine it is advisable to assume that the number of explosions will equal one-third of the number of revolutions, although under favorable circumstances the explosions may almost equal one-half the number of revolutions.

Knowing the mean pressure P and the number explosions, it becomes an easy matter to compute the probable horse power from the formula.

Another formula given for h.p. by Brookes is as follows:— $D^2 \times S \times N = 18,000$ equals horse power in this formula D is the diameter of pistons in inches; S , the stroke in inches; N , the number of revolutions per minute. This formula gives rather lower values than the one first discussed. When applied to formula gives values about 20 engines on the market, this per cent. lower than the usual rating.

Owing to so many variable conditions that enter into gas engine practice, it is exceedingly difficult to figure with any accuracy just what power a given size of engine may deliver. The surest way to get at the horse power of any engine is by a brake test.

Q. F. L. T. I have had a gas engine for a little over a year and have had very little trouble with it; for some time, however, have had difficulty in

getting an explosion, it being necessary to give fly wheel seven or eight revolutions before an explosion takes place, after which the engine runs allright. The batteries seem to be all right, as they give a good spark when rubbed together. The engine is a two-cycle, the valves seem to work nicely, and it is equipped with a make and break spark. As I have nothing but a standard pulley, and hooked directly to the machinery, it makes it difficult to get started.

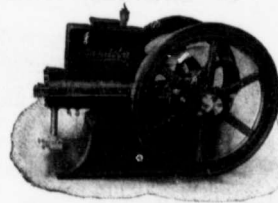
A. Your trouble may be caused by a small leak between the water jacket and the cylinder, poor compression or a drop of water between the ignitor points may prevent an engine from starting. It seems more than likely that your trouble comes from water in the cylinder.

Q. E. R. Will you explain through your paper how to babbitt the crank shaft boxes on an engine where they are divided on an angle of forty-five degrees, with the horizontal, instead of being divided horizontally?

A. Center the shaft in place and then cut shimming to fit between the two halves of the box, making it wide enough to touch the shaft on both sides. Then cut several small V notches in the shimming on the edge next to the shaft to allow the babbitt to run from the upper box through the lower one. Now paste some paper around the shaft to prevent the babbitt from sticking to it, and then fit rings of paper around the shaft and against the end of the box to mould the babbitt against. Lute all around the ends of the box with stiff putty or clay to prevent the babbitt from running out, and pour through a funnel of putty formed at the highest point of the box. Be sure to leave a vent for the escape of air on the opposite side. Heat the babbitt to the right temperature, and pour as rapidly as possible until the box is completely filled. The two halves of the box may be separated by a hammer and a cold chisel, and the edges of the box dressed down in the ordinary manner.

Q. E. R. I have a 20 horse power double engine, and sometimes when I start it up it will give two or three heavy explosions in the valve chest or ex-

The Manitoba Gasoline Engines are Great Labor Savers on the Farm



They are always ready for work, in winter as well as summer, are not affected by cold weather as every engine is Hopper Cooled. No large separate water tank with small connecting pipes and circulating pump to freeze up or leak.

Have a perfect Cold Weather Automatic Mixer that requires no priming to start.

The Gasoline Supply tank is carried in the base below the intake valve. No possible chance of Flooding the Engine, Leakage or Waste, as with gravity feed engines.

The hopper, cylinder and base are all cast separate; in case of an accident can be repaired at very small cost. Quite different to those that have these parts cast all together; the latter method cheapens the first cost but not the last.

All small wearing parts are case hardened tool steel (never wear out). Has automatic battery and fuel cut out which insures long life to the batteries and economy in fuel consumption.

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OUR FACTORY IS IN THE WEST

The Manitoba Windmill & Pump Co.,
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BRANDON, MAN., and CALGARY, ALTA.

Winnipeg, March 1912.

Mr. Farmer,

You are watching for the *Profits* this year. Doing all you can to make them *larger, surer*. Does it occur to you that wages are *expense* and lessen *profits*, and has it occurred to you that the *Cuddy Patent Steering Device* for gasoline Tractors will reduce *wages bills*, increase efficiency, *save time* and therefore earn *profits*. Built for Rumely, I H C, Flour City, Fairbanks, Hart-Parr Tractors, and *built right*. The best farmers use it now, and recommend it. Write for prices.

Yours truly,

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Threshing In a 20 Below Temperature



This picture shows THE BIG FOUR "30" threshing flax at Douglas, N. D., on December 15, 1911, with the thermometer at 20 below zero. THE BIG FOUR "30" is the only tractor which works just as well in winter as in summer. BIG FOUR "30" owners use their engines all the year round. In the Fall they fill the radiator with our anti-freezing mixture which cannot freeze even in the coldest weather. THE BIG FOUR "30's" four cylinders make it very easy to crank in below zero weather. In the Spring the anti-freezing mixture is taken out of the radiator and put away for use the following Fall.



This Trade Mark on a Traction Engine is a guarantee of satisfaction or no pay.

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156 Princess St., - - Winnipeg, Man.

General Office and Factory, Minneapolis, Minn.



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naust pipe, as loud as a big gun going off. Please tell me the cause of this, and how to stop it.

A. Explosions in the exhaust pipe are generally due to an insufficient supply of fuel which makes a slow burning mixture which completes combustion in the exhaust pipe. Since you have a double engine, perhaps one cylinder misses fire and its charge is exhausted, and then ignited by the burning gases from the other cylinder.

Try giving the engine a trifle more fuel, and if this does not correct the trouble see if the battery is not a little weak.

Q. E. T. R. I would like to know what is better, hot or cold water for cooling the cylinder of a gasoline engine. How many degrees Fahrenheit should be allowed in the cooling tank? I have been informed by owners that water almost boiling hot would give the best results. I wish a scientific explanation of the difference between hot or cold water for cooling the cylinder.

A. One of the very large, though inevitable losses connected with the gas engine is the loss of heat through cylinder walls. The temperature of combustion is very high, and the difference in temperature be-

tween the hot gasses and the jacket water is probably more than 2,000 degrees Fahrenheit at the beginning of the stroke. This difference causes a rapid flow of heat, and the greater the loss the greater the heat lost. Theoretically, a very hot jacket is better, then the heat of the gases are

reduced during expansion by doing work on the piston, and the loss of the jacket is quite small. Practically, however, a hot jacket gives trouble by causing the lubricating oil to burn, and by the seizing of the piston in the cylinder causing friction. It has been generally advised by

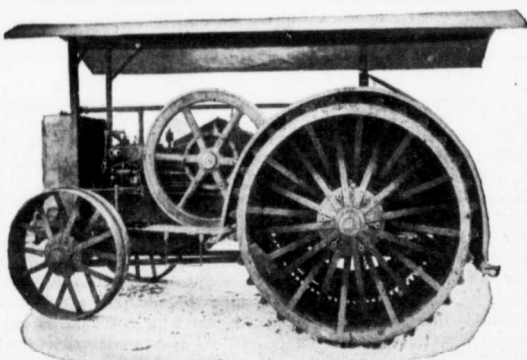
gas engine experts to regulate the jacket water in such a way that the escaping water will be at a temperature of about 180 degrees Fahrenheit. If a good grade of lubricating oil is used and the engine is made to stand it, the water might be used at 212 degrees with good results.

"Ideal" Tractor Means Proper Cultivation!

Gets the ground thoroughly prepared and does it **on time**. Easily operated by one man.

Improved 1912 pattern ground locks on driving wheels, best for Western soils. Has most perfect steering device in existence. Can be turned in a small space. New cooling system—automobile type—best ever invented.

Many special features not found on other tractors. Send for catalogue. You should know what it tells about tractors.



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WINNIPEG

CALGARY

POWER ON THE FARM

Paper read at Farmers' Short Course, Manitoba Agricultural College, Winnipeg, Feb. 13, 1912.

At a time when everyone directly interested in agriculture in the north-west is hearing of the tremendous strides that mechanical power has taken in assuming the heavy tasks of the large western farm, it is well for the farmer to stop awhile, and consider what it all means, and what it is going to lead to. A stranger does not have to be with us long to become aware of the fact that the tractor is bringing about a radical change in methods of farming.

To those living in the north-west, where they are accustomed to rapid progress and to big movements, this movement is not always appreciated or correctly estimated. In many papers devoted to agriculture the subject is not yet dealt with under the head of a regular division of the paper, which tends to give the reader the impression that it has not become of sufficient importance to be given a regular space. In other papers devoted more largely to the mechanics of the farm, this is the all important subject; and from the two types of treatment of the subject the new arrival in the west is somewhat at loss as to just what amount of importance should really be attached to traction farming.

It is safe to state that very few farmers in the older settled districts of the east, have any conception of the part that the traction engine is taking in the development of Western Canada. This is not to be wondered at, for the development of the gas engine has been so rapid that many old settled sections of the country are only just beginning to appreciate the agricultural possibilities of the small stationary engine. It has not been twenty years since the stationary gas engine was considered of much use commercially. Ten years ago gas traction plowing was scarcely thought of. It is estimated that in 1908 not over 400 gas tractors were in the field. Now there are about 4,000 in the Canadian West, together with about 4,800 steam tractors. Last year something like 1,800 gas tractors were brought in, and this year will see last year's record far surpassed. Inside of three years practically all of the old line steam traction firms operating in the north-west have put a gasoline or kerosene engine on the market, or have an engine nearly ready for this year's trade. Great factories for the manufacture of gas tractors have sprung into existence within the past few years, and bid fair to rival the old steam traction factories in size and producing capacity.

And yet with all this output of steam and gas tractors, the demands of the farmer can scarcely be met. Nowhere down through the history of the development of agricultural appliances can be found anything to compare with the speed of this tremendous development of time and labor-saving machinery.

The steam tractor first entered the field as a competitor of the horse in the early seventies. While its chief function was to furnish from the belt, the engine was tried at various times for traction plowing, but with indifferent success; and not until ten or twelve years ago was the steam tractor seriously considered as available for plowing purposes. The development of the steam tractor as a plowing engine has been very recent, but the use of steam for this purpose will soon be a thing of the past, except on unusually large farms, and where fuel can be secured at a low cost, as compared with gas engine fuels. This fact might as well be recognized. The only thing that can delay the movement will be some marked improvements in the construction of the steam tractor, which will render it more economical in fuel economy and lighter in weight. At a time when great improvements are being made over the old methods of developing power from steam, it will be surprising if some marked progress is not made in steam traction design. In some districts steam will probably be always used, but the fact that steam traction companies are going heavily into the gas engine business is most convincing evidence of the coming change.

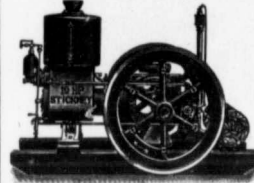
The wide-spread use of the tractor in the north-west means one of two things. Either the rapid development of the country has made it impossible to secure sufficient horses to do the work of the farm, and the tractor has been thrust into the breach as a temporary substitute, or the gas tractor is more economical than the horse as a productive agent. If the first proposition be true, as soon as the horse breeders fully realize the situation, and are able to cope with it, the gas tractor will be set aside so far as its use for plowing, hauling, seeding, reaping, etc., is concerned, and will be used on the farm chiefly for threshing purposes. If, on the other hand, the farm work can be done cheaper by mechanical power, than by the horse, counting repairs, upkeep, shelter, depreciation, etc., the horse is doomed to be gradually superceded by the

THE "FLOUR CITY" TRACTOR

FLOUR CITY Tractors are in evidence everywhere and while it may be the ambition of other Tractor Manufacturers to some day produce a Tractor nearly as good, it **hasn't been brought forward as yet.**

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Two Engines that work to the limit of economy and efficiency, two Engines that outshine and outclass all other makes. Lowest fuel cost and lowest up-keep cost make them especially adapted for operating farm machinery. Perfect in mechanism, assembled with exact precision and finished with most thorough workmanship, they work **smoothly** and **surely** through long years of service.

The "Stickney" may be had in just the size to suit your particular need, from 1 1/2 to 20 H.P., the "Chapman" in 2 H.P.

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It's simply enough TOLD, but to appreciate what it really MEANS write us today for Catalog No. 317 which by word and picture tells you all about it.

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X Cell BATTERIES

They have high amperage and a long life.

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tractor on all forms sufficiently large to use an engine economically.

These are the two alternatives. It must be one or the other. If the tractor proves the more economical the horse must go.

If the tractor proves to be too big a proposition for the small farm, a change in the economical size of farms may result. The small acreage farmer, using the horse, will get less profits from his crop, and in seasons where the margin of profit is small, will be crowded pretty hard, and the result will be a consolidation of small farms until economical methods can be used.

In the race for supremacy the gas tractor cannot but have the advantage in the long run. The ideal type of horse has been the result of years of careful breeding. In point of adaptability to many of the various farm requirements the present tractor cannot be compared with the horse. Any improvement in the horse however must be painfully slow, but the mechanical genius of man knows no speed limit. An improvement of ten per cent. in the horse would take years, but the mind of one inventor may at any time increase the economy of the tractor ten, or even twenty per cent. The transmission of the tractor uses thirty to fifty per cent. of the power of the engine. A recent invention in transmission of power by magnetic gearing, if capable of being utilized on the tractor, will without doubt effect a saving of one-fourth of the fuel, when used for tractive work.

The coming of the gas producer engine is only a matter of years, and in at least many districts it will surely affect a large economy in crop production; but it will probably be a very large tractor on the start. In such a case the large farm would be able to produce grain at a much greater profit per bushel than the small farm, which turns our thought again to the size of the average farm of the future.

Better design and materials of construction will go a long way toward making the gas tractor as flexible to the various requirements of the farm as the horse. The future engine will be able to get on the field as soon after wet weather as the horse, or as soon as the implements to be pulled will work well.

It has been said that the farm is the greatest workshop on earth. Someone has also said that more power is used on the farm than in all the factories of the world. It has not been until the last few years that the mechanical profession has come to realize the tremendous capacity of the farm for using power and mechanical equipment. Anything that is good for one farm is good for thousands of others. The demands from all kinds and sizes of farms,

"FLOUR CITY" REPUTATION

is not built on medals but the medals are the result of economy, reliability and efficiency as an all-round Farm Tractor



1908 1909 1911 1911 1911

The GOLD MEDAL Winner

Don't ignore the fact that we have won more gold medals in our class than any other line of tractors entered by any other firm. The thing, however, that we want to impress upon you as a farmer is the fact that "Flour City" tractors are just as efficient in your field as on a contest field. They will do it every day of the year and stand up to the job in all kinds of soil and in all conditions of weather.

The Highest Type of Gasoline—Kerosene Tractors.— Built in three sizes—20, 30 and 40 H.P., giving a latitude of power suitable for any size farm. Will burn either Gasoline or Kerosene.



Herbert, Sask., Jan. 4th, 1912.

Cheapest Power that can be used for all purposes on the farm today. No farm tractor in business today holds a higher record for power, fuel economy, and uniform work.

KINNARD-HAINES CO., Minneapolis, Minn.

Gentlemen:—Replying to your favor regarding the satisfaction our 30 h. p. "FLOUR CITY" engine is giving, we can say it has been doing all that was looked for in work and for cold weather we can start any day without lighting a match to warm up. People are surprised and it is finding great favor among prospective buyers.

Yours truly, BRUBACHER BROS.

If interested send for catalogue No. 18.

Kinnard-Haines

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 Minneapolis, Minn. or Toronto, Winnipeg, Calgary, Dominion Agents

for power machinery, is very strong, and will be met, though in many cases slowly. Never yet has the inventive genius of the engineering failed the world when any urgent demand was made on it.

I have yet to meet the manufacturer who is satisfied that his tractor is the ideal farm motor. He may believe that his engine more nearly approaches the ideal farm motor than any other, but few will admit that their engine has reached the point where it can be called the ideal one. The head of one of the gas traction firms, upon being informed of his success in a recent motor contest, said they had made great advances in the development of their tractor in the past, but that in ten years he expected that the motor would have made still greater progress

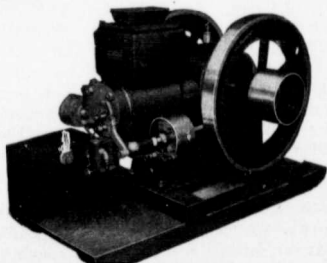
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The "Barrie" Engines Stationary and Portables

3 to 100 horse power for gasoline, distillate, natural gas and producer gas. Either make and break or jump spark ignition. Reliable, economical, guaranteed to give entire satisfaction.

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Canada Producer and Gas Engine Company, Limited
 BARRIE ONTARIO CANADA

toward perfection. This is the attitude of all the progressive, successful traction builders.

The problem of adapting power to the various needs of the farm is a complex one. It cannot be completely solved until the engine builder has a perfect understanding of every farm operation carried on by the particular type of farming to which his tractor is to be adapted. The time will come when tractors will be bought like plows, a particular type for the conditions of a particular locality. It may be that the engine builder will eventually put three or four distinctly different types of tractors on the market, for what will do on the broad plains of the west will not meet the needs of other farming conditions in different localities. There is an ever growing demand on the part of those engaged in mixed farming in the east and south, for a general utility motor, but while engine builders believe that they are coming to understand and meet the needs of the west, they are not at all agreed as to what will best meet the need of these other conditions. Some traction builders are now operating farms of their own. This is a long step in the right direction.

There is a great demand for accurate information along traction farming lines. The engine builders and agricultural papers are doing much to meet this demand, but they cannot do it all. They deal more with the successes than the failures. People do not often care to tell the public of their mistakes. It is the big things which they do that are most apt to get into print. The farmer receives assistance in the form of bulletins, covering almost every phase of farm life, but this one. Why should he not be advised along the line, especially at this time, when the need is so great? The motor contests give us about the only authoritative figures as to what the tractor can do, and these, valuable as they are, cover but two phases of the use of the farm tractor, one of which is under conditions that cannot long obtain in the west.

What the western farmer needs is good, concise, clear cut information on the advisability of the present type of tractors for the uses of the farm. He should be able to get bulletins showing just what it can and cannot do, and why. He should be able to get in detail, costs of various operations, showing the amount of fuel used, repairs, number of men necessary, condition of soil, etc. The various hitches in use should be taken up, showing which ones are best and for what conditions. The manufacturer needs this information as well as the farmer, in order that he may modify the tractor to overcome the difficulties as they come up and are recognized.

There is a great need for experimental farms to help out these problems. The country cannot afford to let the farmer go into a movement of this kind without the best of advice and assistance, for his mistakes effect more than himself.

Not only will improvements in the tractor reduce the cost of production on the farm, but economics will be brought about in other ways. As the gas tractor becomes a necessity in the west, the farmer must more and more become an engineer, and a good one at that. He must have as good a knowledge of the gas engine as he now has of his horses. Every man on the farm should be able to start an engine as easily as he can harness and hitch his teams. This wide knowledge of the tractor which must come will do away with the necessity of a special engineer. This will effect an economy in the cost of operation. But this is the least important result. The great economy will come in having good enough operators so that no time will be lost in the field on account of the engine. This increased facility in engine management over present day practice will effect a large reduction in the cost of work done by the tractor.

As the tractor drops into a recognized place in the regular equipment of the farm many implements, hitherto designed of a size to be handled by the horse will without doubt, be remodelled to meet the gas tractor's requirements, and will increase the productive efficiency of the engine.

The gas tractor has come to stay. It even now could not be set aside any more than the old steam tractor of ten years ago could then be set aside for the still older sweep horse power for threshing purposes. The tractor is the last great step in the evolution for better, easier, and more economical farming.

To meet the insistent demand for power on the farm the gasoline engine was bolted on a truck and put on the market. In ten years it has swiftly developed into a machine of power and efficiency, handicapped though the designers were, by the demand for engines of any kind. Who shall say what the next ten years will bring forth along the line of development for the farmer?

L. J. SMITH.

It is very often quite difficult to get ample justice in the court of law. There are so many ways in which real justice can be thwarted or postponed. There is a case in English courts which was begun in the year 1707, and which is not ended yet.

There is only one kind of a bill that women like; it is the one spelled with a big B.

SPARK PLUG

GUARANTEED FOR LIFE

Will End all Your Ignition Troubles

The V-RAY reveals no packings, gaskets, etc., There are but two parts visible as shown in cut.

The V-RAY, with its penetration of electrodes, delivers the spark to the gas area. Other plugs await the belated delivery of the gas to the spark area in cylinder wall.

The V-RAY has the only self-cleaning device yet produced in plugs. It is the ideal "cold weather plug"; once over cranks your engine.

The V-RAY terminal cap fits every known terminal. It won't soot or miss, and the porcelain is too far away to permit of splashing of oil.

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QUALITY

(which means indestructibility) is the keynote of the V-RAY, and if you will allow us to send you our complete literature, free to your address, we will demonstrate and guarantee the superiority of this spark plug to anything of the kind now on the market.

THE INDISPENSABLE Oil and Gasoline Pump

This quadruple acting semi-rotary Wing Pump has won the highest praise wherever it has been used. No other pump within a similar range of prices will deliver such a great quantity in such a short time, and no other pump will give more satisfactory results with regard to weights, economy of space and power than the semi-rotary Wing Pumps.

This pump may be used for a total vertical elevation up to 70 feet. We stock size No. 3 which will deliver sixteen gallons per minute on eighty full strokes of the lever, three feet suction and three feet delivery.

Price f.o.b. Winnipeg \$7.00
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Cash must accompany order.

We manufacture a full of lubricating oils and greases, also engine fuel oil and gasoline.

Ask for quotations before ordering.

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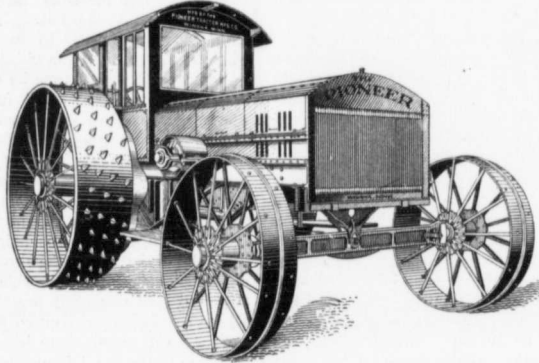
The Mighty Incomparable Pioneer "30"

Having by years of unprecedented, successful results in the States conquered the American market, now invades the Canadian field.

A great army of Pioneer Gas Tractors in continuous and successful operation, scattered throughout the Great West as far north as Saskatchewan and as far south as the Gulf of Mexico, bear testimony to the pre-eminence of our product.

SIX EXCLUSIVE SUPERIORITIES

- 1st. Our motor is absolutely vibrationless. (Compare this with the excessive vibration in other like machines.)
- 2nd. All Gears, including the big drive gears are entirely enclosed in dust-proof cases and run in oil baths. (Compare this with the open gear construction in other like machines.)
- 3rd. All working parts, including the motor, are entirely covered and protected from flying dirt. (Compare this with the open construction of other like machines.)
- 4th. We have three forward speeds, like an automobile. All transmission gears are machine cut from solid steel. Compare this with the crude, irregular, heavy-duty gears in other like machines. We have a speed radius of from one to six miles an hour. (Compare the usefulness of this feature to the single 2-mile-an-hour speed usual in other like machines.)
- 5th. The power is taken directly at the side of the motor fly-wheel between two long bearings and is transmitted to the drive wheels in a straight line. Bevel transmission gears, their trouble and loss of power, are entirely avoided.
- 6th. An operator's cab which can be entirely closed is provided away from the heat of the motor, with a comfortable upholstered seat, back and arm-rest. All operating levers are easily reached from this seat. (The Pioneer is operated with the same ease and comfort as the automobile.)



Cut out, sign and mail the attached coupon for complete details and explanation of the many incidental features which are exclusive to the Pioneer.

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 Kindly mail to you for the Illustrated Pamphlets and Booklets of Tractor and Letters to address below.
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About the most insistent demand that comes from the farms to-day, aside from the demand for the scalps of the middle man and the trusts, is the call for more power. The Department of Agriculture, the Agricultural Colleges and Experiment Stations, the Extension Departments, the Agricultural Papers, James J. Hill, and even President Taft and the Saturday Evening Post, point out to the farmer at every turn that he is raising less per acre than ever before. In scornful tones they tell him how he is not running his business as it should be run. Two-thirds of the population of the United States are admonishing the other third that it must hustle around and raise bigger crops for the two-thirds to eat. The bankers and railroad presidents advise the farmer with a calm confidence and certainty of statement that is inspiring, that he must plow deep and deeper, he must plow early, he must fall plow and disc and harrow. He must haul lime, manure, and fertilizer, and cultivate with greater assiduity. He must conserve moisture, raise bigger crops, and keep down the cost of high living.

All of this the farmer believes. As fast as machinery for doing all these things has been perfected, he has taken it and done what he could. Lack of power has been his biggest drawback. He has added some 6,000,000 horses and

THE "SMALL FARM" TRACTOR

A paper read by W. J. Brandon, of the Avery Company Peoria, Ill., read at the Annual Meeting of the American Society of Agricultural Engineers, at St. Paul, Minn., Dec. 28th, 1911.

mules to his equipment in the United States in the last 10 years. He has increased the weight of the ordinary farm horse 250 to 300 lbs. in 15 or 20 years. But needs for power have increased far faster than has the power. For the big farmer and the ranchman the power needs are being met to a great extent, and with a fair degree of satisfaction. A tremendous amount of power farming machinery has been sold into the west and north-west. It has been stated that four and one-half million dollars worth of power machinery was sold into the Canadian north-west during 1911. It is probable that an equal or greater amount went into the United States. The big farmer and his needs are being pretty rapidly and generally cared for, but the small farmer has not received adequate attention. At least not generally until very recently.

It might be well to define before we go any further what we mean by the small farm. A small farm in Iowa or the corn belt states would be a ranch in New England or a potato patch among the

ranches of the west and north-west. For the purposes of this discussion we will fix the size of the small farm as a quarter section more or less. In the east where more intensive methods are practised, more power is required per acre than in the Mississippi Valley. In the west less power per acre suffices for the crops grown so that the number of acres may vary without the power requirement changing materially. On this small farm from six to eight, and sometimes more horses are kept for plowing and other field work and for marketing the crops, hauling supplies and other teaming. The small tractor is to take the place of perhaps not all, but at least one-half of the horses now used on this farm. It is to do the plowing and all other heavy field work now done by horses. It is not only to do this work, but it is to meet the demand for more power, to pull heavier machinery, do deeper plowing and more of it, do it quicker and at the best time.

Again, if it is to replace half the horses or more for this work, it must also replace to a large extent

the farm wagon. It must do this not only for hauling off the grain crops, but in hauling stock, fruit, milk, produce, and every other crop and product that is marketed from the small farm and hauled on the farm wagon, and also in hauling back from town or village the home supplies. It must haul heavy loads at a fair rate of speed and lighter ones more rapidly. It must also be a belt power machine, able to run the feed grinder, the corn sheller, the wood saw, the small ensilage cutter, and even the small threshing outfit, and any of the other ordinary belt power machines of the individual small farm. Of course, not all farms have these machines, nor do they need them. But they all have a need of some of them.

Ian Maclaren used to say, "From all that has been told me the Scotch Irish are the wisest, the wittiest, the most industrious, and the best people in the world, but personally I am yet to be convinced that there are any Scotch Irish." Most farmers just now have some such the same attitude towards the farm tractor, for the small farm. From all they hear the tractor fitted for the work of the small farm is just the thing they need, but personally most of them are yet to be convinced that there is one that is fitted for the work. And so long as manufacturers continue to try to make a

tractor for the small farm after the models that most so-called, small farm tractors are built, the farmer is going to be hard to convince that there is any such thing as a small farm tractor.

The so-called small farm tractor in most cases is not a real small farm tractor at all. It is a sort of hand-me-down built over smaller, like the trousers mother used to make for me out of father's in the days when I was still young and happy. I wore them because I had no others, but I much preferred the first-hand ones I got later, cut with my own peculiar style of architecture in mind.

The small farm tractor of commonest type is lighter and handier than its big brother. It is a little easier to get around with in the corners, and doesn't take up as much space. It does excellently in many cases as a plowing engine, and for pulling some other farm machinery. It does good work in the belt also, and may even do some little very heavy hauling on the road with a fair degree of success, but it is in the hauling proposition that the regular type of so-called farm tractors falls down. It is too slow for general hauling. A tractor with a high speed of three miles per hour, and a low speed of 1 1/2 to 2 miles is not going to be taken out on the road for any other load than the very heaviest one. The farmer wants

a machine for hauling, as well as for field work. He wants one that can travel from 6 to 10 miles with an ordinary 1 to 3 ton load. He doesn't want to spend all his time in the field with one plow, nor does he want to spend all his time on the road with one load.

In a good many cases the man who will do power farming is the man who already has an automobile. And the man with an automobile hasn't been learning all this time to be content to go slower than his team can take him, but to want to go faster and to demand more speed on the road whether with a load or running empty.

In the most cases the manufacturer of the so-called farm tractor has about ignored the hauling question, and this cannot be done in safety. In the first place the tractor that is to replace the horse to any great extent must be able to do the work that the horse is doing. Some of the biggest jobs that the farmer and his teams have to go up against are encountered in getting his crop to market, and in getting supplies out to the farm. Last year the railroads hauled approximately 100,000,000 tons of farm products. It is conservatively estimated that at least as much again, or 200,000,000 tons, were hauled to the railroads and to the small town markets by the teams and wagons of the farm. This came mostly from the ordi-

nary sized farm, the small farm if you please. Moreover, the merchandise, coal, sand, lumber, and all the supplies of the farm for 30,000,000 people are hauled out from town by the same means. At least, 250,000,000 loads of a ton each were hauled over an average distance of about 4 miles on country roads by farm teams last year. If the farmer on the small farm has to keep all the teams that he now owns in order to do the necessary hauling, he cannot afford to get a tractor to do his field work. At least, he won't do it. If he has to keep more than enough horses to plow his corn in order to get his hauling done, he might as well get all the work out of them he can, and do the other field work as well.

The manufacture of tractors have been prone to talk about plowing as though it were the whole thing, but the ordinary quarter section farmer only has around 20 to 30 days plowing for a 4 horse team and a 2 gang plow in any one season. He has haying and harvesting and hauling manure, threshing, hauling off his crop, hauling hogs, hauling sand for the new silo and lumber for the new barn, and hauling all sorts of other supplies. In fact, hauling is one of the biggest jobs. The average farmer keeps two teams shod most of the year around, because they have to go

on the road so much. It's not only in team power that hauling is one of the big jobs. It takes drivers and extra help to handle the teams. That's why we say that the tractor, if it is to do what we claim it is going to do for the small farmer—make his work easier, his hours shorter, his horse feed bill lighter, and make it unnecessary for him to keep so many hands and teams, if it is to do all this the tractor must handle the hauling proposition quickly, easily, and with satisfaction, over ordinary roads.

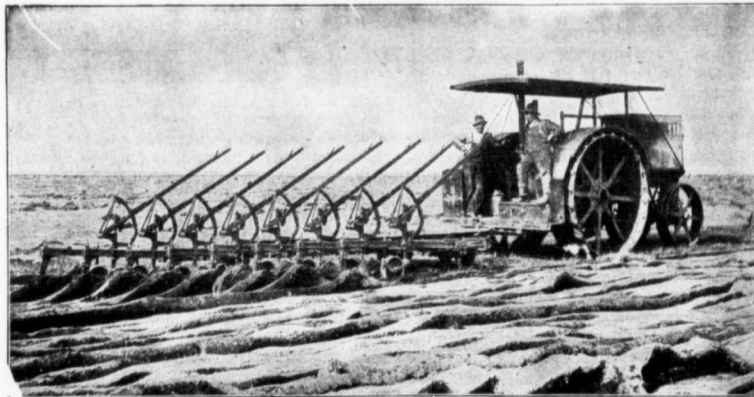
The big farmer and ranchmen can afford to keep a tractor for plowing and field work and belt work, and a farm truck for his hauling. But the small farmer cannot afford to do this. The small farm tractor has to do the whole thing for him or he will stick to horses until such a time he can be shown that the small farm tractor can take care of his work.

Another thing; the small farm tractor is not an engine that a farmer on a quarter section must travel around over the country with, plowing for his neighbors, sawing wood, shelling corn, drilling wells, and running the threshing machine, in order to be able to afford to own one. It must be able to pay its way without custom work. Of course there is no objection to the small farm tractor being capable of doing more than

An I H C Tractor Changes The Subject

Instead of talking about the possibility of getting your plowing done on time, you talk about the early start you have made, when you own an I H C Tractor. It changes the plowing subject from doubt to certainty, from possibility to assurance, from disappointment and delay to satisfaction and speed. An I H C Kerosene-Gasoline Tractor assures a well-plowed field turned at the right time; a field plowed in days instead of weeks, and at the lowest possible cost.

What is such assurance worth to YOU with your uncertain plowing weather and short season?



Of all Tractors made, the I H C is the one most sure of giving CONTINUED satisfaction. Let the I H C dealer show you the reasons for this statement and show you also what we mean by "Reliability" as applied to our 12, 15, 20, 25, and 45 Horse-Power Tractors and Gasoline Engines of every style for farm, mill or factory, 1 to 50-Horse Power. Write the nearest branch house for catalogues.

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the work of one farm, or of the owner using it as a source of income, but the real small farm tractor must be able to pay interest, depreciation, repairs, gasoline and oil bills, by doing the work on one farm and saving feed and labor costs there. To do this of course it has to furnish most of the power for that farm.

The small farm tractor has then these three things to do. It must do the field work, the plowing, harrowing, discing, seeding, and all the rest. It must do the hauling, heavy and light, and it must do some belt work. The first two are the important functions, and neither must be overlooked. The last is but an incident; for most farmers will keep a small portable or stationary engine for the smaller belt power machines, and the larger machines will be handled as they now are by several farms rather than by individual farms.

It is evident that a tractor, nearly half of whose service is to be in hauling of various sorts, will necessarily be of a radically different design from the straight, plowing engine. It must have, as we said, higher speed for hauling. Say a speed of 6 to 12 miles an hour. It must be easily handled, and must haul loads on its own body, and not have to pull a trailer or a road train for an ordinary two or three ton load. It must have wheels fitted for country road work, as well as for field work. It should, because of superior speed and the larger loads hauled, be able to do, if necessary, the work of 6 to 8 horses hauling on the road. The design necessary for a successful hauling machine, a real substitute for the farm wagon and team, may be thought of as militating against efficiency in the field. But such a tractor will pull 3-plows in any sort of ground fit to plow, and turn over 8 to 10 acres in a day. It will pull 2 discs and a harrow or a pair of drills and a harrow, a binder and a disc, or two binders and other tools in proportion. It will do the work of 6 to 8 or more horses in the field as it does on the road, and will do it all cheaply and as efficiently as the "cut down" big plowing engine.

It has been suggested that the small farmer will not need to own a tractor. The idea of the plowing and heavy field work being handled by a large machine, either doing custom work, as does the present threshing outfit, or owned co-operatively has been advanced. It sounds attractive if it were feasible. It would be all right, but for the features of hauling and another large factor known as human nature. Horses would still need to be kept for the hauling proposition. Moreover, in the spring every farmer would want to get his plowing done at the same time his neighbors were getting theirs finished.

BE SUCCESSFUL! MAIL THAT COUPON!!

Many men have won success by adapting machinery to their tasks. Can you imagine modern agriculture without machinery?

Now, there is no bigger helper to the Western farmer than the gasoline tractor. Everyone knows how it cultivates great tracts of land easily, quickly, thoroughly, and at low cost.

Perhaps you are thinking of tractors. If so, fill in and mail the coupon. Perhaps you have never thought of tractors. Then, be doubly sure to send us the coupon. You owe it to yourself!



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WE MANUFACTURE

- Fairbanks-Morse Oil Tractors, 15-30 h.p.
- Gasoline Engines—Portable and Stationary—All Types, 1 to 500 h.p.
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Another eminent authority has suggested that we do not need the small farm tractor because farming is to be a syndicated affair in the future anyway and there won't be any small farms, so why should we worry over building a small farm tractor. However, in the light of the present need and demand, and the light of the success of the machine that does approximately fill the needs for a tractor that takes the place of the horse in the field and of the team and wagon on the road, we believe that we have diagnosed the situation correctly. We believe that the real small farm tractor is a tractor built with the threefold purpose in view, that of furnishing power for field work, for handling the hauling question as the farmer wants it handled, efficiently, cheaply, and,

above all, quickly, and of doing some belt work "on the side" when necessary. We believe that this, rather than a cut down model of a big plowing engine or a stationary engine built over with gearing to haul itself about at the high speed of 3 miles per hour, is the real small farm tractor.

The National Salesmen's Training Association of the United States have opened offices in the Kent Bldg., Toronto, Canada, with a view of introducing their Course in Scientific Salesmanship, which they so successfully teach by the correspondence instruction method. This school has thousands of graduates holding good and profitable positions due to the training received through their

course, and they already number among their successful graduates, hundreds who reside throughout Canada. One of the leading features of this school is the Free Employment Bureau, which helps all graduates to secure good and profitable paying positions, and the leading business houses throughout the United States and Canada are rapidly availing themselves of their services in securing high grade salesmen.

In Syria oil and iron-ores have recently been discovered, and home as well as foreign capital has become interested in the developments of the new field of industry. Many interested persons have gone there from various parts of the globe.

AN OLD TIMER

Our threshing experience in this country was with a 14 horse power portable engine and a 36 by 58 hand built separator—a combination between a J. I. Case-Sawyer-Massey separator parts and a Massey-Harris and McCormick binder with straw carrier and high bagger. We fed by hand.

The outfit had been run for eight seasons before we got it. We bought it for \$400, complete. We thought we were going to make all kinds of money, especially as the outfit was bought on terms, and we had two years to pay for it. But we got badly left—we had only a short run and small jobs. We stook threshed and furnished the whole crew, charging six cents for oats and seven cents for wheat and barley, and threshing by the bag. The biggest drawback in threshing by the bag is that when they put 23 to 24 bags in the wagon box in bags, they have about six to seven, or sometimes eight, bags of loose grain in the box; then some farmers can't find bags big enough and are always scared they don't get their two bushels.

Well, in the fall of 1906, with the old machine, we not only made no money over expenses, but lost our fall's wages to pay expenses, and lost the machine in the bargain. A man who has no experience in the threshing business had better take our advice and stay out of it, for even the man who has the experience and has no help of his own such as the most expensive men of the crew, and has to go out to make money to pay for his rig, he will find out (as a lot have already found out) that he has no snap. And if anything should happen to the rig, such as break downs or fire he is solidly up against it.

Well, in the fall of 1906, we hired out and run rigs, for the crops were all froze, and we—rather the rigs we were with—

charged all kinds of prices, all the way from \$8.00 to \$16.00 an hour. Well, we don't suppose there was much money made that fall.

In the fall of 1908 we bought a 25 horse power double simple Gaar-Scott engine and a 40 by 64 Gaar-Scott separator complete with all attachments, for somewhere like \$4,650. We had a good run that fall, but it was only a short one; we only threshed 21 days, but we made something like \$1,500 that fall. Then in the spring of 1909 we started out plowing and failed; but that belongs to another department of the Canadian Thresherman and Farmer, which we will relate in another letter.

In the fall of 1911, we bought another separator, and went in partnership with a man who had an engine, and run both outfits, but as everybody knows the fall of 1911 was the worst Western was good enough, but we had only Canada has ever seen we believe, for us threshermen—the grain got fairly started when it rained and kept on raining until the snow flew. We threshed two weeks in the snow. One machine charged three and four cents for oats and wheat, and got everything furnished except water team, engineer, separatorman, and oil; the other machine charged \$25.00 a day of five hours or more. But we threshed too cheap with the later machine. The best run we had with the big rig was 3738 bushels of wheat and oats in one day. Our separators are both Garr-Scott—one with a 40 by 64, the other a 36 by 60, both complete with all attachments; and for saving grain and clean threshing she holds her own along with any make of separator.

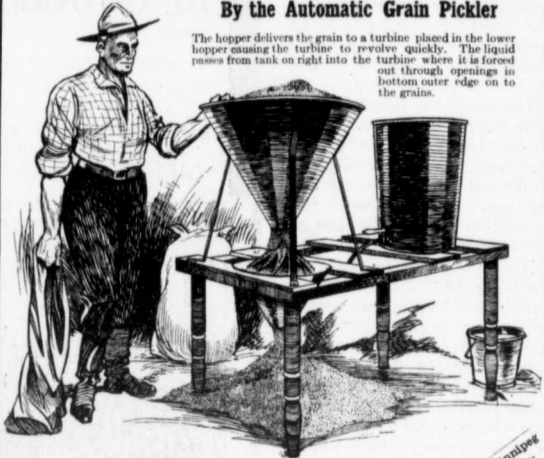
Wishing the Canadian Thresherman and Farmer every success, we remain,

Yours truly,
A. Kapell & Sons.
Pilot Butte, Sask.

SMUT ABSOLUTELY KILLED

By the Automatic Grain Pickler

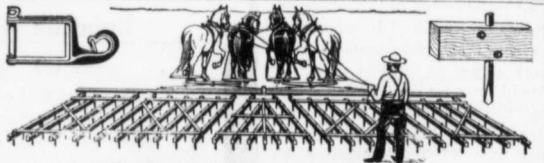
The hopper delivers the grain to a turbine placed in the lower hopper causing the turbine to revolve quickly. The liquid passes from tank on right into the turbine where it is forced out through openings in bottom outer edge on to the grains.



Not a grain can escape complete and final treatment, and it is done at the rate of 125 bushels an hour. Equally successful with wheat, oats, barley, flax, etc. Price with an absolute guarantee is only \$17 for a Formaldehyde machine; \$20 for Acid Proof Metal Machine to stand blue-stone.

Write for complete information. Agents Wanted. THE DOMINION SPECIALTY WORKS. Freight prepaid to any point in Canada. 820 Union Bank - Winnipeg - Canada.

Domination Specialty Works, Winnipeg
Please send me details of the "Automatic Grain Pickler" advertised in Canadian Thresherman and Farmer.
Name.....
Post Office.....



The Best Selling Harrow in the West

The reason more WATSON Boss Wood Harrows are sold in the West than all other makes combined, is that it is a different and a better harrow. Farmers appreciate the difference, the moment they see WATSON'S.

Made of seasoned hardwood, has malleable draw clevis, two rivets to each tooth—correctly designed and finely finished. If your dealer cannot supply you, write us direct.

John Watson Mfg. Co.
ESTD 1872

PEERLESS - PERFECTION

Real Fence Service Guaranteed

Peerless Wire Fence is built to give absolute fence satisfaction and makes good. Best quality wire galvanized to prevent rust and securely held at each intersection by the Peerless Lock combined with fence experience compose the Peerless Fence.

PEERLESS WIRE FENCE

That is the kind you should use on your farm and save expense and worry.

Write for Our Catalog Today

Peerless Foultry fencing and Farm Gates are unequalled. Try them. Agencies almost everywhere. Agents wanted in unassigned territory.

Banwell Hoxie Wire Fence Co., Ltd., Dept. C.T., Winnipeg, Man., Hamilton, Ont.

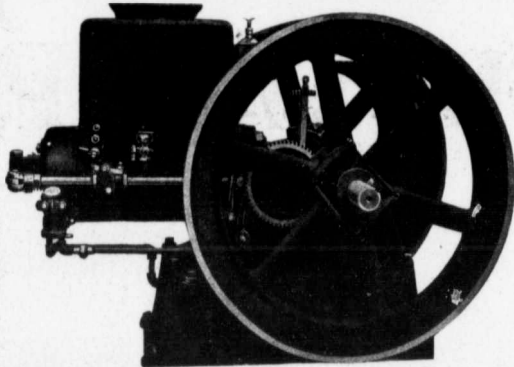
IF YOU are at all interested in Home-Mixed Fertilizers

I would like to send you my book on the subject. It contains full information, formulas and lots of information to farmers who want to get the most and the best for their money. The book will be sent free upon request by post card from you.

Dr. WM. S. MYERS, Director of Propaganda
17 MADISON AVENUE, NEW YORK
No Branch Offices

DO YOU KNOW THE Stover "Single Rod" Engine?

One of the very best types of the handy all-purpose farm engine is the "Stover Single Rod." If you want the last conservation in economy, reliability, and continuous service, you'll get it in this latest development of the Gas Engine. Mounted on farm trucks or bob-sleds, a neat portable rig is obtained and the outfit is provided with the extended crank shaft and speed changer.



OUR FULL LINE

includes Fuller and Johnson repairs, repairs for the Wilkinson Plow line. Shares for all kinds of Plows at most reasonable prices both wholesale and retail. Engines for Pumping, Churning, Crushing, Grain-Cleaning, Sawing, Threshing & Running Washing Machines, etc

WHEN YOU REQUIRE POWER - THE ANSWER IS "STOVER"

We also handle leading specialties in Carriages, Cutters, Buggies, Wagons, Fanning Mills, Kitchen Cabinets, Scales, Cream Separators, Picklers, Feed Cutters, Gates, Grain Crushers, Saw Blades, Davenport, Saw Frames, Belts, Pumps, Gasoline, Oils, Auto Polish, Hay Carriers, Roller Bruisers, Harness, Incubators, Wire Fence.

Everything that pertains to the Farm

Write for our Special Catalogue. If you are visiting Our Great Winter Fair visit our Mammoth Warerooms and have your mail sent to our care

Canadian Stover Gasoline Engine Co. Ltd.

EIGHTH AND PACIFIC AVENUE, BRANDON

COUPON.

Canadian Stover Gasoline Engine Co., Brandon: Please send me Catalogue of your Engines and Sundries, as advertised in the "Canadian Thresherman and Farmer."

Name

Post Office

COURSE IN GAS ENGINEERING.

Continued from page 26

cylinders are horizontal. Having two intermediate shafts the engine rotates under, the same as the "Oil Pull." The flywheel is at the left side of the engine, both it and the belt pulley carrying clutches,

side. When the engine is used for belt work pinion F is slid out of mesh with E. The intermediate gear B carries the differential, which is of the spring-cushion type. Both rear wheels are driven, the rear axle turning. The frame is of the truss form, the platform being on a level with the engine. Means are also provided in the

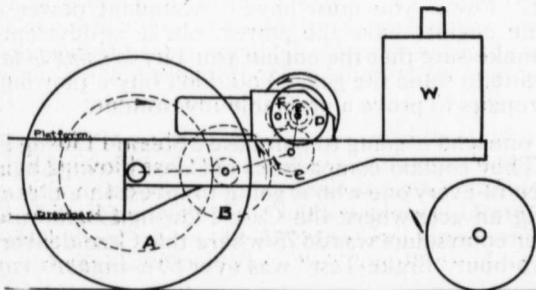


Fig 11—Aultman-Taylor.

the forward clutch being in the flywheel. The pinion D is on the flywheel side of the engine, and meshes with gear C, of which there are two, one on each side of the engine. In obtaining the reverse the pulley clutch is thrown in, the drive being from E to F, and then to C on the right hand

frame for moving the rear axle to obtain any adjustment for wear between the bull gears and their pinions. Circulation of air through the cooler W is obtained by means of the exhaust of the engine. The engine has the single lever control, that is, both clutch- es are operated by a single lever.

OUR ENGINES PAY FOR THEMSELVES

IN FUEL SAVING AND IN TIME SAVING! They burn gas, gasoline, kerosene and distillates. They have no great cumbersome base and consequently are easily and quickly moved from one job to another about the farm. Write for information a our new Free Trial Offer of our latest improved

GASOLINE ENGINES

Note the connections for ease in handling! Note the pulleys on both sides! Write for facts regarding our new Slow Speed, High Duty Engine, the engine that gets up-to-date power from every quart of fuel—none that has the record for lowest upkeep cost—that is the quickest and easiest starter—has least vibration—perfect lubrication, standard power, least wear and tear. Mail us your name and address on a post card, today, giving us the size of engine you need and the use you will put it to. We make 1 1/2 to 5 1/2 h. p. single cylinder engines, 8 to 25 h. p. two cylinder, 30 to 50 h. p. four cylinder. Quick action on your part is demanded to get this free offer. Don't buy or order an engine until you investigate the TEMPLE MAKE. This is our 40th Year.

