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WINNIPEG CANADA

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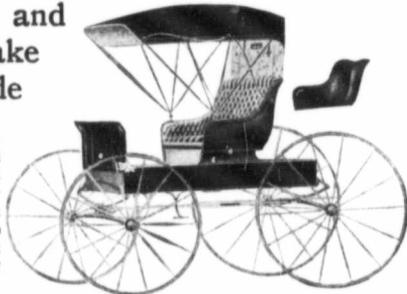
Consider your own comfort. Brockville buggies are easy riding, strong and up-to-date in every respect. They give a feeling of satisfaction to the owner and present a stylish and pleasing appearance.

Quality of Material and Workmanship make them High Grade



No. 800—Fancy Top Buggy

All material used in Brockville Buggies is rigidly inspected before accepted. Only the best is used, after it is thoroughly seasoned. They are built right and have been for over 50 years. This is the oldest and most extensively sold line of buggies in Canada to-day.



No. 530—Twin Tulip Seat Top Buggy

Something Superior—the Wrought Iron Line

Wrought iron is superior to steel for some purposes. It is more refined and practically free from carbon. It is not brittle and will stand greater punishment before it breaks.

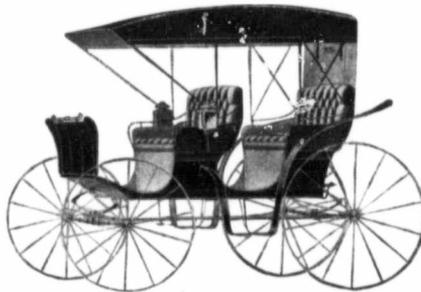
Wrought iron parts are used instead of steel throughout Brockville Buggies, wherever it is found to be of advantage.

Hickory reach, lined the entire length with wrought steel channel and wrought iron connection front and rear. Wrought three prong circle with rear king bolt, making the best possible gear construction.

Bodies have heavy panel plugless sides, tapered from one inch thick at the sill to a fine edge at the top, protected by a piece of wrought iron.

Rolled steel corner irons bolted through the posts make a corner that is almost impossible to open up.

Look the Brockville Wrought Iron line over—examine the body, the strong corners, rigid panels and plugless sides—a combination of strength and neatness.

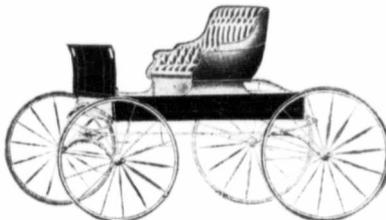


No. 1028—Livery Surrey with Top

A Complete Line

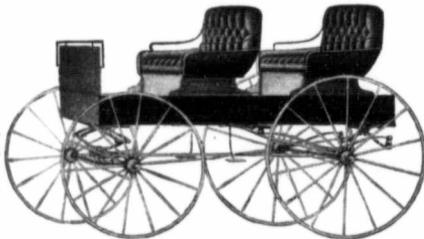
There is a Brockville vehicle built for your particular purpose, whatever your requirements may be regarding style, capacity or size—light runabouts, open road wagons, concords, top buggies, democrats, surreys, special jobs, delivery wagons, school vans, pony carts, etc.

Ask Your Local John Deere Dealer



No. 315—Auto Seat Arch Axle Runabout

to show you the Brockville Wrought Iron Line and write us for free catalog. Kindly mention "Canadian Thresherman and Farmer."



No. 1561—Half Platform Democrat

JOHN DEERE PLOW COMPANY, Limited
WINNIPEG, MANITOBA

FREE to You if You Act Now TABOR SPEED INDICATOR

Mechanically perfect and guaranteed an absolutely accurate revolution counter. Can be used for any machine. A very handy instrument



CUT out guesswork in figuring speed, and get every ounce of power out of your engine by using the exact knowledge this indicator will give you. You will carry out many tests hitherto unthought of, and see a direct benefit in every case. Equipped with a stop motion (which gives it exactness) and having a capacity for a continuous count of 5,000 revolutions, this simple instrument will stand up under the most severe cases you care to put it to.

The indicator is very compact and nicely finished in black enamel with polished steel dials. The simple mechanism and the ease with which the dials can be set at zero after a reading has been taken, are prominent features that appeal strongly to those who have little time to spend in adjusting a more complicated instrument.

How to get the Speed Indicator

The Canadian Thresherman and Farmer needs no recommendation here. It is just as Mr. Mr. W. A. Graham, of Claresholm, Alta., wrote us recently: "I would not be without your magazine if it cost \$5.00 a year." You cannot expect us to reduce the small fee of one dollar a year, but you want as much for that dollar as you can get, don't you?