1 1/2 to 5 1/2 H. P. Single Cylinder TEMPLE PUMP CO. 415 W. 18th St., CHICAGO 8 to 25 H. P. Two Cylinders

FOR THE CROP'S SALVATION

In Wet Seasons

And A Big Saving In Any Season

Every Farmer knows the sickening experience of a wet season at the ripening period when harvesting with the ordinary binder is impossible till the ground has dried. The soil is so soft and slippery that a bullwheel would slide without turning a cog.

The Gilson Harvester Attachment Saves Two Horses

and entirely overcomes this serious difficulty. It has already demonstrated on hundreds of harvest fields that it will enable the harvester to do perfect work when otherwise it could not operate. It has often saved ten to fifteen times its first cost in a single harvest, while the engine alone is a standard farm power for constant use all the year round.

WRITE US NOW FOR FULL PARTICULARS

Renfrew Machinery Co. Ltd. **Winnipeg**

The Master of Victory

THE CASE PL



Money Makers in the Field"

A book of vital interest to every Thresherman. It tells how others are making money in the Threshing business and points out the surest road to Threshing success. Sent upon receipt of your name and address on a post card.

Send for a Copy Today

Three things you must consider carefully in buying a plowing engine: to the *power* first. Power you must have. Abundant power is the *consumption*. Some engines have the power, but it is developed and operate. Next, make sure that the engine you buy *is going to last*. So well designed engine to stand the gaff. You don't buy a plowing engine need little or no repairs to prove a profitable investment.

We advise every one who is going to purchase a Steam Plowing Engine Motor Contest. They contain comparisons of Case Plowing Engines of utmost importance to every one who is going to invest in a Steam Plow of coal in plowing an acre where the Case Plowing Engine used on delivered by other contestants was 36.75 where the Case delivered 74. entries for the two-hour "Brake-Test" was over 50% higher than the

We have prepared a tabulated comparison based on the official figures absolutely the superiority of Case Engines for Steam Plowing. You without seeing it. Write for a copy today.

J. I. CASE THRESHING

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CANADIAN BRANCHES, TORONTO,

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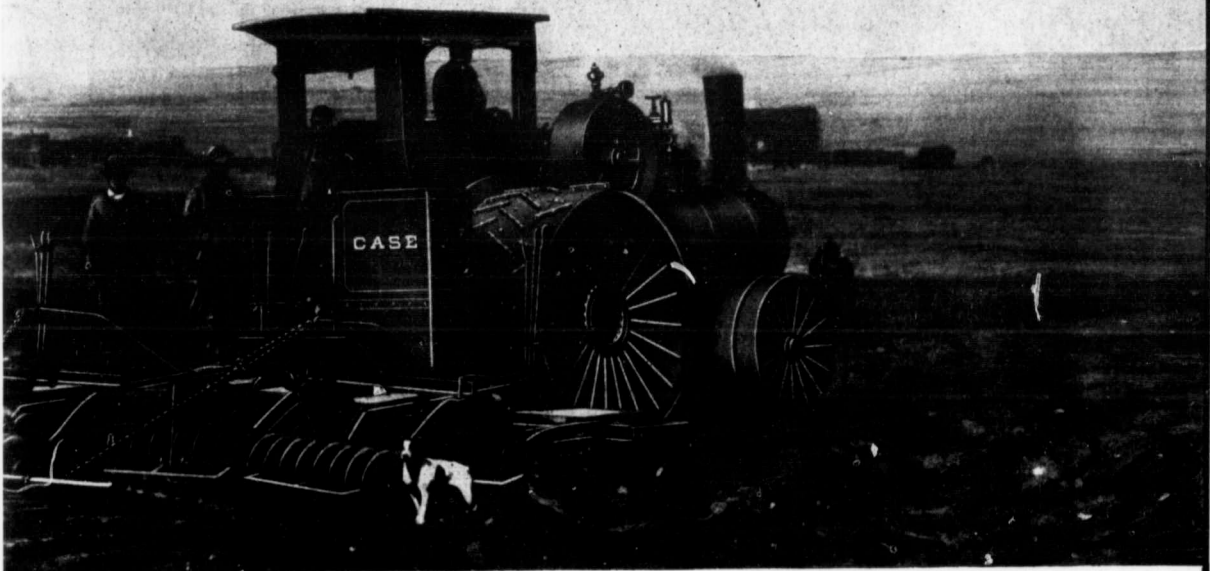
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Pulling Power, Coal and Water Consumption and Durability. Look secret of success in Steam Plowing. Next look to the *fuel and water* great expense—they eat up fuel so fast—that they're too expensive to eam plowing is heavy work. It takes an exceptionally well built and ine for a single season. It must be good for many years' work and

e to carefully stuuy the Official Records of the 1910 and 1911 Winnipeg ith other makes on the three vital points named above that are of the wing outfit. They show where some engines consume over 200 pounds ly 99. They show where the highest average Draw-Bar Horse Power 92. They show where the Average Coal Consumption of all the 1911 record of the Case in 1910.

ures of the 1911 Winnipeg Motor Contest. It proves conclusively and will find it with our special catalog on Steam Plowing. Don't buy

Have You Seen the

Case 1912 Threshing Catalog?

It is brimful of valuable information for Threshermen. It's an invaluable guide in buying Threshing equipment. Send us your name and address on post card and we will *mail you a copy.*

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Back Row, reading from Left to Right: W. A. FLEMING, C. R. LAIRD, JOE RITCHIE, A. E. STORY, E. J. McKEE, K. J. URQUHART, W. J. GALBRAITH, J. W. PARTRIDGE, JOSEPH CLARK, D. LAMONT, J. W. MAIB.
 Second Row, reading from Left to Right: H. O. GRIFFIN, H. R. BIRD, S. T. BALDWIN, T. P. BELL, C. W. JAMES, F. C. MOORE, W. A. RITCHIE, W. V. LINDBERG, W. H. HEDDIE.
 Third Row, reading from Left to Right: G. D. CARSWELL, A. D. BEAMAN, HENRY ROSS, W. WHITE, J. H. TURNBULL, W. J. FULLER, JOHN McVICAR, G. A. McTAVISH, E. J. RAMSAY.
 Sitting: reading from Left to Right: W. G. FAWCETT, J. SWANSON, J. H. HUMPHRIES, S. A. COOK, J. McKENZIE.

Second Annual Banquet of the Sawyer-Massey Co.

Saturday evening, Feb. 17th, 1912, was the occasion of much joy and good cheer on the part of the management, travellers, and office staffs of the Sawyer-Massey Co., Ltd. For the greater part of two weeks previous to this the entire sales force were quartered in Winnipeg for the purpose of discussing sales plans and to become thoroughly acquainted with the Sawyer-Massey line of goods. Daily meetings were held at the warehouse, where experts gave of their ideas on the construction and operation of the various machines preparatory to starting the S. & M. 1912 campaign for business in dead earnest. The new additions to the sales force learned much, and the old "war horses" looked wise, and incidentally picked up a great deal. On the whole, it was a most important gathering, and everybody went away happy. But that banquet. It surely left a good taste in everybody's mouth, and provided memories that will linger throughout the entire year. Held in the cafe of the Royal Alexandra Hotel, it looked good, it was good, and there were no dissenting opinions.

What There was to Eat.

MENU.
 This "Eclipse(s)" last year's bill.
 Oysters.
 Bluepoints on the half shell
 Here's a place for an "I X L" Picker
 Relishes.
 Celery. Olives. Almonds.
 "S-M" Feeders will handle these

Soup.
 Cream of Celery
 Just the right mixture for each man's
 Carburetor. Don't forget the "S-M"
 Tractor.
Entree.
 Sweatbreads, Braise fiancians.
 Here's the place for your "S-M" Teeth.
Roast.
 Manitoba Stuffed Turkey with
 Cranberry Sauce.
 It's a "Daisy," and fit for anyone

Vegetables
 Potatoes Fondhouse. Green Peas.
 Products of the "Great West"
 Lettuce and Tomato Salad.
 Extracts to make the outfit complete.
Sweets.
 Chocolate Parfait. Assorted Cakes.
 Nuts and Raisins.
 You'll have to use "Extensions"
 to carry this load.
 Coffee, Demi Tasse.
 Cigars (Headlights)

We "Hartley" expected such "Perfection" in a meal, but it certainly has been a "Hummer."

After the inner man had been fed and the "smokes" passed around in generous quantities, numerous toasts were proposed (in H.O.³) to the King, to the President of the Sawyer-Massey Co., Mr. R. Harmer, to Mr. George Kirkland, formerly Western manager for the company, and to the Ladies. Then the real entertainment began, and for variety of programme and real good entertainment it was hard to beat. Most of the stunts were put on by members of the S. & M. staff, and suffice it to say that some real good vaudeville stuff was presented. There were serious speeches, there were funny ones; new jokes and some that carried a bunch of whiskers; there were songs, new and old, and when the local talent waned some of the headliners at the local play houses furnished some very good stunts.

Those who enjoyed the feast were as follows:—

Messrs. J. H. Turnbull, W. F. Fuller, J. McVicar, J. Hunt, J. Harmer, E. J. McKee, T. A. Drummond, W. White, T. P. Bell, B. Yager, F. D. Blakley, A. L. McLean, A. B. Wright, E. W. Hamilton, A. D. Beaman, J. L. Story, R. S. Crox-en, M. Dobie, E. R. Laird, H. Moore, A. Smith, W. Keith, A. W. Vanderlinder, J. Johnston, G. A. Cook, J. McKenzie, J. Urquhart, E. Keena, J. W. Maib, D. Lamont, A. Dingwall, W. G. Fawcett, J. Ritchie, G. Beatson, W. Lindeburgh, W. James, V. Green, R. A. McGregor, H. R. Bird, J. Brown, P. D. Carswell, J. Wade, E. T. Baldwin, E. Moffat, Joe Clark, W. H. Heddie, J. M. Slater, H.

Continued on page 70



Fac-simile of locket presented to Mr. George Kirkland

Mr. George Kirkland retires from active service with Sawyer-Massey Co.

After many years in the service of the Sawyer and Massey Company, the greater portion of which was spent as Western manager, Mr. George Kirkland has seen fit to lay down the pen of active work and to enjoy himself with the feeling of having done a good work, and done it well. Much regret was expressed by those with whom he was for so long associated, and as a token of the high esteem in which they held him, he was presented with a beautiful gold locket and the following address by the Western travelling staff.

Winnipeg,..... Feby. 19th, 1912.

Geo. Kirkland, Esq.,
 Mount Healy, Ont.

Dear Mr. Kirkland:—
 We, the Western Field Staff of Sawyer-Massey Co., Limited, in attendance at this Company's Second Annual Meeting in the City of Winnipeg, are advised that you have seen fit to sever your connection with the Company as Manager of the Western Branches.

We wish to state that your absence from the Managerial Chair will be keenly felt by each and all members of the Selling Staff. We have always known you, not only as a superior officer, but also as a close friend, and one who was always ready to offer good advice, either pertaining to the Company's affairs, or to our own personal welfare, and deeply regret your departure from our midst.

We hope that on your visits to the West, from time to time, some, if not all of us, may again have the pleasure of meeting your good self.

As a token of our feelings for yourself, we ask you to accept the little gift which is being sent you, and which bears our heartfelt good wishes for the return of good health to yourself, we remain,

Yours very truly,

John McVicar,
 E. J. McKee,
 C. R. Laird,
 COMMITTEE.

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Farmers of Western Canada

IF YOU WOULD BIG CROPS GROW

Get a Sawyer-Massey Engine

BEFORE YOUR LAND IS CLEAR OF SNOW

Sawyer-Massey Engines improve your Farms and lessen your work. Sawyer-Massey Steam Engines are in greater evidence in the Prairie Provinces than ever before.

If they had not made good, the Buyers would not have kept them.

It is not the fact that we can sell them faster than we can build; but it is the fact that many hundreds are in use and paid for that convince the intending purchaser.

We are building Engines to suit the needs of all men interested in farming Canadian Lands.

Does this Engine appeal to you? We know it should. Before you place an order get full particulars. You can by just sending us a Postal Card: We are at your service:

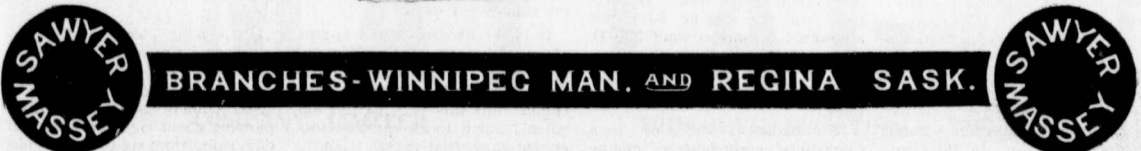
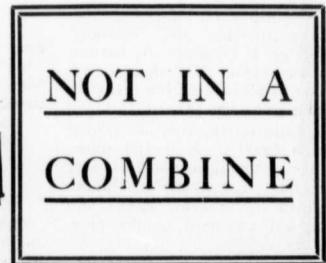
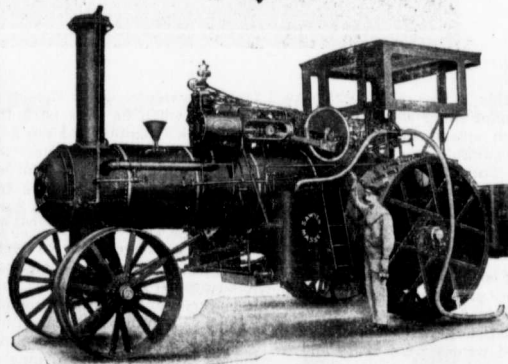
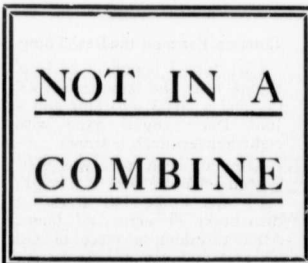
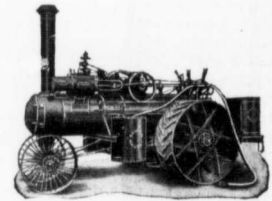
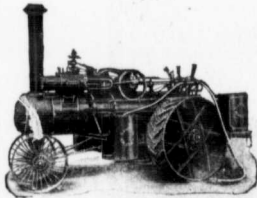
Sawyer-Massey Co.

LIMITED

Factory and Head Office: HAMILTON, Ont.

Manitoba Branch: WINNIPEG, Man.

Saskatchewan and Alberta Branch: REGINA, Sask.



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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.

Has Used Several Engines.

In the year 1906 I operated a J. I. Case 25 h. p. Compound engine and an eight twelve-inch bottom Moline breaking plow. From May 2nd until July 20th I turned over 1040 acres of sod, averaging somewhere about 16 acres per day. The expenses for running came to about \$26.00 per day. I was burning Lethbridge coal at the time and cost me \$3.25 per day. I burned about 1,800 pounds per day of the coal.

In the year 1909 I operated an Undermounted Avery 30 h. p. simple which I liked very much. I pulled ten fourteen-inch bottoms Cockshutt plows, turning over 1539 acres of sod in 57 days, averaging 27 acres per day, working from 12 to 14 hours per day. The cost of this breaking was a little over \$1.00 per acre. In this length of time I did not have any breakdowns.

In the year 1910 I bought a half interest in a double cylinder simple Reeves 32 h. p. engine and a ten fourteen-inch bottom John Deere plow. With this outfit I turned over 1,160 acres of sod in 44 days and I pulled two sixteen pan-discs behind to cover the breaking once, averaging 25 acres per day. I was getting \$5.00 per acre for this.

My engine is very easy to run. Last year was a very dry season, but I could take my engine and pull ten fourteen-inch bottoms breaking four inches deep with seventy-five pounds of steam.

We employ four men and a cook and two teams. Last summer I used the Fernie coal and found that this would go twice as far as another grade I had used before. It cost me \$4.57 per ton here at Magrath.

Regarding the difference between plowing and threshing. Plowing is certainly the hardest on an engine. Threshing is not work at all for a plowing engine, but is more like play.

I estimate the cost per acre is about \$1.00 to \$1.25 and sometimes it runs up to \$1.40. It just depends on the condition of the soil to be broken. Rocks and dry sod are hard on the plow points.

Regarding a hitch for attaching discs, would say if you have a Cockshutt plow, say a ten-furrow platform, this hitch I have works well.

Uncouple your plows from the frame and take an 8 x 8 or 6 x 6 and lay on top of the frame so as to get it wide enough to couple seven discs or more to it. Just let the discs run the same angle as the plows do. In this way

they will lap and still run in rotation instead of zigzag. This I have found to be a very successful way of hitching and any plow with a frame can be used in the same way. If you wish you can couple your harrows on behind the discs.

To attach drills the following I have found is successful. Take an 8 x 8 timber long enough to cover the distance required for the amount of drills you want to pull and then take an old wagon axle with the wheels and cut the axle in two. Bolt the same on each end of this 8 x 8 and you can brace this timber with iron rods if not strong enough and run them in a V shape from your timber up to your bunker or engine. Zigzag your drills two feet ahead and behind each other. If desired you can pull your harrows be-

hind this without any difficulty. This same thing works good with discs, if you do not have a plow frame suitable.

Yours truly,
R. L. Haverwold,
Magrath, Alta.

A Good Experience.

My engine is a 28 horse power double cylinder Cross Compound American-Abell and we are very well satisfied with it. We have plowed with it two years and it is in good order now. Our repairs on the engine have not amounted to more than \$20.00. All we will have to do this summer is to put new flues on, as firing coal is pretty hard on the flues.

The make of our plow is a Cockshutt eight-bottom engine

gang. It is fine for backsetting, but doesn't work so well at breaking. For breaking it takes a pretty good man to handle the plows, but in backsetting if the colters and the bottoms are set right it won't clog.

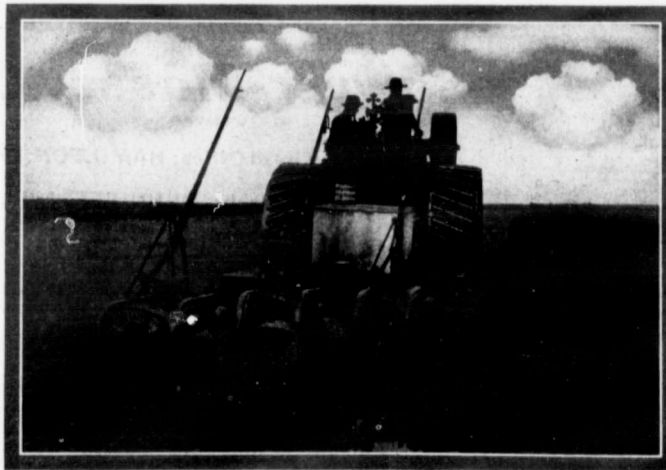
We employ three men. I myself run the engine and I employ a fireman, a waterman and a coalman. I pay two dollars a day to the fireman, \$2.00 a day to the waterman and \$1.75 to the coalman. I keep everything in good plowing order, and there is nothing I like better than steam plowing and doing a good job, hearing the engine snort.

I employ three teams from my father and my brother, paying \$2.00 per team. The water man has two teams and the coal man one team. The water man has two tanks. When he goes for one

My estimate cost per acre with labor, coal and board is 95c. A man can make quite a bit breaking at \$3.00 per acre and backsetting at \$3.00 per acre and \$2.50 for stubble per acre. That is what I charge here. I break 25 acres per day and backset about 20 acres per day. When I backset I put only seven bottoms on as it is a little heavy with eight bottoms. I plow stubble from 25 to 30 acres per day.

My rig does good work and don't give much bother. I have had no experience as to attaching drills or harrow. All the experience I have had is only to attach engine gang. I never did any sowing or harrowing with my engine.

Yours truly,
Carl M. Poersch,
Rosenort, Man.



Traction Farming the Real Thing.

Last June I bought a 26 h. p. engine from the American-Abell Co. and a 36-60 separator and a John Deere engine gang with eight fourteen-inch bottoms.

After my farm work was pretty well finished I went to a neighbor's and broke 140 acres. I then broke 30 acres at home. After threshing a piece of fall wheat I took my men and went to cutting and stooking my crop at home. As soon as this was done I went to threshing spring wheat.

In plowing I employed an engineer and a man to guide, a man to tend the plows and a water man. We used about 1,300 to 1,400 pounds of coal per day, plowing about eighteen acres per day, using from six to eight tanks

tank of water he feeds the other team, so when he runs back the other tank is empty and the horses fed. He then hitches the other team and goes again for water and feeds the horses before going, so as to always have them ready.

I use from twenty-five to twenty-seven pounds of American soft screened steam coal per day. It is very good coal for plowing. I also use two tanks of water, ten barrels each, on every three rounds on a mile, making nine to ten rounds per day.

It is far harder on the engine plowing than threshing. My engine runs a 36-inch cylinder American-Abell separator. The engine runs this very easily, but when I put it to an eight-bottom engine gang, that makes it snort.



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Waterloo





MAYTAG^{CO} LTD



The writer has just returned from a trip of about three thousand miles covering a large part of the small grain territory and finds almost without an exception that the Thresherman who did not have a RUTH FEEDER last year had all kinds of trouble, delays and breakdowns owing to the unusually tough condition the grain was in, while the fortunate possessor of a RUTH had no trouble of any kind. We also find that there is at least twenty-five per cent of last year's crop to thresh. It has to be done this Spring. The grain is in worse condition now than it was last Fall. These are FACTS. WHAT ARE YOU GOING TO DO ABOUT IT? Take our advice—throw away the old feeder and buy the best, which is the

RUTH FEEDER

The RUTH WARRANTY covers any style of RUTH that we make. It makes no difference whether it is the STANDARD RUTH which is the one that several thousands of you now own (rotary motion) or the RUTH with the CRANK SHAFT MOTION or the RUTH with the FOURTEEN FOOT EXTENSION CARRIER or the RUTH with the WHITE WINGS ATTACHMENT, or the

NEW ALL STEEL RUTH

Now, if you are interested in this, our latest, which is called "THE NEW ALL STEEL RUTH" write us at once for full information. Do not forget that the "RUTH WARRANTY" covers the entire RUTH FEEDER proposition. HERE IT IS

THE RUTH 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, PILED ON THE CARRIER IN ANY WAY YOU PLEASE, without slugging the separator cylinder or loosening a spike, and to do a faster, cleaner and better job of feeding and to WEAR LONGER AND COST LESS FOR REPAIRS than any Feeder manufactured by any other Company in the World."

Repairs and Extras

All who now own either a PARSONS, HAWKEYE or RUTH FEEDER or any one who buys one this year should cut this out and save it. We realize that when you have an accident and require a piece of repair that you want it QUICK. To show you that we appreciate the big FEEDER BUSINESS we have had in the past, we have ordered from our factory more than TWENTY-FIVE THOUSAND DOLLARS worth of Extras which we will distribute as follows

- | | |
|--------------------------|------------------|
| H. A. KNIGHT..... | Regina, Sask. |
| The W. S. COOPER CO..... | Calgary, Alta. |
| A. E. GARDINER..... | Saskatoon, Sask. |
| GEO. THOMAS CO..... | Weyburn, Sask. |

Do not forget that

Any Threshing Machine Company doing business in Canada can supply you with a RUTH Feeder, and we FURNISH THE ATTACHMENTS TO PUT THEM ON SO THAT THEY FIT PERFECTLY. When we say ANY Thresher Company, we had in mind more especially any of the following, as they have all bought the RUTH of us, and we are not only willing but anxious to fill all orders they may favor us with during the coming season.

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| Sawyer & Massey Co.
International Harvester Co.
Waterloo Manufacturing Co. | American Abell E. & T. Co.
Haug Bros. & Nellerhoe Co.
Garf, Scott & Co.
BurrIDGE Cooper Co. | Buffalo Pitts Co.
Canadian Port Huron Co.
The Rumely Co.
Robert Bell E. & T. Co. | Geo. White Sons & Co.
Nichols & Shepard Co.
Reeves & Co.
J. I. Case Threshing Mach. Co. | John Goodison Thresher Co.
Aultman & Taylor
Minneapolis Thr. Machine Co.
W. S. Cooper Co. |
|--|--|---|--|--|

WHEN WRITING FOR CATALOGUES, PRICES OR FURTHER INFORMATION
PLEASE MENTION THIS PUBLICATION



MAYTAG



COMPANY, LIMITED

WINNIPEG, MANITOBA

Cut and Thresh Your Standing Grain in One Operation

For A Dollar an Acre



Holt Caterpillar and Combined Harvester

Quick handling of crops is essential in Canada. You must put your grain under cover in a short period of time. Our method is the practical solution of the problem. You hire four men instead of twenty. You buy four horses instead of twenty or thirty. You investigate the "Combined" Harvester for threshing flax. Cuts, threshes, recleans and elevates to wagon in one operation. You are independent of hired help, the running expense is trifling.

Don't Fail To Read This Letter

Mr. Ben C. Holt, Spokane, Wash.

Dear Sir,—Your 18-foot Combined Harvester made the entire run this year, as it did last year, without stops or repairs of any nature. It handled our Red Fife wheat to perfection. In this district the harvest was so wet this season that the grain sprouted in the shock. The stationary threshers have been practically unable to thresh up to this time. Your Combined Harvester successfully met these conditions, as the standing grain was dry enough to thresh 48 hours after a rain. Any doubts we formerly entertained about the Combined method have been completely laid aside by our two seasons' experience and especially by the manner in which your machine handled our crop during the present freak season.

Welby, Saskatchewan, Oct. 16, 1911

Yours very truly,

Edmonds Shand

Canadian Holt Co., Ltd., Calgary, Alta.

Please send me free literature describing Combined Harvester and Caterpillar Gas Tractor. I am farming _____ acres.

Name _____
Address _____

MAIL COUPON TO-DAY C.T.F.—3-12

Canadian Holt Co., Ltd.
Builders of Caterpillar Tractors, Combined Harvesters, Fresno Scrapers
609-611 Eighth Avenue West, Calgary, Alberta

of water. I hauled my coal out before I started to work.

In threshing I used eight men in the field pitching and two men spike pitching at the machine, using ten teams to haul in the grain, the farmer to care for his own grain.

After threshing was over I backset 140 acres and did some plowing at home. Plowing is much harder on my engine than threshing and I think there is more money to be made threshing than plowing.

I did not buy the outfit with the intention of doing work away from home, as I am running a pretty good sized farm and have all I can look after right here. I think a traction plowing outfit is alright on a farm of 640 acres or more as it certainly saves horse flesh.

Yours truly,
C. F. Cunningham,
Elm Creek, Man.

Costs \$1.55 Per Acre.

I haven't had much experience in traction plowing, although I have had a lot in threshing. I own a 25 horse power J. I. Case plowing engine and eight fourteen-inch bottoms John Deere engine gang plows, which I drew with my 25 horse Case all through the breaking season, dry or wet.

I started out last spring with five men and two teams. I put in 28 days breaking and broke 530 acres. This is about 20 acres per

day. By the time I got through I had all kinds of experience in plowing. That was my first plowing season that I put in.

I use four and five ten-barrel tanks of water a day, one day four and the next day five, and I also use 1½ tons of steam coal per day. My expenses are as follows:
Engineer\$5.00 per day
Fireman 3.00 " "
Water man and team 5.00 " "
Coal man and team. 5.00 " "
1½ tons coal at
\$5.50 per ton.. 8.20 " "
Cook 1.50 " "
Food for cook car.. 2.20 " "
Oil50 " "
\$30.40

At an expense of \$30.40 per day I averaged 20 acres, so that it would cost me just \$1.55 an acre. But to cover all the stoppages and repairs I think the cost would come to about \$1.70 an acre to break. I should judge that breaking is about 70 per cent. harder on the engine than threshing.

I cannot give you any experience with hitches as I have never used my engine for putting in the grain, just for plowing and threshing.

Yours truly,
Matthias Nerada,
Swift Current, Sask.

Likes a Steam Lift.

I have a 21 H. P. Cross Compound Reeves engine, a 12-bottom 14 inch steam lift plow of the

Reeve manufacture, and may say that I am entirely satisfied.

On Mar. 22 I put the men to discing and dragging with the engine. They disc 900 acres in eleven days. Then I put them at plowing my land for oats. They plowed and dragged 225 acres in six days. Next I started them to breaking a quarter section for a neighbor, and they broke and packed this in 61-2 days. Then I put them to breaking for myself, and we broke 800 acres, and in all this work, besides moving, etc., we just used 90 tons of Hillcrest steam coal, at \$7.25 per ton in track. I give you the coal figures here, for it was the end of the coal, and the work up to that time consisted of breaking 1,525 acres of land in 68 days, plowing 225 acres in 6 days, discing and dragging 900 acres in 11 days, cutting 1,200 acres with 5 binders to the engine, and two with horses in 11 days, and threshing 12 1-2 days on 2,050 acres, besides the moving. Besides this I placed grain bins in the fields and did other work with the engine.

I used in all this work \$1,453.00 worth of coal and for the 116 days I was at work on an average of about \$12.50 per day.

In cutting grain the engine used about 1,800 pounds per day, and in threshing about the same, and in discing and plowing for oats about a ton. But in breaking this was no snap, for there was but little moisture, and we used on

an average two tons of coal and five to six tanks of water.

As to the steam lift plow staying in the ground, I can say this, I broke right beside the land that another steam outfit had broken the season of 1909 and had to stop on account of not being able to get the plow to stay in. I broke this year on both sides of it four inches deep and had no trouble at all. We did breaking on land with the 12 plows where eight horses would have had to quit with a 14-inch gang.

I used the Hansman hitch on my binders and they do the work to perfection. I can go any place at all with a binder- and turn as good a corner.

I am putting in 2,400 acres of crop this season and am going to do some drilling with the engine.

Hoping this will be satisfactory.
I am, Yours truly,
E. C. Hoppes,
Dundurn, Sask.

Cost \$1.25 Per Acre.

Regarding my experience in traction plowing, I may say that I have not done much at it yet. I have been using steam outfits for threshing this last twenty-eight years, but was always a little scared to try plowing. There were some in this part who had tried it and made a failure of it.

Last season was so dry that it was pretty hard work on horses to do a good job plowing. So when I got through threshing I

purchased bottom for a Gaa simple engine broken up it was so attempt to horses. So at it and w at the way It was got the engine found it j than thr

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on tank, the teams on the three tanks used wood f cords per da

We thoug harder on th ing, but our brush made had no stone made about We made o sure it is cr

Wishing t success, as w its practical fulness.

purchased a John Deere eight bottom fourteen-inch plow. I have a Gaar-Scott 25 horse power simple engine. I had previously broken up a quarter section, but it was so dry that I could not attempt to do any more with horses. So I started the engine at it and was more than surprised at the way it handled the plows. It was good, stiff clay soil and the engine handled it fine. I found it just a little harder on it than threshing.

We averaged 18 acres per day backsetting and 20 acres per day in stubble plowing. For fuel I used about 134 cords of poplar wood per day. As I have the wood of my own I thought it cheaper than coal. I used four tanks of water per day.

I had two men on the outfit, an engineer and fireman. The fireman attended the plows. I used one team hauling water and one hauling wood. I hauled the wood myself and was not working half the time.

I figured out the cost about \$1.25 per acre. It would have taken 32 horses to have done as good a job and plowed their 18 acres a day.

I am thinking of using the engine for seeding and harrowing this coming spring if I can get a hitch to work.

This has been my experience with traction plowing and all that I am sorry for is that I hadn't started years ago.

Yours truly,
James Morrison,
Homewood, Man.

An Old Timer.

I might say that we are only amateurs in the steam plowing, as last year was our first attempt. It is true we had a lot to learn still we were fairly successful. We broke over some 60 acres and that was heavy willow brush land which we had to get ready, pulling the heaviest of it out with the engine and here the engine shined.

Ours was a Sawyer Massey 25 horse power engine, a regular old pelter, but stood any amount of hard work. We have a three fourteen-inch bottom John Deere gang.

There are generally three men of us with the outfit and sometimes four, on account of root and brush. We only used one team on tank, though we have ten work teams on the place. We used about three tanks of water per day, and used wood for fuel, perhaps 1 1/2 cords per day of four foot wood.

We thought the plowing much harder on the engine than threshing, but our land being such heavy brush made it heavy work. We had no stones to contend with. We made about six acres per day. We made our own hitch and for sure it is crude, but it did allright.

Wishing the Thresherman every success, as we highly esteem it for its practical information and helpfulness.

Yours truly,
Fluker Bros.,
Beaver Hills,

The Big Chief Gasoline Engine
WILL DO ALL THE WORK ON THE FARM

And do you know, Mr. Farmer, that your dealer can supply you with one almost as cheaply as a mail order engine can be secured, but giving you better value and an engine that is guaranteed for five years. Moreover,

You Have the Privilege of Examining It Before You Buy

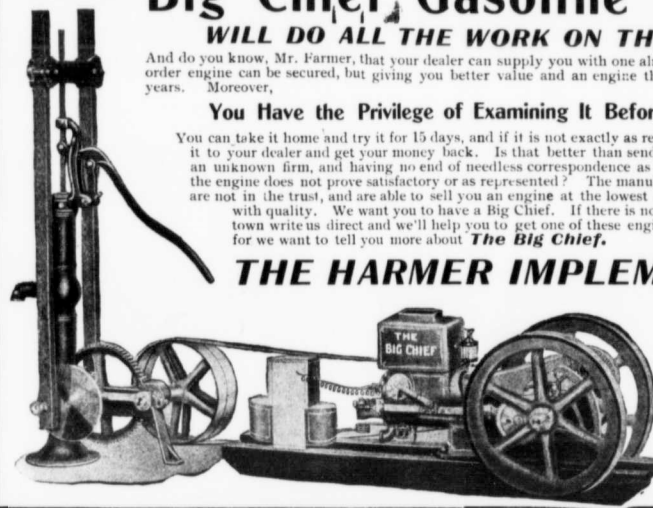
You can take it home and try it for 15 days, and if it is not exactly as represented you can return it to your dealer and get your money back. Is that better than sending your money away to an unknown firm, and having no end of needless correspondence as well as expense, in case the engine does not prove satisfactory or as represented? The manufacturers of the Big Chief are not in the trust, and are able to sell you an engine at the lowest possible price, consistent with quality. We want you to have a Big Chief. If there is no Big Chief dealer in your town write us direct and we'll help you to get one of these engines. Write us anyway, for we want to tell you more about **The Big Chief.**

THE HARMER IMPLEMENT CO.

182 Princess St.
WINNIPEG, MAN.

Made in Sizes 1 1/2, 2 1/2, 4 1/2, 6, 8, 12 h.p.

The BIG CHIEF
is the Hired Man
on the Farm



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Coal Cost 70c, per Acre,

I have a 35 horse power Nichols & Shepard engine and a 12 bottom John Deere plow. I have three men with the outfit, and two men and teams hauling water and coal. I have used the Edmonton coal with pretty fair results. This coal cost about 70c. per acre. Then I used the Hillcrest steam coal with good results, costing me about 59c. per acre. I used eight ten-barrel tanks of water in twelve hours' run.

I figure the cost per acre was about \$1.49, and don't believe it is much harder on engine breaking than threshing. A person has got to use judgment in what load to haul.

I have tried running a day and a night shift, but not with very good results.

Yours truly,
John A. Zimmer,
Landis, Sask.

Land Very Tough.

My experience with traction plowing extends only to the season of 1910 and was limited by the fact that owing to delay in delivery of plows my season was a short one. However, an example of the work done under difficult conditions, may be of some use.

The land in this district is exceptionally heavy and the breaking was done at a distance of from 12 to 16 miles from coal and was greatly handicapped by bad water. It was no unusual thing for the flues to leak at the end of a hard day's work, owing to the action of the alkali, and a complete set of new flues necessary after one month's breaking is a serious item on the expenditure side.

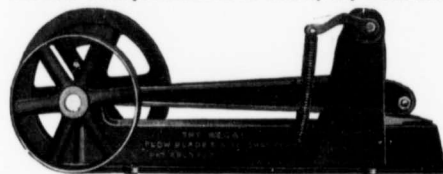
The engine is a Gaar-Scott 25 horse power double compound, hauling six plows and packer and

Make \$2000⁰⁰ more per Year

Hundreds of farmers right now are making from \$1000.00 to \$2000.00 a year extra money, besides keeping up their farm work, making wells with the **Improved Powers Boring and Drilling Machine**. Bores 100 ft. in 10 hours. One man can run it; a team operates it and easily moves it over any road. Bores slate, coal, soapstone—everything except hard rock, and it drills that. No tower or staking—rotates its own drill. 20 years actual service all over the world have proven this the fastest and most convenient well machine made. Easy terms. Write for catalog. **LYSLE M'FG. CO., Box 423 Clarinda, Iowa.**

Use your Traction Engine to Sharpen your Plow Shares

and do a better job than can be done by any blacksmith.



We can end your Plow Share Troubles with the JUSTRITE PLOW BLADE DISC SHARPENER

Any Engine Gang owner can do it, and no one possessing an Engine Gang can afford to be without it. The "Justrite" exerts a pressure of 30,000 lbs, but this is only one-tenth of its actual breaking strength under roller. It can also be used on Road Scrapers, Drag Teeth, Drill Shoes or in fact anything that needs to be drawn to a sharp edge. It also saves the work on Emery Wheel. It does not jump or jerk like a trip hammer, and does not make nicks in the plow lay or disc, but works automatically back and forth at a speed of 375 to 400 per minute, thus rolling the heated lay to a smooth sharp edge.

THE JUSTRITE SHARPENER is fully guaranteed to make good our claims, any detail proving defective will be replaced at factory free of charge.

Send Coupon for complete information and price

Wilkinson, Kompass & Hawkeye

LTD.

Hamilton WINNIPEG Toronto

Wilkinson, Kompass & Hawkeye Ltd., Winnipeg
Please send me full details of your
"Justrite" Plow Sharpener.
Name _____
Post office _____
C.T.F.

The Dreadnought Engine Guide

Is the most reliable steering equipment that has yet been designed for the plowing engine. It will control and guide with faultless precision any traction engine to which it is properly attached and will automatically hold it to its straight course by an established furrow. It will lead the engine along at a proper distance from the furrow to accommodate any desired number of plows; holds the front wheels firm and fair to hummock or hole and passes them over with no more seesawing and strain to them than the hind wheels experience.

The
Dreadnought

Will lead automatically and faithfully to furrow any engine from corner to corner of field or tract of land being plowed. The engineer's assistance being required only to turn corners.

This increases efficiency of the engine adds to its durability, saves fuel and makes it possible for one man to handle a large plowing outfit.



The
Dreadnought

Makes it easier to turn an engine on plowed or unplowed ground; and with the average engine equipped with a "Dreadnought Guide," turning on a circle with a radius of about 27 feet the guide will describe a circle about 4 feet outside that described by the outside wheel of the engine. Does not interfere in the least with the backing of the engine.

PATENT ISSUED 13 FEBRUARY 1912
TESTIMONIALS

DREADNOUGHT GUIDE CO., CEDAR FALLS, IOWA.

Gentlemen: The Dreadnought Guide which we have been using on our 20-45 H.P. "Flour City" Tractor Engine is entirely satisfactory to us. It does the work it is intended to do better than man can do it. It holds the front wheels rigid, prevents them from seesawing, and passes them over rough surfaces in same manner as the drive wheels. We have gumbo soil; some blue and some black; and both are very rough and hard to drive an engine over with plows attached; but no matter how rough the land, this Guide makes breaking easy on both engine and engineer. Our engine was not a complete machine until we equipped it with the Dreadnought Guide. Since we attached the Guide, our engineer looks after both plows and engine. He turns the outfit at the corners and he finds it easier to turn it with than without Guide. The Guide wheel follows the furrow absolutely and depth of landside has no effect on it. The hardest job on our ranch became the easiest when we attached the Guide. Refer to us whenever it suits you to do so. We will be glad to give our plowing experiences, with and without a Guide, to all who may care to have them.

EDNA, TEXAS, Feb. 1st, 1912.

Yours truly, A. W. WHITE, J. H. WHITE,
CEDAR FALLS, IOWA, November 1st, 1911.

DREADNOUGHT GUIDE CO., CEDAR FALLS, IOWA.

Gentlemen: I have used one of your automatic self steering Guides on my Nichols and Shepard engine, and I must say that it is surely a complete machine for the purpose. When the guide wheel is started in the furrow it will stay there and guide the engine without further attention until at the end of the furrow. It is very easily handled. Can turn round at the end of the field very short, and anybody running a traction engine plowing should have one of these Guides to make his rig complete.

AGENTS WANTED. For further information address the

DREADNOUGHT GUIDE CO.

Box 3079

WINNIPEG, CANADA

it did good work under the above conditions.

On an average we used from 6 to 9 tanks of water per day. With good water we could probably have used a tank less. It takes 5 or 6 men (including cook) to run the outfit, and 6 to 8 horses, according to the distance from water.

The cost per acre averaged from \$1.75 to \$1.25 also varying with the distance from water and coal.

The strain on the engine is certainly much greater than in threshing, especially in a rough and heavy district like this, and counts for a good deal in the profit question. I should say that with good water and convenient coal supply and a good engine, there is money to be made in steam traction plowing.

Yours truly,
James R. Hutchinson,
Rosetown.

Averaged 24 acres per day.

To start with, it was very dry here, and we only broke 475 acres and then we quit until it rained. We did not get any rain until September some time, and then we double disced 700 acres. Then we went to plowing, and plowed 420 acres and broke 70 acres. We averaged 24 acres per day.

We have a 35 h.p. Minneapolis engine and a ten bottom Cocksutt plow. We pull a 12 foot packer behind the plows.

We used steam coal, and it

takes 11 or 12 barrels of water to go across a section and back. Our coal cost us 54c. per acre, or \$10.80 per day, engineer \$4.00 per day, fireman \$2.00, plowman \$2.00, tankman and team \$4.00, board for four men 50c. each or \$2.00 per day, making a total of \$24.80 per day or \$1.03 per acre.

In regard to traction plowing, will say it is much harder on an engine than threshing. When you go over badger holes and cow trails and then get the dust, it is very hard on the engine.

Find enclosed photo of our outfit. You can see we were pulling two discs behind the packer, but I wont pull them any more, as it makes too much to look after.

Yours truly,
F. F. Hammer & Son,
Lethbridge, Alta.

His Own Fault.

Regarding my experience with traction work, I may say that I have had plenty of trouble, especially the first season with leaky flues, etc. All this was my own fault because I was inexperienced. After experiencing many troubles wet weather came on.

My engine is a Case 25 h. p. compound steam plow engine, 36-inch wheels 5½ feet high.

I have had my outfit two years and the last two years I have run it with more profit than it is possible with horses. I use a seven-furrow Cocksutt plow. As the land here is very heavy I have only tried five plows at a time. In

deep breaking four is plenty.

I use poplar wood for fuel, two cords of which with four twelve-barrel tanks of water will do a good day's work. I get good water from a creek at the head land of field and land wood at same place in winter. In this way one team can supply engine and be in the stable half the time. Two men is all I employ. I run the engine and fire myself. I estimate the cost per acre at \$1.00 in stubble land and disc it at the same time.

I have had no experience with seed drills and harrows behind engine.

Yours truly,
J. W. Brimacombe,
Dunara, Man.

Thinks Machine Plowing Pays.

I have only had one year's experience with a traction engine, and did not have very much success, for the land around here is rolling, and it takes so much power to climb hills, and in many cases would dry the bolts in the boiler.

I have a 25 h.p. Nicols and Shepard engine and an eight bottom Cocksutt plow. My outfit works fairly well, but I find my engine better for threshing.

I got a threshing outfit three years ago composed of the engine above and a Red River Special 36-56 separator, which I might say has done splendid work, and made a record.

I cannot say anything about traction plowing, however, as I

have not had enough experience with in. I am going to stay with traction plowing though, for I think it is a paying thing, especially when horses are as dear as they are in Manitoba.

I am sending you a photo of my plowing and threshing outfit.

Yours truly,
Hugh Kirby,
Manson, Sask.

Gophers!

Gophers cost you big money. There is no question about it. On 40 acres it often amounts to \$100.00. On 80 acres it may be \$200.00 or more. Whatever it amounts to, is an unnecessary loss. It can be prevented. The amount can be added to your profits. Others have done it—you can!

If you look carefully through the pages of this issue, you will find an advertisement of Mickelson's Kill-Em-Quick. It tells about a gopher poison that is guaranteed to kill gophers for less than one cent per acre, less than \$1.00 for 100 acres. \$1.25 for about 150 acres. On 150 acres it would mean a saving to you, of almost \$400.00.

Find the advertisement. It's worth reading and heeding. Then get a box of Kill-Em-Quick from your druggist—50c., 75c., and \$1.25 size, fully guaranteed—money back if you want it.



PERFECTION

Just what its name implies

REASONS WHY

YOU SHOULD INSIST ON HAVING THE PERFECTION.

We use heavy #55 elevator chain. The elevator is made of first class kiln dried lumber. The elevator is longer than others. The steel and shafting is heavier. The long grain spout is made telescoping.

We have the correct attachments for your separator. **We keep immense stocks of repairs at Winnipeg, Regina, Calgary and other points.** We were the originators of this style of machine; its correct construction being a science which we have mastered.

Doesn't it stand to reason that the Perfection will last longer and do more satisfactory work than a lighter machine?

Don't you want a machine that fits, and one you can get repairs for?



GET THE PERFECTION

The maker of your separator will furnish it if you insist.

Hart-Brown Wing Carrier

THE MACHINE FOR THE GOLDEN WEST

Fits any Separator—attaching to the strongest part.
Use any Feeder—You don't have to buy a new one.
You don't need to chop your machine to pieces to attach.



The Hart-Brown Carrier will do the work of several hired hands and you don't have to pay it and board it in bad weather and it doesn't growl and complain.

The Hart-Brown will pay for itself in a few days. Let us tell you how. We also want to tell you about the 1912 improvements. Write us **NOW—NOW** giving the make of the separator you use.



Hart-Brown Wing Carriers and Hart Universal Thresher Racks in Saskatchewan—Bundled Grain.

Hart Universal Thresher Rack

You can save from 8 to 12 men and half that number of teams by using our Racks. They unload instantly at machine, no waits to unload, no time spent in pitching off, goes right back to the field for another load. No field pitchers needed. No cog wheels, gears or sprockets used. No machinery means no bother.

If you want to build them yourself we will furnish the hardware and plans.

POSTAL BRINGS 1912 CATALOG.

Hart Grain Weigher Co., Peoria., Ill., U.S.A.

POSTAL BRINGS 1912 CATALOG.

The Thresherman's Question Drawer

Answers to Correspondents

Q. D. L. The flywheel on my engine runs out sidewise. I was told that I could get it true by refitting the flywheel key, but am unable to get the key out. Can the wheel be straightened any other way?