Take us at our word. Send for this speed indicator because we say you will find it a very valuable addition to your tool box. Then with it beside you prove that we have told the truth. If you don't feel absolutely certain that you will get more value from it than what you pay for a full year's subscription to this magazine—send it back at our expense, and we will return your subscription price of one dollar. Don't put this offer down without acting. You are bound to need one when the busy summer comes. Secure one now—**FREE**. Get that coupon in the mails at once.

**E. H. HEATH
CO. LTD.
Winnipeg**

I enclose \$1.00 for a year's subscription to the Canadian Thresherman and Farmer. Also send me free one speed indicator as described in this advertisement at once. If I am not satisfied with it after five days use I will send it back at your expense and you are to return my dollar without question.

E. H. Heath Co., Ltd., Winnipeg

Name

P.O.

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Backed up by "Special" Guarantees

Avery "Yellow-Fellow" Separators are backed up by the strongest and fairest guarantees given by any manufacturer. We not only back them up by the regular guarantees against defects as given by other companies but also by the following Special Guarantees. You get the regular guarantees against defects and you get these Special Guarantees in addition.

The Strongest Guarantees behind any Separator

Here are the Special Guarantees you get with an Avery "Yellow-Fellow" Separator. Read them over word by word. Compare them with any others. You will not find any as strong.

Special Warranty on Separation

Avery Separating Devices are guaranteed to shake out 99-52/100 per cent OR MORE of the loose grain that is in the straw, the grain to be dry and in fit condition to thresh. When desired we will submit the machine to test.

This is the strongest grain saving warranty ever given. It is absolutely plain and straightforward. We guarantee a saving of 99-52/100 per cent, OR MORE—and the "or more" means anywhere up to 99-99/100 per cent, for this record has been made by "Yellow-Fell-as" in field tests. The actual average in 27 field tests was 99-9/10 per cent—practically perfect.

Special Warranty on Cleaning

The Fanning Mill and Shoe of an Avery Thresher are guaranteed to clean grain in perfect condition for the local market.

Special Warranty on Avery Jumbo Razor Steel Cylinder Teeth

Avery Jumbo Teeth are warranted for life against breakage caused by pitchforks, bolts, spades or other foreign materials accidentally entering the cylinder.

Notice that there's no time limit to the Avery Special Tooth Warranties—for LIFE.

Don't overlook the fact that these Special Warranties are all in addition to the regular strong Avery Warranty against "defects."

The Fairest Guarantees Ever Given

These guarantees are plain and straightforward. They mean just what they say. There's no "joker" anywhere in them. No impossible conditions. Just out and out straightforward agreements and guarantees that are printed right in every Avery order blank and that you can fall back on when you buy Avery Machinery if it doesn't do just what is represented here and the Avery Company stands right square back of them and will make good on every point.

Avery Guarantees and Avery Quality can be Relied Upon

That's what the men who own them say. Read what these men have found out about them. They have proven that Avery Separators are what we claim them to be—The Job Takers and Money Makers, Grain Savers and Grain Cleaners.

A JOB TAKER

The 28x48 Avery Separator we purchased of you this season is giving the very best of satisfaction in every respect. It does the best job of separating and cleaning that we ever had done and we are well pleased with it. We are mighty glad we picked on the Avery.

We bought this machine to thresh our own grain, but after threshing eighteen crops, we are to-day starting on another ring of fourteen jobs that was contracted to another make of separator bought new this year, but which was turned down on account of wasting the grain.

EAST SYCAMORE THRESHING CO.
Yorktown, Ind., 7/21/1914.

A GRAIN SAVER

Well, I suppose you would like to know what success I have. I want to tell you that I have had good success, and not one minute of delay. The separator done dandy work. I got the highest praise of all I threshed for, and some of them came to me and thanked me very much for the nice job I done for them. My fastest work was 2,000 bushels in 8½ hours, and was not trying to see how much I could do. I am well pleased with the separator, and the best of all, the grain went in the wagon box and not in the straw stack.

Jefferson, Iowa, 8/18/1914.

BRYAN ANDERSON

A MONEY MAKER

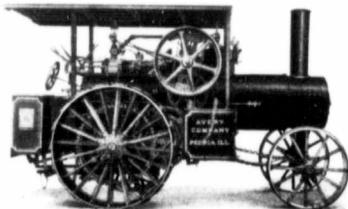
"Purchased one of your 36x60 Avery Separators this season and threshed all told 46 days, getting 90,000 bushels. Biggest day's run was 3,134 bushels, wagon box measure. Best full day's run was 2,021 bushels, wagon box measure. I like this separator the best of anything I have run yet and I have banked more money this season with this separator than I have any other year that I have threshed. I have a 40-inch machine of another make and can not make near the money with it that I can with the Avery. I will be in the market for another Avery Separator for next year."