A. You can pene the arms to make it true. By this we mean to stretch the surface of one side of the arms, which will bend them. While the engine is running, hold a piece of chalk against each side of the rim of the wheel, thus marking the projecting part of the rim. Now turn the mark on the other side next to the boiler down, or at a convenient place so as to get a pry between the boiler and the flywheel at the middle of the chalk mark. This will put the wheel on a strain in the direction in which it should go. Now strike the arms close to the hub, in line with the chalk mark, with a pene hammer, so as to stretch that side of the arms; then go to the other side and pene the other half of the arms in line with the chalk mark on that side. The stretching of the arms on both sides will tend to get the wheel true. Give it a moderate amount the first time and rub the chalk mark off and re-mark it, keeping close watch as to the effect it is having. The wheel is so easily bent in this way that one is liable to give it too much the first time. If it is bent too much it can easily be sprung back with the pry or it can be bent back by peneing on the other side of the arms.

Q. O. R. Will you please tell me if there is any way to transform a 25 horse power coal burning engine to an oil burner used in plowing? Is an oil burner satisfactory for that kind of work? We are so far from coal that transportation is an expensive item, and we should like to make the change if it would be profitable.

A. Any of the thresher companies can supply you with an oil burner suitable for your engine. The cost of equipping your 25 horse power engine will amount to about \$75 plus the freight on the equipment from point of shipment. If you can get crude oil for about four cents per gallon it will be a little cheaper than coal at seven dollars and a half or eight dollars a ton. The cost of transporting the oil is a considerable item, since it requires two-thirds as many pounds of oil as of coal to generate the same power.

Q. S. M. 1. What h.p. difference is there in two cylinders—one steam and one gasoline, bore eight and a half inches and stroke twelve inches, running at the same speed?

2. What engine, steam or gasoline, is the simplest to the man that is not prejudiced to either?

3. What is the best and easiest method of removing lime from an injector in the field?

4. What is the meaning of cycle in gasoline engines?

A. 1. If the engines are figured at the same speed of the crankshaft and at the same mean effective pressure, the gasoline will develop one-fourth as much power as the steam engine; but since the mean effective pressure is about one-half greater in a gasoline engine the result would be that the gasoline engine will develop three-eighths as much power as the steam engine.

2. The steam engine is a little the simplest to operate, yet it requires equal intelligence to successfully operate each engine.

3. To remove lime from an injector submerge it in a solution of one part muriatic acid and ten parts of soft water from four to eight hours; or boil it in good sharp cider vinegar.

4. The word "cycle" means an interval of time marked by the recurrence of certain events. As applied to the gas engine it means the complete movements of the engine to accomplish one impulse of the generating power. In a two cycle engine—properly it should be a two stroke cycle—it takes two strokes of the engine to complete the cycle or round of events from one power stroke to the next. In a four cycle engine it takes four strokes. Compared with a steam engine the stroke means one-half revolution of the crank.

Q. T. B. I have a 15 horse power engine with stub axle, which is worn so that it throws the gear out of line. If I were to babbitt the hub of the wheel do you think it would be successful.

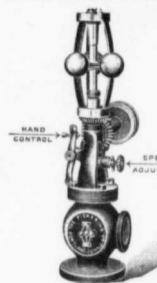
A. If the hole is prepared with anchors and the babbitt properly treated the wheels could be fixed with babbitt. It should be remembered that babbitt shrinks after it is cooled down and will be loose in the wheel and tight on the axle if not properly treated. It would be hard to keep the babbitt in the wheel unless it were stretching out to fill the hole properly. This could be done by pouring the

DESMOND MODEL "U"



Look at the cut. Note the two piece body with the union nut. This is the secret of the model "U"—a feature which is fully protected by us and which can not be had from any other company. By loosening the union nut you can connect the upper and lower parts of the injector at any angle to each other that you may desire without in the least affecting its working qualities. In other words, you can make the one injector a right and left, a left and right, a front and back, a back and front, or any other style best suited to your needs. And yet the flexible feature of the Desmond Model "U" is only one of its superior features. It not only does everything any other injector will do but, owing to its extreme simplicity, does them better. Its range is greater—it will handle hotter water—it will lift a greater distance, and it has a drip cock. Its tubes are all screwed into the body and can not fall out.

CATALOG FREE FOR THE ASKING
DESMOND-STEPHAN M'F'G. COMPANY, Urbana, Ohio
Crane & Ordway Co., Winnipeg, Sales Agents for Canada



PICKERING "THE GOVERNOR WITHOUT JOINTS"

SAW MILLS-Attention!

Do you know about our "HAND CONTROL" for operating without Governor Belt?

—Write us.—

We are not referring to the common Sawyers' Lever.

Patent Ball Ranger Speed Changer Supplied on all Genuine Pickering Governors.

If you have Governor troubles write

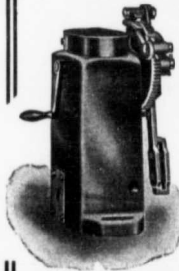
The Pickering Governor Co.

PORTLAND

CONN., U.S.A.



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It always works. It makes no difference whether the temperature is 30 degrees below or 100 degrees above, and it "Saves Your Oil Bill." Over 50,000 in use, and as many thousands of satisfied users.

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WRITE FOR BOOK

SAWYER BELTING CO., Cleveland, Ohio

metal int smaller t forcing a a little l: the expa with a h tool in t tent mec commend a piece of rect thick preferable fast in th on the a used it w axle and wheel, as wearing c a good much soo or steel o

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A. 1. Y you want gearing. 'how man; traction et

metal into the wheel a little smaller than the axle, and then forcing a shaft through the hole a little larger than the axle; or the expanding could be done with a hammer and the proper tool in the hands of a competent mechanic. We would recommend bushing the hole with a piece of sheet metal of the correct thickness. Brass would be preferable as it could be made fast in the wheel so as to turn on the axle. If iron or steel is used it would be sure to cut the axle and turn in the hub of the wheel, as wrought iron or steel, wearing on steel, does not make a good bearing, and will cut much sooner than wrought iron or steel on cast iron.

Q. G. Y. The water leg in my engine bulged between the stay bolts about quarter of an inch; can it be straightened and be as strong as before?

Why does the engine I have take so much water? All engines of the same make do around here. I have had one of the company's men set the valve, but it doesn't help any; that engine takes eight 16-barrel tanks a day.

A. An accumulation of mud will cause a fire box to bulge. Admitting the feed water to the boiler too close to the fire box will do this also. The water should enter the boiler near the smoke box end. It is not necessary to tighten the sheet as the sheet is stronger in its bulged state than if it were perfectly flat. If there are any bolts in bad condition, they should be fixed, but don't try to straighten the sheet.

An engine should be "hooked up," especially if the engine is large for the work to be done. To "hook up" means to change the stroke of the valve and by this means cut off the steam as early in the stroke as possible, thus using the steam expansively to the greatest degree, and making a corresponding saving in the water needed.


Q. F. W. 1. Give a rule for figuring out the speed of the different gearing wheels on an engine?

2. How do you set the valve and eccentric on a Geiser engine; is not the reverse gear called the slotted eccentric?

3. What is the horse power of an engine 10 by 10, running 225 rev., 125 pounds pressure?

4. Does the Baker valve gear off-set the angularity of the connecting rod?

A. 1. You do not say what you want to figure about the gearing. If you want to find how many miles per hour a traction engine will run on the



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Safeguard

Automatic Water Gage

Mechanically Correct

"The Safeguard will Guard Your Safety."

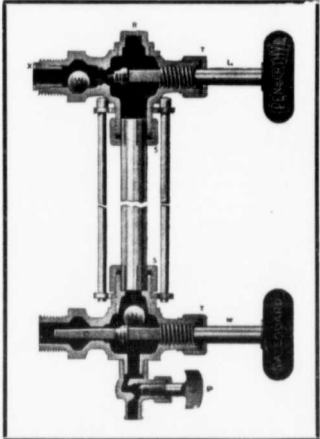
This mechanically correct gage assures absolute safety and protection against the dangers which result when the glass is broken in an ordinary gage.

The upper seat is designed to leak for purposes solely of sureness of operating at the proper time. Only dry steam escapes and in small quantity, hurting no one. The leak equalizes the pressure in the glass and the boiler pressure, and the Balls Cannot Stay Seated Unless Glass is Broken. This fact is positive and any gage not made to leak on the upper arm is unsafe. The lower seat is made absolutely tight and when glass breaks the ball seats instantly and Not a Drop of Water and No Steam Escape to injure anyone.

It operates on any pressure from two pounds up, is tested to 300 pounds, is very simple and strong, and is self-cleaning by the action of the blow-off vibrating the balls.

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This Automatic Water Gage is made with Special $\frac{1}{4}$ inch drip connection for the conditions of Western Canada and has been accepted by the Government of Alberta under Register No. 441, and in Saskatchewan under Register No. 2170.

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$\frac{1}{4}$ inch and $\frac{1}{2}$ inch sizes \$3.00 net. $\frac{3}{4}$ inch size \$3.50 net.

road with a given speed on the crankshaft, here is the rule: Multiply the revolutions of the crankshaft per hour, by the circumference of drive pinion, divide by the next gear wheel which engages with the drive pinion, multiply by the circumference of the traction wheel in feet, and divide by 5280, which is the number of feet in a mile; the result will be the miles per hour.

2. There is nothing to do but divide the lead between both ends of the cylinder. The eccentric being fixed to the crank disc, so that it is impossible for it to get out of adjustment.

3. A 10 by 10 engine is known to the trade as a 20 horse power engine. The brake horse power of this engine will be about 60 horse power.

4. The Baker valve gear is said to compensate for the angularity of the connecting rod.

Q. B. B. The fly wheel on my engine is 48 inches in diameter. The cylinder pulley on my separator is ten inches in diameter. By running the engine at 220 r.p.m. the cylinder makes about 1,100 revolutions. How much more power could I obtain by using a twelve inch pulley on the separator and speed-

ing my engine up to make the cylinder run at normal speed? My engine would then run about 250 r.p.m.

2. How much lighter would a 30-inch cylinder run than a 36-inch, in the same grain and under the same conditions?

3. Which is the best way to put lagging on a pulley—take a piece of leather which just fits the wheel and rivet it thereon or would you advise taking a piece of leather, say two inches wide, and wrapping it round and round the wheel and then rivet it solid, just like you would wrap rope?

4. What kind of belt wheel covering is the best—leather or canvas?

5. In speeding up an engine what is the limit of speed a fly wheel will stand before going to pieces? Do they gear on a rim speed of 5,280 per minute for cast iron wheels.

A. If you increase the speed of your engine from 220 to 250 r.p.m. you have increased the speed about one-seventh, and the power will be increased in like proportion. If your engine showed 35 horse power at 220 r.p.m. it will show about 40 horse power at 250 r.p.m.

2. We are not aware that a 30-inch cylinder will run any lighter than a 36-inch. The

heavier the cylinder the harder it is to set in motion, for the same reason the slower it is to stop when it meets opposition.

3. We believe the best kind of lagging to use and the best way to put it on is to soak a piece of leather belting in warm water until thoroughly softened, rivet one end of this to pulley, clamp a couple of bars of wood across the other end, then by using a rod under these clamps and over the shaft you can get leverage enough to pull the belt very tight. The other rivets can then be inserted. When the belt dries on the pulley it will be stretched very tight and be very hard. This is the best scheme we know of.

4. We prefer, as stated above, leather lagging put on in the way mentioned.

5. No one knows how fast a particular fly wheel must travel before it will go to pieces. In some experiments conducted by Prof. Benjamin at the School of Applied Science, it was found that cast wheels four feet in diameter would rarely stand more than 8,000 feet per minute. Some fail at a lower speed and others require considerably higher speed before bursting occurs. The speed of one mile per minute is rather high.

Conducted by
Professor
P. S. Rose

Practical Talks to Threshermen

Talk No.
LV.

LESSON LV.

The Ruth feeder alluded to in the last lesson is provided with a rotary knife band cutter. The knife sections are made detachable and interchangeable. Their function is merely to cut the bands. They do not have as much effect in spreading the bundles as the knives used on the Parsons feeders. The distinctive feature of this feeder is the governor which controls the volume of straw delivered to the cylinder of the separator. Reference to the drawing, figure 104, will show that directly over the threshing cylinder there is

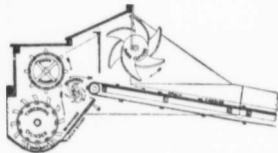


FIG. 104

located the feeder cylinder. Below this and to the right of the threshing cylinder the retarding shaft with its fingers is located. All the straw which is fed to the machine must first pass the feeder cylinder. If a heavy mass of straw leaves this point, the feeder cylinder will be slackened in speed, thus operating a trip lever which disengages a clutch and stops the raddle. No more straw, therefore, can leave the feeder cylinder until it has taken care of the mass which has caused the disturbance. The circumferential speed of the feeder cylinder is about four thousand feet per minute, and of the re-

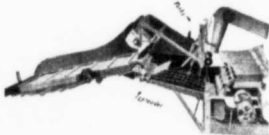


FIG. 105

tarder about forty feet. Thus it will be seen that the straw from the upper part of the bundle will be combed off and delivered to the threshing cylinder while the lower straws are retarded.

The retarded shaft may be raised or lowered while the machine is in operation, thus making the throat larger or smaller as desired. The governing in this machine, it will be observed, does not depend upon variations in the speed of the threshing cylinder, but in variations of the speed of the feeder cylinder. The thresher cylinder maintains

a uniform rate of speed provided the engine governs properly while the feeder performs its function of delivering a constant and uniform volume of straw at all times regardless of how large a quantity is thrown upon the feeder platform. The position of the governor, which is of the Pickering type, is clearly shown in figure 104. It is driven by gearing from the shaft of the retarder cylinder and disengages a carrier trip that starts the raddle in motion. This feeder cylinder quite effectually prevents the slugging of the separator by thoroughly disintegrating any matted or tangled masses of straw. The feeder cylinder is light, weighing less than two hundred pounds, and is fitted with teeth about an inch and a half long. Grain is delivered high up on the threshing cylinder and in almost a vertical position, that is, the butts of the bundles are elevated.

Another very successful machine is the Wood Bros. steel self feeder. The distinguishing features of this machine are the bundle spreader, the feeding forks and the governor. The general arrangement of the vari-



FIG. 106

ous parts are brought out in figure 105. Immediately back of the upper end of the raddle may be seen the fingers of the bundle spreader. These have both an oscillating and vertical movement, whose duty it is to spread the bundles evenly the entire width of the cylinder. Immediately behind these are a number of feeder forks operated by link work from the band cutter shaft. These forks are made adjustable and can be raised or lowered, thus regulating the size of the throat to the different conditions of the grain. An automatic friction governor mounted on the end of the band cutter shaft regulates the amount of straw delivered to the machine. This governor is very sensitive and responds to a variation of less than one hundred revolutions of the thresher cylinder. Whenever the speed of the thresher cylinder is reduced, the speed of the governor is reduced a like amount, thus causing the weights shown at A, in figure 106 to approach near the center of the shaft, thus preventing the band

wheel B, from rotating. This band wheel drives the raddle by means of a sprocket on the rear side while the spider which carries the weights is fastened by means of a set screw to the band cutter shaft. When the speed of the band cutter which is driven from the threshing cylinder reaches a predetermined amount the weights fly outward and the shoes S, engage with the inner rim of the disc B, causing it to rotate and thereby drive the raddle and feeder forks. One advantage in a governor of this



FIG. 107

type is that it takes hold gradually and does not jerk the machine, because as the speed of the cylinder gradually increases, the friction of the shoes S on the disc B gradually increases until no more slippage occurs.

The Lindsay feeder embodies some of the principles of the Parsons and also of the other types of feeders which we have discussed. The band cutters are of the rotating type and are attached to a drum which rotates about two hundred and seventy-five times per minute. Immediately back of the band cutter

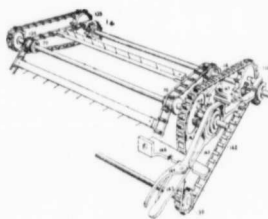


FIG. 108

cylinder is another cylinder which acts as a distributor. This cylinder revolves at a much higher rate and feeds the straw from the top of the bundle into the threshing cylinder. The carrier rake extends well down to the cylinder and the spikes act as a retarder for the lower parts of the bundles. The governor is very much like that on the Wood Bros. feeder, as will be seen by referring to figure 107. When the bandcutter shaft comes up to speed, the weights C move outward and rotate the wedge A,

which locks the spider to the disc which surrounds it. On the rear end of this disc there is a smooth pulley over which a belt passes which drives the carrier rake. Figure 108 represents the changeable speed device used on this feeder; by shifting the lever A either to the right or left, the speed can be made faster or slower, while if in the middle position, as shown in the illustration, the feeder rake will be

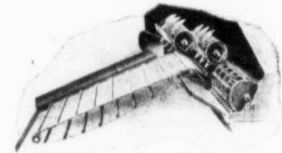


FIG. 109

stopped entirely. This speed changing device can be operated by hand while the machine is in motion, and while not so flexible as the Parsons, it answers the same purpose. In the Parsons feeder any speed from maximum to minimum can be operated while in this one only two changes of speed are provided for. Figure 109 presents an internal view of the machine and shows the general arrangement of the parts.

Are You a Whole Number or a Fraction?

The word "integrity" is a full brother to the word "Integer," which means a whole number. When you studied arithmetic you did not have much trouble with the whole numbers; it was the fractions, the fragments of the whole numbers that made the trouble. So it is in business. The business man of integrity is a whole number and he seldom causes trouble. You always know what he stands for. It is the fractional business man that makes the trouble, because it is so difficult to ascertain his real value. A whole man, the man of integrity, is a known quantity in a business transaction, but the man without integrity, the fragment or fraction, varies in value according to environment, circumstances and opportunity.

In mathematics the unit is the same without reference to what you put around it, but the fraction is capable of indefinite variations. There is only one unit, but there are countless millions of fractions, and no man can possibly estimate the exact value of a fraction before he knows all about it. Practice that integrity that will make you a unit of known value in every business transaction and in every deed of your life.

REEVES



CANADIAN BRANCH: REGINA, SASK.

**Durability and Good Working Qualities
in a Threshing Outfit Assure Profit to the Owner**

Profit is what appeals to the buyer of threshing machinery, and when the qualities necessary to the greatest profit can be found in one machine, that is the one you should buy, even though, as is likely to be the case, the price is larger than on other machines. The following letter is right to the point and tells the experience of an operator of Reeves machinery:

Reeves & Co., Columbus, Ind. *Fullerton, N. D., May 29, 1911.*

Dear Sirs:—Have you on hand lower pan for 40x60 separator No. 1052 bought in 1900? If you have, let me know and send price. This is the first repairs I have had to buy in eleven falls. I run this separator six falls in Illinois and five falls in Dakota, and it is still in first-class shape excepting this pan, and today, with a new pan, I will put it up along side any new separator and do a better job. I also am using most of the belts that came with it.

R. F. D. No. 2, Box 25. *Respectfully,
Myron McKeague, Fullerton, North Dakota.*

The Reeves Double Cylinder Engine and the Reeves Compound Separator make an outfit that will prove profitable to you, satisfactory to your patrons, and with reasonable care, will last a life time.



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REEVES & COMPANY
COLUMBUS, IND. U.S.A.

REEVES

MEN WHO MAKE No. 1 HARD

Being first hand experiences of the men who own and operate threshing outfits in Western Canada

Don't Work Too Late.

I live south of Edrans, Man. My brother and myself seeing a good opening in the district to the south, for a threshing outfit, decided to buy.

Although both of us have threshed for a number of years this was our first season with a machine of our own. I ran the separator myself having had three seasons experience previously, while my brother fired, not thinking himself competent to undertake the responsibility of running the engine.

Our engine was a 20 h.p. Case simple traction, and the separator a 32 x 54 with feeder, blower, and high bagger. Our gang consisted of nine men and six stook teams.

We never allowed the pitchers to crowd the separator beyond its capacity, but take a good working gait and keep it up. If a fellow tried to crowd his separator beyond its capacity something generally goes wrong, and a few steps if only for a few minutes each time, counts a lot to the pocket when settling-up time comes.

While we were stook threshing we always made it a point to have two loads on in the evening, so as to be ready for an early start in the morning, and thus cause no delay while the other teams were loading up.

I may also say that we never made it a habit of working later than sundown, excepting when it was to finish a farmer's job, and move to the next farmer. I have found that threshing after it comes dark does not pay, as something usually goes wrong, and it makes the men grumble. I think if a man is a faithful worker he can do enough in daylight.

We threshed 32 days, and made an average of 1,205 bushels per day. We charge 5 cents a bushel for wheat, and 4 cents for oats and barley, and our daily profits averaged about \$35.00.

We believe that a 32 x 54 separator is a little too small to make custom threshing a very great success. It does not require a larger gang to run a 36 x 60, and you can let the men work a little harder, thus breaking a considerable quantity more grain in a day without any extra expense.

Yours truly,

Ed. Sinclair,
Edrans, Man.

"Pay Promptly"—a Good Motto.

Being a subscriber to your valuable paper, and having enjoyed reading the many letters that have appeared from month to month in The Canadian Thresherman, I thought I would write a few lines on my experience in threshing. I have had experience along this line since the old horse power

days, when on a five hundred bushel job we would have to stop to give the farmer a chance to get a new supply of food; then in Manitoba with portable steam outfits, when we would have to help to push some times, and for the last seven years in Saskatchewan with steam traction engine.

About three years ago I purchased from the J. I. Case Company an outfit composed of a 25 h.p. traction engine and a 36-58 steel separator, with all attachments. This makes a nice rig. And now the past season, having everything ready with a five spot engine and a good separator man we started out on September 12th with a gang as follows:—engineer, fireman, waterman with team, separator man and four pitchers, and with my price set at 6 cents for wheat and 5 cents for oats, and 16 cents or \$7.00 per hour for flax, we commenced on our old run that I have had for the last three years.

Everything went all right, but I found that the engineer was a big prevaricator. But on October 3rd my old engineer got on the engine. I and my men always tried to make a clean job, and as soon as the last bushel was out I get out my J. I. Case note book, and have never had any trouble with my men. On Saturday night I always ask them if they want any money, and if so I give them some. In this way I find I get more work done, and the men are happy.

Yours truly,
Louis R. Tide,
Killaly, Sask.

Threshes with Kerosene.

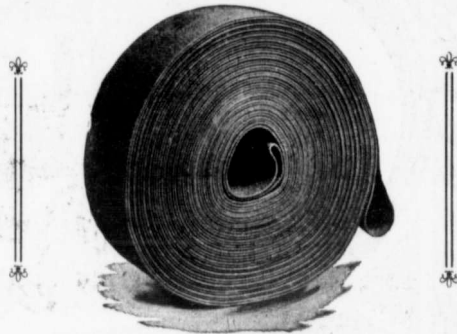
I will be pleased to give you an account of the work I did with the Hart Parr 45 horse power engine, which we purchased in the fall of 1907 in Dakota. Then we shipped it to Alberta in May. We also had three fourteen-inch John Deere engine gangs, and could pull two of these gangs for breaking and nine bottoms for summer fallowing and stubble.

Then we purchased a Cockshutt engine gang, which did away with one man. We can pull seven fourteen-inch bottoms when the ground is in good condition. That is without the packer and we can pull six with the packer.

In 1908 we broke 450 acres of sod and 200 acres of stubble, and disced and harrowed 1,200 acres of sod. It costs us about \$1.50 per acre for oil and kerosene, and help for breaking. We use 80 gallons of kerosene every 12 hours, and on an average of 60 gallons of water. One team does all the hauling.

In 1909 we broke 800 acres of sod, and disced and harrowed 1,600 acres of sod, and threshed

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Manufactured in England from the Highest Grade Cotton Duck to specifications called for by the Western Canadian market. Perfect satisfaction guaranteed. We are the sole importers and carry a large stock.

THRESHERMEN write at once for samples. If your dealer does not handle our belt, ask him to procure it for you.
DEALERS WANTED IN EVERY LOCALITY

GENERAL SUPPLY Co. of CANADA Ltd.

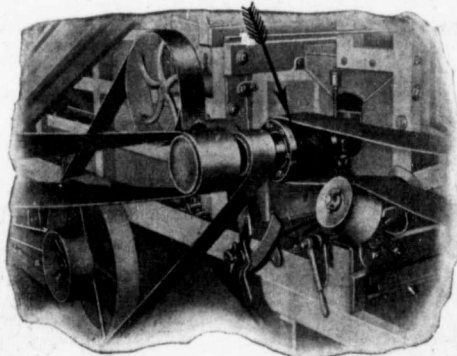
Woods Western Bldg., Market Street East

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WINNIPEG

We want you to investigate the merits of The Rockwood Paper Cylinder Pulley HOW IT WEARS--HOW IT PULLS



ASK THE MAN WHO USED ONE LAST SEASON

If you are interested in durability, steady speed and ample driving power, it will pay you to investigate. You'll order at once

Made in all sizes—for all makes of machines. Demand and get the best on your new separator

ASK YOUR SUPPLY MAN—OR WRITE.

The Rockwood M'fg. Co., INDIANAPOLIS, INDIANA
1928 ENGLISH AVE.

Durin was so d 346 acrs dragged 180 acr bushels 66 Ault We find engine t takes b much fr end is parts of

We es self and of water ing. machini work if

Our sod was week's days. ging w of 12 h seven D 'arrow

We h drag bi bar of whole t whole t We h seeding used to Y



GOOD GOODS WIN

The "Good Goods Win" slogan of this Company is not an idle dream but the very soul of a clearly defined and ruggedly rooted business policy



Lion Rubber Endless Thresher Belts

—and—

Maple Leaf Endless Thresher Belts

Go Hand in Hand as Pre-eminently the Best. Ask the fellow that has one

The Winnipeg Rubber Company Limited

Winnipeg

NOT IN ANY TRUST OR COMBINE

Calgary

30,000 bushels of grain, running a 36 x 64 Minneapolis separator.

During the season of 1910 it was so dry here that we only broke 346 acres of sod, and disced and dragged 800 acres, stubble plowed 180 acres, and threshed 17,847 bushels of grain, running a 36 x 66 Aultman and Taylor separator. We find it very much easier on our engine to thresh than to plow. It takes but little over one-half as much fuel to thresh as to plow, and is very much easier on all parts of the engine.

We employ two men besides myself and partner. I do the hauling of water and oil and blacksmithing. My partner is a great machinist so he can do the sharp work if I am away.

Our best day's work breaking sod was 27½ acres, and our best week's work was 150 acres in 5½ days. The best discing and dragging was 350 acres in three days of 12 hours per day. We haul seven 16 x 16 discs, and a 32 foot harrow behind the discs.

We hitch four discs to a long drag bar fastened to the draw bar of the engine, and then three at the back of the drag behind the whole thing, and it does a fine job.

We haven't used the engine for seeding yet, but think it can be used to good advantage.

Yours truly,

Barrett and Doering,
Taber, Alta.

Can Anybody Tell Him.

My engine is a 25 horse power J. I. Case plow engine. I got it November, 1905, and tried to run a sawmill, but could not keep up steam. In the spring I got a two 3-bottom John Deere engine gang and started to break. We did a very good job until we were laid up for a couple of weeks for repairs. I broke 600 acres that year at \$3.00 per acre.

The second year I purchased another three 14-inch bottom gang and started to plow stubble with the nine plow, plowing about 200 acres at a cost of \$2.00 per acre. I then started to break sod and broke 200 acres. After that I purchased a baler, and baled hay till fall. I could bale from ten to twenty tons per day at a cost of \$2.00 per ton.

The third year I broke 300 acres at \$3.50 per acre, and the fourth year I purchased a 36 by 60 Port Huron separator and threshed 60,000 bushels of grain. The best day's threshing was 3,500 bushels in ten hours. I average over 2,000 bushels a day. My separator worked fine, and I am quite satisfied with it. I find that plowing is a good deal harder than threshing on the engine.

My engine used about one ton of coal to eight acres and ten to twelve tanks of water.

In threshing I used straw the first year which I threshed, but I found it hard on the boiler. The last year I used coal.

Can any of the readers of The Canadian Thresherman and Farmer tell me what is the matter with my engine. I can't get the slide valve set so that it will run both ways right. I have had some engineers try to set the valve but all have failed to fix it. When I reverse the lever to run the engine backward one of the intakes of steam has three quarters of an inch of lead and the other side is closed when I turn the crank to the opposite side.

Yours truly,
W. T. Gowdy.

Freshfield, Alta.

Threshes with Gasoline.

I purchased from the International Harvester Company a 20 horse power gasoline traction engine and a five furrow gang plow this last April. I got the engine home to my farm on April 13th, and started and disced 110 acres for wheat. I put on two large discs and eight sections of harrows and the engine did good work. I seeded with a horse and then harrowed after seeder with the engine, using eight sections of harrows.

Of course this was all breaking on new land. We started

breaking and broke 200 acres on my section and seeded 150 acres with flax, and I think this is to give a good return. We broke another 150 acres for neighbors, which was not a bad season's work, seeing that the land was so dry and hard.

I purchased an Aultman and Taylor separator, and we have been threshing for three weeks doing splendid work neither engine or thresher giving any trouble.

In my opinion the gasoline outfit is the one for the farmer, as you require less men and there is also no fear of fire. The gasoline is dear, but I trust it will get cheaper.

The cost of running at plowing is about \$6.00 per day, doing from ten to twelve acres of breaking, and doing better work than either horses or oxen.

Threshing costs just about the same as regards gasoline.

Now any farmer that has enough land to keep one of these outfits going need not fear, as they will pay for themselves if kept going. My son and I were both green as regards running gasoline engines, but we went at it and took advice from the experts sent out by the company, and so far have had success.

Yours truly,
James Kettles & Sons.
Waseca, Sask.

THE PORTER WEEKLY

TERMS, 1912

"ONE COUNTRY, ONE CONSTITUTION, ONE DESTINY" WEBSTER.

IN ADVANCE

VOL. 27: No. 1;

LAPORTE, INDIANA, WEDNESDAY, JULY 20, 1864.

WHOLE No. 1,353

La Porte Union.

LAPORTE, IND. WEDNESDAY, JULY 20, 1864.

OFFICIAL CITY PAPER.

National Union Ticket.

For President, ABRAHAM LINCOLN.

For Vice President, ANDREW JOHNSON.

UNION STATE TICKET.

For Governor, OLIVER P. SHERMAN.

For Lieutenant Governor, CONRAD BECKER.

For Secretary of State, JOHN W. WILSON.

For Treasurer, JOHN W. WILSON.

For Auditor, JOHN W. WILSON.

For State Senator, JOHN W. WILSON.

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WAR Enlarges the RUMELY Service

A TATTERED newspaper of '64—an old Rumely advertisement—calls back to mind how war brought to M. and J. Rumely their first great opportunity for service to the American farmer.



Meinrad Rumely

Recall the National situation: Sherman in Georgia—Charleston besieged—Grant in front of Richmond—Lincoln just renominated, calling on the industrial and producing classes for 500,000 more volunteers to end the war.

A RUMELY SEPARATOR HAD A WON THE HIGHEST AWARD over twelve others at the United States Fair at Chicago—another had beaten in field competition the Moffit, made by the teacher and probably the first American employer of the RUMELYS. Others had given satisfaction, even "Out West," in Iowa. But now, with Lincoln calling for men, and crops calling for machines to take their places, many more separators were necessary, more engines to run them—and room to build them all.

THEN it was that Sam Hoover's shop and tools were bought, and "Mr. Samuel Hoover, well known as a mechanic," entered upon nearly a half century of devoted service in the RUMELY organization. Later, the returning soldiers—filled with enthusiasm for the out-of-door life—poured out over the prairies to make the West, and once again more land and buildings were added to meet the emergency.

AND now, not war-hunger, but the universal cry for cheaper food, necessitates more factories from which to send RUMELY machinery to every part of the globe.

JOHN HANNA, Master Builder of Separator parts, has been with us as a machinist since 1857.

YEARS OF EXPERIENCE—of honest service, inspire confidence in the RUMELY LINE of today. Rumely Power-Farming Machinery, "known round the world," can serve YOU. Just write us about your farming interests—where, what, how big—and the catalog you need will come by first mail.

If you request it, our power-farming expert will advise you free. Write today.

M. Rumely Co. 1933 Rose St. Regina, Sask.

Michigan Separators & Northern

1864. Summer Arrangements 1864

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TO THE FARMERS.

THE SUBSCRIBER WOULD RESPECTFULLY

request that the Farmers and Cultivators

of the State, who are desirous of

obtaining a copy of the

following works, should send

the amount of the price

to the undersigned, at the

following address:

Wm. Cady Patent Wood Saw

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AGRICULTURAL COLLEGE CONVENTION.

Something like 200 Manitoba farmers and about half as many ladies of the farm home attended Manitoba Agricultural College in the second week of last month to take part in the Convention of Agricultural Societies and the "Home Economics" movement.

In point of numbers and enthusiasm this gathering establishes a record. The convention was formally opened by J. J. Golden, Deputy Minister Agriculture, and Principal W. J. Black extended the usual courtesies on behalf of the College to all delegates and visiting friends.

As one faced this great audience of serious men and women of the Western farm, of many buxom daughters who are qualifying for the very best that can be reached in their life's work through the medium of the college, it must have stirred up feelings of peculiar satisfaction and pride in the hearts of the men who instigated the fine work and looked back at its modest beginning as they remembered it in the Scott Memorial Hall some seven years ago.

Many farmers think that one can get all the education and experience that is necessary to a complete success in agriculture within the confines of one's own quarter section. That is scarcely possible in these days in which progress and betterment in every phase of life moves along with a rapidity that past generations never dreamt of. What is considered the best one day is superseded almost before another sunset by something that renders it obsolete. Machinery and methods cannot be held in check while the demand grows with every new day for greater production with less labor.

It is, therefore, necessary that men shall get together. The open freedom of the farm life is believed to be the ideal conditions for the very finest results in manhood. So it is, but in no department of industry are conditions more arduous or in which it is more necessary from time to time that men should crave for a little breathing space and social intercourse.

If it were filling no other end than the purely social function,

these annual conventions at the Agricultural College are a fine institution. They, of course, bring to a focus the scattered local institutes which in their own way and sometimes even more effectively provide that quality in human experience, which men get from association—even as "iron sharpeth iron."

Principal Black had a strong word to say in favor of multiplying and strengthening the local societies. In Manitoba they had not nearly touched the high level which had been reached in some states south of the line. Complaint had been made that there was a scarcity of local ability or material to make a live programme from time to time for these meetings. It was obviously impossible at the present stage to provide outside talent to cover, without discriminating, all of those periodical meetings throughout the province.

He believed that there was, except in rare cases, sufficient material connected with the various communities to provide the needful if it could only get a move on and become impressed with the fact that it not only had got something of real account to tell, but could tell it as well or to no less practical purpose as that provided by the academic faculty.

From the record and appearance put in at this convention by the "Home Economics" ladies it was abundantly evident that they had no difficulty in making a "lively time" without the assistance of imported talent, and Principal Black's impression seemed to be that the men could if they would manage their own affairs as the women were doing.

The "Short Course for Farmers" was a most comprehensive one, and was handled by the college faculty, for the greater part, with that ability which has become a distinguishing characteristic of the men engaged at Manitoba Agricultural College on the teaching staff.

Professor Lee made a sweeping onslaught on the "Noxious Weeds," and hit the nail on the head when he blamed—not the paucity of legislation, but the carelessness of the farmers in many cases in seeding to sow

IT IS NOT A TOY

THE MAGNET CREAM SEPARATOR
With its **DOUBLE SUPPORTED BOWL** and **SQUARE GEAR DRIVE** is **RIGHT ON THE JOB** and **STAYS THERE.**

In Creameries and Factories square geared machines are used. When you see a worm pinch gear cream separator you know it is not the kind the factory people buy.

A TOY Separator with its worm pinch gear drive is only an aggravation when you try to skim quantities of milk in the Dairy. What is required is a machine made strong and rigid, with square gear drive to do twice a day skimming with little work and no stopping for repairs. The Square Gear "Magnet" is built that way and has proven its strength by over 13 years' use.



Waste Money on a pinch gear machine if you like, but eventually you will buy a square gear "MAGNET." But why not buy the MAGNET now? It will save you this waste, because it is good for your time and your children after you. J

The "Magnet" bowl is supported at both ends, (Magnet Patent) prevents wobbling and gives perfect skimming.

You get strength, durability and perfect construction in the square gear "MAGNET"

Ask your mechanic friend, he will tell you the "MAGNET" is standardized and is built mechanically true.

The Magnet's whole construction makes it solid as a rock. Stand it on the ground or any floor; it will skim clean and is fifty years away from the scrap heap.

MAGNET requires less than five minutes to clean all its parts.

Do not take our word, but make us prove all we say, to your satisfaction in your own dairy. You to be the Judge. A postal card to us will insure a free demonstration.

The Petrie Mfg. Co., Ltd.

Head Office and Factory: HAMILTON, ONT.

Winnipeg, Calgary, Regina, Vancouver, Montreal, St. John, Edmonton.

WINDSOR DAIRY SALT

"Expect to get the prize for the best butter, this year?"

"Of course I do.

I have the best cows in the country—and here's my Windsor Butter Salt.

You can't beat that combination.

You know, I have won first prize for the best butter ever since I began to use Windsor Butter Salt"

"Hope you win"

"Thank you, so do I"



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thistles, etc., the fields of their neighbors.

President A. D. McConnell, of Brandon, also made a strong appeal to the same effect. He also advocated the idea of keeping a better record of the live stock and suggested that forms for this purpose should be provided by the government. The president also referred in terms of appreciation to the work of the agricultural special train that toured the province in the summer of 1911, and to the very marked effect of the "good farms" competition.

Following Mr. McConnell's observations on the subject of hired help and the difficulties experienced by the farmers in getting men, the Deputy Minister stated his belief that the real trouble lay with the farmers themselves. They (the farmers) in a great many cases he knew of had not treated the men fairly, and while they allowed this reputation to stick to them, they would never be out of the wood so far as the labor problem was concerned.

The following were the more important subjects dealt with during the conference, and in every case the intelligent interest taken in them was demonstrated by the discussions which followed and the "heckling" to which the various professors and speakers were subjected:

"Dry Farming," by Prof. Bedford; "Breeding Types of Grain," by Dr. Charles Saunders, of Ottawa; "Dairying for Profit," by Prof. Mitchell; "Preventable Diseases Among the People," by Prof. C. H. Lee; "Making the Farm Life Attractive to the Young Folks," by Robert White-man, of Russell; "Poultry Raising," by M. C. Herner, M.A.C.; "Improving Breed of Live Stock," by Prof. Peters; "Power on the Farm," with demonstrations, by Prof. L. J. Smith.

J. J. Ring, of Crystal City, contributed some very strong observations on the present condition of the local markets with regard to supplies from the surrounding country. He deprecated the excessive wheat production to the exclusion of raising live stock and dairy produce. Dairying was, or could be made, a profitable business in Manitoba, but it was necessary to bring the producer and consumer closer together than they were at present. The farmer received too little, and the consumer, somehow, paid excessive prices in many cases for the product.

Dr. Morden spoke on the "Care of Farmyard Manure," and Principal Black on the "Extension of Agricultural Society Work."

Dairymen's Convention.

The report of the committee appointed to investigate condi-

tions of the dairy industry was presented, adopted and filed for future reference. Following the adoption of this report resolutions became the order of the hour, one of which was to the effect that a commission be appointed by the Minister of Agriculture to look into the whole question and secure evidence which the association's committee had not been able to obtain.

It was also strongly maintained that the duty on dairy cows should be materially reduced, and a resolution was passed to invite the assistance of the government in having this duty of 25 per cent. removed for a period at all events.

Papers were read by Mr. Dodge on the "Raising of Heifer calves." Mr. Dodge was followed by E. H. Farrell on the subject of "Cow Testing," while Professor Bedford lectured on the "Growing of Feeds for Dairy Cattle."

Horticultural Society.

The horticultural section of the convention was under the conduct of Dr. Speechly, of Pilot Mound, and was well attended at all the meetings. An extensive programme was covered, of which the following is a brief summary:

Mrs. R. C. T. Collins, of Morris, read a paper on "Growing Bulbs and Ferns." "The Story of a Garden on a City Lot" was the title of another by Mrs. Johns, of Winnipeg, which was read by Miss Mantle. Mrs. Charleon Salisbury gave an interesting address on the "California Poppy," while Dr. Speechly contributed a paper on "Scented Flowers Suitable for a Western Garden," which was most effectively illustrated by many beautiful lantern slides.

The address of Norman M. Ross, Superintendent of the Forestry Department, Indian Head, on the beautification of the farm home by means of trees and shrubs was perhaps one of the most valuable contributions to the convention as showing how in a remarkably short time the bald, open prairie could be transformed into a paradise of arboreal wealth, by a wise distribution of quick-growing trees and shrubs.

[We regret that space precludes a more exhaustive treatment of this great gathering. The addresses of Mrs. Nellie McClung and of Professor J. H. Worst, L.L.D., of North Dakota Agricultural College, we hope to set forth in a subsequent issue. They cannot be disposed of in a few paragraphs, and we are hopeful that it may also be our privilege to give the "Thresherman" readers the full substance of several others of the more important lectures and papers that came into the programme of the week's course.]

DE LAVAL CREAM SEPARATORS

NEW AUTOMATIC OILING.

THE MOST IMPORTANT CREAM SEPARATOR IMPROVEMENT SINCE THE INTRODUCTION OF THE PRESENT TYPE OF DE LAVAL MACHINES.

The new automatically oiled De Laval Cream Separators are now being supplied in all sizes, and this improvement constitutes another great step forward in cream separator construction—the one thing possible in betterment of the previous De Laval machines of the present type.

The new system of De Laval automatic oiling is distinctively different from any other splash or spray system in that there is a constant regulated feed of fresh oil and discharge of used oil. Other splash systems use the same oil over and over, until it soon does more harm than good.

In the new automatically oiled De Laval machines all gears, shafts and bearings practically float in a mist-like spray of oil, and literally never touch each other during their operation.

De Laval agents will be glad to exhibit the new machines and demonstrate the working of the new automatic oiling system, which more than ever enhances De Laval superiority in every feature of cream separator practicality.

THE DE LAVAL SEPARATOR CO.

14 Princess St., Winnipeg. 173 William St., Montreal.

Making Barn Work Easy

Cleaning stables is hard work. No work about the farm is heavier or more disagreeable. It is especially so through the snow in winter and the mud in spring.

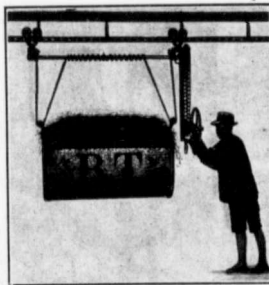
Why not do it with a BT Litter Carrier.

1000 lbs. of manure or 4 big barrow loads can be taken at one trip and the beauty about it is that a boy can handle it.

After the manure is filled into a BT Carrier it can be winched up to dump into a waggon or sleigh and so with one handling it can be taken right to the field.

LET US GIVE YOU A PRICE

A litter carrier will add very little to the cost of a good barn. When once erected it is practically a permanent investment, for always running on a good level track it should last for fifty years.



Fill out the coupon and get full particulars of our special offer.

A GOOD PAYING INVESTMENT.

A BT Litter Carrier will more than cut in half the time taken in cleaning the stable. It will turn the hardest kind of work into a boy's job.

With it, it is easy to keep the manure a good distance from the barn so that the ammonia fumes arising out of the manure will not rot the sides and sills of the barn and ruin the paint of the implements stored near, to say nothing of injuring the health of the animals.

It pays to get the manure well away from the barn and with the BT Litter Carrier is the way to do it.

Good barn equipment makes it easier to get and keep good hired men.

We are making a special offer now. Write us and we will be pleased to give you full particulars.

BEATTY BROS., Box 1215A, **Brandon, Man.**

BEATTY BROS.,
 BOX 1215A BRANDON, MAN.
 Kindly send me (free) your book on Litter Carriers.
 I will need aboutft. of track and expect to put in a Litter Carrier about
 Do you need a hay rack?.....
 Name
 Post Office
 Province

Running the Incubator.

Last season I operated three two-hundred-and-fifty-egg incubators, so I can talk here of some things that may be of interest to the person who expects to run an incubator the coming season. Of course, there are some things one can learn only by experience with this particular kind of machine.

The first thing after setting up an incubator is to select a place for it. The incubator should be located in a room where the temperature does not vary much during the day or night. It is best that the room be not freezing cold, as it is hard to keep up the temperature in a freezing cold atmosphere. A north or north east room is suitable for the incubator, as the sun does not affect the temperature much during the day. If a fire must be kept in the room, set the incubator as far as possible from the stove. One year I tried running an incubator in the house but the temperature varied so much that I preferred to put my incubators in a cement cellar, even if it did necessitate running up and down the steps. The cellar has a south window letting in plenty of sunlight. I left the cellar door up most of the time that there might be sufficient ventilation. I found the cellar a very satisfactory place for the incubators: as it was not necessary for me to be looking after the thermometers every few hours.

After locating the machine, one should take a good spirit-level, and see that it is perfectly level. After levelling my incubators I filled the tanks with water, as my machines were of the hot-water variety. I use hot water because it does not take so long to heat up the machines after filling them, neither is there danger of the water expanding and running out when the lamps are lighted. I filled the tanks to one inch of the top. One cannot be too careful in looking after the water-supply. I have known some of my neighbors to come near losing a hatch by letting the incubator tank get dry and become unsoldered by the heat from the lamp. I filled the tanks every other day until I found how great the evaporation. With my machines it was necessary to fill the tanks about twice each week.

I purchased the best kerosene on the market, for I do not believe poor oil is very satisfactory for an incubator. I filled the lamps and trimmed the wick square across, cutting off the points so that there would be no forked flames. I soon discovered that a moderately high blaze gives a better heat than a very high one, especially if it smokes or shoots out forked tongues.

Use the best Kerosene.

Right here I desired to emphasize this point. It is very necessary that the lamps be filled each

morning or each evening. If lamps are not filled every day, one is liable to forget or neglect them, and that may mean a spoiled hatch if the oil becomes exhausted. When filling lamps the char should be struck from the wicks, and the bowls wiped

set the regulator—that is, I screwed up the adjustment nut until the damper started to raise.

Then the trays were taken from the machine and filled with eggs. I put in as many as the two trays would hold without standing any eggs on end. It is best to fill the

everything is all right. The first week I kept the temperature from one hundred and one to one hundred and three and after that let it run from one hundred and three to one hundred and four. I had the best hatches when I kept the temperature up to these points. I let it run low on one hatch, and only about half of the eggs hatched, and the chicks were so weak most all of them died. One must not get nervous about the incubator, and keep running to the machine to look at the thermometer. Opening the machine too frequently holds down the temperature. One may open the machine every three or four hours without doing any harm if it is kept open only for an instant.

Turning and airing the eggs is important. I have had the best results by not turning the eggs at all until the third day. I set the trays out for an instant, shook up the eggs by running the palms of my hand over them, and then slipped the trays back to their places. After the third day I turned the eggs twice each day, airing them only while turning. I turn every egg entirely over one at a time, or take a few eggs from one end of the tray, and roll the others until every egg is turned. The latter method is the quicker. After the tenth day I found it better to air the eggs a little longer than before. If the weather is warm, it is a good plan to air them in the middle of the day about ten or fifteen minutes, especially after the fifteenth day. Be careful not to let the eggs get cold. The time of airing must be governed by the temperature of the room. After the nineteenth day I ceased turning or airing the eggs, keeping the incubator shut.

There are some poultrymen who never test out the infertile eggs, but I think it is best to do, as it gives more room for the fertile ones, and prevents foul odors in the incubator. I have heard persons say that they tested out the eggs at the end of the third day, but I believe this is unwise. One is very liable to test out a number of fertile eggs. At the end of the tenth day is soon enough. I remember the first test I made on the tenth day. I tested out two fertile eggs, for I broke every one I tested out. The tested-out eggs, if infertile, may be kept and cooked for the baby chicks.

Moisture Important.

The question of moisture is an important one. In rainy sections there will be no need of supplying moisture except to hot-air machines. I live in a dry climate, and have found it beneficial to supply a little moisture after the tenth day if the air-cell in the egg is large as the thickness of my thumb. I sprinkle the eggs with warm water once or twice each week, and sprinkle water on the floor of the cellar. On the even-

CONTINUOUS GRAIN GROWING

IS A DESPERATE FIGHT OF WEEDS AND PLANT DISEASE AGAINST THE CROP



— THIS KIND OF FARMING BENEFITS NO ONE — THESE ACRES DO NOT DO THEIR DUTY IN FEEDING THE HUNGRY AND IN SUPPORTING INDUSTRY AND BUSINESS.

clean of oil or dirt. When the heat gets high, turn down the blaze, for it is more economical than running with a hot blaze and an elevated damper. I made it a point to wipe the soot out of lamp and tank flues every week. If it is allowed to accumulate it may take fire some day and cause one

endless trouble. When the trays full as the eggs will shrink some while being incubated. I also scratched a dark mark across the long way of each egg with lead pencil so I would be able to tell when all of the eggs were turned. I laid the thermometer with the bulb on an egg that would be about the center of the machine.

ROTATION OF CROPS AND STOCK



THIS FARMER PROSPERS, HIS ACRES FEED MULTITUDES AND HANDSOMELY SUPPORT INDUSTRY AND BUSINESS

In starting the incubator, I found it was best to leave the damper down until the thermometer registered one hundred degrees. I placed the thermometer on a little pasteboard box in the egg-tray, and when the mercury stood at one hundred I

What Temperatures?

After the eggs were put into the machine the temperature ran down, because the eggs were cold, but it soon climbed up again. I found it best to set incubator early in the morning, as one has all day to get up the heat, and see that

- Vertical list of names on the right margin, including Sol D. V. M. Kill, and a long list of surnames at the bottom.

Some of the Druggists who sell Mickelson's Kill-Em-Quick

If your druggist's name is not here, or if he is too far away to travel this week, or if he does not sell Kill-Em-Quick, any of the following druggists will be pleased to send the 75c size for 90c, or the \$1.25 size for \$1.50, prepaid. The extra charge is for postage only. The value of Kill-Em-Quick cannot be measured in single dollars—it saves thousands! Get a box at once!

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Anton Mickelson, President

SAVE YOUR PROFITS DON'T LET THE GOPHERS EAT YOUR GOLDEN GRAIN

Face this question squarely! What are you going to do about the gophers? Will you let them steal hundreds of dollars out of your grain profits or are you going to take the right step now towards killing them quick?

This is a serious problem, Mr. Farmer. Every gopher on your farm means a clear loss to you of at least 10c. There are about 1,000 gophers in an ordinary 40-acre field. That means \$100.00 loss every forty acres, if you let the gophers live. Here is a guaranteed gopher poison. It's the most effective, most economical and most practical way known, to rid your fields of every gopher, pocket gopher, squirrel, prairie dog, field mouse, coyote, rabbit, wolf and rat. It has been tried for years in every locality and proved perfect.

Kill Every Gopher Now

Don't wait! Gophers never lose their appetites. They are always ravenously hungry. They start eating the minute you start sowing. They eat every day and all day. They store up enough grain to last them all winter. They not only eat the grain but the tender shoots as well, and will follow a row in the field to the other, eating just enough to kill the plant. In dry weather they take pleasure in eating the juicy joints.

I've made a mighty careful study of gophers. I know their habits and I've watched them hour after hour and day after day. It was necessary for me to know how they acted, so I could get the information that would enable us to mix a poison that would kill gophers and kill them quick.

Save \$100.00 Every 40 Acres When you figure it all up, gophers steal about 5 bushels of grain every acre. That means 200 bushels every 40 acres—at 20c a bushel that makes \$200.00. Can you afford to lose that much every 40 acres? Wouldn't you like to put that \$100.00 or \$200.00 or \$300.00 or more to your credit in the bank instead of letting the gophers have it? Remember, too, that every pair of gophers raises 20 to 30 young ones every year, and gophers are constantly throwing up non-productive soil which soon ruins farms. Something will have to be done sooner or later. Why wait? Here is the poison that thousands of farmers have used in their fields with greatest success. It has saved hundreds of thousands of dollars for farmers throughout gopher-infested sections. It will save hundreds of dollars for YOU.

Kill-Em-Quick Costs 1c Per Acre My gopher poison is different from anything else ever placed on the market. It has a very peculiar odor—an odor that is decidedly pleasing to the gophers. Kill-Em-Quick attracts them like a magnet, and they like the taste of it. And Kill-Em-Quick is so powerful that the nearest atom kills a gopher. One grain of wheat, coated with Kill-Em-Quick means sure death. The gopher dies on the spot. He doesn't get time to find out what he ate. He doesn't have time to suffer. He dies quick and that's all there is to it.

One 75c box of Kill-Em-Quick will actually kill over 2,000 gophers. That means—less than 1c per acre, invested for my poison, will save you \$200.00 on 80 acres. A \$1.25 box of Kill-Em-Quick contains twice as much as the 75c box and will kill 4,000 gophers. Isn't it worth while trying? I guarantee your satisfaction absolutely. If Kill-Em-Quick fails to work, I want to know it. I'll refund every cent of money personally. Kill-Em-Quick is

Easy to Use

It is put up in powder form. Simply soak the grain over night—drain water off and mix with Kill-Em-Quick which sticks to the grain. Thus the poison forms a coating over the grain so it comes into immediate contact with the stomach tissues, causing death of the gopher instantly.

If you come in from the field some noontime after finding gophers at work, you can mix Kill-Em-Quick at once by placing the grain in hot water for a moment, draining it off and mixing with the powder and adding a little cornmeal. Place the preparation wherever there's a sign of a gopher.

There are many other ways to use Kill-Em-Quick. The directions are on every package. If you want any special advice, do not hesitate to write me personally. I will tell you just how to use Kill-Em-Quick for best results. I want you to be so satisfied with what Kill-Em-Quick does, that you'll tell your neighbors about it.

At the side and bottom of this advertisement, I give a list of some of the druggists who sell Kill-Em-Quick.

Ask Your Druggist

—even if his name isn't here, I didn't have space enough for them all. But nearly every good druggist sells it. If yours doesn't, please mail me his name with your order and I'll ship direct, or press prepaid, with my guarantee of satisfaction or money back. Don't take anything except Mickelson's Kill-Em-Quick. Nothing else will kill gophers so quickly, so cheaply and with so little bother. Memorise the package shown below. Kill-Em-Quick is put up in two sizes, at 75c and \$1.25. The \$1.25 package contains twice as much as the 75c package, but the 75c package holds enough to kill all the gophers in an 80-acre field.

Write Me a Postal or Letter

Tell me whether gophers, squirrels, prairie dogs, sage rats, field mice, rats, coyotes, wolves, ground hogs, rabbits, badgers or pocket gophers are troubling you most. Let me know all the facts and I will write you a personal letter. I want to mail you my Free Book that tells all about Kill-Em-Quick. Ask me questions. I'm glad to be of service to you.

Now is the Time to Kill the Gophers and Kill-Em-Quick is the poison to do it with.

Mail me a postal or letter—in the meantime ask your druggist for Kill-Em-Quick.

ANTON MICKELSON, President

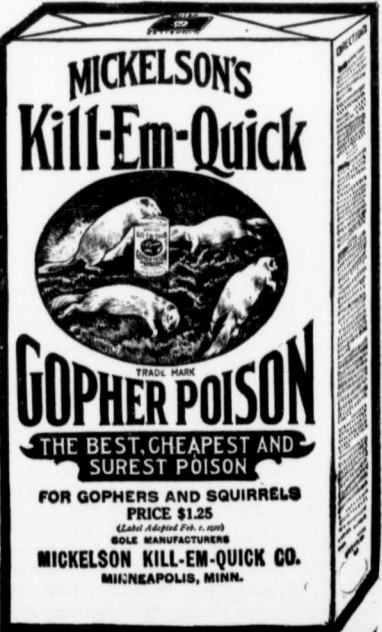
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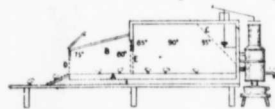
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Wainwright—Wainwright Pharmacy
Warner—S. Cope



ing of the eighteenth day I wring out light cloths in hot water, and lay them over the eggs, leaving them until the next morning. This softens the shells of the eggs, supplies plenty of moisture, and makes it easy for the chicks to pip the shells and kick out into their new world.

Before the hatch is to come off, it is a good plan to spread light cloths on the floor of the egg-chamber. This will prevent any



fifth from hatched eggs or chicks befouling the incubator. It will also furnish a soft place for chicks and prevent any leg weakness apt to be caused by a hard floor. I have found that it is best to keep the incubator closed while the hatch is coming off, and to hold the temperature up to one hundred and four. I have tried opening the incubator and removing chicks as soon as they were dry, but opening the incubator gives a draft of cold air, reduces temperature, dries the shells and delays the hatch. I never lost a chick from smothering during any hatch.

W. D. Neale.

The Selection of Seed Grain.

During the winter of 1910, after having sized up the results of the previous season's farm operations, I came to the conclusion that results could be very easily bettered by the adoption of better methods; and, as a beginning, commenced on wheat (our leading money crop).

We purchased the very purest Red Fife seed wheat that we could afford at the time, and this seed was sown on summer fallow and new breaking (back-set) in 1910; and, while the yield was nothing extraordinary owing to drought, we got a yield far in excess of our neighbors, also a much larger yield over the rest of the farm which had been seeded with the common wheat used throughout the district.

From this crop I hand selected the best heads, from what appeared to be the best plants, and threshed them out during the winter, getting about forty pounds of extra fine, extra pure, Red Fife wheat.

This forty pounds of seed was sown the first thing in the spring of 1911 on a piece of summer-fallow, and while I have threshed out the plot, I have not re-cleaned the seed as yet (this is a job for stormy days this winter). I think the plot gave a yield of approximately forty bus. per acre. I am a little disappointed in the results for this year, as owing to the extreme

wet weather which prevailed this past season, the crops were kept growing too long and consequently were damaged a little by frost, but I don't think the germinative power has been injured to a great extent. I will know by testing later.

Our results from the field crops with the improved seed wheat was as follows:—Summer fallow, 40 bushels; new breaking, 26 bushels (new land not too well worked); and stubble (sown late), 23 bushels; while the oats, a good strain of Banner, averaged 60 bushels per acre (third crop on the piece of ground).

Our neighbors crops averaged 15 to 30 bushels of wheat per acre and oats 25 to 40 bushels.

A disappointing feature about taking so much trouble to improve the seed grain and crops, is the fact that a man's neighbors expect him to sell his surplus seed grain at the going market price of common grain, which is very unfair to say the least, and most of them also expect him to sell his grain on credit, and pay when they can!

I have seen people pay \$1.00 per bushel for mixed wheat (bearded and bald) which would probably grade a good No. 3 Northern, and turn down a good No. 2 Northern, guaranteed 95 per cent. pure Red Fife, at \$1.25 per bushel (cleaned twice through a good fanning mill).

Next year I intend to take up the hand selection of a new strain of both wheat, oats and flax, and will continue the Red Fife also. Even if I cannot get a decent price from my neighbors for improved seed grain, the increased returns to myself in larger yields are sufficient to pay for the extra trouble, also the added satisfaction of knowing that one has done the best he could to improve.

H. Sask.

The Depth to Break.

The best depth to break in my opinion is from 1½ to 2½ inches, but in using a gang or sulky plow you would miss quite a lot if there were many depressions or knolls, and so in using those you would have to go deeper with a walking plow (long handles) you should not miss any particular if you use a pin coulter instead of a rolling one. In backsetting I always try to lift from two to three inches more than the breaking. In breaking shallow, the sod rots easier and is easier to make a smooth field or job. I believe the first two plowings are the ones that show either the profit or loss in after years. I was taught to always catch any that might be missed in breaking; whilst back-setting if you don't, you are very likely to miss it for years. After

When is Dairy Farming "WORTH THE WHILE?"

When you actually realise every dollar of profit that can be taken out of the milk product without the drudgery and mess you know all about when you have done the work with a poor separator, in fact with any utensil except the

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Clean skimming and perfect Sanitary conditions are the first essentials in any Cream Separator. These are the strong points of the "Empire" line, and no machine of its kind is more easily operated or cleaned with less trouble.

No complications to worry the novice will be found in an "Empire" Separator, and the experienced dairyman will find his last desire met in a machine that is always tuned up to quick and accurate work in which not a fraction of his time, money or milk product is wasted.

The fame of the "Empire" has been established by its Frictionless Bowl Spindle and the ease with which it can be turned by boy or girl. Its powers of endurance are unsurpassed

Wide choice of different styles. All sizes in each

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Be Prepared!

Every stable should have a supply of reliable horse and cattle remedies on hand for emergencies.

Dr. Clark's White Liniment

is valuable in a hundred and one ways. Read what Chas. W. Colvill, Clarkville, says:—"We used your Dr. Clark's Fire Blister on an old mare that was hardly able to get around. She was stiff and crippled with both sweeney and spavin; now she is running around fine. It is good stuff. Next time I go to town I am going to get some Dr. Clark's White Liniment and St. John's Horse Worm Powders.

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IN A COMBINE!

all, nothing care in the What I have ing and di setting it d the same h harder to Personally, I was on t a hard one stone and good work

Boissevain,

Preparing

I have le subsoil the spring. I l and pack t deep in the pect to rais learned to well as soot sible to he have learn with the dri row out on fall-plowing in condition disc the land until Ma

I have le grain if you the subsoil. to plow wh have learne harrow you more bushel pect. I ha best not to inches being locality. Y down solid surface so about two i roots or oa into the sub the sod will back-set this two inches o and very lik crop in an setting must country in o —Cultivator

A Farm M

In compil garding a fa ment and th ding the nu the estimate ticle today, bill against does not in Old implem where the placed.

Before gi might say half section, bluff. The the bluffy 1 pasture.

all, nothing pays better than care in those two plowings. What I have seen of deep breaking and discing instead of back-setting it does not seem to have the same heart, and is also much harder to plow than the other. Personally, it is a long time since I was on the breaker, and I had a hard one to handle with oxen, stone and mosquitoes, but the good work stands today.

Yours truly,
Ed. Brown.

Boissevain, Man.

Preparing a Good Seed Bed.

I have learned to examine the subsoil the first thing in the spring. I have learned to be sure and pack the land that is plowed deep in the spring if I should expect to raise a good crop. I have learned to harrow the land very well as soon after packing as possible to help start the grain. I have learned not to hurry out with the drill, but to take the harrow out on the summer-fallow and fall-plowing the first day the soil is in condition, and, next to double-disc the land that will not be plowed until May.

I have learned never to harrow grain if you have no moisture in the subsoil. I have learned never to plow when dry or too wet. I have learned the more you can harrow your summer-fallow the more bushels per acre you can expect. I have learned that it is best not to break too deep, three inches being deep enough in our locality. You can then roll it down solid and next harrow the surface so that you can plant about two inches deep. The flax roots or oats roots will soon get into the subsoil and grow fine and the sod will rot well. When you back-set this land, you can take two inches of new soil quite easily and very likely get another good crop in an ordinary year. Back-setting must be practised in this country in order to do a good job.—Cultivator.

A Farm Machinery Equipment.

In compiling a statement regarding a farm machinery equipment and the cost, I am also adding the number of years in use, the estimated value of each article today, and the repair bill against each article (which does not include plow shares). Old implements are not counted where the same have been replaced.

Before giving this table, I might say that the farm is a half section, one-third of which is bluff. The greater portion of the bluff land is enclosed as pasture.

A GENUINE 20th Century "Cow World" Wonder

WHAT NEXT? That's what our competitors asked—What Next? The AUTOMATIC has been a 20th Century Wonder. No machine has so interested the farm and dairy—"cow world"—for 25 years.

Get the big news on the only self-contained combination gasoline engine and cream separator—the AUTOMATIC—that farmers and dairymen everywhere in America have been waiting for. Nothing else like it. It's in a class by itself.

NOW When The Milking is Done, The Skimming is Done

For dairymen and farmers with three cows or more, this is the greatest machine invented for 25 years—as a labor-saver, time-saver and money-maker.

Read the fifteen points about the AUTOMATIC below that will show you at a glance why you ought to get one right away. You can trade in your old machine.

Look This Over for a Minute

You won't get the whole story here. But you'll get the idea at once. No man who sees the AUTOMATIC or hears about it can get away from wanting one, whether he has an old style hand crank machine or not.

First Consider

these fifteen points of unduplicated AUTOMATIC Superiority that no other separator can get around:

- 1—The only Crankless and Gearless Standardized Perfect Separator in workmanship and materials.
- 2—The only Self-Contained Combination Cream Separator and Gasoline Engine—absolutely DEPENDABLE for your work twice a day, 365 days in the year.
- 3—Perfect skimmer and separates faster than 10 men can milk.
- 4—When the milking is done, the skimming is done.
- 5—Runs smoothly without watching—for 6 hours.
- 6—Engine power enough to do any work that man or woman power can do on farm or dairy.



The OLD Way—By Backache

BIG NEWS BOOK FREE

Just send your name at once for our big AUTOMATIC Book—just off the press for 1912—most complete and largest book on cream separators. Contains more money-making facts with big illustrations to prove them, both for farmers and dairymen, no matter how big a dairy you have or where you live. Get this book sure and know the facts whether you buy or not.



The NEW Way—By AUTOMATIC

The AUTOMATIC Self-Contained Combination Gasoline Engine and Cream Separator



BOOK FREE — Send Name

Decide now to write your postal or letter today, and mail it, for our BIG BOOK, which can make and save you many dollars if you will let it. Write today. Address

- 7—One size Automate for any size dairy.
- 8—Speed of bowl brought up in 15 seconds and will run for 6 hours without any variation.
- 9—Stands solid as a rock without vibration and absolutely odorless with exhaust tube attached to muffler.
- 10—Only one oil cup to fill.
- 11—Absolutely the MOST SANITARY and easiest cleaned—besides being exclusively "look-proof."
- 12—No experience necessary as it is the simplest machine ever made both in engine and separator.
- 13—No cranking to start engine as you just give rope a pull on fly-wheel like spinning a top.
- 14—Strongest guarantee of perfect dependable work and price so low that it practically sells itself.
- 15—Actually the only perfectly SANITARY

Standard Separator Co., BOSTON DEVER, Sole Manufacturers and Patentees

Separator, as it requires no crank operator whose breath and sweat may contaminate both the cream and milk while "turning" any old style separator.

Delivered on Your Place With Demonstration—at a Low Price That Will Astonish You

Most liberal guarantee and selling plan on the AUTOMATIC that you ever heard of—at a price so low for this combination machine, with or without its other power uses attachments, that you'll be delighted that you wrote to us to investigate the AUTOMATIC, with all the combination work it will do, including any work on the place that man or woman power can do. Book tells all, including all about the AUTOMATIC Electric Lighting Plant—to be used in connection with our AUTOMATIC Engine.

Canadian Orders Shipped from Winnipeg, address all correspondence to home office Milwaukee.

Implement	Buying Cost	Time in Use	Present Value	Repair Bills
14 Disk	\$90.00	7 yrs.	\$60.00	1 pole, \$2.50.
Harrows	18.00	8 yrs.	10.00	Sharps and teeth, \$6.00.
Sulky Plow	60.00	4 yrs.	45.00	\$1.00 repairs Blacksmith.
Breaking Plow	26.00	9 yrs.	10.00	\$2.50.
Wagon, complete	70.00	10 yrs.	45.00	New doubletree, repairs \$8.00
Heavy Truck and Box	72.50	New	72.50	
Disk Harrow, 14	35.00	8 yrs.	15.00	\$5.00 repairs, Sharps \$3.00.
Mower	50.00	8 yrs.	15.00	\$5.00.
Rake, steel	32.00	10 yrs.	20.00	\$2.50.
Binder	150.00	7 yrs.	100.00	\$3.75, including new pole.
Cultivator, field	57.00	New	57.00	New.
Do, 1 horse	10.00	New	10.00	New.
Fanner	30.00	8 yrs.	10.00	\$10.00.
Fanner	31.00	1 yr.	30.00	New.
Bob Sleigh	27.00	10 yrs.	15.00	50c.
Jumper	21.00	1 yr.	20.00	New.
Buggy	65.00	1 1/2 yrs.	55.00	50c.
Thresher, small	275.00	3 yrs.	250.00	Nil.
Gasoline Engine	170.00	3 yrs.	150.00	Pipe fittings, plugs, \$4.00.
Chopper, 8 in.	45.00	5 yrs.	30.00	Plates, \$1.00.
Cream Separator	60.00	10 yrs.	30.00	\$1.50.

What Size of Threshing Outfit is Best to Buy.

"Do you consider the individual threshing outfit a profitable investment, or is it cheaper to have your work done by a regular outfit of larger size?"

Out of the large number of questions proposed I have chosen this one; partly because there are a few thoughts in my mind which I have never seen recorded, and partly because it seems to me to be a question second to none in importance. The question is one which cannot be settled by a direct answer, but which must be governed by the circumstances surrounding each individual case. Under ordinary circumstances I am not enthusiastic in praise of an individual threshing outfit, but at the same time I am willing to admit that there are cases where it is doubtless best.

Seldom See

A big knee like this, but your horse may have a hunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

Before Also will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle delivered. Describe your case for special instructions and Book \$ E free. A DISORDER OF THE Joints, Enlarged Glands, Colic, Wounds, Bruises, Varicose Veins, Farcinoides, Old Sores. Always Pain. Price \$1 and \$2 a bottle at druggists or delivered. Manufactured only by W. F. YOUNG, P.O. Box 112 Lyman Bldg., Montreal, Can.

Recx.

In this vicinity, however, where the great majority of the farms are from 320 to 480 acres I believe a medium sized outfit is best. Let one man own the outfit and say two or three of his neighbors guarantee him their threshing year after year, as long as he does a satisfactory job.

In my opinion neither the large nor very small outfit has any advantages over the medium size. With a very large outfit it is often impossible to get sufficient help to run it to its full capacity, and, in many instances, the gang rather than the owner runs the outfit. On the other hand with a very small (individual) outfit every man would want to thresh at the same time, and the labor problem would be fully as acute as with a large outfit, for comparatively few farmers on the average sized farm would have sufficient help, either human or animal, to operate even one of the smaller machines.

Of course, as I intimated at the beginning of this letter, there are circumstances which render it desirable for a farmer to have his own threshing outfit. When a farmer's threshing bill amounts to from \$600 to \$800 per year, and he has to wait for a custom outfit, sometimes for weeks after his grain is fit to thresh, sometimes loses a grade on his grain and gets little fall plowing done, the question very naturally arises "Does it pay?" In considering this question he must consider the expense involved in running an outfit, such as labor, oil, fuel, interest, depreciation, repairs, etc.

There is also another word to be said in favor of the individual threshing outfit. It is a well known fact that in the majority of cases the price of wheat is considerably higher in the early part of the season than it is about the close of navigation, and the man with the individual outfit can take advantage of the high price.

It appears to me that, in many instances, the individual outfit is impracticable, and that it would be better for a man to own a medium sized outfit and do a little custom work. When he threshes for two or three of his neighbors and only needs a small gang he can usually make it up among his own and his neighbors' hired help (or families, unless they should happen to be all bachelors).

I have been informed by the owners of both very large and very small outfits that in many cases they do not pay. Their figures were not in accord with the estimates furnished by some thresher salesmen, but as I had neither the time nor inclination to verify them by a practical illustration, I found it necessary to leave this conflict of opinion

to the users and manufacturers for settlement.

Personally, if I were sure of getting my threshing done at anywhere near the right time I would not buy an outfit, but if I were forced to wait for an indefinite period for an outfit and gang of indifferent qualifications I would certainly buy a medium sized outfit, do my own work and a little custom work, for custom work can always be had. Student.

Breaking and Backsetting.

In regard to breaking and preparing prairie for crop there are two ways, one to break deep and prepare a seed bed with discs and harrows; the other to break and back set after sod is well enough rotted. I prefer the latter, as I have had my experience with both.

Whether breaking is to be backset or not, one thing is more important than any, that is to have breaking done as early as possible. Between May 20th and June 15th gives best results, for we get the fine rains on the breaking, which rots the sod quicker, and conserves the moisture in the subsoil.

I break two or three inches deep, then when furrows are well rotted, then backset, bringing up enough new soil to cover sods, and make a nice seed bed easy, which should be prepared by harrowing immediately after backsetting.

Where I find the advantages in backsetting is backsetting can be done before harvest and if land was broke early, as it should be, there is always enough moisture to do proper job plowing and crops on land prepared in this way are heavier and of a more uniform stand.

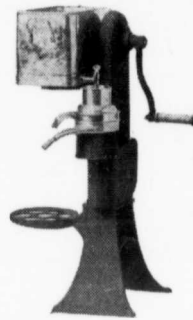
After this plow is taken off I do not plow the land again but leave it until spring, then burn off the stubble, sow the next crop right in deep, then work on a good mulch by harrowing several times. And second crop is as good as the first.

In regard to the former way of breaking without backsetting, my experience has been that if such breaking has a good seed bed worked on it will yield as good a crop as the other way, but the second crop is when the climax comes in.

It will have to be backset after the first crop, or land will get too grassy if sowed in stubble, and unless it is backset in the spring the soil will be in such a dry state that a proper job cannot be done, and it is very heavy work at that, and unless the next season is one of an abundance of rain crops on such land is a failure or the next thing to it.

If backsetting is done the same season the land was broke it wouldn't need to be plowed after the first crop, and by leaving stub-

**BIG PROFITS
CLEAN WORK
NO EFFORT**



The first consideration in all dairy effort is **Profit**, and the last consideration is **Profit**. If your Cows are prolific milkers it matters little unless you are able to make the very most of their product. Get a **Canadian Made**

**'STANDARD'
Cream Separator**

and you will get something that will positively extract the last available ounce of butter fat from the milk. "There are others," of course, but if you seek the most **reliable**, the most **easily operated** and the **greatest value going** in a **dairy utensil** you'll get a "Standard" and no other. Gears are all enclosed and run in a continuous bath of clean oil. Safe and easy for children. The supply can is only 3 feet 2 inches from floor. In contests with some of the machines that carry the greatest reputations in Canada and the United States, the

of clean oil. Safe and easy for children. The supply can is only 3 feet 2 inches from floor. In contests with some of the machines that carry the greatest reputations in Canada and the United States, the

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50 Red Jacket PUMPS
REPLACE 50 ORDINARY PUMPS

A large Canadian corporation found Red Jacket "So-Easy-To-Fix" Pumps so much better than ordinary pumps—careful tests and long experience proved to them that Red Jackets are so much better than pumps of ordinary construction—that 50 of the latter were taken out and 50 Red Jackets replace them. This Canadian company is large enough and prominent enough to make it certain that a pump good enough for them is surely good enough for you. Pictures of pumps may look much alike. The claims of manufacturers may be very much similar. But the real test of a pump is its actual operation, day after day, month after month, year in and year out. These actual, strenuous working conditions convincingly show the superiority of

Red Jacket
SO-EASY-TO-FIX PUMPS

It is easy to install a Red Jacket. All the labor and trouble required with most pump installations are eliminated. It is easy to operate a Red Jacket. That's a big feature all Red Jacket pump users appreciate. Red Jacket Construction actually reduces the work of pumping about one-half—a good thing for the engine, the windmill or for you. And if anything should go wrong, the Red Jacket Pump is "so-easy-to-fix." No long lengths of heavy pipe to pull up. No derricks, pulleys and tackle. No waiting for a pump expert with a wagon-load of tools. A monkey-wrench, your two hands and about 15 minutes time is all you need. Conscientious dealers who know pumps recommend Red Jackets and sell them. Dealers everywhere should ask us or our nearest jobber for literature, prices and discounts.

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Let us tell you WHY Red Jackets do what we claim for them. We'd like to help you solve your water supply problems, too. Our expert engineering service is free.

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SO EASY TO FIX

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ble till spring will hold the snow which ensures plenty of moisture if properly conserved by harrowing in the spring.

Use the harrows on the land, and don't be afraid to harrow too much after the land is harrowed in a shape that seems good. Just run the harrow over once more for luck.

Yours respectfully,
John Gieselman,
Davidson, Sask.

The Depth to Break.

"Depth of breaking." My land is a medium loam, and is spotted with occasional gravel and sandy knolls. The gravel spots run from fine gravel to coarse cobble. Parts of the farm were stony underneath the surface from three to six inches down. The land is rolling and bluffy. Consequently all parts could not be broken up as regular and even in depth as I would have wished. I set my plough to break not less than four inches on anything I did not intend to backset. What was backset was first broken up at about 2 1/2 to 3 inches.

Backsetting is, to my mind, if at all feasible, the best way of getting the land into shape. It enables one to obtain a second crop without ploughing again; kills the grass; prevents quack from getting into business, and leaves it in good shape for first fallowing. My land has allowed me but little chance on the backsetting business. Being so stony in parts, that three men following the furrow, could not begin to take out the stones, i.e., keep one plough team going ahead. So I have nearly always broken the sod at about four inches, and taken out what stone I could in these bad spots, and when the land was backset (spring plowed) more stones were taken up, while I always reckoned to complete the stoning at the third plowing. Fallow after two crops. Of course the entire farm is not all like this. But these knolls have been very strong indeed and have been a considerable item to reckon on. In a summer work sometimes I have struck two or three acres in one spot which have thrown up stone and rocks as high as five cords to an acre, while the adjoining lands perhaps eight to ten acres have only yielded two or three loads. But one or two spots, such as I have mentioned made quite a hole in a summer's work.

The gravelly and sandy knolls after breaking, I take off the coulters and cross plough, picking off the cobbles and stones of all sizes as I go. Sometimes an enormous quantity. These spots I dress for two or three years in succession with strong manure, which helps the crop to come out more even with the rest of the field, with the dressing and picking out the stones at every plowing every year, unless it is solid



These nested bundles are carried to the job by wagon—



and fit together like this—



when they are firmly clamped by this three-pronged flange. After that you simply can't break down Pedlar culvert.

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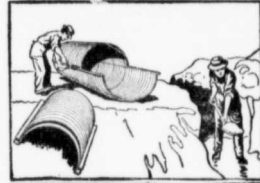
and get a free sample of Pedlar Corrugated Culvert by return mail. The non-corroding galvanized Toncan metal, and the strength of the sample, will tell you the whole story. Send to our nearest office below. Good culverts make good roads.

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A Sample of our Culvert and a Special Book about it to any Farmer or Reeve or Municipal Officer —

FREE

To make better roads, reduce taxes and cut down statute labor, use Pedlar's Nestable Culvert. In strong, corrugated, non-rusting metal, you build any length needed at the job, excavate just enough to fit it in place, and tamp back the earth. Your culvert is made for years to come. Won't cave in, frost-proof, better than brick, cement or wood. Handy, quick and sure. So good you'll always use it. Holds up traction engines easily. Learn everything about it in our free book. Write for sample free.



The above two pictures tell the whole story of installing a frost-proof, time-proof Pedlar Nestable Culvert.

PEDLAR

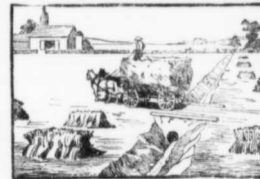
TONCAN METAL

8 ins. to 7 ft. sizes

Look at the pictures on the right. A man sets up Pedlar Culvert, ready to roll into place. Two men place it. This saves time and money. See what a fine bridge it makes at your gate, or see it make a perfect culvert on your farm. This is the best and strongest culvert ever made. Send for sample.



See What a Nice Entrance It Makes!



Best Culvert for the Fields!



- OTTAWA
423 Sussex St.
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108 Alexander St.

bed in depth. I get these spots into pretty good shape and obtain very fair crops. Land broken up in May unless it is an extra dry season requires to be backset. While June breaking backset or not gives good results either way, and unless it is a very wet season anything broken after June 30th in my experience does not give much of a crop the first season. Nor will it work up well for the crop of the next year. The sod must rot. That is the entire secret of breaking up new land. To obtain the best results with lots of rain I have broken up to July 15th. But it is rarely the case that this later plowing has given good yields, and never as good as that plowed in June.

Rex.

Raising a Motherless Colt.

Several years ago I bought a Clydesdale mare for breeding purposes. She was apparently

sound and all right in every way. I bred her and she foaled a fine colt, but about two weeks after the birth of the colt the mare's udder became inflamed, and she came down with a bad case of milk fever. It is impossible to eradicate this disease, and after one attack the animal is subject to the disease, and will be affected several weeks after foaling even with the best of care. Such I learned was the case I had to handle, and the only remedy was to allow the mare to dry up.

This left me with a fine, lively two-weeks-old colt on my hands, which, to say the least, looked worthy of considerable attention, and I thought would pay well for such attention, so I proceeded to "hand-raise a colt." In order to cause the colt as little worry as possible, I prepared a nursing-bottle for use the first few weeks. Not having a nipple on hand, I used, instead, the thumb of an old

kid glove, with several pin-holes punched in the tip. This served the purpose admirably. At first I fed the colt every half-hour giving him one-half cupful at these intervals. I used cow's milk, I selected the milk from a cow with a low per cent of butter-fat. This, taken when absolutely fresh, was diluted with warm water. Two teaspoonfuls of granulated sugar was added to each cupful, and two spoonfuls of lime-water. This approximated the composition of mare's milk, and was fed at a temperature of one hundred degrees Fahrenheit. The colt took to it quickly and kept on thriving. The amount of feed was increased, and the number of times of feeding was diminished until when one month old the colt was being fed six times a day. At this age he was taught to drink from a pail, and was thus fed from then on. To prevent con-

(Continued on Page 65.)

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SO EASY TO FIX

The season of 1911 was the occasion of much direct loss to the farmers of Western Canada through not being able to get their crop threshed and marketed within the time it should have been. Some of this trouble was due to the early freeze up and snowfall and no small portion was due to the railways not being able to furnish sufficient cars to handle the grain after it was threshed.

Hundreds of farmers were left with wheat on their hands with no place to put it, with the result that a direct loss was occasioned in many cases.

In Western Canada we grow wheat on a large scale and the rule is to get it threshed and away to the market in the shortest possible time. Conditions being favorable, this is not a bad plan, but occasionally nature chooses to ignore the state of the crop and the time at the farmer's disposal with the result that things do not work out just right.

In many instances during the past season the farmer allowed the threshing outfit to go past his place simply because he could not get cars into which to put his threshed grain and by the time the threshing outfit got back to him again the snow had come and threshing was practically impossible. This same thing was in many cases true where the farmer had his own outfit.

The farmers in Canada West have fallen into the habit of depending largely upon the railway to handle their crop whenever they,

A Bad Case and a Remedy

the farmers, could get it ready to handle. This has placed the farmers in a position of almost absolute dependence upon the railways and much dissatisfaction results. This is no defence of the railways of Canada, but I might say in passing that with such phenomenal growth in the West it is almost an impossibility for the Railways to provide sufficient rolling stock to handle the yearly increasing crop and if the farmer expects the Railways to keep pace with the situation in anything like a satisfactory manner he is going to be the loser. No matter how much he hauls or how many Railway Commissioners there may be Western Canada is going to raise wheat and that in abundance. A medium crop and a reasonable season will find things more or less congested and a bumper crop will simply choke every thing up tight under our present method of handling the grain crop. It is a big problem, this of marketing every bushel of wheat that Western Canada can raise and we must provide every safeguard against loss of so valuable a world staple.

Let us assume that every farmer in Western Canada had storage capacity on his farm for all the grain he raised, what would be the result? It would simply mean that such a thing as car shortage would

be an unheard of thing. It would be merely a case of threshing and storing the crop until such a time as cars could be had and it would furthermore mean threshing at any time that an outfit could be secured. A case in point:—A farmer in Saskatchewan who had a small outfit of his own decided last summer that he would erect bins for the storing of his grain last fall. These bins were constructed of 12 ft. lumber nailed to posts set in the ground. A board floor was provided and the top left open to be covered with poles and straw after the bins were filled. He intends to build a new barn this coming summer and planned to use the lumber in the barn after it had served its purpose as a storage bin. The bins were 12 x 12 x 8 feet, each one holding about 900 bushels. His crop amounted to something over 3000 bushels and every bushel of it was stored in his bins. His crop was no earlier than that of his neighbors but many of the latter did not get threshed at all, some through lack of cars and others through the fact that they had to wait so long for an outfit. The cost of his bins was practically nothing but they enabled him to thresh when he pleased and to sell his wheat all or any portion of it practically when he pleased. It

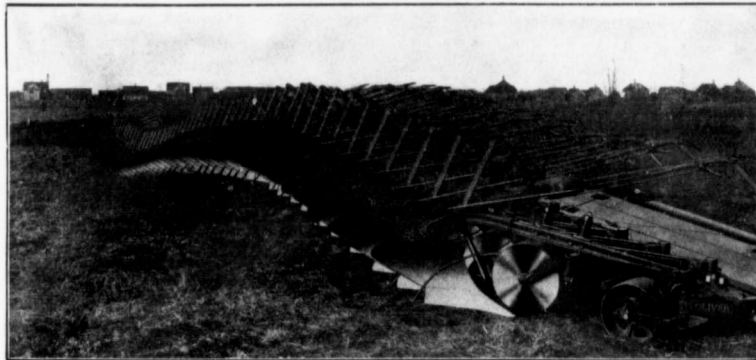
so happened that this particular farmer lived near a town through which two competing lines of railway passed. Earlier in the season he would have been glad to accept the service which either line had to offer but later on when shipments were not so heavy he chose his road and got what he asked for when he asked for it.

You, as farmers, all know what it is to be up against a grain buyer early in the season when shipments are heavy. He will tell you that the low grades must be moved and if you want to accept a grade less than you are really entitled to he can handle your wheat. Having no storage at home you must of necessity accept. Go to that same buyer when wheat is not so plentiful in the market and see the difference. You'll at least get what you are entitled to

Farmers you must provide facilities for storing your grain at home. It costs a little money at the start but not much down. A steel storage tank of 1000 bushel capacity can be laid down in your town complete for about \$80.00 and these tanks are practically everlasting. Figuring it on a basis of 5 years it will cost you only about 1 1/4 cents per bushel for storage and considering the saving effected it is an unpardonable waste of money for you not to do it.

Herein lies a solution for many of the troubles now common to the shipping of grain and with so cheap a remedy it behooves every farmer

Oliver Tractor Gangs For Rolling Land



Until Oliver Tractor Gangs were made, rolling land, or land with uneven surface, was the despair of the man who wanted to use a tractor for plowing. He had no choice—he must either use a gang with few bases, and lose valuable time—or put up with unevenly plowed ground, and an inferior seedbed.

Oliver Tractor Gangs have completely overcome this condition. Being built up of small units, flexibly joined, they plow the ground to an even depth, no matter how wide the plow or how rolling the land—they follow the lay of the land.

This feature of Oliver Plows makes it possible to do economical tractor plowing in many fields where before it was unsatisfactory or impracticable. The new flexibly-joined Oliver Tractor Gang deserves your immediate consideration.

All the experience of 56 years of good plow making is concentrated in the Canadian-made Oliver Line. Tractor and horse-drawn plows of every style and description make up the list. Among them is a plow made to meet the soil conditions of your farm.

The IHC local agent will help you select the right plow. For catalogues, address the nearest branch house.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

Western Branch Houses

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BRANDON, MAN.
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NORTH BATTLEFORD, SASK.
REGINA, SASK.

SASKATOON, SASK.
WEYBURN, SASK.

WINNIPEG, MAN.
YORKTON, SASK.

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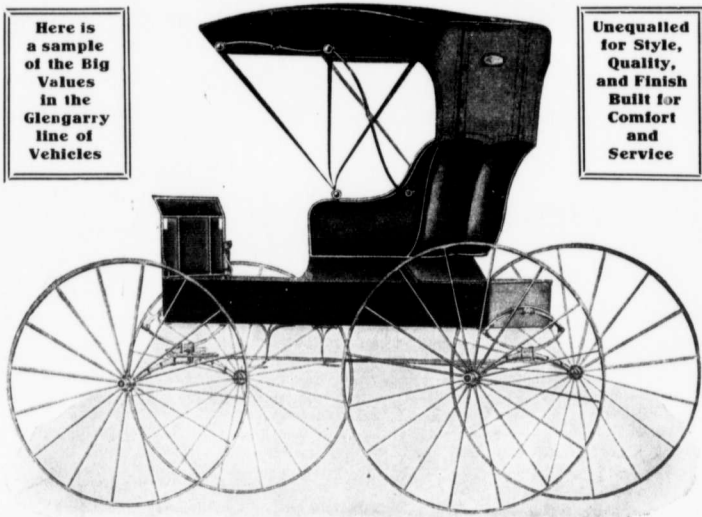
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The Buggy from Glengarry

MANY a man is measured by the Buggy he Keeps. If you have one at all you want the strongest, most stylish buggy you can buy providing the value is on a par with the best on sale. You will "hit the nail on the head" if you get a "Glengarry" and at the same time you will experience a comfort you never felt in any other buggy you ever travelled in. The "Glengarry" is the strongest, most durable, most weather-proof buggy in the country to-day.

Here is a sample of the Big Values in the Glengarry line of Vehicles

Unequaled for Style, Quality, and Finish Built for Comfort and Service



No. 223 AUTO SEAT BUGGY

Canadian Moline Plow Co., Winnipeg, Man.

to look into the proposition carefully.

"Put," I hear some farmers say, "we must sell in order to discharge current liabilities." All right, sell some of your crop and store the rest. If your merchant knows you have 1000 bushels of good wheat all safely stored in a good safe water-tight bin he won't worry very much about his money for a few weeks and if the truth were known I believe that same merchant would give you some credit on a grain bin if you sent to him and told him just what you intended to do with it and just how you intended to handle the proposition. Think it over.

RAISING A MOTHERLESS COLT.

Continued from page 63

stipation, I gave him every second day two teaspoonfuls of a mixture of equal parts of castor oil and sweet oil. This mixture I find gives better results than castor-oil alone because it causes, not a sudden loosening of the bowels, but a continued loose condition.

At one month old the colt was fed a little ground oats and bran, and although he did not eat much, he got the habit of nibbling at it. At six weeks the number of times of feeding was diminished to four, but the food remained the same, the colt at all times having free access to fresh water. He was not kept in the barn, but was turned out in a small shady yard with several calves. This is part

of the treatment, because a colt is a sociable, little fellow, and wants company, and will thrive much better when he is with some other living things whose company he can appreciate.

When the colt was two months, old I substituted skim-milk for a small part of the ration, and gradually increased the amount of skim-milk fed until when 3 months old he was living on skim-milk entirely. Of course, he had all the ground oats and bran he cared to eat and when three months old I substituted whole oats for the ground oats. Also, I fed small bran-mashes in which raw egg was mixed. I fed the colt thus until he was four months old, when he was a sturdy, lively, plump youngster, and as no weaning was necessary he kept right on thriving. He grew so well that I bred his mother again, and raised the colt the next year in the same way. Contrary to the established belief, these colts have not grown into stunted, worthless horses, but now at the age of three and four years they average close up to sixteen hundred pounds each, and make a splendid serviceable team. Of course, in raising a colt by hand, you must use your own judgment and common sense. Guard against constipation and diarrhoea. There is as much danger of over-feeding as of under-feeding, and worst of all is the danger of feeding too much at one time. At

the present market value of horses a man can profitably afford to spend a little time in raising a good horse, and if he is careful he will be well repaid. In feeding a colt, the thing to remember is that we must approximate nature as nearly as possible. Plenty of fresh air, green grass, sunshine, pure water and protection from flies are as necessary as milk and a nursing bottle. Careful management and kind treatment also contribute to develop the colt into a valuable horse. These precautions, mixed with a few grains of good horse-sense, should help the farmer to raise a motherless foal into a valuable horse.

J. H. Murphy.

The first camera-obscura was invented by Giambattista Della Porta, an Italian philosopher, during the latter half of the sixteenth century.

Turf bogs were dug in 1113 for fires. Turf or peat bogs are used to this day for fuel, especially in Ireland, where they abound.

The first cologne was called Hungary water, from the country of its invention. It was made from spirits of wine distilled upon rosemary.

Car Shortage

Troubles do not bother the man who has a

Portable Corrugated Granary



Fireproof, Cheap, Durable

Our circular tells the story

Write for it to-day

THE

Winnipeg Ceiling & Roofing Co.

P. O. Box 2186C Winnipeg, Man.

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

MARCH
1912

FARMER GOOD INTENTION

HENRY: I hope you and Dad got home all right from your "3 days at college." Am sorry that you couldn't stay all the time and particularly that you were not able to hear Dr. Saunders tell about his wheat breeding experiments. It was a great talk, I can tell you, and it looks as if one of these days we will get a variety that will ripen so fast, as Dr. Saunders said, we'll hardly get time to take the seeder home and unhitch it when it will be time to get out the binder. Another fine thing you missed was Norman Ross's lantern exhibition and lecture on growing trees and shrubs. We had some fine slides of the Indian Head Experimental Farm—views taken from the same spot every year from the time the farm was started six year ago, when there wasn't so much as a sage bush round the place. It certainly was an object lesson in beautifying a farm and in what can be grown in trees and shrubs on the Prairie. It has given me the cue for our place and I'm going to make things hum as soon as we can do a bit of planting.

FATHER (in train on the way home): Well, old woman, I feel all the better for this little trip and those three days at Agricultural College have blown a few cobwebs out of my head. That was the finest sample of seed barley I ever saw in my life and the fellow who won that oat championship certainly earned his spurs. All the same and after hearing Professor Peters and some of the other fellows on stock breeding, I don't think we are back numbers altogether. Where I feel we are weak is in the marketing end. I was asking the woman we stayed with what she paid for the eggs she gave us and she said any where from 50 to 60 cents a dozen. Now there's a mighty spread between that figure and what we get on the farm that I think I must look into and there are other little items that J. J. Ring, of Crystal City, spoke of besides eggs that are hardly fetching the prices at home one would expect when you know what the folks are paying for them in Winnipeg. What did you get for that last lot of eggs you shipped to the city?

MOTHER: I only got twenty-five cents and really it's hardly worth while spending the time and the feed we do on the hens in winter time if that's all we can get out of them. But you ought to have heard Mrs. Cooper of Treesbank tell what she did. She gave me the tip privately how to go about it and she gave the "Home Economics" ladies a history of her scheme. It was that she undertook to provide one of the leading houses in Winnipeg with new laid eggs every week for which they gave her a price that meant at the time she was speaking about 45 cents a dozen at her shipping point. She got some 4 or 5 farmers' wives in her district to send their eggs on a certain day every week—each woman stamping the eggs with her initials. Mrs. Cooper agreed to take charge of them, with the result that she got the C.P.R. to let her flag the train within half a mile of her house to pick up the shipment. We'll have to get after something of the kind because single handed with a small lot we can do very little in commanding prices.