Great Bend, Kansas 10/31/1914.

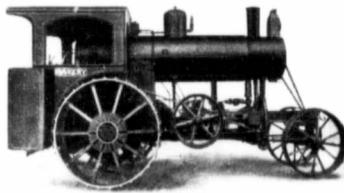
SHERMAN HALL

When the Avery Company guarantees their machines in this way and Avery customers say that Avery machines fulfill these guarantees to the letter—it's the strongest proof you could possibly have that an Avery "Yellow-Fellow" will also do all that is claimed for it for you. Get ALL the Facts. Write now for the complete Avery "Yellow-Fellow" Separator catalog and say what size machine you are interested in. Also ask for a Steam Engine or a Gas Tractor catalog if you want an Engine or Tractor. Address

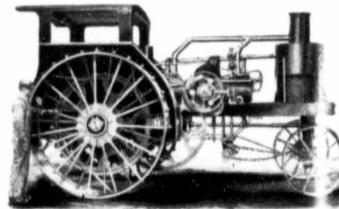
EVERY COMPANY, 675 Iowa St., Peoria, Ill. Canadian Avery Company, Ltd. Western Canadian Distributors WINNIPEG REGINA CALGARY



Avery Single Cylinder Steam Engine
Two Sizes - 20 and 25 H.P.



Avery Double Cylinder Undermounted Steam
Three Sizes - 20, 30 and 40 H.P.



Avery Gas and Oil Tractors
Five Sizes - 8, 12, 20, 25 and 40 H.P.

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- Hon. George W. Brown
- Douglas J. Thom
- T. Sydney McMorran
- Hector Y. MacDonald, K.C.
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- Edwin Jackson

General Solicitors in Canada for the National Thresher Manufacturers' Association of America

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General Solicitors in Canada for eight Thresher and Implement Companies, and in addition for Six Thresher and Implement Companies in Saskatchewan.

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Pace, Harrison & Millar Ltd. General Agents, Winnipeg

Name this magazine when writing advertisers



The Right Lads for Farm Life

are being sent out by the Bislely Farm and Shaftesbury Homes in the county of Surrey, England, and the Twickenham Home, Middlesex.

Their Majesties the King and Queen

are patrons and the Earl of Jersey, G.C.M.G., is president of the Society of which he above named homes are units specially equipped for the training of lads for farm life.

The work of the Society is an imperial one and for many years it has been supplying lads of excellent character and physique to the farms of the Dominion. About 1,600 are now settled at various points in Canada.

Mr. H. G. Copeland, the Secretary, who has recently been on a tour through Canada, will be glad to receive donations towards the Society's work at the headquarters, 164 Shaftesbury Avenue, London, England, or they may be sent to the editor of this paper.

GET YOUR FARM HOME FROM THE CANADIAN PACIFIC

An immense area of the most fertile land in Western Canada for sale at low prices and easy terms, ranging from \$11.00 to \$30.00 for farm lands with ample rainfall—irrigated lands from \$15.00. Terms—One-Twentieth down, balance within twenty years. In irrigation districts, loan for farm buildings, etc., up to \$2,000, also repayable in twenty years—interest only 6 per cent. Here is your opportunity to increase your farm holdings by getting adjoining land, or secure your friends as neighbors.

For literature and particulars apply to F. W. RUSSELL, Land Agent, Desk 13, Department of Natural Resources, C. P. R., Winnipeg.

The Weak Link in Our "Production" Campaign

WE are backing our government without reserve in its strenuous effort to impress on Canadians how great is the reason why every possible square yard of the crop-growing soil shall be under cultivation during the growing period of 1915.

But while exhortation can do wonderful things in turning apathy into a consuming zeal, it cannot make one pair of human hands do the work of two, not to speak of ten where in thousands of cases that will be necessary in order to reap what we have sown.

The best interests of our agricultural friends have already been made sufficiently clear and accentuated to that point in which no one but a fool will neglect them in a single hour that is open to him to work. The big problem we can clearly see will be that of the hired help at harvest time.

It stands to reason that we cannot be sending those thousands of our best manhood into the battle front, and at the same time hope to find the supply of harvesters anything but far short of normal, even in an ordinary season; and if we have ordinary "luck" in weather conditions, this will be the most abnormal time of ingathering we have ever known.

There are only two ways in which the crop of 1915 can be treated under this shortage. Either it must be left on the fields or advantage must be taken of the labor-saving appliances to an extent that we have never been accustomed to in the past.

We are not seeking to "boost" any particular machine or class of implement but we do remember having given publicity to more than one harvesting auxiliary that not only professed to save many teams of horses and the labor of a score of men but over three or four seasons' exacting test in the field did actually accomplish what they set out to do.