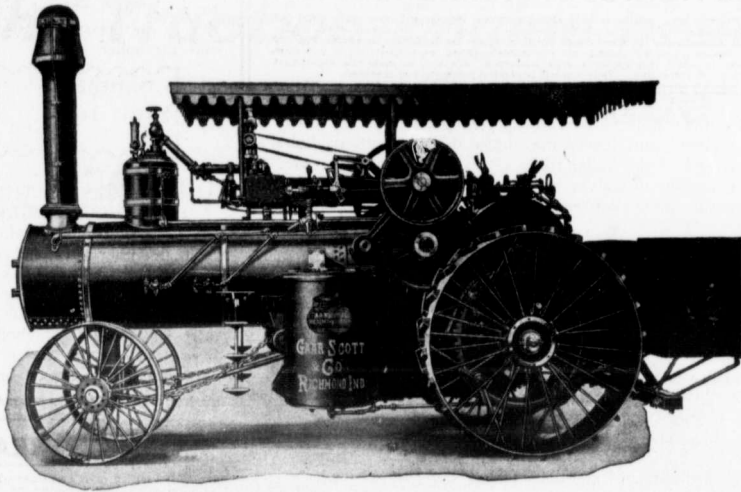
JOHN (driving his folks home): Well, I'm glad you've had a good time and I've kept things humming while you've been on the hop. Harry sent me that "Power and the Plow" book the day you landed in Winnipeg and I sat up till 3 o'clock with it yesterday morning. I couldn't lay it down once I got started and Jim Haigh was up at the farm on Sunday saying he had got fairly out of his worry since he read the copy I sent him. We were figuring out that if we had an average season this year, he and I will make a tidy little bit in breaking for some of the neighbors after we've finished our own work. There's a lot going to be done this year and I've got everything in shipshape ready to start as soon as the frost lifts sufficiently. I think we'll have to get one of those oil wagon tanks I see advertised. They save a cent a gallon, and besides, they are so handy and will save a lot of trips that we make now with the barrels. I guess it will pay us all right.

FATHER: When I gave up the store to come out here, I calculated that I would at least get rid of the money worry—of waiting for folks to pay, but I'll be hanged if I'm not in as bad a plight as we were in at the village. Half of the time I should be spending in looking after the stock and getting things ready for the spring work seems to be consumed in digging up financial help to make ends meet. That blamed telephone is a fair night mare—day and night. I'm sorry I ever let them bring it into the house and I'm sure that some of the other folks on our line hear a lot of what they say to me from the bank and I'm certain there was somebody tapping the line that day Smith, the Implement dealer, rang up about his account. Sink or swim, I mean to make a bold struggle to get out of this mess. We've got as good land as anybody in the township but we're on the wrong tack somewhere if not everywhere. I wonder what's best to be done?

MOTHER: Well, dad, I've given you my advice from time to time and I'll give you it again. When you pulled up your stakes at the store you were so cock sure about running a farm that you required no advice. You had the bee in your bonnet as badly as ever I saw a man have it, and there wasn't a job from planting potatoes to running a thousand acre wheat farm you didn't know all about. Its fine to be cock sure but you've got to have a good handful of ready money and information before you can afford to be cock sure with experiments in farming, I can tell you. Now I'm glad you see your position. There is always some hope for a man when he realizes his difficulty and is frank enough to acknowledge it—if its only to his wife. Now I'll tell you what to do. I've had some friendly chats with Mrs. Watkins and she's helped me a lot with some things I wanted advice on. Now her man is the most up-to-date farmer we know and I think he'll be as willing to help you as she has been to help me. Try him anyway.

CHARLES: The only thing for me, I can see, is to strike, and I'm going to as sure as my name is Charlie Makeweight unless I can see some daylight through this muddle we're in. Why we're the laughing stock of the whole neighborhood and last Saturday night I met Bob Johnson who said I was a fool to stick around here when he or Wilkes would give me a chance to make 3 times the money I ever see in this place any week. I tell you what it is, dad, I want to work and I've got as good an idea of things as most fellows have at my age, but, by gosh! you'll not give me a chance. I want to make good and I will make good if it were only for Mother's sake. You don't give her a chance any more than me but this has got to stop. You're all right up to a point but you've got so blamed set in some of your opinions and so inclined to put off, there's no moving you till it's too late to make a decent job at anything we start or to be successful in any experiment that means money.

LETTER from the "Pioneer Thresher Company." We cannot understand the treatment you are giving our collection department and have to say that unless we have a satisfactory settlement within 10 days from this date we shall put in force the instrument we hold against you. We have never yet been accused of high handed practices. We know what difficulties our farmer friends are up against but we also have our own experience of the man who will not help himself. We know that the more one "helps" men of that type, the more one takes away from them not only the power but the desire to help themselves. We believe you are honest alright, but our conviction is that you are either too much the victim of indolence or that fatal habit of procrastination to make sufficient money to pay for your threshing outfit. Anyway we are frankly giving you our mind and one more chance before we proceed to extremities.



The
Gaar-Scott
Tigerbilt
Steamer

The Tiger Power Line

Steam
Tractors

Gasoline
Tractors

Stationary and Portable
Kerosene Engines

Gaar-Scott Standard-Gear Steam Tractors are built with coal, wood and universal boilers—single or double cylinders—with cab and without—in sizes to fit every stationary or light traction purpose.

Tigerbilt Plowing-Gear Steam Tractors—built to pull—are made in 22 to 40 h. p. sizes—single and double—simple and compound—a complete line. Send today for our book on steam tractors and separators.

The Tigerpull Tractor—four-cylinder, 40 tractive, 80 brake horsepower—is built complete in our own shops—no detail slighted—every feature perfect—the product of engine-building experience beginning in the 'fifties—the big farmer's own machine.



Special Gaar-Scott Features distinguish the Tigerpull—trussed frame—extra quality bushings—unique and efficient clutches, smooth-running and powerful motor, never-failing radiator, and no belts. A postal brings a full description and proofs of merit by return mail. Don't wait—send now.

Gaar-Scott-Falk stationary and portable kerosene engines fit every farm—fit every light belt-power need on any farm.

The Oilturn Motor—30, 45 and 60 brake horsepower—stationary and portable—is a heavy-duty kerosene engine for power-plants anywhere.

Gaar-Scott-Falk engines are built under the Secor-Higgins patents—a guarantee of fuel economy, automatic control and marvelous steadiness—the ideal for lighting, pumping, spraying, sawing and commoner uses—in all sizes. Our special book tells about our self-contained outfits. Ask us to send it to you.

The United States War Department uses the Oilturn Motor in many light-houses—yet life-saving requires no greater dependability than crop-saving. Let us tell you how the Oilturn Motor can save your crops—by irrigation, by baling, shelling, filling the silo, husking, shredding—yes, and threshing with our Tigerbilt separators.

THE GAAR-SCOTT LINE—FACTORIES AT RICHMOND, IND.

M. RUMELY COMPANY

3931 ROSE STREET

WINNIPEG, MANITOBA, CANADA

LESSON IV.

Continued from last month

Table in connection with cut of boiler, Fig. 4:—

- A—Shell
- B—Dome
- C—Flues
- D—Firebox
- E—Grates
- F—Dead Plate
- G—Ash Pan
- H—Crown Sheet
- I—Flue Sheets
- J—Smoke Box
- K—Chimney
- L—Smoke Box Door
- M—Water Leg
- N—Draft Doors
- O—Straw Chute
- P—Fire Brick Arch
- Q—Handholes
- R—Fingers for guiding the straw
- S—Through Stay
- T—Fusible Plug
- U—Staybolts
- V—Waist Seam
- W—Reinforcing Rings about openings
- Y—Diagonal Stays
- Z—Small Side Door on side of boiler for cleaning the end of the flues.
- AQ—Cleaning Plug
- AN—Exhaust Nozzle
- OD—Door in Straw Chute
- X—Fusible Plug.

ADVANTAGES OF THE DIRECT FLUE BOILER.

It is small in diameter, neat in appearance, and easy to

The AGRICULTURAL ENGINEER

Every farmer is an engineer so to speak. He works in the biggest factory in the world and his products are world products. His usefulness to himself and to others depends largely upon the efficiency and intelligence with which he handles the tools of his handiwork. In this series of lessons which will extend over a considerable period, we propose to deal with farm machinery in detail as it applies to crop production. We trust to make this department interesting and instructive. Questions will be cheerfully received and answered.

more convenient and comfortable for the engineer and leaves the entire rear end of the boiler free for the arranging of valves and levers in the most convenient position.

DISADVANTAGES OF THE DIRECT FLUE BOILER.

Among its defects may be mentioned the numerous points in and about the firebox and the large number of flat surfaces which require braces and staybolts to hold them in position. It is a fact admitted by all good engineers that there should be no joints exposed to the direct action of the fire. The double thickness of metal at such points makes it difficult for the heat to pass through and consequently there is danger of burning out of the plates. The presence of staybolts, while necessary in all fireboxes, introduces undesirable features. They impede the circulation, make the boiler hard to clean, and offer a convenient place for corrosion to begin. The unequal expansion between the firebox and the outer shell, due to the extreme differences

ported portion of the plate and upon the adjacent staybolts.

In descending grades the crown sheet is apt to become dry, in which case the intense heat in the fire box is apt to do it permanent injury. However, in spite of all these apparent defects, this type of boiler is very popular. It has stood the test very well in actual use.

THE RETURN FLUE BOILER.

The most common form of return flue boilers used for traction engines is illustrated in Fig. 5. It consists of a cylindrical shell containing one large flue and a number of small tubes. The large flue contains the grates. The products of combustion pass through the main flue to the combustion chamber, and thence backwards through the small tubes (commonly called return flues) to the smokebox and out through the chimney. Water completely surrounds the main flue and should stand at a depth of two or three inches above the smaller flues. The size of the main flue ranges from

wards of four feet in diameter and is corrugated, as shown in Fig. 6, to make it strong enough to resist the external pressure, due to the pressure of steam inside the boiler.

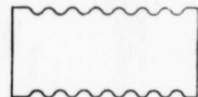


Fig. 6

ADVANTAGES OF THE RETURN FLUE BOILER.

Its straight cylindrical form, together with the absence of flat plates and staybolts, make this one of the strongest traction engine boilers on the market. Having no staybolts or braces within the water space, the circulation is good and the

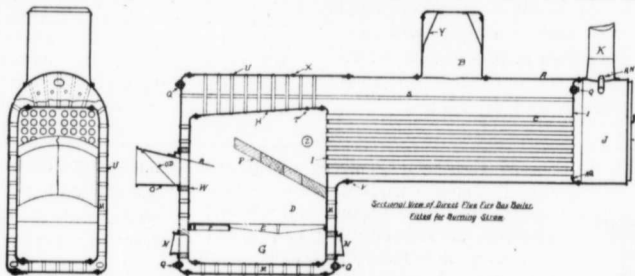


Fig. 4

fire. The large amount of heating surface in and around the firebox where the heat is most intense, together with a large grate area, makes this boiler a quick, easy steamer. The chimney on the front end makes it

in temperature, throws heavy strains on the boiler plate and staybolts, which is apt either to break a staybolt or cause a leak where it penetrates the plate. In case a bolt breaks, very heavy strains come upon the un-

24 to 28 inches in diameter in all boilers built east of the Rocky Mountains, and the small flues from three to four inches in diameter. In one style of boiler, built on the Pacific coast, the main flue is sometimes made up-

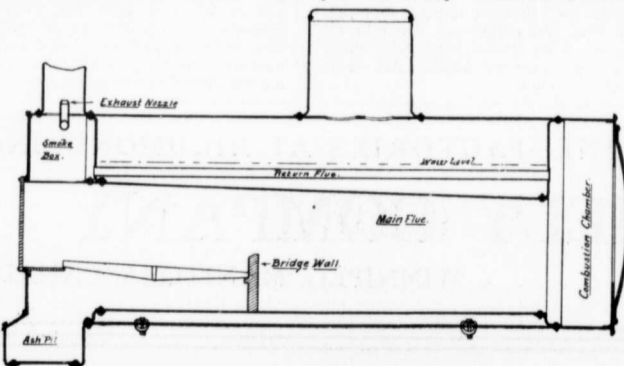


Fig. 5

VELVET CREAM

The wealthiest, most particular and discriminating people on earth, use the dining-car service of the great Canadian Pacific R. R., with its ocean-to-ocean trains, and that is why Tubular-cream alone is served and satisfies the management of that railroad.

It costs them more money, and Mr. John McFadden's dairy at Parkburg, Sask., with a Tubular at the head of it, gets the benefit in big profits.

The great New York Central R. R. gets Tubular cream for its dining cars from Mr. Geo. H. Sweet, East Aurora, N. Y., and both the railroad company and Mr. Sweet profit from the velvet Tubular cream.

THE SHARPLES Tubular Cream Separators

MAKE GREATEST PROFITS

for the keenest, best informed dairymen everywhere. They know their cream and to get it all. Disk-filled or otherwise complicated separators lose cream, spoil its quality and give what is termed a "metallic" or "disky" flavor to it.

Dairy Tubulars contain no disks or other contraptions and produce velvet cream of perfect flavor which brings fancy prices.

Tubulars have twice the skimming force of others, skim twice as clean, wear longer and run easier. © If it's not a Sharple's it's not a Tubular, and you are not getting all the profit.

Write for Catalog 330

THE SHARPLES SEPARATOR CO. TORONTO, CANADA WINNIPEG, CANADA



SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS.

Any person who is the sole head of a family or any male over 18 years old, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. The applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the district. Entry by proxy may be made in any agency, on certain conditions, by his mother, son, daughter, brother or sister of intending homesteader.

Duties—Six months' residence upon and cultivation of the land in each of three years. A homesteader may file within five miles of his homestead on a farm of at least 80 acres solely owned and occupied by him or by his father, mother, son, daughter, brother or sister.

In certain districts a homesteader in good standing may preempt a quarter-section alongside his homestead. Price \$3.00 per acre. Duties—Must reside six months in each of two years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

A homesteader who has exhausted his homestead right and cannot obtain a pre-emption may enter for a purchased homestead in certain districts. Price \$3.00 per acre. Duties—Must reside six months in each of three years, cultivate fifty acres and erect a house worth \$300.00.

W. W. CORY

Deputy of the Minister of the Interior N.B.—Unauthorized publication of this advertisement will not be paid for.

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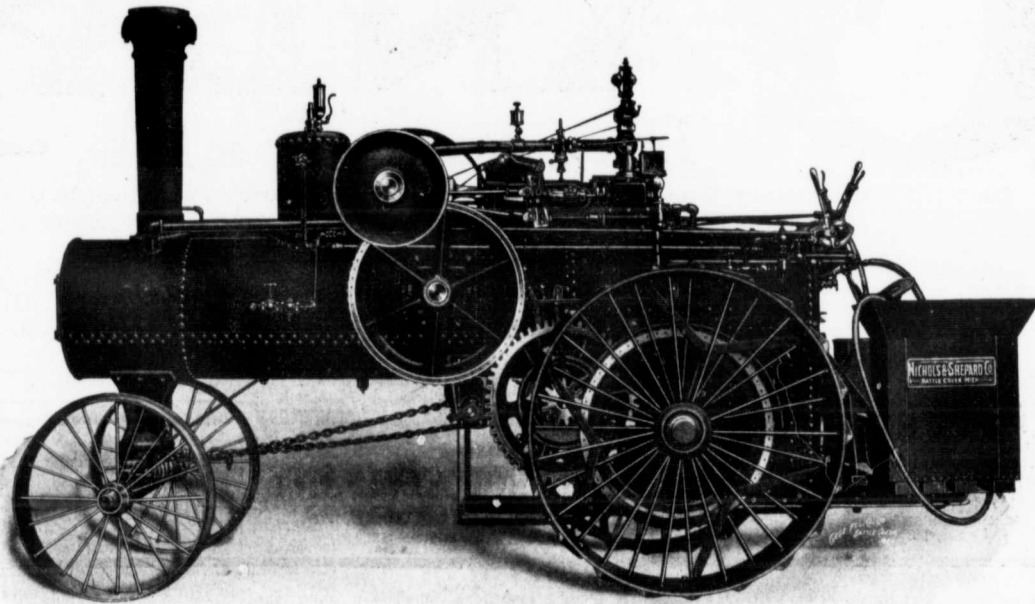
Kansas City,
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The Traction Engine best designed

Designed right
Built right

for Farm use

Designed right
Built right



Nichols-Shepard Double Cylinder Traction Engine

The Traction Engine with the right foundation, the strongest boiler ever built.
Strong Drive Wheels. Spokes cast solid in the hub, and strongly riveted through a heavy tire.
Lug Gears attached to the rim and so braced that they cannot get out of place.
All castings either steel or semi-steel.
Both Double and Single Cylinder types provided with Friction Clutch.
Shaking rocker grates without extra charge.
One solid frame for cylinders and crank shaft boxes.
Expansion of boiler can throw nothing out of line.
Extra heavy Shafting running in large heavy boxes, insuring long continuous wear.
Side mounted, which puts no more weight upon front wheels than to make them cling to the ground and guide easily, and all the weight necessary upon the rear wheels to make them pull the most.
Small Pinions crucible cast steel, and all other gearing semi-steel.
New Spur Differential Gear, doing away with the old bevel differential gear and its side pressure.
Power applied direct from main shaft to drive wheels through a line of spur gearing.
Every working part within reach of engineer standing on platform.
Platform carries ample fuel and water supply, and made with strong steel frame attached to boiler below water line.
Indestructible Plow Hitch.
Cross Head Pump and Injector; never a lack of water.
Link Reverse; easily lubricated and every wearing part provided with bushings.
Main shaft boxes chambered so that they constantly run in oil.
An Engine that with fair usage never breaks down and never wears out.

NICHOLS & SHEPARD COMPANY, Battle Creek, Mich.

Sole Builders of the RED RIVER SPECIAL Line of Red River Special Threshers, Nichols-Shepard Steam Tractors, Oil-Gas Tractors, Stackers, Self Feeders, Weighers and Supplies.

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"For the last Twenty-five Years"



That's just how long this one thresherman has used continuously THE GANDY THRESHER BELT. READ HIS LETTER. It tells of the kind of service THE GANDY THRESHER BELT will give you.

GENTLEMEN:— I have been using the Gandy Thresher Belt for the last twenty-five years, and they have given entire satisfaction. The Gandy is the only belt of its kind on the market that is any good. One Gandy is worth four rubber belts.

(Signed) JEDIAH HAYES, R. F. D. No. 2, Hodgenville, Ky. Yours truly.

Mr. Hayes says one Gandy is worth four rubber belts. Besides this, he might have added Gandy costs only one half (1/2) as much as Rubber Belting. **The Advantage to You of Using Gandy Thresher Belts—Prompt Shipment.** Every Thresherman knows that when he wants a thresher belt, he must have it right away. Every order for a Gandy Thresher Belt is shipped the day received. To enable us to do this we carry in stock more than 4000 Gandy Thresher Belts at all times.



Stock Sizes
Over 100 different lengths, widths and plies of Gandy Thresher Belt to select from.

GANDY BELTING COMPANY
733 W. PRATT STREET, BALTIMORE, Md.
NEW YORK OFFICE 88-90 READE ST.

4 ply from 60 to 160 ft. inclusive at intervals of 10 feet.
5 ply from 120 to 160 ft. inclusive at intervals of 10 feet.
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A Guaranteed Belt.

The Gandy Thresher Belt is absolutely guaranteed. Read this. "We guarantee every Gandy Endless Thresher Belt to give perfect satisfaction when properly treated, and when defective in either material or workmanship, it will be replaced or money refunded. The risk is ours."

How You Can Tell Gandy

Inferior imitations make us caution you to be sure to get "The Gandy Thresher Belt." To protect you every Gandy Thresher Belt has three identifying marks, 1st, one Green Edge. 2nd, The trade mark shown on roll. 3rd, The Brand—"The Gandy Thresher Belt."

Write for Samples and Prices.

The Gandy Thresher Belt is admitted by threshermen to be the standard. It has established this reputation by giving better and longer service, thereby saving the threshermen money.

Gandy will save money for you too, and we want to prove it. Send us this coupon, and you'll receive samples, booklet, prices and full information. Write us now.

Clip and return this Coupon

Gentlemen—You may send me sample Booklet, etc. (Adv. C. T. 3.12)

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Address _____
State _____

boiler is easy to clean. Its compact form offers a minimum of exposed surface for radiation and tends toward economy in the use of fuel. It is also claimed that there is less danger of fire from sparks with this boiler than with the straight flue type, due to the greater distance and numerous turns taken by the hot gases before reaching the outer air. Another good feature about this boiler is the fact that there is no low hanging fire box to catch obstructions in the road.

DISADVANTAGES OF THE RETURN FLUE BOILER.

Among the principal defects of this type of boiler may be mentioned the small grate surface, rather limited heating



F. G. Scott, Moore Park, Man.

surface, small ash pan, large main flue, large outer shell, and the chimney on the rear end.

The small grate area makes these boilers rather slow steamers in getting started, and the small ash pan requires careful attention on the part of the fireman to keep the grates from burning out, due to ashes piling up in under them. The large main flue is an element of weakness if made very large, for it is a well known fact that the larger the flue is, with the same thickness of metal and same length, the less able it is to withstand external pressure. Where very large main flues are used they are reinforced either by staybolts by corrugating, or in some other

way. Some trouble has been experienced in traction engine boilers by the collapsing of the main flue. Where this has occurred, however, the results have not been very serious to life or property.

The large main flue necessitates the use of a boiler shell of large diameter. This is objectionable because the larger the diameter of a boiler, with the same thickness of plate, the

Continued next month.

Second Annual Banquet of the Sawyer-Massey Co.

Continued from page 40
Ross, J. McBride, F. J. Swanson, A. E. Story, G. A. Shield, W. J. Galbraith, James Levy, J. Robertson, T. W. McKee, J. H. Humphries, W. A. Ritchie, H. Robinson, W. A. Udell, J. A. Steinecker, A. Boyle, H. O. Grubbs, J. S. Bailley, J. Ormiston, A. Wilson, G. A. McTavish, W. A. Fleming.

No small amount of the success of the whole affair was due to Mr. J. H. Turnbull, who has recently taken charge of the S. & M. business in Saskatchewan and Regina. Mr. Turnbull laid his plans carefully and with what care, the success of the whole undertaking showed. The utmost good fellowship prevailed, and if anything can express it in a few words, it is to say that the S. & M. organization in Western Canada is a loyal, solid, enthusiastic body of men, whose one business is to sell Sawyer and Massey machinery.



The above represents an old Watrous Outfit owned by F. G. Scott, Moore Park, Man. Mr. Scott used up nine Watrous rigs, and says he made money at it. He has now graduated into the gasoline class.



The TH Fro

"In reg Gas Tra one of handled. Taylor S grain, an engine I engine i bother th eight an plows. and thre our outfi will mal Aultman

Belgrade



T

Sale



Myers Bros., Bowell, Alta., Harvesting with an Aultman-Taylor Gas Tractor

How is this for a Record?

NOT ONE DISSATISFIED CUSTOMER of the POPULAR FOUR CYLINDER "AULTMAN-TAYLOR" GAS TRACTOR during the past season. The Tractor has far exceeded the expectations of our many customers. We have hundreds of letters from owners and operators of our Tractors from all parts of the country; everyone of them an enthusiastic recommendation of the Aultman-Taylor. We have many REAL POINTS of MERIT that every prospective purchaser of a gas tractor should know.

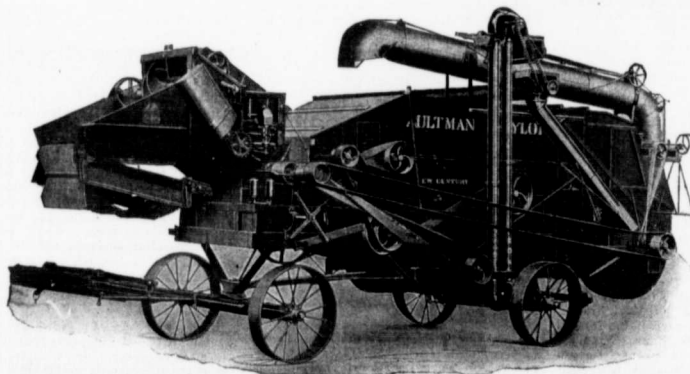
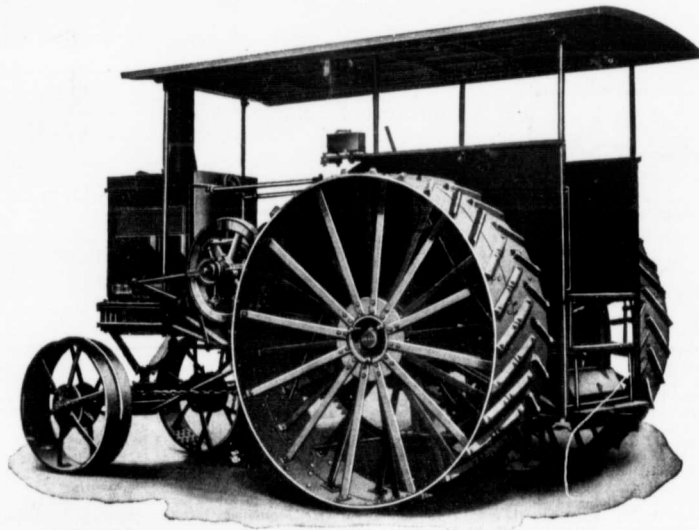
Write to day for GAS TRACTOR CATALOG

The Aultman-Taylor has the only successful self-starting device
THIS POINT ALONE WILL SAVE YOU CONSIDERABLE ANNOYANCE AND MONEY

From one of our many
 satisfied customers

"In regard to my 30x60 Aultman-Taylor Gas Tractor, I am pleased to state it is one of the best engines I have ever handled. It ran our 36x64 Aultman-Taylor Separator with ease in the heaviest grain, and with the least vibration of any engine I have ever seen. I also used the engine in breaking sod and it did not bother the engine in the least in pulling eight and nine fourteen inch mouldboard plows. I plowed over 1100 acres of sod and threshed 60,000 bushels of grain with our outfit this past season. I think you will make no mistake if you buy an Aultman-Taylor."

Yours respectfully,
FRED J. WATERMAN,
 Belgrade, Mont.



Write for Catalog of
 Steam Traction and Portable Engines;
 New Century Grain Separators;
 Matchless Clover and Alfalfa Hullers and
 Saw Mills.

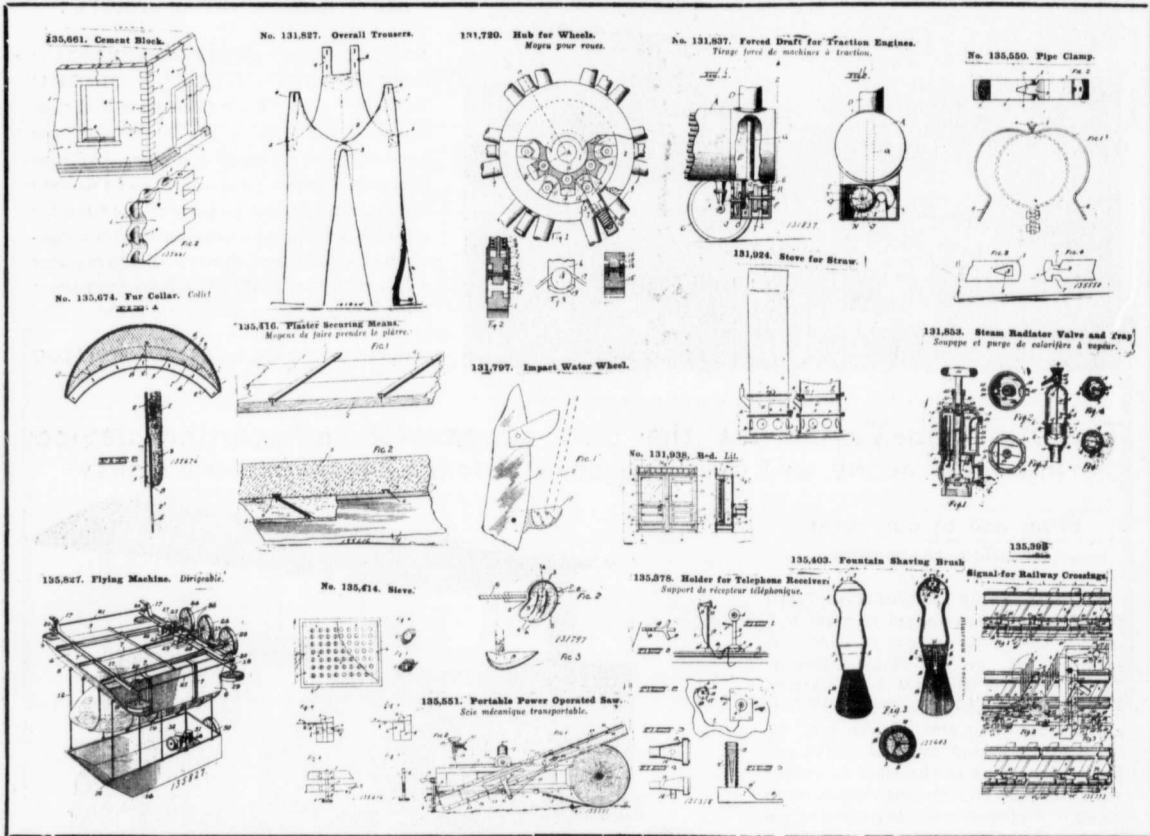
The International Harvester Company
 of America, Canadian Sales Agents for
 "New Century" Separators.

The Aultman & Taylor Machinery Company

MANSFIELD, OHIO.

Sales Agencies: Minneapolis, Minn., Calgary, Alta., Regina, Sask., CANADA

Western Canadian Patents specially compiled and arranged by G. S. Roxburgh of Featherstonhaugh & Co., Winnipeg.



No. 131720—The Royce Suspension Hub Co., Vancouver, B.C.—The object of this invention is to provide a resilient wheel, having the hub constructed so that any jar is taken up at the hub and not at the rim. It comprises two companion members, mounted one within the other, a spaced distance apart, and provided with radially projecting portions, or members alternately arranged and means for flexibly connecting said members operatively and elastically together, whereby to transmit power from one member to the other, and to remit an elastic or vibratory movement relatively between.

No. 131797—J. Kincaid, Vancouver, B.C.—The invention has for its object the formation of an impact water wheel, and it relates more particularly to a cup for the reception of a water jet, the side of the cup which receives the jet being more concave than the side from which it is delivered, and a series of sharp ridges extending transversely across the front of towards the bottom of the receiving side to the delivery edge.

No. 131827—V. Powell, Vancouver, B.C.—The invention relates to overall trousers, and the important feature resides in cutting the front of the pants low to the fork, and cutting them, curved upwardly from the fork to the suspender attachment, adjacent to the side seam. The back is also cut from the side seam and curves upwardly to the suspender attachment.

No. 131837—P. A. Scott, Calgary, Alta.—An improved forced draught for traction engines comprising a receptacle fastened to and communicating with the bottom of the smoke chamber of the traction engine, a pipe rising from the receptacle and axially in alignment with the smoke stack, vertical partitions within such receptacle, a fan mounted in the receptacle and spring actuated means for rotating the fan.

No. 131853—J. E. Wize, Edmonton, Alta.—An improved steam radiator valve and tray comprising a casing secured to the radiator intermediate of the light thereof and communicating with the interior, said casing forming at the upper end thereof an outlet for air, and at the lower end thereof an outlet for condensation water, means for deflecting the water to the lower end and an air valve controlling the air outlet at the upper end.

No. 131924—H. M. Aldous, Lemberg, Sask.—The invention relates to a stove specially constructed for burning straw, and it comprises a fire box provided with a grate, and further provided with a base flange provided with a plurality of draft holes, a smoke pipe opening from said fire box and below the grate, and a fuel receptacle carried by the fire box and communicating therewith.

No. 131938—W. J. Carpenter, Vancouver, B.C.—An improved folding bed wherein a bed is pivotally mounted within a casing, of door sections closing the front of the casing, each section being hinged to the side thereof, a wardrobe within one door section, a mirror in the upper panel of the upper side, and a dressing table removable bracketed to the lower part of the outside, a folding desk in the upper half of the other door section, and a series of drawers occupying the lower part of the same.

No. 135378—C. S. Bann, Winnipeg, Man.—I holder for telephones, the object of which is to do away with holding the receiver of a telephone to the ear during conversation. The invention comprises a base piece adjoining the telephone, which base piece carries a flexible extension fitted with a holder in which the telephone transmitter is clipped when in use.

No. 135393—H. A. Coulter, Winnipeg, Man.—The invention relates to a signal for railroad crossings, and the object of the invention is to supply a device which will signal an approaching

party by bell, arm and light, and which will throw down gates located at the side of the crossing as the train approaches. The signal box is arranged at the side of track and contains the bell, the lantern and the signal arm, all of which parts are actuated by the approaching train engaging depressible plates before the crossing. The gates are also actuated by the depressible plates.

No. 135403—L. Fuller, Strathcona, Alta.—The invention relates to a shaving brush, and the object is to provide a brush which will contain a shaving compound, which can be forced into the bristles when desired by the user. It comprises a sectional handle formed of an upper, a middle and a lower section, the middle section constituting a fount for receiving the material to be supplied to the brush or tuft. An air compressing means is fitted to the upper section and arranged to force the shaving soap through a suitable valve opening adjoining the bristles and into the bristles.

No. 135414—A. Hougestol, Millet, Alta.—An improved sieve, comprising an upper section, having a frame with groove, a screw rod connecting the aforesaid parts whereby the relative positions of the meshes are changed thereby forming a large or small mesh.

No. 135416—M. J. Hynes, Vancouver, B.C.—The invention relates to an improved fastener for securing plaster to concrete, and it comprises a series of dove-tailed channel strips of thin sheet metal secured to the form boards against which the concrete is moulded, thereby forming dove-tail grooves in the face of the concrete.

No. 135510—R. C. Gibbs, Vancouver, B.C.—An improved pipe clamp formed from two halves provided one with a "T" head and the other with a slot for the head, and both with extending members for the reception of bolts.

No. 135551—M. Goehler, Vancouver, B.C.—The invention relates to a power operated saw, and it comprises a wagon, a reciprocating saw adjustably mounted on the wagon frame and means mounted on the wagon, such as an engine for reciprocating the saw.

No. 135661—M. Goehler, Vancouver, B.C.—An improvement in wall construction, comprising wall sections having laterally interlocking projections along their joint edges, said projections having groove parallel with the face of the wall that when the wall sections are together they will form an uninterrupted passage extending vertically or horizontally along the joint. A hardening cement is filled in such passages.

No. 135674—J. F. Kinler, Winnipeg, Man.—The invention relates to an improvement in a fur collar, and the object of the invention is to supply a fur collar which can be quickly applied to a coat collar so that it is practically impossible to tell that the fur collar is attachable. The fur collar is formed with a pocket which receives the coat collar entirely, and the cloth at one side of the pocket; buttons inside of the coat whilst the other side buttons well down against the lower part of the neck.

No. 135827—A. T. Newbury, Vermillion, Alta.—An improvement in flying machines, comprising a metallic gas container of generally rectangular form, having its forward end upwardly inclined to form a lifting plane, helicopters mounted on each corner of the container, driving means mounted on the top of the container for operating the helicopters, means mounted on the top of the container for driving the same forwardly, a car swung below the container, and having its forward surface upwardly inclined to form a lifting plane, and additional propelling means mounted in the car.

"Make the Now Time Your Time," says the Banner Boy



Reg. U. S. Pat. Off.

Tomorrow is only for Farmer. Happy-go-lucky—for Thresherman Take-things-easy—who "toil not, neither do they spin."

For you—active, broad-gauged, purposeful—with red-blooded ideas and profit-making plans—there can be only *now*.

Today must be laid the foundations for the coming days' profit realizations.

This is a day of swiftly moving events. Everywhere things are moving with a rush. Improvements in methods and machinery are marvelously increasing the returns on investments of money, time and labor.

The man who acts *today* invariably gets his share. Are you getting yours?

Are you sure that you are not overlooking any profitable source of income?

Are you the owner of an *Advance* Steam Plowing, Threshing or Hauling Engine? An *Advance* Separator? An *Advance* Corn Sheller? Any farm machine bearing the *Advance* Trademark?

Advance machinery is *now* machinery. Built to be successful and profitable *today—every day*.

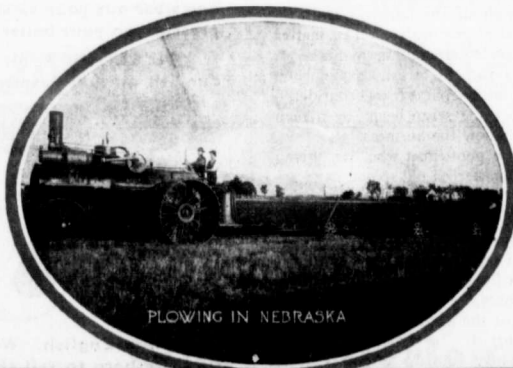
It is the machinery you want to learn more about immediately. Make the *Now* Time Your Time. The *Advance* Annual is ready for you *now*. We'll be glad to send you a copy, postpaid. Send your name and address on a postcard to *Advance Lin.*

M. RUMELY COMPANY

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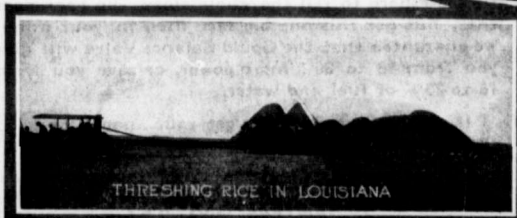
REGINA, SASKATCHEWAN

Machinery
for
Plowing, Threshing
Hulling, Hauling
Shredding, Husking
Shelling, Pumping
Sawing, Etc.



PLOWING IN NEBRASKA

Machinery
for
Plowing, Threshing
Hulling, Hauling
Shredding, Husking
Shelling, Pumping
Sawing, Etc.



THRESHING RICE IN LOUISIANA



HARVESTING AND THRESHING WITH 34 FOOT COMBINE IN CALIFORNIA

A Saving that Means a Loss

It is an old saying that "A penny saved is a penny earned." It is furthermore an inherent command on the part of mankind to save, and so thoroughly has it become a part of our ritual of life that we are sometimes inclined to err on the side of being too strict.

In this connection I would like to say a word or two to the threshermen of Western Canada, particularly along the line of second hand separators.

The average grain separator is a thing that is used only a few days in the year, yet as a machine it is an absolute necessity. Our entire crop depends upon it for its safety. When in service the grain separator is compelled to do both a strenuous and a continuous work, and how it is cussed and condemned when it fails to "deliver the goods." It is the joy and delight of every thresherman and farmer when it works, but when it, for some reason or other stops, it is regarded as a poor, an unwise investment.

The grain separator of to-day is more like its ancestors of twenty years ago than probably any other piece of farm machinery, except the plow, showing that in principle at least it was originally made correct. It is true that it has since been self-feedered, windstocked,

high-baggered, and in most cases big cylindered, but the main principles of separation have remained practically the same.

The grain separator is a machine of which very exacting work is required. It must thresh the grain from the straw, separate it, and what is more, save it; yet every year we see old second-hand separators being hauled out and pressed into service that have no business in the thresher game. They have been left out in the wind and weather until every boring is rusty, and every joint is rheumatic. The thresherman decides he wants a new separator, and the first thing he tries to do is to trade it in on a new one. The thresher salesman, keen for business generally, allows a good price for it, and the thresherman thinks he has made a good deal. But has he? In the majority of cases that same separator is again resold in the neighborhood where it became a competitor with the new machines, and on account of the fact that it has been bought at a cheap price the owner thinks he can thresh cheaper than regular rates, and so becomes a member of that contemptible branch known as "price cutters." And the farmer suffers. Attracted by a cheaper rate for his threshing he allows the old machine to thresh for him, and in the time lost through breakdowns and in grain wasted, he in the end pays a big price for his threshing. Furthermore the man who buys a cheap second-hand separator, and attempts to make it a part of a threshing outfit is generally someone who knows very little about the business, and consequently only makes a bad matter worse by attempting to make an old separator thresh grain when that same separator was considered fit for the scrap heap by a man who knew the business.

One gentleman who has given this matter of old second-hand separators considerable attention puts it this way:—

The great injury in the second-hand separator matter is the trading of same to the thresher manufacturer, he either selling it himself or the agent taking it and disposing it. In disposing of this thresher, in many instances, it is sold to a man that has been employed by a legitimate thresherman as an operator. He sees an opportunity of getting a thresher for himself at a small cost, and going into business. He buys this thresher, and gets hold of a cheap, second-hand engine somewhere, and operates it. He thereby becomes an immediate competitor of his former employer, and a competitor who has very little invest-



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Here's the paint that makes every barn look better and last longer. Insures buildings against the decaying influences of time, temperature and weather. Paint your barn—thoroughly protect all its exposed surfaces, and see how much better it will look and how much longer it will last.

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Barn, Roof and Elevator Paint

is a money-saving, life-preserver for barns, granaries, fences and all farm buildings. Used in preference to all other paints by railroads for freight cars and by leading elevator companies throughout Western Canada. Over 20 years on market—sales increasing every year—facts that prove its superiority. Sold by leading dealers. Write today for free book of "Suggestions"—for paint users.



The Thresherman and Farmer

CANNOT AFFORD TO BE WITHOUT THE

Stewart Sheaf Loader

No one who has seen it working will need to be told one word about it. For those who have not: it is a machine that will pick the sheaves from the stook or the ground when lying flat and by means of carriers elevate them on to the wagon. With proper handling it will load the wagons quickly enough to keep any threshing machine supplied with plenty of sheaves. The **Stewart Loader** does the work of all the pitchers in the field, and because it loads so quickly fewer bundle wagons are required.

The machine is built entirely of first class material, and the most pains-taking care is taken in its construction.

Here are a couple of testimonials sent us from men who used our Loader in 1911. Get the machine for your 1912 crop and you will write us in still stronger terms.

TESTIMONIALS.

Russell, Man., Sept. 20th, 1911.
I have used the Stook Loader sold by the Stewart Sheaf Loader Co. and find it works perfectly. It saves me at least twenty dollars a day and I recommend it to all threshers. (Signed) W. SUTTER.

Strassburg, Sask., Nov. 13th, 1911.
Stewart Sheaf Loader Co.
Dear Sirs:—Enclosed you will find cheque for \$300, balance due on Sheaf Loader, and I may say we are more than satisfied with the Loader. It has saved us money outside of paying for itself, and I can honestly recommend it to every Thresherman. STAFFIN BROS.

Price \$500 f.o.b. Winnipeg. \$100 cash with order, balance October 15th, 1912. Discount for all cash. Write for full details.

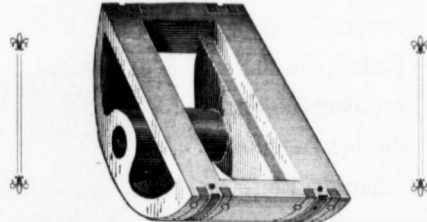
The Stewart Sheaf Loader Co., Ltd.
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TO THE SITUATION

YOU'LL KNOW it doesn't pay to run an engine with a common D slide valve, and waste from 18 to 30% of your power, waste your coal, water and oil, and wear out your valve gear, besides carry a higher pressure on your boiler than you should.

YOU'LL KNOW all about valves if you send for our 8th annual catalog. It tells you **WHY** and in



good plain English. Write us to-day for the book. No room here to tell the whole story, the book does that, but get this one big fact fixed in your mind: we guarantee that the Gould Balance Valve will give you from 18 to 30% more power, or save you from 15 to 25% of fuel and water.

If we don't do it you'll get your money back.

Gould Balance Valve Co.

KELLOGG, IOWA, U.S.A.

ment and ta the price, at threshing t farmer for v not get valu get as good would do l nevertheless, much thresh the legitimat

Then agai in the thresh an operatin owner of an a little while complete ou and he enter competitor. ing the num the field, the sale, first, of ator; and thi itself, as thi in his old m years, as a r perhaps sever the field w not have be

In some ir not sold, an order to get will hire sou and will secu engine to dri immediately of the legitit the agent do very long u out of it, ar with the fa and the fello soon purcha and then he competitor, i the same lin

Another a says:—"I do difference wh If it is an o very good w new, for it v than its valu There were, Canada in 19 season was i machine was grain was standing stil into consid who owned afford to h nothing by a thresherman had been ser a good mac do the work for it, one much more be for a ma chine and ge country and it. It only t for a machi per cent. of to thresh a bushels of \$1.00 per bu worth of wh gument that old machine even \$150, back is a

ment and takes no risk. He cuts the price, and he does get some threshing to do, and while the farmer for whom he threshes may not get value received, or does not get as good work as the other man would do him at a higher price, nevertheless, there is just that much threshing taken away from the legitimate threshermen.

Then again, this man starts out in the threshing business, becomes an operating thresherman and owner of an outfit, and it is not but a little while until he buys a more complete outfit, at a higher price, and he enters the field as another competitor. In that way increasing the number of threshermen in the field, the origin of it being the sale, first, of a second-hand separator; and this, of course, multiplies itself, as this same man will trade in his old machine, and in a few years, as a result of this first trade, perhaps several machines will be in the field which otherwise would not have been.

In some instances the machine is not sold, and the local agent, in order to get his money out of it, will hire somebody to operate it, and will secure, in some manner, an engine to drive it, and this machine immediately becomes a competitor of the legitimate thresherman, and the agent does not have to use it very long until he gets his money out of it, and he will divide up with the fellow that operates it, and the fellow that operates it will soon purchase it at a reduced price, and then he enters the field as a competitor, and works up along the same line as his employer.

Another authority on the subject says:—"I don't think it makes any difference who owns the separator. If it is an old one, and wont do very good work, it ought not to be new, for it will waste more grain than its value in a very short time. There were, perhaps, places in Canada in 1911 where the thresher season was short, where an old machine wasting 20 per cent of the grain was better running than standing still, but when you take into consideration that the man who owned the grain could not afford to have it threshed for nothing by a machine given to the thresherman free of charge if it had been sensible for him to buy a good machine with which to do the work and pay full price for it, one can readily see how much more ridiculous it would be for a man to buy an old machine and go travelling about the country and wasting grain with it. It only takes a ten days run for a machine that wastes one per cent. of the grain it ought to thresh at the rate of 2,000 bushels of wheat per day at \$1.00 per bushel to waste \$200 worth of wheat, and yet the argument that a man can buy the old machine for \$75 or \$100, or even \$150, and get his money back is a great fallacy. The

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Frost Fence
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A product purely Canadian

Looks as neat when Erected as it does in the Picture.

Cut below shows one of the many styles of FROST Fence. All FROST Fence is made from FROST Wire, which is drawn true to gauge, carefully tempered to the proper hardness and thoroughly galvanized in our own mills by expert workmen who have had years of experience in wire-making.

Note our neat and doubly secure lock. It is the finishing touch to our perfect fence. "FROST Fence sells best where best known." Send for our catalogue. It goes to the heart of the fence question.

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WE MAKE—Over 50 Different Styles of Woven Fence and as many of the field-built,

Gates—All Galvanized. Fancy and Plain, all sizes.

Coiled Wire—Each bundle tagged with a guarantee of quality.

Stays and Locks—For Field built Fences. Tube Posts

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handsome designs. Send for special catalogue.

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from hard steel to dead soft, including soft galvanized

wire—barbed wire—Telephone wire—Hay wire and ties

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FREE For Two Minutes of Your Time.

We need good live agents in every district. If not already represented in your locality, we will send you FREE a large handsome doormat with your name interwoven in it, on condition that you send us the name of some responsible man willing to act as our agent and who will send us some business this season. There's prestige and money in our agency. Why not handle it yourself?

Lower Freight Rates on Grain

The Canadian Pacific and Canadian Northern railroads have made a heavy reduction on grain freights

To Minneapolis and Duluth

We have strong, old-established offices in both markets and can make money for our Canadian shippers on

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Write direct to our Minneapolis office to-day for full shipping instructions. Give your railroad station and state the kind and amount of grain you have to ship.

RANDALL, GEE & MITCHELL

GRAIN COMMISSION

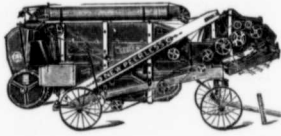
Minneapolis

WINNIPEG

Duluth

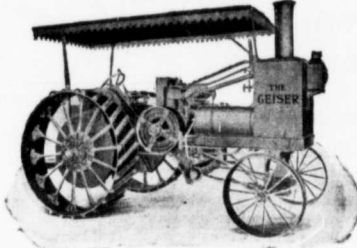
"Geiser" Celebrated Sieveless Separators and Threshing and Plowing Engines

Are the latest and most up-to-date Machines on the market.

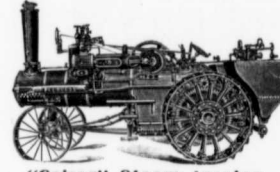


"Geiser" Sieveless Separator

The new system which has revolutionized the whole system of threshing and cleaning grain. What is known as the "Grain Plate and Roller System and Automatic Blast." The simple invention eliminates the sieves or riddles and practically revolutionizes the old and antiquated method of threshing. Built in all sizes from 25x29 to 40x60. Special sizes built for Gasoline Engine Power.



The Geiser 4-Cylinder Gas Tractor has more New Features and more Good Points than any other machine on the market to-day. Let us tell you about it. All Tractors are now equipped with the Geiser Patent Kerosene Carburetor.



"Geiser" Steam Tractor
The All-Steel Plowing Engine, Double Drive. The gearing is of large dimensions, wide face made of open heart steel and are all covered in steel cases and dust-proof.

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Please send me a catalog and full details of the following: Geiser Tractors, Geiser Separators, Geiser Engines, Geiser Plows and Harrows.
Name _____
P. O. _____

thing that the farmer who owns the wheat that such a machine is going to thresh ought to do is to turn it down."

Another gentleman who has observed the situation carefully says:

"In a general way the evils arising out of trading for old separators, repairing them up and selling them again to the manufacturer, are, the excessive cost of handling an article of such bulk and weight, paying freights on the same, investing money in re-fitting and last, but not least, taking undue risks from selling the same to the very poorest class of trade. The evils resulting to the threshermen as a class, I think, may be computed in the creation of most undesirable competition in their own line of work. These second-hand and re-built machines almost entirely find their purchasers among people who would never think of buying a new outfit, and, perhaps, could not buy it if they wished to do so, but they can buy these cheap outfits, and their ideas following along the lines of the least resistance induces them to take on contracts for threshing at any terms offered which will give them a little spending money. Their future payments rarely enter into their consideration. This, of course, demoralizes prices and reduces the business of the man who is legitimately engaged in the threshing of grain as a business with first class machinery. The farmer himself rarely benefits from these reduced rates actually, for the reason that the character of work done for him is likely to be slovenly and wasteful. The thing which appeals to me in a

nut shell is the fact that the best is none too good for the operator, neither is it too good for the farmer himself, as true economy means the elimination of waste.

In the short seasons for threshing which prevail in the northern countries another element of risk must be considered. A second-hand, worn out machine is always breaking down at unexpected times, delaying work, and the north-western country is so far removed from the manufacturing centers that it requires so long a time to get repairs, that this feature of the general risk is something that should be carefully considered by the farmer when he lets his job of threshing, as the damage to him may be a great deal more than to the operator, especially so in such a season as the last one."

The manufacturer of threshing machines has notably been more to blame than any one else for the evils and losses that have been occasioned by second-hand separators. He has had goods to sell and has been eager to sell them, with the result that a great many separators have been taken in trade that should have been taken off from the market entirely. The average thresherman has been only too glad to get what he could out of his old machine, little realizing that like a boomerang it would soon come back and smite him in a most vital spot—his pocket book.

It is necessary for threshers concerns to re-possess fairly good separators, and these of course must be marketed in some way. The same thing is true where the thresherman has run his separator for a season

or so, and decides that he wants a larger rig. The deliberate trading for old and worn out separators by the thresher companies, and then attempting to realize something on them by re-selling them again should be stopped as it is encouraging a practice of the threshing business that is seriously injuring it.

But the thresherman says, "Would you expect me to throw away the \$50, \$100, or \$150 that I can get for my rig in a trade?" You are not throwing it away, for don't you forget it when a thresher company decides to take your old separator in trade, it does not give you as good a deal as when it sells you a rig on a clean sale and no trade. The trade proposition is used in many cases simply as a handle with which to catch your order, and you do not make any where near what you think you do.

You, as a thresherman, had far better own your separator as long as it is profitable, and then pull it into the fence corner as a source of supply for bolts and rods, etc. Don't by any means sell it in your own neighborhood unless you want to help kill the threshing business in that vicinity.

You, as a farmer, should always insist on having a good separator thresh for you if it is possible to get it. It is your grain that is being handled, and after you have plowed and seeded, and harvested, you cannot afford to have your crop fooled with by any old clap-trap rig, that is liable to break down at any minute. It is a difficult matter to say just when a separator has reached the point where it should be discarded as

unprofitable to either the thresherman or the farmer, but one thing is dead certain, the wholesale traffic in second-hand grain threshers that is now so prevalent should by all means be stopped.

You, Mr. Farmer, by insisting on having a good machine thresh for you, and you, Mr. Manufacturer, by curtailing the traffic in this class of worn out goods can accomplish wonders toward relieving the difficulty.

Weeds and Yields.

That weeds reduce yields is evident. To get some idea of how much weeds might reduce yields I selected a field that was weedy with pigeon grass; the wheat was ripe. I measured out a square yard at several places, and pulled the weeds carefully so as not to disturb the wheat. The weight of the weeds without roots was as follows:—91 oz., 58 oz., 64 oz., 56 oz., and 60 oz., making an average of 66 oz. per square yard. The first one is quite a little above the average. If that is left out, the average will be 60 oz. to the square yard or three and three-fourths lbs. This would make 14,520 pounds to the acre. A sample of weeds was dried, and gave 21 per cent dry weight, or 3,049 lbs. of dry matter, one and one-half tons, or enough to reduce the yield of wheat 25 bushels, provided wheat could have made as good use of the moisture and plant food. One thing is certain, and that is that the growing of these weeds used up 2,100 tons of water, the equivalent of 18 inches of rainfall, and that is rain that was actually in the soil where the wheat could have secured it. There is no place for the weed. It is an expensive thing to have on the farm.

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HOW I WOULD FARM A SECTION OF LAND.

Continued from page 9

four inches, I will be content to bring up another inch and a half of subsoil, making a depth of five and a half inches in all, which will suffice until I summer till this plot a second time, which will be in three years time, when I will subsoil another inch and a half, making a total depth of seven inches, which I consider the correct depth.

Now the engine will handle the full seven plows quite easily, plowing to a depth of five and a half inches. Then one of the teams will hitch on to the packer (an 8 foot packer will just cover the seven plows), and follow behind the plows. The other team will hitch on to 16 feet of drag harrows, and double harrow behind the packer. In this manner the three units—engine, packer team, and harrow team, will make the same number of rounds per day, and keep right together in the field. Also the packer and harrows will follow immediately behind the plows, thereby forming a perfect mulch, and conserving the moisture, which latter is always the prime essential in this semi-arid west.

During the balance of the summer months I will turn both outfits into the summer fallow—after every good rain—with the drag harrows or cultivators. Thereby prevent the surface mulch from caking, and destroying the weeds.

In the fourth year we will repeat our cycle of operations, the only difference being that we will have no breaking to do. This year our work will be much easier, as the land will all be fairly smooth, which will make it much better for men, horses, and tractor.

In the spring of the fourth year, it will only be necessary to drag harrow the summer tilled land on Plot 3 before drilling to wheat. I would sow wheat on summer tilled land, and oats or barley on fall plowed land. In this year, and every year following, there will be 400 acres to plow, 200 acres of summer fallow, and 200 of fall plowing.

I might say, in conclusion, that should you find your bank account gradually swelling, as you undoubtedly will, do not invest in any more land, but turn your attention to live stock. Hogs are a good insurance medium for frozen grain, and pure bred horses are a source of large profits if a man can get started right.

And if by following the above routine, or any similar one that will suit your local conditions, you do not make a good showing on the credit side of your ledger, you will greatly surprise,

Your Humble Servant at
Sask Landing, Sask.



“IDEAL” Fence will hold a Buffalo !

Any attempt to get the better of “IDEAL” Fence will only make him look foolish. “IDEAL” Fence was chosen by the Government out of fourteen makes, to fence in their herd of wild Buffaloes at Wainwright. Naturally, Buffaloes don't take kindly to fence of any kind, and “IDEAL” Fence was tested pretty roughly the first few weeks at Wainwright. NOW, the Buffaloes know better.

“IDEAL” Fence and its never-give lock are made of all large gauge No. 9 hard steel wire, heavily galvanized. Rust proof, won't sag, won't weaken, won't get unsightly.

Get a Handsome Picture Free!

Send us the names of five men who would be interested in good fencing and we will mail you a beautiful picture in colors of the herd of Buffaloes in the Government preserve at Wainwright. This picture is an excellent production, and worthy of a place in the finest home.

Send in Five Names and get your Picture by Return Mail

IDEAL FENCE CO., Limited, WINNIPEG



THE OWENS Smut Machines Are the Only Machines

By the use of which you can be absolutely sure that every kernel is treated. They were manufactured to meet the great demand for a thoroughly practical machine which

would handle seed grain in such a manner as to ensure the thorough wetting of each kernel and at the same time remove the smut balls as well as king heads, wild oats, pin oats, rag weeds, light seeds, etc.

Made in Two Sizes

No. 3

30 Bu. per Hour

No. 4

50 Bu. per Hour

Send for our Free Booklet,

“SMUT FACTS”



Prof. Henry Bolley, N.D. Agricultural College, says: “Smut is one of the great drawbacks to the growth of wheat in the Northwest. The farmer ought to object to the growth of smut for every reason, especially as he is in a position to object with the best hope of success. He can prevent the appearance of smut in the crop, which he has for sale.”

THE HARMER IMPLEMENT CO. 181 Princess St. WINNIPEG

Stocks at Winnipeg, Regina and Saskatoon

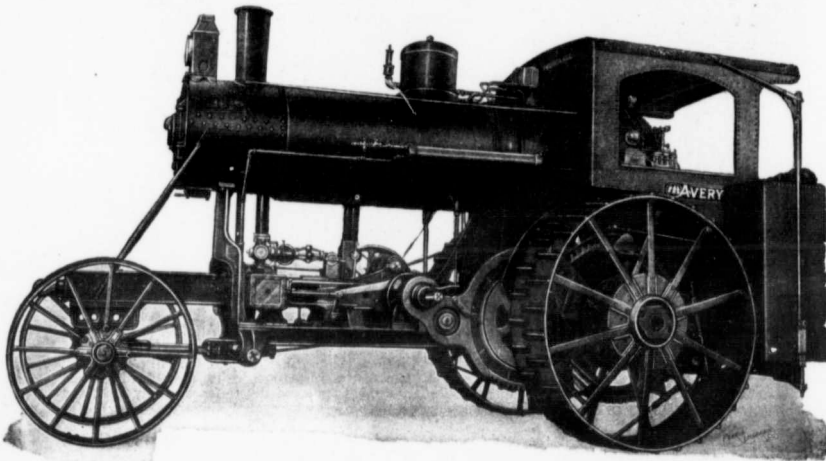
THE OWENS

Smut Machine Removes This Great Drawback

Watch For Our Big Special Plowing Number.

POWER FOR

For Every Man



What kind of Power do you need for your work?

ARE YOU A THRESHERMAN, or interested in the business?

ARE YOU A FARMER Or, are you doing work where No matter what power you the AVERY LINE that will work.

If you want a Steam Engine, Engine will give you the power or Heavy Traction Work.

If you want a Gas Engine you that you can use for any kind of eral Farming and Hauling.

Or, if you have hauling to do, also do general farming and belt Farm Truck which is a Com-General Power Machine.

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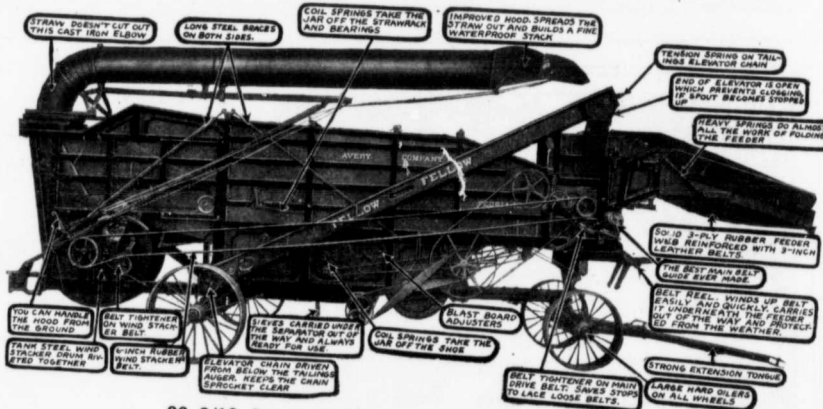
Whether you want power in the belt or at the draw bar, Avery Undermounted Traction Engines take the lead. In the 1911 Winnipeg Motor Contest, the Avery Undermounted Engine pulled the Highest Horse Power in the belt ever pulled in any contest.

And because it's Undermounted, this power pulls in a straight line direct from cylinders to draw bar. There are also other improved points in Avery Undermounted Engines.

You'll find an Avery easier to steer, belt, oil and fire. No leaky brackets to fix because no pulling strains on the boiler. It's almost like being a railroad engineer to handle the throttle and reverse.

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Tells you about the results you get from the Avery Undermounted construction. All about why it lasts longer, pulls harder and is easier to handle. For treshing, plowing, grading and general traction and belt work. Investigate this engine fully. Ask for a complete Avery Undermounted Engine Book.



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99 9/10 per cent Grain Saving Proved by Actual Field Tests — practically perfect.

That's the wonderful record made by Avery "Yellow Fellow" Separators in 27 field Tests. Best Grain Saving Record ever made by any separator.

An Avery puts the farmer's grain in the wagon and not in the stack. No green straw stacks after an Avery "Yellow Fellow." Avery "Yellow Fellow" Separators save the grain and do good cleaning. Fast work — thorough work — steady work. Breakdowns almost unheard of with the "Yellow Fellow". No idle crews lying around all the time at big expense. Small repair bills. Teeth guaranteed for life against breakage. The Avery gets there and gets away. It is the "on time" thresher.

Get Big Free Book About Grain Saving and Other Facts.

Interests every thresherman because it tells him how to do better work, get more jobs and make more money. Interests every grain growing farmer because it tells him how to save more of his grain, get it cleaned better — and get his threshing finished on time. Whether you're a thresherman or a farmer you need to know all about the grain saving and other facts told in this Avery Book. Ask for Avery Separator Book.

You are backed up by the guarantees when you buy an Avery machine

Avery Engines are entered in all the Big Moto In the 1911 Winnipeg contest first in its class in fuel economy the Avery Fan Undermounted Engine won both on the brake tes first place in it sweepstakes in the Entire Con- test over 29 con- Avery Guarantees are the strongest given of machines by any manufac- turer.

You can get just the power you need for do work from the Avery Line. It's the Largest an built. It's the I date Line of Power Machines and Strongest Guaranteed Line. Write at once fo these machines. catalogs describing any or all of needs, and what you think will best meet your special informat to do and we will give you Use the coupon complete catalog by return mail. write a letter or postal at once. Address:

AVERY COMPANY, Peoria, Iowa St., HAUG BROS. & NELSON, Peoria, IL

WINNIPEG I E GLIA GA WESTERN CANA DIAN JOBBERS

ANY WORK

Every Man.

Power do you need for your work?

MAN, or intending to go into

interested in Power Farming? you have a lot of hauling to do? need, you can find a machine in exactly fit your needs for any

an Avery Double Undermounted you need for any kind of Belt

can get an Avery Gas Tractor work—Threshing, Plowing, Gen-

and want a machine that will work, you can get an Avery combination Gas Farm Wagon and

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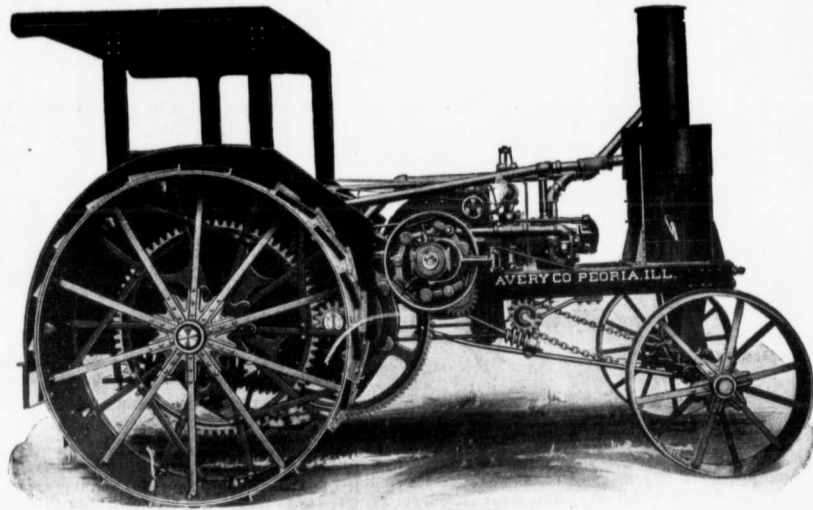
all the Big Motor Contests. the Avery Farm Truck won on the brake test, and the Avery first place in its class and the test over 29 competitors.

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you need for doing any kind of the Largest and most Up-to-built. It's the Best Tested Out Write at once for complete free these machines. Tell us which needs, and what work you want special information and send Use the coupon in the corner or once. Address:

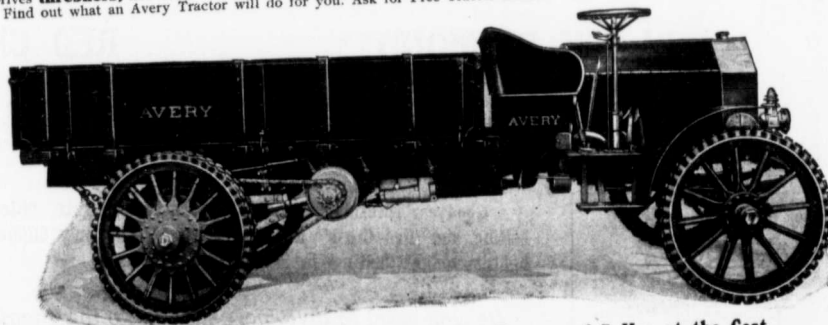
COMPANY, 675 St., Peoria, Ill. & NELLERMOE CO., LTD.

IE GHA GALGARY RN CANA DIAN JOBBERS



Don't Feed Your Crops Into Horses.

Sell your extra horses and farm with an Avery Gas Tractor. Gas for the Avery Farm Tractor costs less than horse feed. And that's only when working. When idle, a Tractor costs nothing for fuel. Light — weight — only about 11,000 pounds — Avery Gas Tractors are built for threshing and general farm work. Pulls from 4 to 6 plows; also discs, harrows, levelers, seeders, binders. Drives threshers, and other belt machines. Simplest tractor built. Find out what an Avery Tractor will do for you. Ask for Free Tractor Book.



My Avery Farm Truck is Doing the Work of 3 Teams and 3 Men at the Cost of 1 Man and 1 Horse.

That's one owner's opinion. Others are having similar results. No wonder farmers are selling their extra horses and getting Avery Farm Trucks to do their hauling and general farm work. Avery Trucks make money for owners right from the start and save them hard work.

An Avery Farm Truck hauls 100 bushels of grain on its own bed and pulls a loaded wagon behind. Speed 2 to 12 miles an hour according to road conditions and load hauled. Does all kinds of country hauling cheaper, quicker and easier. The Avery Truck also does field work and belt work. Pulls plows, discs, harrows, packers, seeders, binders. Drives threshers, clover hullers and other belt machines. Does work of 6 to 10 horses.

Free-Book on Avery Farm Trucks.

This Avery book tells about power hauling in the country and power farming with Avery Farm Trucks. Show how machine is built and tells what others are doing. Ask for free copy.

EVERY COMPANY, Iowa Street, Peoria, Ill. HAUG BROS. & NELLERMOE CO., Ltd., Winnipeg and Regina, Western Canadian Jobbers.

Gentlemen,—I am interested in the machines checked here:

- Double Undermounted Steam Engine.
- Gas Traction Engine.
- Farm Truck.
- Grain Separator.

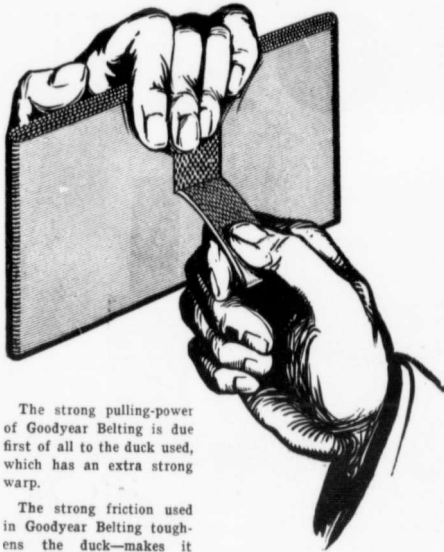
Are you in the market this year?.....

What kind of work do you want to use a machine for?

- Threshing
- Plowing
- General Farming
- Hauling

Name Town State

Date R.F.D. County



The strong pulling-power of Goodyear Belting is due first of all to the duck used, which has an extra strong warp.

The strong friction used in Goodyear Belting toughens the duck—makes it wear longer—adds to its pulling-power.

Goodyear Belting will bend without breaking. It bends easily. It does not break or split because the friction and cover are tough and pliable.

There is long wear in the thick, tough cover of Goodyear Belting. Its toughness adds to the pulling-power. It will not crack. It has a hard-wearing surface yet it is quite pliable. Note how it protects the edges of the cover and friction. The cover is vulcanized on and is practically seamless.

What to look for in Thresher Belting

All Thresher Belting looks pretty much alike. But the similarity ends there. A careful examination will show vast differences.

That is why it is so important that careful judgment be exercised in the choice of belting. A little time, a little care taken in the selection means money saved in the long run.

Goodyear Thresher Belting will not rot or harden because the duck is protected from moisture.

The duck in all belting is covered with a substance called "friction." In Goodyear Belting the friction is rolled into the duck under heavy hydraulic pressure. This process holds the layers of duck together so strongly that they are practically inseparable. No moisture can get between the layers. And both duck and friction are protected by a thick cover.

Goodyear Belting will not slip off the pulleys because the cover is finished with a rough surface. It grips.

Goodyear Thresher Belting

BLACK DIAMOND RED CROSS

The duck used in Goodyear Belting is weighed and tested for pulling-power. The friction is tested for consistency and adhesion. The cover is tested for toughness. All Goodyear Belting is properly cured and all stretch is taken out. Every Goodyear Belt is given a severe pulling-power test before it is allowed to leave the factory.

Following these tests for strength, careful laboratory tests are made to satisfy us that the quality of the materials is up to the Goodyear standard.

Then, too, Goodyear Belting is tested at every stage of their making and a record of the tests made on each belt is kept on file at the factory.

Not one Thresher Belt returned in 1911.

\$155.22 represents the total amount paid out for adjustment of claims by our Mechanical Department during the year ending Sept. 30th, 1911.

This was not for Belting alone but the sum includes claims on all such goods as rubber hose, packing, belting of all kinds and other rubber articles.

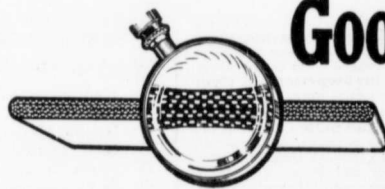
During the first four months of the present year starting on October 1st, 1911, in spite of a 50% increase in business, this Department has paid out in adjusting claims only \$23.93.

The only claim made on Thresher Belting amounted to \$1.50. And in this case the Belt was damaged in transit.

Not one Thresher Belt was returned to us in 1911.

Goodyear Thresher Belting is made in two weights—"Black Diamond" a heavy weight belting, and "Red Cross" a lighter belting. The only difference is in the weight. The lighter weight belting is less expensive.

Do you want to give more thought to the choosing of your Thresher Belting? Write our nearest branch for Booklet.



Goodyear Tire & Rubber Co.

OF CANADA, LIMITED.

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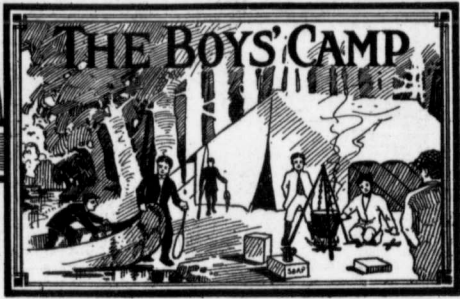
MAGAZINE SECTION

WITH THOUGHTS LIKE THESE ARE ALL OUR CARES BEGUILLED.

Wanted—A Man

WANTED a man of courage who is not a coward in any part of his nature, Wanted, a man who is well balanced, who is not cursed with some little defect of weakness which cripples usefulness and neutralizes his powers. Wanted, a man who is symmetrical and not one-sided in his development, who has not sent all the energies of his being into one narrow specialty and allowed all the other branches of his life to wither and die. Wanted, a man who is broad, who does not take half views of things; a man who mixes common sense with his theories, who does not let a college education spoil him for practical, every-day life; a man who prefers substance to show, and one who regards his good name as a priceless treasure. Wanted, a man who, no stunted ascetic, is full of life and fire, but whose passions are trained to heed a strong will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all vileness and to respect all others as himself. No man who can "fill the bill" will be turned down anywhere.

RACING FOR THE THRESHERMAN & FARMER



The Girls' Cozy Corner

THE COMMONPLACE GIRL.
By Pauline Frances Camp.

A little brown slip of a girl,
With not a dimple or a curl,
Her gown is plain, so is her face;
Her very name is commonplace.

Her fingers do not move with ease
Upon the smooth piano keys;
The gift of song has passed her by,
Though she can hum a lullaby.

But she can mend her father's socks,
And build we Boy a house of blocks,
And though she cannot make good fudge,
Of bread and biscuit she's a judge.

And she can cheer up dismal folks
With merry laugh; and she can coax
Dear grandma from her fireside chair,
And lead her out to take the air.

So though in stately Hall of Fame
They may not write her simple name,
Within our hearts we'll give it space:
Our Lady of the Commonplace.

Forty-one Miles from Town

Tyner, Sask.
Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner.

I live on a farm forty-one miles from the Merdis town. We had 400 bushels of flax this year. I have three cats and a dog. They are great pets. We have nine head of horses and two cows and four calves.

I went to school this summer for 2 months and I liked it very much. I am in the second grade. I am ten years of age on the 20th of February.

I hope to get a prize. I have written to the Legend of the West and I got a button and it was very nice. I like the Legend of the West very much. All the boys and girls write to it.

We have a De Laval Separator and my mother likes it very much.

I have two brothers and two sisters. One of my brothers and one of my sisters are dead. My sister is dead three and a half years and my brother is dead two years.

I like to ride horseback. We have one bay horse and I can ride her fine. We had a pond last summer and there is water in it yet.

I like to write letters very much. I write letters for my mother. I can't think of anything to write just now. I would like to see my letter in print.

Our teacher's name is Mr. A. C. McCulam and he is very nice. He never whipped any of us all the time we went to school. I had three and a half miles to walk; next summer I will have one

and a half miles to walk. They are building a school 28x32. My father is Post master at Tyner, Sask.

Wishing the Girls' Cozy Corner every success, I remain, yours truly, Eva C. Burns.

Milestone, Sask
Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. My brother takes the Canadian Thresherman and Farmer, and I like to read the girls' and boys' page. I am very fond of reading letters.

I go to school and I am in the third grade. I ride to school. I live on a farm two miles from school.

I have two brothers but no sisters. For pets I have two cats. We have two dogs, 10 head of cattle, 7 work horses, a little colt, three pigs and about fifty hens. The hens do not lay eggs yet.

My age is 13 years old.
Well, I think my letter is getting too long so I think I will close for this time. I will write a letter again if I may.

With best wishes to all the readers, Yours very truly, Helga Malm.

Battle River, Alta., Jan. 30, 12
Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner. My father takes the Canadian Thresherman and Farmer. We like it fine.

We live two and a half miles from school and 13 miles from Wetaskiwin.

My brother is ten years old and he is only two inches shorter than I. I am keeping house for my father now, but as soon as we get a hired girl I shall go back to school again. I am in the Fifth Grade.

We have twenty-eight head of horse and eight cattle and nearly one hundred pigs. For pets we have a dog and cat. Their names are Kitty and Prince.

My brother and I have a team of ponies of our own, also buggy, cutter and harness. One pony is very tame but is an awful fighter; the other is more wild. He belongs to me.

Well, as this is my first letter to your Cozy Corner I will stop. I am sending in a drawing. Ella M. Keeler. (Age 12 years.)

Midale, Sask.
Dear Cousin Doris:—This is my first letter to the Girls' Cozy Corner and I hope to see it in print.

My father has taken this paper for a year and we all like it fine. We have quite a lot of snow here now and to-day it is snowing and raining both at the same time it makes it pretty bad for the ones that have to be out in it.

I don't go to school now because we have no teacher, but our school is going to start the first of April. I am not sure yet if I can go, they may need all the horses and it is too far to walk.

Well, I see you are giving prizes for the best letters and I will try and get one.

I wish it was summer so I could pick berries and ride horse back. We only live a mile from the river and lake and last summer our cows were always down there and in the evening I would get them or my sister would get them

Roseville Delmas, Sask., Feb. 1911
Dear Cousin Doris:—This is the first time I have written to The Girls' Cozy Corner, and I would like to see my letter in the paper. I belong to another club called "The Young Beaver Club," and I like the Club very much, I have won quite a nice lot of prizes with my letters.

I have quite a number of books of my own; I am a great book worm, for I think there is nothing I like better than books for they always last, they don't melt away like chocolates, do they? I think my

favorite authors are Mrs. L. M. Alcott, Mable Mackintosh and R. M. Ballantyne. I have read "The Coral Island" by R. M. Ballantyne, and "Madcap Marigold" by Mable Mackintosh, and quite a few of Mrs. Alcott's. I have read "Little Women" four times and I could read it again it is such a lovely book.

Yes, dear Cousin, I think it would be very nice to have a badge for our Club. I quite agree with Mary McDougall, one of the members of your Cozy Corner. I see there are more letters in the Boys' Camp than in our Corner, so girls, we will have to hurry up and get up to them, we can't let the boys beat us, you know.

I am fourteen years of age and I have only been to school seven weeks in my life and I am in Grade IV, but my mother taught me at home and I thought I should never like school when I was home but I like it very much.

With best wishes to you Cousin Doris, and the members, I remain, Your loving cousin, Prairie Flower.

The Canadian Boys' Camp

HE MUST DIG.

He wanted a job, and like everyone else,
He wanted a good one, you know;
Where his clothes would not soil and his hands would keep clean,
And the salary mustn't be low.

He asked for a pen, but they gave him a spade,
And he half turned away with a shrug,
But he altered his mind, and seizing the spade—
he dug.

He worked with a will that is bound to succeed,
And the months and the years went along.

The way it was rough and the labor was hard,
But his heart he kept filled with a song
Some jeered him and sneered at the task,
but he plugged

Just as hard as he ever could plug;
Their words never seemed to disturb him a bit—as he dug.

The day came at last when they called for the spade,
And gave him a pen in its place.

The joy of achievement was sweet to his taste,
And victory shone in his face.
We can't always get what we hope for at first—

Success cuts many queer jigs,
But one thing is sure—a man will succeed
—if he digs.

A Bicycle For Sale.

Dear Canadian Camp:—This is my first letter to the Camp and I would like to see it in print next time.

I live at Morden and we have a farm and a blacksmith and a threshing machine and I have a bicycle and I have bought a motor car, so I would like to sell the bicycle. It is in nice order, tires good, with lamp and horn and pump, ladies' frame. If some of you boys want to buy a bicycle, don't miss this offer. I will sell it for \$8.50, eight dollars and fifty cents, \$4 cash with order and the rest C. O. D.

I guess I will close wishing the Club every success. I remain, yours truly, Lewis Kruschell, Morden, Man.

Sheho, Sask., Feb. 3rd, 1912
Dear Cousin and Campers:—I have never written to your Club before but I think I will try now.

I have a lot of work to do now, cut wood and do chores. I have a "Little Scout" 22 rifle but I have not shot anything with it. We had a lot of partridges and prairie chickens this season.

I have read some letters of other members of the club and see that some of them have told about adventures they have had. I don't think I have any adventures to tell about, but one fall soon after we had threshed, my brother and I were on a straw pile and as I was going to slide down one place, I slide into the pile and was covered up with straw and I had an awful hard time to get out, when I did get out I was nearly choked with chaff, etc., and I left my hat in the straw pile, but it was found when we were getting straw one day.

We were nearly burned out one day a year ago last spring. The fire came all through the bluff near our house and killed all the trees, but we got the fire put out before it did any damage to the buildings.

Do any of the Campers like gardening? I do. Last year I had thirty bushels of potatoes, some carrots, beets, peas and beans, etc. I have a heifer and calf of my own and expect to get some more cattle soon.

Wishing success to the Club, I remain, Yours truly, Jack Quinn.

Heppburn, Sask., Jan. 26, 1912.
Dear Cousin Doris:—This is my first letter to your Club. My father takes the Thresherman and Farmer. I like to read the letters of the Boys' Camp.

I am eight years old. I go to school every day and I am in the Third Grade. The teacher's name is Albert R. Scott.

The school is not very far from here, about one mile. In winter we drive and in summer we walk. There are 29 pupils in the school. We had a Christmas concert in our school. I had two recitations and a dialogue. The school house was very crowded.

We live two and one half miles from Heppburn. There are only a few stores in the town but it is getting larger.

I would like to see my letter in print. Wishing the Club every success, I remain, Your friend, Jacob Friesen.

Children's Dresses

STYLISH little suits and dresses can be made for the children out of father's or mother's, or the older children's discarded garments with Dyeing them with

DYOLA
ONE FOR ALL KINDS OF GOODS

and then making them over.

Send for Sample Card and Story Booklet. 84 The Johnson-Richardson Co., Limited, Montreal, Can.

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Roseville Assorted PICTURE POST CARDS. In one box you can earn this handsomely Chased Signet Ring, engraved with any initial desired Free. The design is an exact duplicate of a solid 18K Gold pattern. Given for selling only 18 pkgs. of our Multi-color Picture Post Cards at 10c. a pkg. Each pkg. consists of 6 cards done up in a Valuable Coupon Envelope, which makes your friends buy them on sight. Don't wait a minute. We prepay postage on both Cards and Ring. Big Catalog of all our Premiums sent with each order. COLONIAL ART CO., Desk 7L TORONTO

May
Dear Boys
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Maymont, Sask., Feb. 12th, 1912

Dear Boys' Camp:—This is my first time to write to the Boys' Camp. I am twelve years old next July. I am the eldest of the family, there are seven of us.

We live on a farm seven miles from Maymont. We have seven horses and three cattle. We have also some turkeys and hens. Our sow had some little pigs, they are all dead. We have two pigs. We have a gasoline engine and chop every Friday when there is any and when the weather is good. I know the way to start and stop the engine. I am not strong enough to turn the wheel.

I am in the third book and Grade Four. School does not start till next May. Gerald Lawrence Walton.

Hepburn, Sask., Jan. 26th, 1912.

Here is another boy who would like to get into your Camp this year because I like to read the letters from the boys and girls who have been enjoying themselves with the Club and so I would like to write a short letter to the Boys' Camp. I am twelve years old and nearly always go to school except in summer when harvest comes I have to stay home and help.

We had 137 acres of wheat and 31 acres oats and four acres barley. From that we got as follows: 3260 bushels wheat, 1400 bushels oats and 160 bushels barley. Some of the wheat was badly frozen and the oats were frozen a little too. Of live stock we have eleven horses, five milk cows, one bull, two heifers and one calf. We also have eight pigs, about 100 hens, twenty-four pigeons, two dogs and four cats, which have their work in catching the mice which are numerous here.

As pets we have two tame rabbits. They were young rabbits when we got them but now they are big. We keep the pigeons on a loft on a shed where they have their nests. The rabbits live in a small box in their fence. They are all white.

The country up here is nice and smooth. Their was quite a large lake about a quarter of a mile from our farm but it is nearly dried up already.

Hoping to see my letter in print and wishing to get a book as a prize, also wishing the club every success, I remain, Your member, Jno. P. Friesen.

Lemberg, Sask., Jan. 26th, 1912.

Dear Campers:—This is my second letter to your Club. My father takes the Canadian Thresherman and Farmer and thinks it fine. I am not going to school and I have not been there for some time. I hope you are getting boys and spending a happy time and I am glad to say I am.

My father owns a gasoline engine, it is only one and one-half horse power but it can work; we also have a chopper and a washing machine that will run with a gasoline engine. It is a dandy.

We have four mares and four horses, two colts, one cow, two calves, nine pigs, three hens, one rooster, one dog, one cat and a pony twenty-four years old. We have a telephone. How many of our Campers have a telephone? I have a bicycle. How many of our Campers have a bicycle? We have a fanning mill fixed to run with an engine. Our crop came out pretty good, we had about 13000 bushels of grain.

Well, I hope my letter will jump over the waste basket and win the prize. As my letter is getting long enough I will close. Yours truly, William G. Stacey. P.S.—I am ten years old.

Asker P.O., Alta., Jan. 29th, 1912.

Dear Cousin Doris:—I will now attend to your Club again. I saw my last letter in print.

I am writing with pencil because we have no ink.

Well, I will have to tell you about things going on in Asker. Our teacher's name is Miss Agness Dick. Our teacher, S. W. Thurber, left here for the Normal school. He promised to be back in four months. He was a good teacher.

Two of my uncles from the States are up here visiting. My brother and I have caught fifteen muskrats and one weasel. I was eleven years old on the 10th of January. I am in the third class at school. I got quite a number of Christmas presents.

As it is getting late I will have to stop. I would like to correspond with any girl or boy of my own age. Good-bye, Victor Krefling.

Put Your Feet in a Pair at Our Risk! STEEL SHOES

Will Surprise and Delight You With Their Lightness, Neatness and Comfort—Their Almost Unbelievable Durability

Must Sell Themselves

We ask no favors for Steel Shoes. Compare them with the best all-leather work shoes you can find. Give them the most rigid inspection inside and out. Let them tell their own story. It's no sale unless, of your own accord, you decide that you must have them.

Better Than the Best All-Leather Work Shoes

Steel Shoes are the strongest and easiest working shoes made. There's more good wear in one pair of Steel Shoes than in three to six pairs of the best all-leather work shoes. The leather is waterproof. The Steel Soles are wear-proof and rust-resisting. They are lighter than all-leather work shoes. Need no breaking in. Comfortable from the first moment you put them on.

Impending to get out of shape. They keep the feet dry. They retain their flexibility in spite of mud, slush or water. They care-corns and bunions, prevent colds and rheumatism—save doctors' bills and medicines.

Thousands of Farmers Shout Their Praises

The enthusiasm of users knows no bounds. People can't say enough for their comfort, new one, lightness and astonishing durability. The introduction of Steel Shoes in a neighborhood always arouses such interest that an avalanche of orders follows.

Here is the way Steel Shoes are made: The uppers are made of a superior quality of leather, as water-proof as leather can be tanned. Wonderfully soft and pliable—never gets stiff. The soles and sides are made out of one piece of special, light, thin, spring, rust-resisting Steel. Soles and heels are provided with adjustable Steel Rivets, which prevent the bottoms from wearing out. Rivets easily replaced when partly worn. 20 extra rivets cost only 25 cents and should be on the shoes in good repair for at least two years! No other repairs ever needed! The uppers are tightly joined to the steel by small rivets of rust-resisting metal, so that no water can get between.

The soles are lined with soft, springy, comfortable Hair Cushions, which absorb perspiration and odors and add to ease of walking.



FREE!

Send for book, "The Sole of Steel," or order Steel Shoes direct from this ad.

For Men—Sizes 5 to 12, 6, 9, 12 and 16 Inches High

Steel Shoes, 6 inches high, extra grade of leather, black or tan color, \$3.50 per pair. Steel Shoes, 9 inches high, extra grade of leather, black or tan color, \$3.00 per pair. Steel Shoes, 12 inches high, extra grade of leather, black or tan color, \$3.00 per pair. Steel Shoes, 16 inches high, extra grade of leather, black or tan color, \$3.00 per pair.

For Boys—Sizes 1 to 4

Boys' Steel Shoes, 6 inches high, \$2.50 per pair. Boys' Steel Shoes, 9 inches high, extra grade of leather, black or tan color, \$3.50 per pair.

N. M. RUTHSTEIN, The Steel Shoe Man

DEALERS' NOTE—Give your customers a square deal by handling Ruthstein Steel Shoes. Write for terms today to Blatchford Davis & Co., Ltd., 6-82 W. Front Street, Toronto. To Western Dealers—Write to George G. Lennox, 57 King Street, Winnipeg, Manitoba.

Overwhelmed by the World-Wide Demand

The success of Steel Shoes is almost startling. Within three years we have established Steel Shoe factories in Hadding, Wis., Toronto, Canada, and Northampton, England. These great factories, running at full capacity, can scarcely keep up with the demand from all over the world. The public is rapidly learning that Steel Shoes are

Good for the Feet! Good for the Health! Good for the Bank Account!

These shoes are better for the feet, better for the health, better for the pocketbook than heavy work shoes or rubber boots.

You Actually Save \$5 to \$10 a Year

by wearing Steel Shoes. Figure it out for yourself. One pair will outlast three pairs of ordinary work shoes. They save all repair bills and keep your feet in perfect condition.

Free Examination

And Your Money Back Promptly if It Looks Better Than the Shoes! You owe it to yourself to investigate. Get a pair of Steel Shoes or Free Examination by sending the price, which will be returned if you and your own feet are not convinced of their merits.

WHY WAIT? SEND NOW! No trial, no bother! No obligation! Don't hesitate! Act while this offer is open! Simply state size for Free Examination.

For general field work we strongly recommend our 6-inch high Steel Shoes at \$3.50 per pair or the 9-inch at \$3.00 per pair. For all classes of use requiring high-cut shoes our 12 or 16 inch high Steel Shoes are absolutely indispensable.

Dept. 306A Toronto, Canada United States Factory: Racine, Wisconsin Great Britain Factory: Northampton, Eng.

Write for terms today to Blatchford Davis & Co., Ltd., 6-82 W. Front Street, Toronto. To Western Dealers—Write to George G. Lennox, 57 King Street, Winnipeg, Manitoba.

Don't let repairs eat up your profits

Whether they represent actual cash outlay, or only the time of yourself and your help, repairs are waste just the same. When you make an improvement—no matter how small its cost may be—let it be permanent. Then it is a real investment, something on which you can realize in cash should you decide to sell your property; and something that will pay you constant dividends in convenience, sightliness and comfort as long as the farm remains your own.

Concrete Improvements Are Permanent

They last as long as the very hills themselves. They do not require experts to build them. Their first cost, in most cases, is no more than for inferior materials.

Aren't you interested in the subject of permanent, modern farm improvements?

Then write for the book that describes hundreds of them— "WHAT THE FARMER CAN DO WITH CONCRETE"

It isn't a Catalogue. Every one of its 160 handsomely illustrated pages is interesting and instructive. They tell how to mix concrete, how to place it, what can be done with it. The book was printed to sell for 50 cents, but we have a copy for you, free.

Your name and address on a postal will bring this book TO YOU ABSOLUTELY FREE

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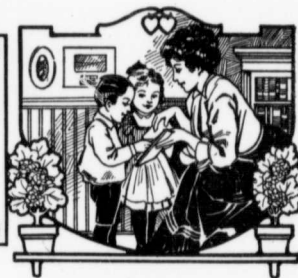
12
March, '12
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Womans' Department

Conducted by PEARL RICHMOND HAMILTON

A HOUSEHOLD FORUM FOR THE DISCUSSION OF EVERYTHING THAT PERTAINS TO THE HOME



THE LIGHT ON THE WINDOW SILL

Annette Chadbourne Symmes

When the shadows fall, at the close of day,
When the sunset fades, and the wind
grows chill,
I fold my sewing, and mend the fire
And put a light on the window sill.

The table is spread with a savory meal,
I wait his coming home from the mill:
The kettle sings o'er the crackling blaze,
And the light gleams bright on the win-
dow sill.

He is coming now, with a weary tread,
But he sees the light from the distant
hill,
And his heart can picture home's warmth
and rest
In the glow of the light on the window
sill.

Oh, many a time in the busy day,
He conquers the foe that tempts to ill,
With the thought of the home he will seek
at night,
And it's cheery light on the window sill.

So courage heart! Tho' the world's great
deeds
Shall ne'er be wrought by thy labor,
still
In a quiet home thou canst do thy best,
And keep a light on the window sill.

To hearth others to strive and win,
Is the humble task that thy days shall
fill;
And the busy workers the hand shall bless,
That keeps the light on the window sill.

LETTERS FROM A COUNTRY WOMAN

In Which Problems Relating to the Farm Home Will Be Discussed.

Letter 1. The Farm Woman's Recreation.

Dear Martha:—
I have had it in mind for some time to write to you, but you know since you are a farm woman too, what a busy life mine is and how solidly packed every day seems to be with work—that-must-be-done. I know your hands are just as full as mine, I know that rarely is a mistress of a farm home mistress of her time, or herself and because I know this and the knowledge has filled me with a longing to do something, even ever so little to bring about a change, I have decided to write to you, and through you, in these columns, to reach other busy sisters. I don't know just when this longing became so strong that I felt I must "speak it out" in order to make my mind easy, but so be it. I must tell you some of the things that have been "borne in on me" lately. One of them is that we farm women have a long, hard row to hoe, and no mistake. It is an endless, wearisome way to the turning of the furrow and most of us have little mercy on ourselves in getting there. Which means that I think we are harder on ourselves than need be. Goodness knows, hard work is never easy, but there is no use adding to its load by whipping our poor jaded selves to greater effort when we have almost lost heart and are all "tuckered out." That is what I was when I was forced to call a halt, and then the change came. It came slowly at first, like an early good morning smile from the sun as it comes up over the prairie, a delicate pink at first then brightening and sparkling until the whole sky is filled with strong, glowing sunlight. I've seen the light, Martha, it is clear and strong and never again will I make drudgery of my row or fall to be mistress of my own place in the world.

Already I know you are saying to yourself, "Whatever has happened to

Sarah, she writes as if she had been left a legacy?" You have guessed right first time, as the children say, Martha. I have been left a fortune and to tell you about it is the real object of this letter.

One day last spring I received through the mail a package of pansy seed. It had been sent by a friend who visited me the year before and who spent most of her time trying to get me out on the prairie to pick wild flowers. She seemed to have a mania for being out of doors—to make friends with growing things! she said. To be honest Martha, she often annoyed me with her insistence that I go with her and I was almost glad when her visit was over, though she is the cheeriest, happiest woman I know and the least trouble in the world to entertain, for she enjoys everything. But it seemed to me I couldn't leave my house work to go flower-hunting or star-gazing and as for spending half an hour in the evening, watching the sunset, why I simply couldn't do it.

Well, the package of seeds came and with it a little note from my friend asking me to plant them in a bed near the house and take care of them for her as she wouldn't be able to see the prairies this summer and she wished the pansies to be her proxy. I am real fond of this friend and so I decided to plant the seeds and if they grew call them "Julia's Spirit." But I begrudged the time it took to get the ground in condition for the seed and before the first green leaves appeared I was half sorry I had undertaken the task because there were so

many more important things needing me in the house. The first day I went out to pull up a few weeds and to loosen the soil around the little plants I was real cross with every one in general and myself in particular for being so short-sighted as to take on this extra work. But when I went back to the house at the end of half an hour I felt so much refreshed that the work—which was all there just as I had left it—seemed to slip through my hands with so much ease and despatch that I was forced to admit I had gained time rather than lost it.

As the pansies grew my interest in them increased and long before the first bud opened I found myself looking forward eagerly to the half hour I would spend in my garden. I began to notice other things too. I found I was less weary at the end of the day if I had spent a short time out of doors. I found other things to interest me in the garden. I found myself trying to get my pansy bed about the sunset hour so I might watch the glorious sky-painting and I found I enjoyed John and the children more. To be truthful I think they found me more companionable too, for one day John made some shy remark about the house being unusually inviting these days and little Mary nestling down beside me as I worked among my pansies, said, "Mama, you have another kind of face when you dig than when you make bread and cake." Thinking I had smeared my face with soil I put up my hand to brush it off but Mary's next remark explained, "It is so much rosier and jollier when you dig."

That pretty nearly decided me in favor of gardening. If it improved my looks sufficiently to attract my little daughter's attention, why I certainly would keep it up. There is hope for a woman you know, Martha, so long as she is interested in her appearance and I'm sure there are very few of us who are not susceptible to little compliments now and then, even from a little child.

Well, the blossoms grew sturdy and strong and when the blossoms came they were larger and lovelier than any I had ever seen. I don't think pansies ever had softer, richer or more velvety petals and their gentle, elusive fragrance always reminded me of my gentle, happy friend, whose proxy they were. From the time the first blossoms appeared until late in the fall I always had a few on the table; keeping them closely picked. I found made them blossom more profusely.

I was not the only one who appreciated their beauty, for many times I saw John touch a blossom almost tenderly with the back of his big, rough finger and once the hired man said they were "mighty fine posies." When I brought in the very last blooms one frosty day and said there would be no more pansies that season, John's voice had a tone of regret in it when he said, "So Julia's visit is over, I'm sorry, for it has been a real pleasant one."

I can't begin to tell you all the help it brought to me, yet I want to try for I am sure a similar recreation would be as helpful to you, though maybe you have not become so wedded to your work as

NOTICE TO THE HOME ECONOMICS SOCIETIES.
We wish to express our appreciation to the members of the Home Economics Societies for the splendid support they have given us during the past year by sending in their reports to The Canadian Thresherman and Farmer's Magazine, the Women's Department. We furthermore wish to express our appreciation for the vote of thanks extended to us by the delegates at the convention and for their promise that the secretary of each society would send us for publication a report of the work of their society every month. These reports will be printed every month. In this way the societies will be kept in close touch with the work of other societies.
E. H. HEATH Co. LTD.

I was. I was in the rut for sure, so deep the sides of it had fallen in, as it were, and almost buried me.

Work, work, from morning till night, it was my only thought, my only aim to accomplish more to-day than I did yesterday. I was little better than a machine. Though the pansy bed seemed additional work at first, it soon became a diversion, a rest. I am convinced that we farm women need more than anything else, is a diversion, something to occasionally take our attention away from routine tasks and give us something fresh to think about. It doesn't make much difference what this diversion may be,—flowers, books, social life—anything so long as it takes us away from the cook stove, the dish pan and all things connected with our daily round of work. It is better, of course, if it takes us out of doors into the pure, fresh air and the sunshine. It is good, too, if it brings us into the society of our friends and neighbors, but if they are too far away to see them often enough, why then we shall find the flowers, the birds, in fact all the things out of doors, very friendly. Whatever it is, if it be the truly restful, beneficial kind, it is sure to bring good results, give us a truer attitude towards life in general, a fresher interest in our work, ourselves and our families, make new women of us in fact.

I have learned many things, Martha, since I planted that pansy seed and some of them I have found so useful I am going to write you about them in future letters. In the mean time write to me of your household problems and we'll try to solve them together. Your Country Sister.

REPORT OF THE FIRST DAY OF THE MANITOBA HOME ECONOMICS CONVENTION AT THE AGRICULTURAL COLLEGE.

The large Home Economics convention recently held at the Manitoba Agricultural College was so full of interest, sociability and helpful instruction that a proper report of it would fill all of the space allotted to the Woman's Department of The Canadian Thresherman and Farmer for twelve months. Great credit is due Principal Black, Mrs Charlton Salisbury, Miss Kennedy, and Miss Duncan for the very excellent manner in which the convention was conducted, for the entertainment of the delegates, and for the superior programme provided. The matron, Miss Stackman also deserves credit for her part in the planning of good meals for so many delegates. The delegates were most enthusiastic over the success of the convention and went home filled with new hopes and many helpful ideas for carrying on their home work for another year. The social atmosphere of the convention kindled every heart with an inspiration for promoting the social element among the women throughout the Province of Manitoba. The Home Economics Societies and the Home Makers' Clubs will do much to overcome the dangers threatened by isolation. Reports from the delegates show that Manitoba has eighteen progressive societies.

Deloraine has established a club room and has made it self supporting by afternoon teas, and Dufferin has sixty-three members. Their meetings have furnished splendid programmes consisting of demonstrations in cooking, and interesting papers on practical subjects.

Emerson offered prizes for the best pansy beds last year. This year they are planning to offer prizes for the best kept yard—a splendid idea.

Manitou has grown from a membership of twelve to one-hundred-thirteen. The Manitou members won many of the prizes offered by the Agricultural Society. They organized a branch society near them. Excessive is their motto and they are living up to it.

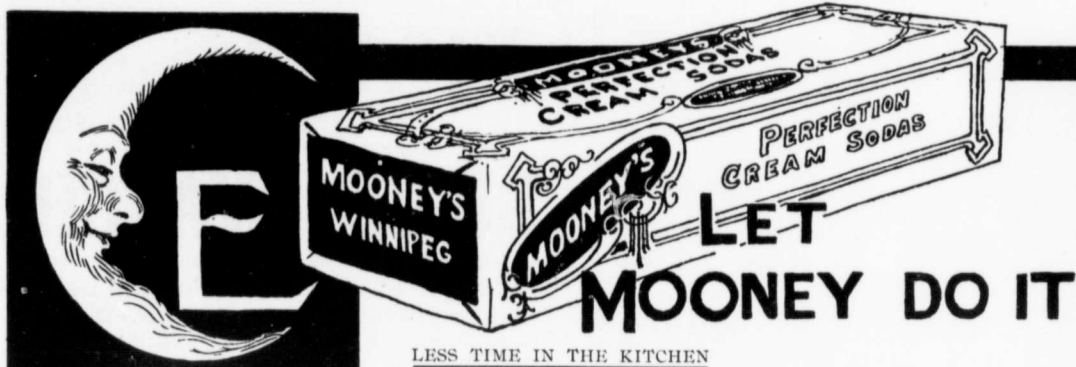
The Virden society sprang a surprise on the convention when their report was given stating a membership of one-hundred-fourteen—the largest in the province—a close but friendly rival to Manitou. The society has grown from seventeen to one-hundred-fourteen. Some of the women come in ten miles to attend the meetings. This society improved the local cemetery by appointing a committee to meet the town council. One member gave \$25 for trees. They have also supported a rest room, reading room and toilet room which is a great help to both the women from the country and town. They provide refreshments for the country women. The delegate who gave the Virden report said: "There should be no distinction made between women who live in the country and those who live in the town, they are all home-makers!"—a splendid statement. This society sends flowers to the sick. A vacuum cleaner is in the society for the members to use. The ladies of Virden are hostesses to ladies from the country in winter.

Morris is one of the largest societies as well as the oldest. The membership is ninety. During the year some excellent programmes have been given. They are planning a rest room.

Minnedosa Society offered fifty dollars for prizes in needle work, art and cooking. Their display was better than the displays at the Brandon and Winnipeg exhibitions. At one of their meetings the fireless cooker was demonstrated.

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That's your reward if you let **MOONEY'S BISCUITS** take the place of the bread and biscuits you bake yourself.

You'll find **MOONEY'S** a delightful substitute for your own best efforts—the family will like them. Because

MOONEY'S PERFECTION SODA BISCUITS

come to you straight from the oven in the big Winnipeg factory.

They have that freshness and crispness only to be found in a newly made biscuit. No other biscuit can come to your table as fresh from the oven as **MOONEY'S**.

Get the big package or the sealed tin—
both of them damp proof, dust proof,
dirt proof—and

"LET MOONEY DO IT"

a by-law prohibiting the filthy habit of spitting on the sidewalk.

At one of their meetings the matron of the hospital gave an address on First Aid to the Injured.

At another meeting a paper was given on the care of poultry.

The Morden Society has a change of Officers every year. The country members are in the majority.

Swan Lake has forty-nine members.

An address at one of the meetings was on Infectious Diseases, by a doctor. Another address was given by Mrs. Playfair on Tree Planting. This Society also managed a tag day for Ninette. An address on Typhoid fever was a feature of one of the meetings, and at another meeting Motherhood was the feature. The Swan Lake Society is having a program printed.

The delegate who gave the report from Swan Lake said that the two best helps realized by their society were the social bond and the teaching of women to express themselves. She furthermore stated that the Home Economics Society furnished a common ground of citizenship.

Valley River provides a play room for children during the meeting. It also has a rest room for farmers' wives while in town.

The Hamiota Society has thirty-six members. The members respond to roll call by giving a good recipe—an excellent milk idea. They have made a study for infant feeding.

The Neopawa Society meets the third Saturday in each month. They have twenty-one members. This Society is making a special effort to interest young girls and domestics. I am very much in sympathy with this movement. After the reports were given Principal Black gave a very helpful address. Principal Black has a big place in the hearts of the Manitoba farmers and he is putting forth every possible effort to make the Home Economics Society a help to the homes of Manitoba. For this reason he does not want the societies to discuss politics and religious creeds as it would ostracize some in every community. Principal Black had the hearty support of the delegates in the desire to suppress

the discussion of these subjects. He also desires to bring the young girls and boys of the Province in touch with the work of the College. Some classes have already been formed throughout the country for this purpose and they are extremely successful. More classes will be formed next year. Girls and boys who are too much interested in hockey matches and dances will through these classes change their ambitions for passing pleasure to the study of a vocation. A little recreation is all right but too much makes stupid and dull men and women. Battles will be fought not with draughts but in the homes.

Mrs. McCharles, of Manito, responded in well chosen remarks, in which she expressed in words of appreciation the

benefits received from the Home Economics Society. She voiced the feeling of all of the delegates. Mrs. McCharles is now President of the Manitoba Home Economics Society and the delegates are to be congratulated in their choice of a woman so capable for the office as is Mrs. McCharles. She has an able supporter in the Vice-President, Mrs. Dayton, of Virden.

Mrs. Chisholm gave an excellent address in which she said that the name of Home Economics Society means future generations. The Society helps the women socially as well as instructively. The members gain a great deal of knowledge in the meetings on subjects that are helpful in home-making. Mrs. Chisholm has the high regard of the members all

over the Province of Manitoba. As President she conducted the meetings in a very able manner. The entire society is more successful because of her very splendid work as President. We are pleased to know that she was honored by being made Honorary President.

Mrs. Jessie McEwen, of Brandon, gave a very interesting and inspiring address on Woman's Part in Developing Our Province. Mrs. McEwen is highly qualified to speak on this subject as she is one of Manitoba's pioneer women. Some of the ideas she expressed were exceedingly helpful. She said: "The happiest thing to look back upon is the privilege of helping others. God has set the highest value on human nature. Any movement to help homelife is God's work. It is woman's work. It is not enough for a woman to think of her home as 'my home'. Do not stop there but help others outside of the home. One cannot live on the prairie and be narrow." She remarked in a tone of regret: "I am ashamed of the rural schools in Manitoba. They are too small—they should be consolidated and have experienced teachers. I can count six school houses from my home. The Province must have compulsory educational law. It is the only Province that has not such a law. There are 11,000 children in Manitoba not in attendance in any school and the children have a right to the best education the country can offer.

Mrs. Genevieve Lipsett Skinner followed Mrs. McEwen's address. It is published elsewhere in this department.

Good Taste in Dress and Home Furnishings was the subject of Miss M. Kennedy's address. Her ideas were very helpful and practical. She stated: "Beauty is the result of obedience to law." Some know instinctively what is good taste—others need to study it. Too many colors in a room produce the same impression as a room full of people. All rooms should harmonize. Do not mix colors. Flowers and animals must not be in rugs.

Remember these three points in furnishing—make the room simple, quiet and comfortable. Curtains should hang straight and should not be draped.

MRS. NELLIE MCCLUNG.

In these days it has become far more than ridiculous to contend that in the general business and activities of life there are restrictions which disqualify a woman from any career simply because she is a woman.

What a point is given to this when one listens to a woman like Mrs. Nellie McClung on any public platform, or reads a book that she has written, or enters into that domestic circle of which she is the presiding genius.

If Manitoba has reason to feel proud of anything, the character and genius of the mothers and daughters of her farm homes will always command a first place in her long line of achievements.

Mrs. Nellie McClung is a representative Canadian woman who does honor not only to her Province but to that great Anglo-Saxon race to which she belongs. One of these days she will be acclaimed as a precious and splendid portion of our literature, because they have two great qualities that command and live in the hearts of the people. They appeal first and last to the humanities, and with a natural eloquence, they are "untrammelled by no laborious impossibilities."

Mrs. McClung's address the other evening was a concrete instance of the fact that when a woman steps out of the rut a little way to do something, she rarely, if ever, belittles the situation. How many men who get upon their legs anywhere in response to some fatal appeal to their vanity only succeed in exhibiting the foolish element in their "medley of manhood." As a display of effective utterance and natural aptitude for business, the Woman's Section of the Conference at the Agricultural College the other day left nothing to apologize for, far less to elucidate.



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The object of training is to know good things when you see them. Miss Kennedy demonstrated the hangings and decorations of rooms. Miss L. Black's address followed Miss Kennedy's. This is printed elsewhere in our department and I am sure our readers will find it very interesting.

After this programme of the first day the domestic science class served a dainty tea which was a credit to the class and their instructor Miss Dunman.

The evening programme was well attended and two very excellent addresses were given—one by Dr. Chas. E. Saunders, Dominion Cerealist of Ottawa and the other by Mrs. Charlton Salisbury.

Dr. Saunders, address was interesting to both men and women.

Mrs. Charlton Salisbury pleased her audience in her manner of handling "The Other Side of the Farmer's Life." She has the gift of oratory and her ideas were practical and convincing. Added to this she possesses a fund of good stories and a happy way of telling them. She made herself popular as a speaker. Mrs. Salisbury was the life of the convention and she managed the programme with an air of business and grace.

This is a report of the first day of the convention. Next month I shall give a report of the next two days. Lack of space prevents me from giving it all in this issue. I hope to publish some more of the papers as well and will also publish the names of the presidents and secretaries of the different societies. P. R. H.

AN INSTRUCTOR WHO IS A PUBLIC BENEFACTOR.

No other part of the public school course is so beneficial to the common good as is the work in domestic science; and the instructors of this course are real public benefactors. The following paper entitled "Household Science in Schools" was read by Miss L. Black at the Home Economics Convention. Miss Black is one of the instructors of Domestic Science in the City Schools of Winnipeg. She is most successful as an instructor and is an authority on the subject she teaches. So many of the delegates at the convention wanted her paper published that The Canadian Thresherman and Farmer secured it. We are pleased to publish it here for our readers.

HOUSEHOLD SCIENCE IN SCHOOLS.

By Miss L. Black.

The subject of Household Science is one which is now claiming a great deal of attention everywhere on this continent. In Western Canada its introduction is all in its infancy. A number of cities in this country have introduced it into their schools within the last two years and it is hoped that it will soon be found also, as part of the course of study in town and rural schools as well. In country schools however, there are difficulties to be met in the securing of suitable equipment as well as skilled teachers.

The desirability of providing instruction on subjects related to the life of the home is becoming more generally popular. In defining a College education, Prof. James, of Illinois University, stated that it fitted one to know a good man or woman when you saw them. In like manner we may say that the object of good training is to know good things when we see them. The bright alert girl knows that she needs Domestic Science and she is asking for it. She sees it in mental training, discipline and most of all in the things which she so much needs for her own life.

It is sometimes said that the things which are practical are not cultural. Does it not seem that everything which is done with a right aim and with the purpose of helping forward human life, as we find it in connection with the home, is truly cultural. So often in school the student chooses the classical course out of regard for pure culture, or the boy enters professional life and the girl as a Latin teacher. Another girl may choose the home economics course because it will help her in her life work.

There seems to be too great a tendency to make scientists of pupils rather than to apply the subjects to the needs of human life. Too much of the study is so far from anything in which the student is interested, instead of being brought in touch with that which is of vital interest in life. Just such points as what to do in simple emergency cases, are entirely overlooked. We read recently of a young life being lost by fire, because the victim

did not know what to do when she found her clothing enveloped by flames. This poor unfortunate may have been the brightest in the Latin class. A woman should have as much education as man but she is going to make a different use of her knowledge and she should be given the things which she will need most.

This condition may seem to apply more to those who have advanced to secondary on high schools, but there is as much necessity for instruction in at least the higher grades of the primary schools, as in those more advanced. In the lower grade schools, every girl is required to spend out of school a considerable amount of time in preparation of lessons related to school work; a small percentage also to the study of music. A pupil, whose time is thus taken, has little opportunity for house work.

Having passed to secondary or high school, her time for studying the work of home management is given usually but little consideration. Everyone can recall friends who have passed along this period in life in just such a manner and who are perhaps to-day engaged as teachers in the special work for which they were trained without having had much opportunity to study the art of housekeeping. It is even claimed by some that many divorce cases in United States have arisen from this cause rather than that of a useless or unworthy husband. The first real cause of much domestic unhappiness it is believed can be traced back to the untidy home or poorly cooked foods. All this the young husband may have endured cheerfully and even made light of at first, but seeing no improvement as the weeks passed, he became censorious and fault finding and the happiness of two lives is destroyed.

It often seems hard for parents to thrust any responsibility upon the young in the home. The mother, if well, prefers to do the housework herself, rather than allow the daughter to assist. How often we hear the impatient expression when the little girl wants to help mother, "Oh, do go away, I had rather do all the work myself than to be bothered with you—you are so slow and so untidy." The golden opportunity for both mother and child is thus lost.

If we could have in our schools a course which would give the girls and even the boys some ideas along one or more lines of housework or home living, they would be better able to cope with the every day problems of life.

In the city of Winnipeg there are two kitchens equipped for the Domestic Science work; one in the Aberdeen school in the north end and the other in the Alexandra school in the central part of the city. Only the Grade Eight girls in the various schools are given this instruction. Each class goes to one of the schools for a half day once each week. At each school there are enrolled about two hundred and forty girls. The kitchens are equipped for twenty-two and twenty-four pupils.

The course consists of about forty lessons in the year, but does not give so complete a knowledge of the subject as is desirable. In September next, there will be two new kitchens opened in the technical schools. By that time those going on into collegiate work will be given more advanced instruction.

The present course includes all the elementary principals of cooking applied to such food as vegetables, fruits, milk, eggs, meat, flour mixtures, salads, jellies, etc. The pupils are also given some elementary work as waitresses in setting of tables and in proper serving of meals. By the end of this course they have received a good foundation for continuing the course of study.

It is interesting to note that the girls are almost invariably intensely interested in the Domestic Science section of their course. It undoubtedly tends to develop skill and resourcefulness and enables them to see the aesthetic side of house work and bring the home into closer connection with the school. Many parents fail to realize the large number of hours their children spend each year in school and yet they fail to be interested to any great extent in this important dwelling place of those who have been given to their charge.

In connection with the course in Winnipeg, the girls are asked to try each week in their own home what has been taught in class and to describe the week following, the nature of their success. Of course there are some to whom housework does

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not appeal. We all know grown ups even who are not fond of it. In some cases our girls would like to try things at home but cannot. I suppose they are told as said before, "Go away, you make more work than you do."

I do not know of any places in the Eastern Provinces of Canada where Domestic Science has been introduced into the rural schools. It is, however, reported as being carried on very successfully in various places in the public and high schools in United States. The States of Iowa, Kansas and Virginia stand at the head of the list. Kansas has twenty-five schools in which Domestic Science and sewing are taught and several which teach sewing alone.

In the rural high school in Coin, Iowa, a town of over one thousand inhabitants, one half of an ordinary school room is equipped as a kitchen. One corner is enclosed by a counter which serves as a working table for students and as a cupboard. Behind this there is a gasoline stove and utensil board, sink and dish closet. Outside of this space is a dining room table and chairs. This equipment was obtained by the pupils giving social functions and literary and musical programs at which a fee was charged.

This summer while on my way east, along with another Domestic Science teacher, I visited a number of school kitchens. When in Chicago we visited one place where the work was given to the little tots who had just left the kindergarten. Such instruction must necessarily be very simple. It consisted chiefly in the cooking of such fruits and vegetables as were grown in the school garden. Of course it was entirely practical but was said to be quite successful. It seems rather early to give this work but there is no reason why it cannot be profitably taught in grades lower than eight. In some places in Ontario, this work is given to classes corresponding to our grades five and six.

In Kalamazoo, Mich., we found a class of boys taking Domestic Science work. They seemed very much interested, we were told, they were being given a sort of camper's course. It might be a good idea if the boys in this country could have some kind of course which they could put into practise when they go homesteading.

Courses in Domestic Science should be correlated with other subjects in the schools, such as, Geography, Arithmetic, Literature, Composition, Physiology and Hygiene. For example in Geography, instead of teaching the endless list of names which really do not always mean anything to a child, we might have the names of places related to something which appeals; Florida and California, export many fruits; Brazil and West Indies, export spices, etc.

In Arithmetic there are always mental problems coming up which relate to household work. In Literature, we find mentioned many things which deal with home life. In Composition a teacher often has great difficulty in finding subjects. If this subject were more closely correlated with Domestic Science there would be an abundance of topics.

One of the most important subjects which we do not find on the curriculum is that of physiology. I believe there is a little taught about Hygiene. Ninety-nine per cent of the boys and girls in our schools know nothing whatever about the digestive organs of the body. If they had some idea of the process through which the food passes in being digested, and the necessity for having foods as easy of digestion as possible, less stomach trouble in early and middle life might be reported. Many pupils seem to have no idea of the effect of impure air and the necessity for ventilation and sunshine. If this were understood, many of the prevalent diseases might be warded off.

The problem of teaching Domestic Science in town or rural schools is one largely of equipment. In Winnipeg the cost of maintenance averages about three dollars per pupil per year. An equipment for twelve pupils may be obtained for about one hundred dollars. This can easily be stored away in a cupboard at the back of the room. It is arranged with trestle tables placed across the top of the ordinary desks in the room. A separate room could be equipped for Domestic Science work at a cost of about three hundred dollars.

If this work could be introduced into the schools which are situated conveniently to a railway, it might be possible

to engage a teacher for a half day, a week in each of five schools. In the graded schools a teacher who was qualified to teach Domestic Science as well as part of the regular work could be engaged.

Some plan of this sort might be worked out and it is hoped that within a very short time this very important subject will be found on the curriculum of all the schools throughout Western Canada.

ABOUT WOMEN

Miss Harriet Dickson of Piqua, Ohio, is state superintendent of juvenile grange work. The farmers have their grange meetings, and their wives also go to the meetings, taking the children with them. The children, in a room by themselves, are taught manners by the juvenile grange leader and are also taught elementary lessons in botany and in agriculture generally. In this way it is hoped they will grow up interested in the work of the farm and desirous of continuing it.

Ellen Key, the great Swedish reformer and writer, lives at Alvastra, in southern Sweden. It takes two editions a year in America to supply the demand for her "The Century of the Child." This book in Germany is even more popular.

Miss Amelia Forbes, daughter of Mrs. J. Malcolm Forbes of Milton, Mass., left the other day to enter Dr. Grenfell's hospital in Labrador as a nurse. Miss Forbes will enter Dr. Grenfell's institution on a six months' probation, during which time she expects to decide on her life work. Miss Forbes is a young woman of large wealth and social prominence. She has declared her intention of devoting her life to the alleviation of the hardships of the inhabitants of Labrador and Newfoundland, the field of Dr. Grenfell's labors.

The Empress of Germany has appointed a commission to look into the state of the beggar children of Germany. Her interest in these children was aroused by a book, "The Little White Slaves," recently published by Henrietta Arendt, a member of the Stuttgart police force. In this book Miss Arendt is said to prove that cripple factories still exist and carry on a thriving trade in the larger German cities as well as in Paris and London.

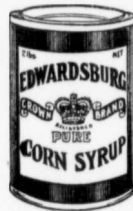
Princess Eitel of Germany, Princess Victoria and a number of other royal ladies have decided not to wear the plumage of birds, in response to a request by Prof. Johannes Schillings. The queen of Wurtemberg is also enthusiastic about the matter. The idea of refraining from wearing feathers that birds may be protected is a new one in Europe, as upon the whole the bird protection laws are very much better than in this country.

Selma Lagerlof, who received the Nobel literature prize in 1909, seems to be the idol of her Swedish compatriots. To celebrate the awarding of the prize, as well as her fiftieth birthday, a woman's dinner party was given at the beautiful Grand Hotel Royal, Stockholm, at which 1,200 women were present.

The feminine element is larger than ever on the latest matriculation lists of Berlin University. This semester 354 fresh-women have entered the university. There are now enrolled 845 women students and 270 additional women have permission to attend the lectures. Of this total of 1,115 women students, sixty of whom come from the United States, no fewer than 659 are inscribed on the philosophical faculty roster, 172 study medicine, thirteen law and only one theology.

The pearl divers of Japan are women. Along the coast on the bay of Ago and the bay of Kokasho the 13 and 14 year old girls, after they have finished their primary school work, go to sea to learn to dive. They are in the water and learn to swim almost from babyhood. They pass most of their time in the water, except in the coldest season, from the end of December to the beginning of February. Even during the most inclement of seasons they sometimes dive for pearls. They wear a special dress and the hair twisted up into a hard knot.

The Countess of Warwick is considering three offers to make a lecture tour in America, one of which she will probably accept. The proposition is that she shall deliver a series of forty lectures in the large cities of the United States and Can-



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ada. She has prepared a number of subjects, one of which deals with celebrities she has met, but her subjects will be communism, of which she is an ardent adherent, and woman's suffrage.

Miss Sarah Cecilia Harrison, who has just been elected to the Dublin council, had on her side the most remarkable combination of parties ever seen. A protestant herself, she was supported by priests and nationalists, and she also had many unionists on her platform. An ardent suffragette, she nevertheless had the support of the Anti-Suffragette society. Her philanthropic work brought her the support of the poorest workers on the register, while wealthy merchants supported her as bringing a new spirit of antijobbery into city affairs.

FOR THE TIRED HOUR

A great person is always the mark of envy for small minds.

Fact is, people don't die of troubles in this world; they die frettin' at 'em, only they don't seem to know it.

—Elizabeth Stuart Phelps.

Many a man saves money only to lose it by lending it to some man who didn't save any.

"Greatness is to take the common things of life and walk truly among them."

The man with the clear conscience and patches on his trousers gets more out of this old world than the man who goes beyond his means to be fashionable.

High ideals give our lives meaning.

"I was in hopes, when I married, that I could give my wife everything she wanted."

"Well?"

"I didn't think her yearning capacity would be so much greater than my earning capacity."

First Village Clubwoman—What sort of a person is this new Mrs. Hart?

Second Village Clubwoman—Well, the ladies can't just make out whether she's a nobody flying high, or a somebody flying low.

One of the secrets of popularity is to talk to the other fellow about himself and keep your own affairs in the background.

The duty that lies nearest
Leads to the land of dream
Unless you step the first stone,
You can not cross the stream.

The duty that lies dearest
Leads to the upper air;
Unless you tread the first step,
You can not climb the stair.

Small Sylvia—"Did you ask papa why the pen is said to be mightier than the sword?"

Little Gregory—Yes, he said it was because a man couldn't sign checks with a sword.

Mother—"Why, Elsie, you don't mean to tell me you took a second piece of cake nut Mrs. Neighbors?"

"Yes, Mama, I wanted to show them that I was used to having enough to eat at home."

Mother's Corner

IN THE FIRELIGHT.

Eugene Field.
And there is stillness everywhere,
And, like winged spirits, here and there
The firelight shadows fluttering go,
And as the shadows round me creep,
A childish treble breaks the gloom,
And softly from a further room
Comes: "Now I lay me down to sleep."
And somehow, with that little prayer
And that sweet treble in my ears,
My thoughts go back to distant years,
And linger with a dear one there;
And as I hear my child's Amen,
My mother's faith comes back to me,
Crouched at her side I seem to be,
And mother holds my hands again,
Oh for an hour in that dear place,
Oh for the peace of that dear time,
Oh for that childish trust sublime,
Oh for a glimpse of mother's face
Yet, as the shadows round me creep,
I do not seem to be alone—
Sweet magic of that treble tone
And, "Now I lay me down to sleep."

BOOKLET NOW READY

The article on Helps for Expectant Mothers is now printed in booklet form. From now on I shall forward the article the next day after receiving the request. We have many requests for it from wives who live far from a doctor. It is sent free to every wife who requests it.

Some of the wives of our subscribers are lonely because they live far from neighbors and friends. One kind-hearted woman told me that she would be pleased to correspond with a lonely woman. There are others who would, especially some who belong to the Home Economics Societies and Homeseekers Clubs. This would be a splendid work as it would bring sunshine to many a lonely heart. Will every lonely woman who reads this write to me and I will see that she has a helpful and cheerful woman correspondent.

This department would like letters from our readers giving experience on the care of children. Women have had lessons of experience the telling of which they owe to their sisters.

BABY'S LEGS MUST BE KEPT WARM.

If the baby's legs are cold he will surely suffer with colic and indigestion. The child must be kept warm over the abdomen and the legs. A knit woolen band over the abdomen is necessary to the health and comfort of the child. Long woolen stockings should cover the legs and feet and be fastened to the diaper. This is a vitally important matter. No child can be healthy if the legs are cold.

TREATING A COUGH.

A small boy six years old was visiting the writer. The weather was November and warm, and the child was warned not to go out without a coat. He has been trained to outdoor living, but he has been dressed warm when exposed to the cold.

Boylie, he took advantage and played awhile without his coat. A persistent cough developed in the night. No attention was given to it at first, but after an hour or two it became continuous, with hardly breathing space between the attacks.

A search was made and there was nothing to give to relieve the cough without calling a physician or going to a drug store. A new thought was followed with better results than the giving of remedies. Some vaseline was crowded well into the nostrils. The child was breathing with some difficulty, showing that the membranes were much inflamed. Camphorated oil was well rubbed into the chest, all over the surface of the chest and down over the sides it was rubbed, and the surface covered. The child snuggled down under the covers, coughed slightly once or twice and went to sleep. Every symptom of cold had disappeared in the morning. This was so simple and so efficient that it would be well for mothers to make it one of their standard remedies. There were none of the disturbances of stomach and bowels that always result from the use of cough mixtures.

PNEUMONIA.

One of our health specialists has been prophesying two hundred thousand cases of pneumonia this season. He says that statistics carefully kept for nearly a thousand years prove this.

If this is true, and we will suppose it is, it will be necessary to give much attention to preventive measures. No baby or young child that is in fairly good general health is in much danger of developing pneumonia. The conditions have to be favorable, a low vitality, a sluggish circulation of the blood, stomach and bowels not quite normal. Not sleeping well and a disordered nervous system will increase the dangers of disease attacks.

Pneumonia is a disease of all seasons and climates, but it is usually associated with cold weather. It reaches its greatest number of victims during the winter months. There are a few cases in July and August. A sudden chill will probably end in pneumonia, no matter what the weather may be.

A baby that was weak from an attack of summer complaint was in a draft in a street car, the result was a chill, and it took most faithful care to tide the child over the threatened attack of pneumonia. This happened in summer in a Southern city.

The baby or older child seems to have a severe cold or influenza. The chill is succeeded by a high fever. There are

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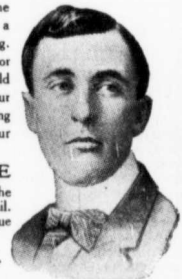


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A MAN IS AS OLD AS HE FEELS!



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darting pains in seem neuralgia. t breathing is que dry with blood-s very infectious. in a light, airy, y physician must l disease is suspecte all the water he w r. an. The food digested. Meat j dry bread and bu

Liquid vaselin and throat will re the membranes. ever the child be relief.

It is better not the general health the proper care i seems to take co certain not to dev a physic immediat rhubarb or of bit with a vigorous i chill and establis Only a little liq with quantities of the child is in bec and the room is fl

Graha
Two cupfuls of cupful of wheat beaten; mix with quite a thin battu a heaping teaspoon and add salt. B

Boil
If the ham is su of cold water over scraping clean. I boiling, put in tl above the boiling add one carrot cut and also a few cooking at the until tender and d with a skewer or f to escape. When in the liquid as it remove the skin ar Dust with fine sprinkle liberally v Set in the oven slightly. Serve co

Parsni
Boil the parsnip tender. Take out ready to use cut a pieces, not quite a "lady fingers." D batter. Fry a ga sides, drain, put on plate, and when powdered sugar l with sections of le identity with som sweet.

Hop
(by i
Boil a handful of water. Grate fou into which put one When the hops h the hop water ove well as you do; ad salt. Return all o well, but be ve c as it thickens ver; mixture has thic when cold add a c pressed yeast that three spoonfuls of home-made yeast. best to make this i it down every onc day so that it may This, kept in a coo long time. One cu yeast will make fo the bread has a go possible to get wil

Celery S
Make a dressing beaten separately, salt, one-half teas heaping tablespoo tablespoonful of s cupful of vinegar; e When cold stir i chopped celery an whipped cream. C hours old into th spread with the dres

darting pains in the chest. They may seem neuralgia to the uninitiated. The breathing is quick and catchy, the cough dry with blood-stained sputum. This is very infectious. The child must be kept in a light, airy, well-ventilated room. A physician must be called as soon as the disease is suspected. The patient can have all the water he wants. Lemonade can be given. The food must be light and easily digested. Meat juices, milk, egg albumen, dry bread and butter.

Liquid vaseline sprayed into nostrils and throat will reduce the inflammation of the membranes. A sip of cold water whenever the child begins to cough will give relief.

It is better not to give stimulants. If the general health of the child is good and the proper care is taken when the child seems to take cold, the disease is pretty certain not to develop. It is well to give a physic immediately, a dose of syrup of rhubarb or of bitter cascara. A hot bath with a vigorous rub-down will break the chill and establish a normal circulation.

Only a little liquid food should be given with quantities of cold water. Of course the child is in bed after the bath is given, and the room is flooded with fresh air.

Recipes

Graham Muffins.

Two cupsful of graham flour and one cupful of wheat flour, two eggs, well beaten; mix with sweet milk to make quite a thin batter. Mix with the flour a heaping teaspoonful of baking powder and add salt. Bake in hot muffin-irons.

Boiled Ham.

If the ham is salt let it stand in plenty of cold water over night after washing and scraping clean. Have a kettle of water boiling, put in the ham and cook just above the boiling point for one hour then add one carrot cut in quarters lengthwise and also a few cloves. Continue the cooking at the simmering temperature until tender and do not repeatedly test it with a skewer or fork allowing the juices to escape. When tender let the ham cool in the liquid as it will be moist. Now remove the skin and stick in a few cloves. Dust with fine granulated sugar and sprinkle liberally with fine bread crumbs. Set in the oven to brown the crumbs slightly. Serve cold and sliced very thin.

Parsnip Fritters.

Boil the parsnips in salted water until tender. Take out, drain, cool and when ready to use cut and trim them into long pieces, not quite as long nor as thick as "lady fingers." Dip in a delicate pancake batter. Fry a golden brown on both sides, drain, put on a hot napkin or a hot plate, and when serving sprinkle with powdered sugar and cinnamon. Serve with sections of lemons. They lose their identity with some and pass as a hot sweet.

Hop Yeast.
(by request).

Boil a handful of hops in three pints of water. Grate four good sized potatoes into which put one tablespoonful of flour. When the hops have boiled well, strain the hop water over the potatoes, stirring well as you do; add one tablespoonful of salt. Return all over the fire and boil up well, but be very careful not to let it burn as it thickens very quickly. When the mixture has thickened, set aside, and when cold add a cake of any good compressed yeast that has been dissolved in three spoonfuls of water, or a cupful of home-made yeast if you have it. It is best to make this in the morning and stir it down every once in a while during the day so that it may be put aside at night. This, kept in a cool place, will keep for a long time. One cupful of this home-made yeast will make four loaves of bread, and the bread has a good flavor that is impossible to get without hop yeast.

Celery Sandwiches.

Make a dressing as follows: Two eggs beaten separately, one-half teaspoonful salt, one-half teaspoonful mustard, one heaping tablespoonful of butter, one tablespoonful of sugar, two-thirds of a cupful of vinegar; cook in a double boiler. When cold stir in a cupful of finely chopped celery and one-half cupful of whipped cream. Cut bread which is 24 hours old into thin slices, butter and spread with the dressing.

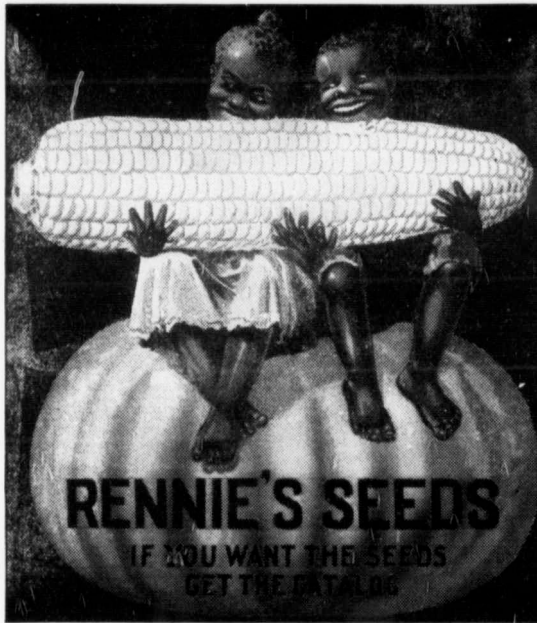
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Chocolate Mold.

Four teaspoonfuls of corn-starch, half a cupful of cold milk, two cupfuls of scalded milk, a quarter of a cupful of sugar, a quarter of a teaspoonful of salt, half a teaspoonful of vanilla extract, half a cupful of blanched almonds, three ounce of chocolate, grated and melted with two tablespoonfuls of sugar, and three well-beaten whites of eggs. Mix the corn-starch with the cold milk and add the sugar, salt, scalded milk and melted chocolate. Cook in a double boiler for twenty minutes, stirring constantly; cool slightly add the vanilla and cut. Then fold in the beaten whites of eggs, keeping the mixture as fluffy as possible.

Decorate the sides and bottom of an oval mold with halves of almonds, arranging them like daisies. Spoon in the corn-starch mixture until the nuts are covered; then pour in the remainder. Chill, remove from the mold and garnish with whipped, sweetened cream.

Chocolate Dainty.

Two and a half ounces of chocolate, two cupfuls of milk, three tablespoonfuls of sugar, the white of one egg, two tablespoonfuls of brandy, one cupful of whipping cream and two tablespoonfuls of gelatine. Put the gelatine into a saucepan and add the chocolate, sugar and

milk. Stir over the fire till melted and smooth; then strain into a basin and add the whipped cream, brandy and the stiffly beaten white of an egg. Pour into a wet mold. Turn out when firm.

AN APPRECIATION.

This letter from a reader fifty miles from town expresses the keenest of appreciation.

Dear Editor,—My husband takes the Canadian Thresherman and Farmer and I am a very interested reader of the Woman's Dept; we are living on our homestead fifty miles from town and sometimes it is very lonely. I have a dear little baby almost a year old. She is a lot of company for me, she is getting so interesting now. I find the Woman's Dept. very helpful and the recipes useful. I always enjoy the poetry and letters from other farmers' wives. I think the papers about infants which appear from time to time are splendid as there are so many inexperienced mothers like myself living on the prairie far from doctor or advice. We have taken the Thresherman for a couple of years now and we both think it splendid. I must close now, wishing the Woman's Dept. every success, from Another Farmer's Wife, Sask.

A FRIEND WRITES.

Another friend writes: I always read the "Woman's Department" and "Mother's Corner," and am very much interested. We lost our baby when she was three months old and I feel that my own ignorance and inexperience had something to do with it. We are a long way from a doctor." I quote this because I want my readers to feel the responsibility of helping young mothers who live far from medical help. If mothers would write their experience for our Mother's Corner they would help other mothers who have had no experience.

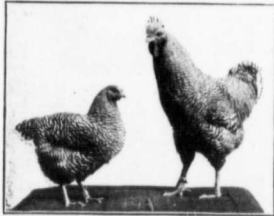
Another subscriber writes: "I am a reader of your good paper, and find many things in it to cheer me up as I am a homesteader's wife out here in "Sunny Alberta." My object has been to make my readers happier for having read this department every month. For this reason I usually omit the pathetic and sad as I want this department to be like a sunbeam on a rainy day.

"If I covet one high grace,
It is this—upon my face
Just to show an inner light
To illumine other's night.

Why I Make Barred Plymouth Rocks My Specialty

By Mrs. Amy Cooper

I AM very pleased to be able to say there is a decided improvement in the condition of the poultry industry during the past few years.



Perfectly Mated.

If we are to look for this improvement to continue, it must be by the efforts of the farmers and their wives, and it should be our endeavor to show them, by every means possible how much they can make out of appreciating the value of the little essentials, a faculty which is of large importance in any business, but indisputably so in the profitable management of poultry whether bred for fancy or commerce.

Those of us who live on farms can raise poultry under the most favorable conditions, because we have free range for our birds, and grain to feed them with at first cost, as well as having the facilities for raising large quantities with absolutely no danger of the farm getting over-run or "poultry sick." Therefore, I think we must look to the farmer to bring about the results which are most desirable. We must encourage and assist the farmers who are taking up poultry keeping, and by this means they will profit, and the whole Western country would be benefitted in many ways.

My first object in breeding Barred Rocks has been to produce a flock of high average egg production by selecting as breeders the specimens which, on account of the known performance of their ancestors might reasonably be expected to excel in this respect, and without loss of vitality.

By this process of selection, we have been building up a flock of laying hens that increase in average egg production with each generation. I have believed for years that beauty and utility go hand in hand in breeding poultry, and have selected my breeding stock with these ends in view. The result is we have Barred Rocks which are correct in both shape and color, and which will produce eggs in great numbers. The best show bird that ever lived in this variety would not suit my views unless it were capable of reproducing in its progeny fowls combining high class and standard requirements as well as jewels of good laying qualities.

While it is advisable to keep pure-bred birds, there are many who cannot afford to make a change at once. The next best thing to do is to buy one or two settings of eggs every year from a reliable breeder, and use the best chicks from the eggs for breeding purposes until the scrubs are gradually replaced by pure-breds. Another good way for a farmer to improve his flock is by purchasing a good pure-bred male from a good laying strain, and grade up his flock just as stockmen are doing who cannot afford to keep pure-bred herds. This system would soon make itself felt in the poultry business in the same way that the introduction of pure-bred sires has improved our horses and cattle during the past years.

In any event a change of blood should be made in farm flocks not less than every two years, and it would be better to get new roosters every year if good

ones can be had at a reasonable cost.

The poultry business is like all other occupations; the start must be right, no matter what branch is taken up. While it may cost a trifle more in the beginning to do this, it will be money saved in the long run. I would advise the start being made with the best birds obtainable, if only in a small way, rather than in a large quantity of inferior quality. One must be careful to look to the foundation, as the whole future depends on the judgment used in the laying of it. If the start is made with poor stock, one may work away for years and still be no further ahead, as like begets like, and if there should be any improvement it will be slow.

Good stock should be purchased from some reliable breeder, which is the first step towards success. Then by taking the best poultry papers so as to learn the best systems of mating, feeding and caring for the stock, the owner may rest assured that the reward for his trouble will be a flock of birds he will be proud of.

Perhaps there is no pursuit in life that affords more pleasure than the raising of pure-bred poultry, whether it be on a farm or city lot. To my mind there is no occupation more fascinating than the breeding of Barred Rocks, and the better the stock, houses, yards and



Mrs. Amy Cooper, Treesbank, Man.

other equipments are, the more pleasure a person can get out of them.

Poultry culture is no trifling affair. It is a calling in life that brings into action sympathy, carefulness and study, and is an art that we must be well versed in to get the best results. The pleasure derived from practicing poultry craft brings into existence a desire to have the best of everything in and around the yards. We should not only follow up success, but learn to do the difficult things, for there is always a throng seeking for the "soft snaps" which only require the minimum of both muscle and brains.

In raising show birds, I am convinced of how very important it is, in Barred Rock breeding, to be very careful of one's breeding lines. To the beginner I would recommend a small mating, and a small trial of the best breeding possibilities within reach. Keep this mating distinct. Be patient, and in a year or two it will pay you many times over. Barred Rock breeding is not easy. Only those who are persistent, painstaking, and love the accomplishment of difficult things can make a success at breeding Barred Rocks. A look through the show rooms is sufficient to satisfy any one as to the tremendous popularity of this breed; and fanciers are unanimous that

they would rather breed a Barred Rock cockerel or pullet equal to the very difficult task of winning at the best shows, than to accomplish almost any other known thing in the poultry world.

It takes a great deal of thought and work to make a success of poultry, but it takes time to make a success of anything that is worth while. I think one great trouble in poultry raising is the temptation to raise more chickens than can be cared for properly. It is not wise to attempt too much without adequate help, or there is apt to be some cutting down of profits.

There is a sentimental side to this industry as well. Where can one find anything more appealing than the careful maternal hen with a brood of lacy chicks? Where can we find the maternal instinct more fully illustrated than by her actions in caring for her little ones? If we study her every action we will sooner or later learn how to raise chickens successfully. Where can we find anything more beautiful than a yard containing a fine flock of some popular breed of fowl, all the same size, shape and color?

The keeping of pure-bred poultry is growing, and, I hope, it will not be long before every well managed farm in the West will have its flock of pure-bred birds. Poultry husbandry is an important part of the farm work, but some do not realize its value. Mistakes will occur in the management, and there will be some discouragements, but these will be overcome if there is a determination to succeed on the part of the owner.

Without saying too much for my chosen Barred Rocks, let me say that I think this variety is as solid as its name indicates. It stands acknowledged as one of the best general purpose breeds of fowl in the world today. The chicks are quick to develop and make fine plump juicy broilers. They are great favorites with market poultry men, who breed this variety more extensively, I believe, than all other breeds combined. They are excellent all the year round as layers, and as a fancier's fowl have reached a popularity never before known. All over this continent wherever poultry shows are held, the entries of Barred Rocks usually outnumber the entries of any other breeds, and further proof of their sterling merit is manifested by the enormous prices which high class specimens command.

A combination of utility and actual worth are the basis of this popularity, making the Barred Rock a bird of destiny.

There is one question I would like to ask at this juncture. Why will some women who have the brains and the ability to raise fine chickens, enter them at the poultry shows in their husband's name? I once asked this question of a woman that had quite a few birds at the show all entered in her good man's name, and she told me that it did not make any difference, as he got the money any way. Now, this has not been my case, and I feel sure if more women would take an interest in the raising of poultry they would soon find themselves possessors of a little bank account they could call their own. To the farmers' wives I say let us have the nerve to show our own products under our own names. We have women farmers, and why not women poultry fanciers.



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STERLING FASHION COMPANY,
Richmond Street W., Toronto.

A clever wife band, and if due to her, it was he just with her.

I have seen shows that I name were lo it was she w raising and family. I t chickens on t women, and i so. The chick under the car men, and the outdoor emplo ous health de done the work to the glory a

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TORONTO

A clever wife is a compliment to the husband, and if the wife receives the credit due to her, the husband should feel that he has just cause for sharing the honors with her.

I have heard men say at the poultry shows that the birds entered in their name were looked after by the wife, and it was she who did most of the work in raising and caring for the feathered family. I think three-fourths of the chickens on the farms are raised by the women, and it is well that it should be so. The chickens not only thrive better under the care and management of women, and the women are given some outdoor employment such as their vigorous health demands. When they have done the work they are certainly entitled to the glory as well as their share of the

profits. I believe our long winters are responsible for the bad habit many women have acquired of staying indoors the greater part of the year. Too close housing is as injurious to human beings as it is to our domestic animals. It tends to weaken the constitution, and the individual becomes susceptible to colds and other diseases.

Woman's name and influence at the poultry shows will do much to make these places attractive to all. I have always derived much pleasure from exhibiting, and have met with much courtesy and respectful treatment. There are many subjects I would like to take up, but feel that it would involve too great a trespass on your time and good nature. So now let me thank you very cordially for having listened to me so

patiently on this subject. I want to say just a few words to encourage the farmers who are in the audience today. Let us try to realize how fortunate we are to live in this great Western country. Opportunity presents itself on every hand ready to be grasped by everyone who wishes to make a success of poultry keeping.

Amy B. Cooper.

"Ah!" said the much-worried man with bated breath; "talk about the 'jaws of death,' they are nothing to the 'jaws of life.'"

If the world does owe us a living it is quite evident that it is not worrying about its liabilities.

Back to Nature

"Look pleasant, please," said the photographer to his (more or less) fair sitter. Click! "It's all over, ma'am. You may resume your natural expression."

If you get the worst of it, try to make the best of it.

Wild oats make bitter bread.

A Saskatoon man said the other day in reply to a man who remarked about the cold weather they were having: "Yes, many are cold but few are frozen."

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THE BOMB SHELL

A Story of the Universal Game of Bluff. From the French of Victorien Sardou.

Far more than ordinary interest attaches to this story. Its intrinsic merit it is needless to insist upon; every discriminating reader will detect this at a glance. Quite apart from its own charm, however, the recital possesses a special interest as being the only short story that has ever come from the pen of M. Victorien Sardou, the greatest dramatist of the age.

Brief though the sketch is, the humorous situations, incisive delineation of character, and malicious portrayal of human weakness, which it contains, are all eminently characteristic of the genius that has learned how to provoke a theatre to laughter or tears with as much certainty as a violinist can produce what sounds he will from his instrument.

This New Year's Day and its gifts recall to my mind an incident of the Siege of Paris which, I flatter myself, was rather creditable to me.

The reader need not alarm himself. I am not about to conduct him to the ramparts or the outposts, but merely to the abode of my old friend Dutailly in the Rue de Trevisé.

Dutailly was a wealthy chemical manufacturer, the husband of an excellent woman, the father of a charming girl, a clever worker, a good patriot — in short, he was the best fellow in the world.

Surprised by the investiture of Paris, just as he was on the point of departure, M. Dutailly consoled himself with the reflection that the city would not hold out for a week. Madame Dutailly, better advised, addressed herself at once to the work of provisioning her home, in which she stored such an abundance of eatables that, had the siege lasted three months longer than it did, the household would still have been in no danger of famine. She crowned her labors by establishing in the garden a cow-house, a hen-roost, and even some pigs in a sty—which last-named animals, three months later, were worth their weight in gold.

I for one had good reason to bless Madame's forethought. Every Thursday and every Sunday evening I was a guest at her table, and found there sufficient compensation for the privations of the rest of the week. What ecstasy it was, in those days of scarcity, to behold a bacon omelette or a morsel of "gruyere"—viands which were washed down with excellent wine, having — strange to say — no connection with the chemical products of the firm!

I was not the only guest received at that hospitable table. Another sat beside me. Anatole Brichant, the firm's head clerk, prospective partner and son-in-law of Dutailly. He was a melancholy, weakly, rather timid person, very much in

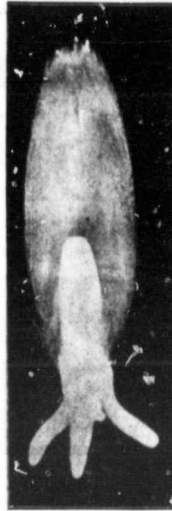
love with his master's daughter, Mlle. Gertrude, who seemed not indifferent to his passion. Although no word had been spoken on the subject, the young lady's parents evidently gave their tacit consent to the match. Unfortunately the war had somewhat interfered with the courtship. Brichant, corporal in the "mobile" of the Seine and quartered at St. Denis, did his military duty conscientiously, as he did everything, but without enthusiasm, and he hated this eternal siege which retarded his happiness. He also criticised the tactics of the authorities — mildly, after his usual manner, yet not without bitterness.

These criticisms vexed Dutailly, a fanatical admirer of General Trochu. Then the Temps published a series of articles, wherein the writer reconstructed the military operations of the province according to his own delirious imagination. Dutailly had taken these revelations seriously. He pinned his tiny flags upon a map at the points indicated by the strategist of the Temps, followed anxiously these chimerical marches and counter-marches, and predicted speedy and decisive victories. The incredulous Brichant ventured upon a timid objection, whereupon Dutailly waxed excited and wrathful, until sometimes I interposed as peacemaker.

The situation was further complicated by the appearance of another guest upon the scene. Arriving one evening rather late, I was considerably astonished to find my usual place at Madame Dutailly's right hand occupied by an unknown individual with a high color and blustering manner. He wore a fantastic uniform, evidently the discarded rubbish of some theatre, and his enormous boots seemed to proclaim him a hero.

Dutailly introduced the stranger to me as "M. Robillard, Captain of the Lost Children of Courbevoie."

Before I had finished my soup I had taken Robillard's measure, and had come to the conclusion that his exploits had probably consisted in stripping abandoned dwellings of any remnant of furniture contained therein and the disposal of it in a safe place unknown to the Dutailly, not without emotion, gave the explanation. That afternoon, just as it was growing dark, she had a nasty fall upon the slippery, frozen ground. Robillard, who chanced to be passing, took her to the nearest doctor, and afterwards assisted her to get home, as she had been slightly stunned,



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and was still feeling faint. Under these circumstances, she could scarcely do less than invite her new friend to stay to dinner. This explanation reassured me. I hoped that this would be the first and last appearance of our hero.

Robillard was no fool. He gave himself out as interested in a big coal concern, which obliged him to run all over Europe, and he regaled us with sundry entertaining anecdotes of his travels. The war, he said, had now brought him to Paris; the city's need claimed his redoubtable presence! His exploits in the environs, at the head of his "Lost Children," were incredible. The enemy were "so harassed" by him—"so utterly worn out, that they could do no more," etc., etc. Madame Dutailly listened quite complacently to these enormities. Dutailly accepted them with perceptible effort. Gertrude treated them with indifference. Her poor, little soldier, who to-night was paler and more insignificant-looking than ever, and who was, moreover, afflicted with a violent cold in the head, seemed perfectly crushed and obliterated by the loud personality of this big bully.

As soon as the coffee had been served I rose, and, making some excuse, left the house, wearied by the bragging of the visitor, whom I hoped never to meet again. Vain hope! On the following Sunday, and on the

Thursday after that I found him in the same place, and from that time forward he shared all our meals. The family of Dutailly was fascinated by him. Robillard had won over Madame Dutailly by his good-humor and by that almost tender gallantry to which no woman is insensible. He had conquered her husband by means of his simulated interest in the military operations of the Temps and the arrangement of the diminutive flags. Anatole, with a worse cold than ever, lost ground visibly with each visit of the swaggerer.

In the Bourget affair Anatole did bravely, and was wounded in the arm. He described to us the fighting, the death of Baroche—who fell at his side—the retreat, and the melancholy termination of that heroic struggle. His depression and discouragement gave a fresh opportunity to the "captain," who treated the unfortunate youth as though he had been a deserter and coward. With what a noble indignation Robillard pointed out that if he and his "Children" had been there, the affair would have had a different result!

Then, growing excited, he sketched for us a plan of a sortie by way of the Montmorency Heights and Cormeilles, with the passage of the Oise, a march upon Rouen, and a triumphal entrance into Havre. This aroused all Du-

tailly's enthusiasm. Meanwhile, our poor, humiliated Anatole was suffering agonies with his wound, of which, however, only Gertrude and myself made any account.

The following day Anatole had fever, kept his bed, and for several weeks he was absent from our table. The "captain" now posed as suitor of Mlle. Gertrude, and the attitude of her parents was not discouraging. The day on which Anatole—now convalescent, but even thinner than before—reappeared in our midst, Gertrude had red eyes. There had evidently been a skirmish between her and her mother concerning Robillard, for whom the elder lady still retained her infatuation. I saw that the time had come for me to interfere on behalf of the young people. It was the last Sunday of the year, and naturally we talked of the New Year and of how we should celebrate the fete.

"Dear madame, I must give you a surprise-gift," said the captain.

This gave me an idea.

On New Year's Day, Dutailly received us with open arms and a radiant countenance. The strategist of the Temps had just soundly beaten Prince Charles in the neighborhood of Evreux, having drawn him out by a simulated retreat—one of the cleverest military moves in modern times! Dutailly presented us with this bit of good news

as a New Year's gift. Anatole brought a rabbit which he had trapped in the devastated island of St. Denis. The captain presented Madame Dutailly with a big bag of iced chestnuts enclosed in a German helmet.

"Dear madame," said he with a smile, "it would have been scarcely becoming for me to offer you in this helmet the head of its owner."

"What! Did you kill him?"

"In order to have the pleasure of offering you this box."

I pass over the recital of the adventure, of which you may be sure he spared us no detail. Squatted inside a cask, he had waited for, surprised, and struck down the unfortunate sentry who was the wearer of the helmet, and in a hand-to-hand struggle had strangled him, not daring to use his revolver lest its report should alarm the enemy. What a poor show Anatole's wild rabbit—strangled also—made beside this glorious trophy!

"I," said I modestly, "cannot presume to emulate the deeds of our invincible captain; yet I also have a little surprise for you. It has, however, not yet arrived, and I would suggest that we dine without waiting for it."

One of the pigs had been slaughtered in honor of the occasion, and we dined merrily. We were enjoying our coffee, and we men had lighted our cigars, when a servant announce-

ed that an artilleryman had placed my present in the salon.

We went to view the object. It was upon the table. It was wrapped in glazed paper and encircled by a blue riband.

"Whatever can it be?" said Madame Dutailly.

"It is a shell, madame," I replied.

"A shell?"

"Dutailly has several times expressed to me his desire to possess a shell—a real one, which had been used. And at my request my friend Roland, who is Commandant of a battery, has sent me this one. It comes from the Plateau of Aurore, where it forgot to burst when it fell."

As I was speaking, I unrolled the blue riband off the paper. There was the shell—a black threatening, evil-looking.

"Positively you enchant me!" said Dutailly. "I will make a clock-case of it for my cabinet."

"But," anxiously objected his wife, "if it has not yet burst?"

"Don't alarm yourselves! Of course Roland would send me only a properly discharged and empty one. Ah here is his letter."

I opened the letter which was attached to the side of the bomb and prepared to read it aloud, but at the end of the first line my face expressed at first surprise, then such anxiety that everyone exclaimed at once:

"What is the matter?"

"Good heavens! Listen!" And I read the following:

"Dear Friend,—Here is the shell you asked for, but I have failed to find an artilleryman who knows how to empty it. Have it taken to the gunsmith of the Passage de l'Opera, who will perform the task very adroitly. But, above all things, take the very greatest precaution. The least knock, the slightest friction, would cause the shell to explode—"

I was interrupted by cries of alarm.

"Take it away!" exclaimed Madame Dutailly. "It is frightful! This horrid thing in my salon!"

I put out my hand as if to touch the shell.

"Don't touch it!" shrieked everybody.

"Calm yourselves, my friends," said I; "the artilleryman who brought the thing will take it away again."

"But, sir," said the servant, who stood trembling at the door, "the artilleryman has gone."

Fresh exclamations.

"Then," I said, "I must take it."

"I forbid you!" cried Dutailly excitedly. "You have not sufficient strength to carry it to the Passage de l'Opera without a break. You would drop it by the way—on the staircase, perhaps, or in the hall."

Madame Dutailly clung to me.

"No! not you! It is too dangerous! Not you!"

"This," remarked Dutailly, "is work for a soldier—for a strong soldier. Fortunately, the captain is here."

"I?" said the captain.

"Yes, my dear fellow. You are as strong as a Turk and used to these things. You play with cannon-balls and shells as other folks play with billiard-balls and footballs."

"Excuse me," said the captain, turning pale, "but this is a shell—a bomb. Could we not leave it here until to-morrow and then send it away?"

Madame Dutailly expostulated vigorously.

"To-morrow? I should not close an eye all night long! I will go and sleep at an hotel."

Anatole put in a quiet word. "Remain here, madame; I will remove the shell."

Dutailly pulled him back.

"You are mad, my dear fellow! With your wounded arm! Do you want to blow up the house?"

"Indeed," I said, "it is scarcely a fit task for an invalid."

"But it is one fit for the captain," persisted Dutailly. "I have confidence in no other."

The captain was evidently very ill at ease, but he was not the man to disconcert himself for a trifle.

"Certainly," he assented smilingly, "the task should be mine. But, as I was about to remark when you interrupted me just now, the conveyance of this shell by a pedestrian would be too perilous. It is frosty and slippery out-of-doors this evening, and one false step might cause the death of ten persons in the street. Transport by vehicle is the only sensible plan."

"But," inquired Dutailly, "how are we to procure a vehicle at this moment? Nearly all the carriages are requisitioned for ambulances."

"True," said the captain. "But General Schmitz is dining at Brebant's, and his carriage is waiting at the door of the restaurant. I will beg him to lend it to me. He is a friend of mine, and will be sure to do so. To buckle on my sword-belt and go over there will take but ten minutes—or a quarter of an hour at the most."

"Hurry!" said Madame Dutailly. "I shall not breathe freely until you return."

"I will run, my dear lady." So saying the captain took his cloak and cap and left us.

Judging by the pace at which he scurried down the stairs he did indeed hurry.

Consternation still reigned in the salon. Madame was divided betwixt her desire to flee and the feeling that she must mount guard over the bomb. With apparent carelessness, I, standing at the window, gazed out upon the moonlit street.

"I could so easily have taken it," murmured Anatole.

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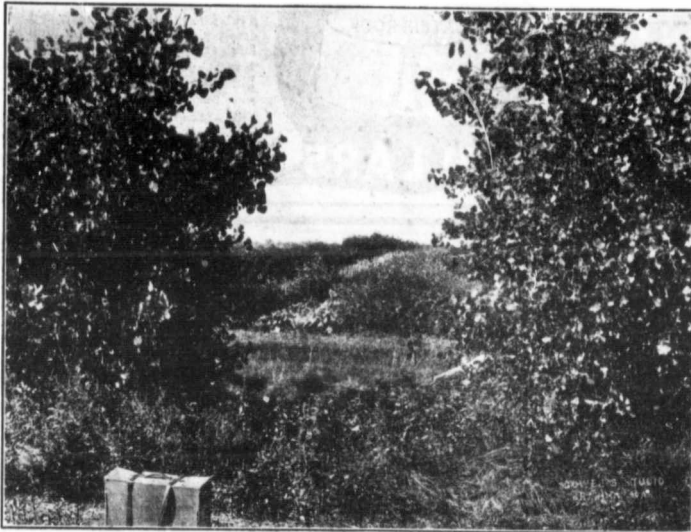
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"Hold your tongue!" snapped Dutailly, a little surprised at the youth's calm courage. "The captain is a far proper person for such work."

"Oh!" groaned Madame Dutailly, "I hope that he will not be long."

I answered her gaily. "He will be so long, my dear madame, that he will never return."

"He will not return?"

"I am sure of it. In order to reach Brebant's he should have turned to the right, whereas he went off to the left and speedily disappeared."

"What is the meaning of that?"

"It means, my friends, that your captain in an impostor whose batteries I am delighted to have demolished with the aid of this missile."

Taking up a photographic album I aimed a tremendous blow at the dreaded bomb, which immediately burst into a thousand pieces of chocolate! It was made of chocolate, and it discharged its contents—a volley of sugar-plums and burnt almonds—upon the carpet.

This explosion provoked a peal of laughter.

Three months later Anatole wedded Gertrude.

And nothing more was ever heard of the captain.

Why is the weather vane?

English Red Tape.

Red Tape has been a perennial source of jibe and jeer for many years, but some instances of it which have recently come to light deserve all the publicity they can get.

For instance, not many years ago it was discovered that a large map on the wall of a room at the London County Council offices did not hang straight owing to the position of the ring. This displeased the eye of one of the officials, who suggested to a gorgeously-uniformed attendant that to put it right would be the work of a few minutes. The attendant was very sorry, but he could not do the few seconds' work required, as it was the work of the jobbing department. He also gave the official to understand that something dreadful would happen to the British constitution if the job were not done by somebody in that department.

After some time had elapsed, a report, duly signed and initialed, reached the jobbing department. The pundits there took a full week to digest its weighty contents, and thereafter an order was made for the work to be seen to. A visit was paid to the offices and the work seen, but not done. Another report was made, and lo! before the end of a month in all, a carpenter, accompanied by the inevitable "mate," attended at the offices and the ring was put right. Thereafter the map hung straight and offended nobody's eye.

But this is nothing to what red-tape can do when it tries. Sir Henry Tanner, principal architect to the office of works, confessed to a House of Commons committee a week or so back that it took four years and six months to get a window put into the post office in Lombard street.

On Jan. 1900, a letter was sent from the post office, asking for a window. This was repeated at intervals from July, 1900, to July, 1901. On Oct. 1, 1901, the office of works came out of its trance, and severely asked what the window was required for. Three days afterwards the post office replied that the window was wanted to "admit more light." On the last day of that year the office of works wished to know why more light was required. The post office, a week later, replied because there was not enough.

The office of works evidently had troubles of its own, for, in spite of several letters from the post office, no reply was received till August 4, 1903, when the old query as to why the window was required was repeated. Being satisfied at last on this point, the office of works raised several other objections from September 29, 1903, to April 5, 1904. At last on June 28, 1904, the office reluctantly allowed an application to be made "in the usual form." Then came a visit of a post office official to the office of works and the very next day—

viz., June 30, 1904—workmen put in the window which was first asked for on January 1, 1900!

In this connection may be repeated the old story, long current in official circles, but unknown to the outside world, of a foreign office senior clerk, who was suddenly seen to leap from his chair and vindictively smash one of its legs. When his colleagues anxiously inquired the meaning of this assault on government property, he replied that a loose caster on that leg had been getting on his nerves for weeks, and he could stand the annoyance no longer. It was no good applying for the caster to be put right, but on the other hand, if the chair was broken another would be supplied without demur. Thus John Bull was charged with the cost of a new arm-chair because red-tape did not recognize a simple matter of a couple of screws and a few seconds' time.

India is a land of red-tape rampant, and there has just come under the writer's notice an interesting document in the shape of the report of a man to himself. In Simla there is a deputy commissioner and there is also the president of the municipal committee. At the present time both these offices happen to be held by Major Douglas, C.I.E. As president of the municipal committee, the gallant major reports to himself as deputy commissioner what he has been doing for the preceding year.

Churchyard Literature

Epitaphs Quaint and Queer.

A graveyard is the last place in the world where one would look for wit or humor, or for ludicrous expressions of sentiment; yet much humor has been gathered from the spectral white slabs of burying grounds, and mortuary puns are by no means the rarest provocatives of merriment.

Especially amusing is it to trace on the old moss-grown and weather-beaten tombstones of New England the quaint and characteristic marks of the simplicity of early times. In the days of the Puritan forefathers, if a deceased person had been elevated to an office so honorable to himself, and so imposing in the eye of foreign nations, as that of deacon of the church, first selectman or town clerk, the fact was emblazoned on his tombstone. If the dead man had enjoyed the majesty of a captain in the militia or justice of the peace, surviving relatives never failed to mention it.

Occasionally the syntax of these effusions of the unlettered muse was such as to throw a grammarian into convulsions; as, for example, that of the following couplet, copied from a gravestone in Maine:

Weep not for me, my children dear;
I am not dead, but sleepeth here.

Many ancient gravestones are sprinkled with moral reflections, warnings and pieces of solemn advice, as though the monuments of the dead were to be the constant study of the living! A citizen of Woolwich, Maine, left at his death a testamentary order that these familiar lines should be inscribed on his tombstone:

As you are now, so once was I;
Youthful reader, passing by,
As you are now, so once was I;
As I am now, so you must be,
Therefore prepare to follow me!

The "disconsolate widow" of the author added this couplet:

To follow you I am not content,
Until I know which way you went.

It is said that the unhappy woman was reluctantly persuaded by the clergyman of the village to have these two lines removed after they had long adorned the tombstone.

Here is an epitaph which is a model of conciseness and elegant simplicity. Many a life which fills a volume is no more remarkable than John Oakes, and might be told in as few words:

Here lies the body of John Oakes,
Who lived and died like other folks.

Hardly less noteworthy is the following, the last line of which is the very soul of pathos: In youth he was a scholar bright; In learning he took great delight; He was a major's only son— It was for love he was undone.

On the tombstone of a married woman was inscribed this dubious compliment to her "lord and master": "Maria, wife of Timothy Brown, aged eighty years. She lived with her husband fifty years, and died in the confident hope of a better life."

In Dorchester, Massachusetts, may still be seen, it is said, an ancient epitaph of a young woman who died very suddenly:

On the 21st of March
God's angels made a sarche;
Around the door they stood—
They took a maid,
It is said,
And cut her down like wood.

A friend of Bishop Wilmer, of Alabama, lost by death a dearly loved wife, and, in his grief, had these words inscribed on her tombstone: "The light of mine eyes has gone out." Within a year the bereaved married again. When asked by a gentleman with whom he was viewing the tomb what he would say of the present state of affairs, in view of the words on the tombstone, the Bishop replied: "I think the words, 'But I have struck another match,' should be added."

A good time to "dye" was that when the wife of Colonel Jonathan Tyng departed from the earth "on June 5th, Anno Dom'i 1780, in ye 99th year of her age. . . . A woman of most Exempl'ry Vertue and Piety, Rich in Grace, Ripe for Glory."

In 1792 a certain major had these lines engraved on his wife's tombstone:

Had virtue's charm the power to save
And free her votaries from the grave,
This stone had ne'er possessed the fame
Of being marked with Polly's name.

Of American punning epitaphs that of Cotton Mather, D.D., on

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Ralph Partridge has never been surprised:

AVOLAVIT
—that is: "He has flown."

Many foreign epitaphs are repeated in different churchyards. An Englishman has found in one churchyard a dozen copies of this: "Affliction sore long time I bore." The following:

She was, but—
Reasons For Bids me to Sa what;
But think what a woman should Be,

And she was that.
—a strange verse (if such it may be called) for a gravestone, yet it may be found in at least five different places in England.

Here is a touching epitaph from Biddeford, England, churchyard:

The wedding day appointed was,
And wedding clothes provided,
But ere that day did come, alas!
He sickened, and he died!

Ludicrous contradictions, dictated by penuriousness or enforced by lack of space, have sometimes disfigured epitaphs. A widower in England directed this line to be inscribed on his wife's tombstone:

A virtuous woman is a crown to her husband.

The cutter, not having space for the word "crown," hit upon this very startling substitute:
A virtuous woman is 5s. to her husband.

On the monument in Westminster Abbey to Chief Justice Kenyon—who was a miserly man—is this inscription

Mors janua vita.

A gentleman who was visiting the Abbey in company with a friend, an eminent English barrister, asked the explanation of this blunder. "Don't you know," was the reply, "that Kenyon couldn't afford the expense of a diphthong?" (Vite).

In the following mournful distich the cruel exigency of rhyme has robbed Mr. Woodcock of half his name:

Here lies, aged threescore and ten,
The aged remains of John Wood-
hen.

N.B.—For hen, read cock.
Cock would not come in rhyme.

The sarcastic Boileau wrote following paradoxical epitaph:

Ci-git, justement regrette,
Un savant homme sans science,
Un gentilhomme sans naissance,
Un tres-bon homme sans bonte!

That is—"Here lies, justly regretted, a learned man without learning, a gentleman without birth, a very good man without goodness." The same wit pronounced the following the finest epitaph upon record:
Cy git ma femme; ah! qu'elle est bien

Pour son repos, et pour le mien!
(Here lies my wife; ah, how well that is, for her repose and mine!)

No one needs to be told that this inscription is from an Irish churchyard:

Here lies the body of Jonathan Mound,
Lost at sea, and niver was found.

The next is from a tombstone in Longner, Ireland:

Here lies my three children dear,
Two at Harlington, and one here;

They are gone to rest, I hope, in Heaven!

One thousand eight hundred and seven.

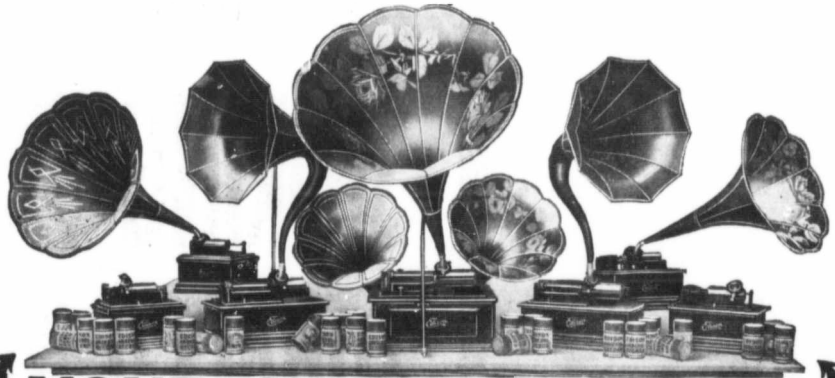
Rather a sudden descent from sentiment to statistics in that last line! A capital epitaph on Charles Knight, the author and publisher, was that proposed by Douglas Jerrold, who was usually more cutting than complimentary:

Good Knight!

Finally, what can be neater than this epitaph on the voluminous Southey by Thomas Moore, who said of himself, "I'm of no party, as a man, but, as a poet, am-a-tory"?:

Peace to his manes, and may he sleep
As soundly as his readers did!

Few men know what is good for them until some wise woman has told them.



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Letters Famous For Brevity

Almost telegraphic brevity distinguishes some of the most famous letters that have ever been written. A writer in Notes and Queries gives a sheaf of these laconic messages, with such editorial illumination as is necessary to make their meaning clear. According to Campbell's "Lives of the Admirals," Sir George Walton was sent in pursuit of a Spanish squadron, and reported what took place in the following dispatch to the admiral in command:

Sir—I have taken or destroyed all the Spanish ships as per margin. Yours etc. G. Walton.

Horace Walpole, in one of his papers in "The World," praises the following letter, written by Lady Pembroke in the reign of Charles II. I quote from memory, but think that Lady Pembroke wrote to Lord Arlington, who had insisted on her allowing Sir Joseph Williamson to be returned member for her borough of Appleby:

Sir—I have been bullied by a usurper, I have been neglected by a court, but I will not be dictated to by a subject. Your man sha'n't stand.

Anne Pembroke.

I have some memory of a story that some person wrote to the first Duke of Wellington, threatening to publish certain letters of his, and that he replied:

Dear Julia—Publish and be damned. Yours, Wellington.

When Lord John Russell announced the breaking up of Earl Grey's Cabinet on May 27, 1834, Mr. Stanley, Colonial Secretary, wrote the following to Sir James Graham, First Lord of the Admiralty:

My Dear G.—Johnny has upset the coach. Yours, etc.

Sir Walter Scott said that the most pointed letter he knew was the answer of Lord Macdonald to the head of the Glengarry family:

My Dear Glengarry—As soon as you can prove yourself to be my chief, I shall be ready to acknowledge you; in the meantime, I am yours,

Macdonald.

The following is quoted as Francis Jeffrey's wicked reply to a begging letter:

Sir—I have received your letter of 6th inst., soliciting a contribution in behalf of the funds of—. I have very great pleasure in subscribing (with this word the writer contrived to end the first page, and then continued overleaf) myself. Yours faithfully, Francis Jeffrey.

A certain lady having written to Talleyrand informing him of the death of her husband, he replied:

Dear Marquise—Alas! Your devoted. Talleyrand.

At a later date the same lady wrote telling him of her approaching marriage. To this he replied:

Dear Marquise—Ho, ho! Your devoted. Talleyrand.

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While the strings of violins and other stringed musical instruments are usually designated as "catgut," most of the material employed in their manufacture is taken from the bodies of sheep.

An investigation of the sources of supply of the materials entering into the manufacture of musical instruments in Germany has revealed the fact that nearly seventy thousand pounds of sheep-gut are used annually for strings.

Nearly the whole of this quantity is imported from

abroad, chiefly from Russia, which furnishes about sixty-four thousand pounds, the rest coming from England, Australia and India.

The hope that some managers of great American abattoirs would care to examine this field for an article that may be more profitably disposed of than at home has led Consular Agent Fiedler, of Markneukirchen, in Saxony to make inquiries of the local manufacturers.

The gut of the English sheep is of fine white color and very durable. In Russia, where the sheep are slaughtered principal-

ly on account of their meat, only young animals are killed.

In South America and Australia the sheep are bred specially on account of their wool. Young sheep are accordingly very seldom killed, and the mature gut is dark.

In tropical countries much gut is spoiled because there are too few workmen and the cleaning should be begun as soon as the sheep are killed. Only the stronger gut is salted and exported. In Hamburg and Berlin there are importers of gut who get the salted product from all parts of the world.

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Queer Driving Power.

There appear to be possibilities in the idea of M. Constantin, a French inventor, who seriously suggests that the use of an adoption of the windmill on the head of fast vehicles would reduce the air resistance and increase the speed. At first sight the idea seems fanciful and quite impracticable, but M. Constantin has given considerable weight to his theory by constructing a model aluminum wagon which, according to a newspaper cutting, was driven forward with surprising energy by a windmill turned by a headwind. The windmill is apparently a form of conical screw, with the blades inclined forward. It is placed at the front of the wagon, and its axis is so geared to the wheels that they are turned forward when the screw is rotated by the breeze it encounters. Tested against the mild air current of an ordinary electric fan the model wagon promptly started ahead, soon developed considerable speed, and was found capable of climbing gradients of six per cent. and over. When tried with a stronger fan it easily carried a load of over twenty pounds.

Moth-proof Artificial Fur.

Another ingenious French invention is that of M. Marche, who has patented a process for making artificial fur. A number of small pelts are sewn together, and stretched, fur side up, on the bottom of a large flat pan. Water is then poured into the pan until the furs are completely covered, after which the pan is put in a freezing chamber, and the water it contains is frozen. When this is accomplished the cake of ice is removed from the pan, and a slice, exactly the thickness of the skin, is sawn off the bottom of the cake. When this thin piece of ice is melted the skins are recovered for use in the leather industry. The remaining portion of ice, in which is frozen the hair from the pelts, is placed with the cut side downwards on a hot surface until another thin layer has been melted, thus exposing the lower ends of the hairs. This base is then thickly varnished with a solution of indiarubber, and after the varnish has set the whole of the ice is melted. A large, seamless, artificial pelt is thus produced, composed of natural hair attached to a sheet of india-rubber. Pelts thus produced would be cheaper than natural pelts since the skin is sold, and the manufacturers are able to use up small skins that would otherwise be of little value.

Big Ben



What Franklin said, I say again—
"Plow deep while sluggards sleep"—Big Ben

Farm-work goes like clock work when it is started on time each morning. Run your farm as factories are run. Have a whistle start the work-day. Big Ben, the national sleep-watchman, will blow such a whistle for you—in other words, he'll ring his tuneful bell at any time you say. Begin the work on schedule time each day, and you'll do a great deal more. More work done, more money made.

Some men get rich on farms and others fail. What is the reason? Most always it is this:—Some farm systematically and some do not.

The best system begins with the rising hour—start with getting the farm hands up on time.

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THING. TRY HIM ON YOUR FARM. See him at your dealer's today. Note his big jolly sunlike face—his great, strong keys that are easy to wind, his large, clean-cut hands and figures which make time-telling easy, even in the faint morning light. Hear Big Ben's jovial voice—his whistle. You'll want him in your room and in the rooms of every farm hand on your place. Nine men will do the work of ten the first day he is used. Thus he'll pay for himself.

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How Old was Methuselah?
A good many men are living to-day who are older than he ever was, says one authority.

So many legends long accepted as fact have been shattered in the past few years that when so great an authority as the Jewish World rises to announce that Methuselah was no so old, after all, no one is particularly surprised. Instead of being nine hundred and sixty-nine years old, as formerly estimated, it now turns out that he attained only the respectable but ordinary age of seventy-eight.

It is surmised, the Jewish World says, that in the earliest times the month, the period of a moon cycle, was called a year. Thus Adam's nine hundred and thirty years of life, calculating a year at twenty-nine and one-half days, the length of a lunar month, works out to seventy-five and one quarter years. After the month year there came a five-month year, the limit of five being derived from the fingers on one hand, it being remembered that primitive people always used the fingers for counting purposes. Then came the twelve-month year.

Excuse for this rearrangement is found in the palmist's limit of life of threescore and ten years, and it is maintained that between the times of Noah and David no such extraordinary change could have taken place as to reduce the life of man by eleven-twelfths. On the five-month year basis, Abraham's one hundred and seventy five years work out at seventy-two, and Isaac's one hundred and eighty at seventy four.

Perhaps, too, there intervened a six-month year discovered by Jacob while watching Laban's flocks. The twelve-month year began with the Egyptians, who saw that a complete period was made up of the two "years," in one of which the days were longer than the nights and in the other the nights longer than the days.

The Christian and Jewish years, concludes the Jewish World, will not forever be separated, "for," it says, "in due course Rosh Hashona will fall at Christmas time and then catch up the Christmas year. This, however, will not happen for thirty thousand years, and no doubt that is the reason why nobody worries about it."

The Power of Concentration

What is concentration? "Carlyle defamed the world to ensure silence," declares Professor Wilkinson. Many people are so determined to concentrate that they render concentration impossible. They sit bolt upright, stiff and rigid, clutch the arms of their chairs, shut their lips tightly, and command their minds to become fixed on some point, phrase or word—thus putting the thing they demand out of the question. It requires all their attention to preserve this fixed and rigid attitude. Now concentration is not a mental clutching of something, a spasmodic projection of the mind towards something, or an anxious demand for something. The greatest mental as well as physical power—for there is a great deal of mental noise—is silent, and has the appearance of negation. The thunder roars and hurries, but does no execution; the lightning, with never a sound, withers and destroys, or, under control, propels our railroad trains and street cars, bearing forwards tons of weight. The mountain brook tumbles and froths and bubbles, and may be heard a long distance away; the Mississippi, with sufficient volume to float thousands of people and tons of merchandise, is serene and utterly silent in its flow. A flock of wild geese will make more noise than the emptying of the St. Lawrence into the Gulf. Concentration, which is conceded by all to be one of the greatest forces of the world, is as noiseless as the lightning, as calm as the flow of the Mississippi. It is like a ray of the sun which goes swiftly, silently, unspasmodically to the heart of the thing whereunto it is sent, and closes around and grapples it as the sun closes around and grapples the moisture which it lifts from lake to cloud. It is gathering all one's mental force to a single point for the single purpose of sending it fully freighted, to the heart of the matter with which one is concerned.—Lida A. Churchill.

What a glorious world this would be, if all its inhabitants could say with Shakespeare's shepherd: "Sir, I am a true laborer, I earn what I wear; owe no man hate; envy no man's happiness; glad of other men's good; content with my flock."



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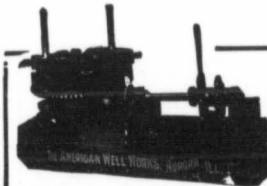
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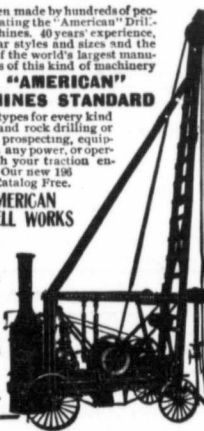
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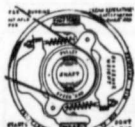
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The Late Reuben Rabbitfoot.
 As Rendered by the Honorable Hector D. Lane, of Huntsville, Alabama.

My dear brudderin in de same party, an' susterin in de same party: We had met in dis lonesome locality to deform de las' final obsequeness ober de remnant ob our frien' and fellow-citizen, Rub'n Rabbitfoot. Man born of a female is in for a few days, but lots o' trouble. He comes up, an' time he gits up size to hab sense 'nough to help hisself, he's cut down again. After all de clearin' up an' de layin' off, and de plowin' and harrowin' sarcumstances ob dis life, Death comes like an early fros' on de cotton-stalk an' cuts off de crop and leaves us all in debt for our supplies furnished by our Lord, de greatest ob de wholesale merchants. And right here, my fellow brudderin, I will mention, dat if what dey say is true, an' he is king of all de Jews, what in de name ob God is gwine to 'come of de nigger what owes him anything? But I hope our brodder hab reached dat shinin' shore where mor'gages and waverin' notes do not prevail — whar de merchants cease from trubblin' an' de nigger am at res'.

In de mi'st of life we are in debt. At any time you can look out fur de Lord to take judgment on you an' foreclose de mor'gage. We fotch n'thin' in to dis world, and when we leave we'll light out naked as a hant. Yes, my Gawd!
 You all know dat Rub'n was a man dat hoed his own road, plowed a straight furrow and laid his crop by clean. I am now happy to say dat we will take de 'vantage ob dis splendid opportunity an' lay him by in de same fashion. Dis same goose-neck hoe, what he used las' week wid his own han's, we will now use to cover his head wid. Rub'n was man among ten thousand; he was a man to be trusted for any reasonable amount; he was a man ob quality; he always wore a biled shirt an' kep' his mule trimmed; paid de preacher and voted Republican ticket. But death hab claimed her own, an' de preacher will lose his money, an' de party his vote. Hab mercy on us, O Lawd! in dis de time ob our tribulation. But, my belubbed brudderin, life is so dreadfully unsartin—just as unsartin as a cotton crop in de barrens or de promises ob a candidate for Congress. Den it becomes us to be ready. Hab your satchel packed an' be ready to bode de train. Here, I'll gib you a frustration ob readiness an' unreadiness: Las' year, when de 'sociation met in Huntsville, I heerd dat de train was going to stop at de

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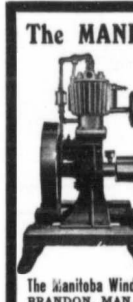
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AGENCIES THROUGHOUT CANADA.

station for to wake de members up. I got in my shirt and duster and stationed myself on de platform. Br'er Miner, he was dar wid me. He says: "Bein's de dus' is a little 'pressive, I'll go over to de saloon and 'fresh myself." He didn't say nothin' to me 'bout gwine wid him, so I tole him he better not go, he might git too fresh, an' den somebody'd want to salt him down, and den he might git left; but off he went. I stood on de platform, wid my eyes sot on de mount'in of faith and my cyarpet bag in my han', de picture ob a beautiful readiness. Suddenly out ob de cut to 'des Belle Mina, up out ob de valley ob de shadow ob death, I seed cloud rise high an' clear, and out of dat cloud come a chariot ob fire. It come roarin' wid a sound ob thunder, ob tinklin' cymbals and shinin' brass; wid de head-light looking' like Joshua's sun, and de cow-cotcher dingin' fur to clear de 'pediments from de track; straight is de way and narrow is de paff dat leads to de gates ob heaben. Yes, O King! But on she comes, roarin' like a herricane in dead timber, to be stopped only by dat hand dat tempers de win' to de shorn lamb. An dars de big three; de great three in one; de bulgineer, de brokeman an' de conductor. De bulgineer stan's wid his han' on de lever, ready to pull her open an' let'r rip. Dar stan's de brokeman, like de angel Gabriel at de pearly gates, ready to take y'r ticket an' let y'r in if dey are right, or if dey are wrong, to slap yer offen de hin' en' ob de car into eternity. An' dar stan's de conductor, de great "I am," callin' in a loud voice, "All abode, all you dat wants to ride in dis, der palace car ob salvation; enter and sot on de velvet seats an' skursion rates. Come, all ye dat am weary an' heavy laden, for now is the 'cepted time an' 'skursion rates; O—h, King, Oh King!" An' all dat was ready took de seats, and de bell rings, and de wheels turn, and off de bulgine blows her steam—"Chow! chow! chower! chower! chower!" Away we go. But who's dat comin' yonder? Favors Br'er Miner; dar he comes, rollin' and tumblin' wid de white in his eyes lookin' like dogwood blossoms in de spring time, and de wind tearin' his duster tail into doll rags. An' what's dat cry of anguish? "O—h, wait! D—o wait!" And what's dat las' sad echo? "T—oo late! T—o—o I-a-t-e!" Br'er Dan'l, lead us in pra'r.

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Bill's in Trouble

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I've got a letter, Parson, from my son away out West,
 An' my ol' heart is heavy as an anvil in my breast.

To think the boy whose futur' I had once so proudly planned,
 Should wander from the path o' right an' come to sich an end!
 I told him when he left us only three short years ago

He'd f'ad himself a plowin' in a mighty crooked row—
 He'd miss his father's counsel, an' his mother's prayers, too,
 But he said the farm was hateful, an' he guessed he'd have to go.

I know thar's lig temptation for a youngster in the West,
 But I believed our Billy had the courage to resist.

An' when he left I warned him o' the ever-waitin' snares,
 That you find like hidden serpents in life's pathway everywhere.

But Bill he promised faithful to be keeful, and allowed
 He'd build a reputation that'd make us mighty proud.

But it seems as how my counsel sort o' faded from his mind,
 An' now the boy's in 'trouble o' the very wustest kind.

His letters came so seldom that I somehow sort o' knowed
 That Billy was a-trampin' on a mighty rocky road,

But never once imagined he would bow my head in shame,
 An' in the dust'd waller his ol' daddy's honored name.

He writes from out in Denver, an' the story's mighty short;
 I just can't tell his mother; it'll crush her poor ol' heart;

An' so I reckon, Parson, you might break the news to her—
 Bill's in the Legislatur', but he doesn't say what fur.

What Mark Twain Says About Birds.

"The moment that Tom begun to talk about birds I judged he was a goner, because Jim knowed more about birds than both of us put together. You see, he'd killed hundreds and hundreds of them, and that's the way to find out about birds. That's the way that people does that writes books about them and loves them so that they'll go hungry and tired and take any amount of trouble to find a new bird to kill. Their name is ornithologers, and I could a been an ornithologer myself, because I always loved birds and creatures—and I started out to learn how to be one, and I see a bird sitting on a dead limb of a tree singing with his head tilted back and his mouth open, and before I thought, I fired, and his song stopped, and he fell straight down from the limb, all limp like a rag, and I ran and picked him up, and he was dead, and his body was warm in my hand, and his head rolled about, this way and that, like his neck was broken, and there was a white skin over his eyes, and one little drop of blood on the side of his head, and laws! I couldn't see nothin' more for the tears, and I hain't ever murdered no creature since that warn't doing me no harm, and I ain't going to."

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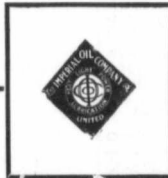
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(This striking piece of dialect verse first appeared in the Denver "Post," and was, it is said, composed by James Barton Adams, at one time connected with that journal. It is in metrical form one of the exhortations of the negro preacher, John Jasper, of Richmond, Virginia, who won a sort of fame a good many years ago by his strenuous assertion that "the sun do move." He died only a few years ago at an advanced age. Was born a slave in 1812 and after "gettin' religion" in his twenty-seventh year he pored over a spelling book until he could read well enough to familiarize himself with his beloved Bible.)

When de trumpets am a tootin', an' de staks dey am a shootin' an' de owls dey am a hootin' in de trees,
 When de earf it am a quakin' an' de dead dey am a wakin' an' de people am a shakin' in de knees;
 When yo' hea' de rollin' thundah, an' de rocks am rent asundah, an' de hosts am in deir wundah standin' awed,
 An' yo' fin' yo' self a tremblin' while de nations am assemblin', oh, sinner, what yo' gwine to tell de Lawd?

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For such work, dealers in surgical instruments sell a contrivance made of steel, called a mask, which is provided with two holes to hold securely the pig's eyes, set just as eyes are set in the human face. By the time that the student has become thoroughly expert in operating upon the seeing organs of swine he may be trusted to tackle similar problems affecting the eyes of living people. So useful, indeed, is practice of this sort that even the most expert oculists are accustomed, when they have something new and puzzling to do, to try it first, so to speak, on the pig.

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Deep, Quick-Plowing

MONEY IN PLENTY lies just below the line to which you have formerly plowed. All you need is more power to bring it up. 20 or 30 per cent increase in your grain crop would go a long way toward paying for a Hart-Parr—even the first year.

HORSES TOO SLOW.—You have vowed that you would NOT be "caught" again in the early spring rush with too little power. Your horses were willing enough but soft—and it takes time to toughen their muscles for such strenuous, heart-breaking work as plowing and discing.

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The Hart-Parr 1912 idea is:

Bunch: Plowing—harrowing—seeding;
Bunch: Breaking—clod crushing—packing—leveling;
Bunch: Harvesting—stubble plowing—and weed-killing.

Act Now

The evidence of the value of a Hart-Parr to any farmer having 200 acres or more is overwhelming. Thousands of users with **REMARKABLE UNANIMITY** vote the Modern Farm Horse as their choice as a money making investment.

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A Hart-Parr uses cheapest **KEROSENE**, it has fewest parts—all standardized and all easily accessible, it's the only **ALL STEEL TRACTOR**; that it will do more work with less repairs than any other tractor; that it is safe; easy to understand; that it can do anything that horses can; that it is lighter, more convenient, more economical than any steamer of equal power; that the "30" and "40" can be operated by one man and the "60" by no more than two; eats nothing when idle. It helps to solve the "scarcely-labor" problem, and is always willing to work over time.

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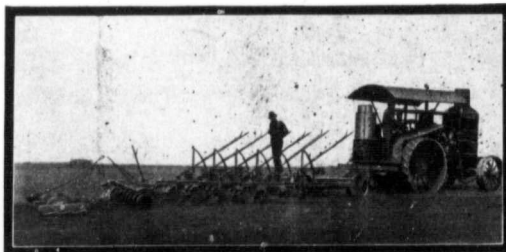
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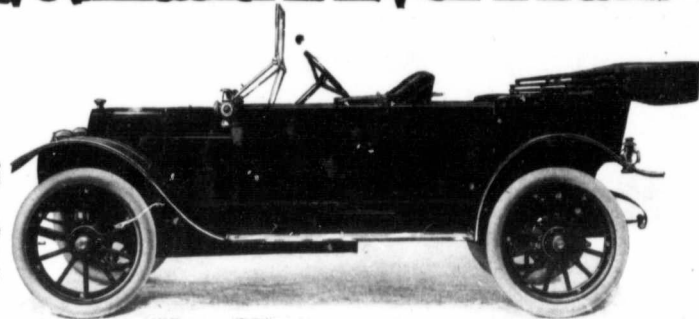
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