Stokers and pitchers make by far and away the big draft on harvest help. These will be obtained only at prohibitive prices this year and then only in numbers that cannot begin to cover the urgency of the case. Of this there can be no doubt; it is no rash prophecy, but an eventuality that is as real as if it were with us now.

While there is time, we strongly urge on every reader to face his own outlook now. Those sheaf-loaders, stokers and mechanical feeders, etc., that have figured so prominently in recent years, should at this very point of time be seriously looked into. Also the many power devices that have been offered to economize time and money at a season when every minute is priceless and when "hands" cannot be obtained at any price.

These appliances cost money—perhaps a little more than one man thinks he can afford at a time, but why not in such a case hitch up one or two neighbors and do a little bit of common-sense co-operation? We have offered this advice personally and through our columns on more than one occasion and have been thanked for it again and again. We have not yet known a single instance where it was followed in which there was anything but the most gratifying results. We are not in the pay of any concern, save that of our readers, and we will gladly and freely give every scrap of information we possess that will help our readers to help themselves to a solution of this crowning difficulty at harvest time.



Make Your **Head** Save Your **Hands**

Old Dutch Cleanser Lightens Labor and Saves Your Time

Will Not Roughen or Redden Your Hands



Full Directions On Large Sifter Can

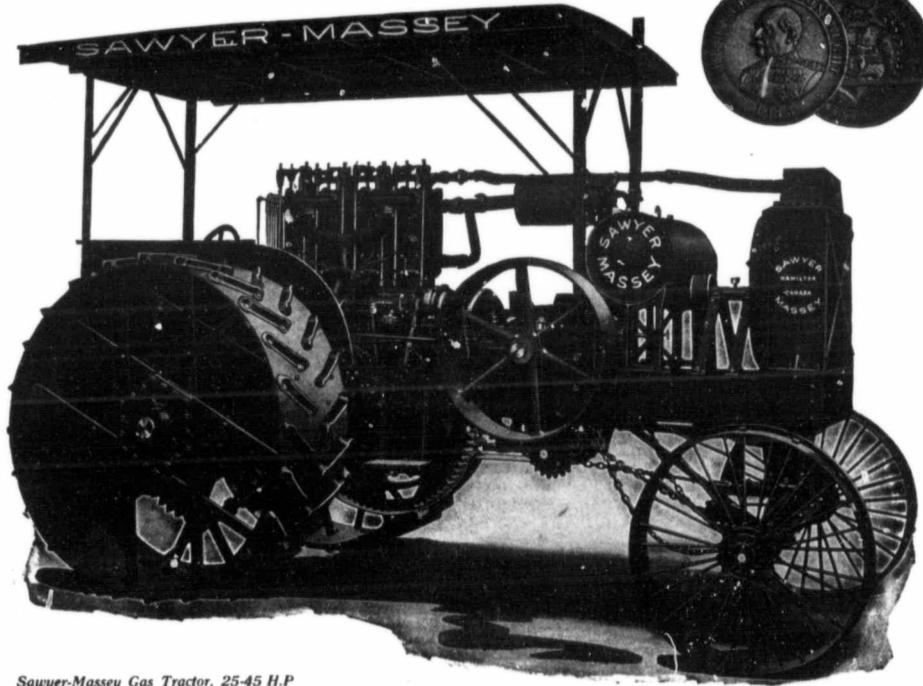
"MADE IN CANADA" Write to the Cudahy Packing Co., Toronto Canada, for our Booklet "Hints to Housewives."



THE PREMIER COMPANY

THE PREMIER GOODS

MADE IN CANADA



Sawyer-Massey Gas Tractor, 25-45 H.P.

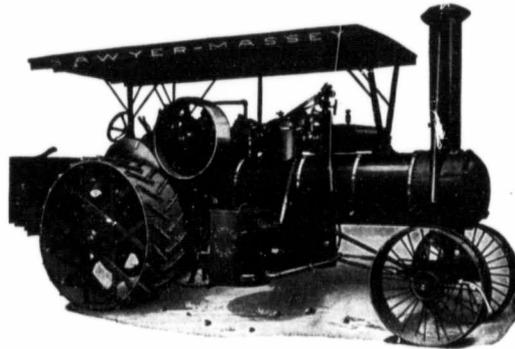
PUT A SAWYER-MASSEY ON YOUR FARM

Put a SAWYER-MASSEY Tractor on your farm and make the profits other SAWYER-MASSEY owners are making! With the extra high prices for grain this year a SAWYER-MASSEY Tractor is a better investment now than ever before.

The SAWYER-MASSEY "25-45" Gas Tractor is a money maker wherever it is used. At the last Winnipeg Contest it took the Gold Medal, easily proving itself the best in Canada. It is a money maker at any work to which you put it, plowing, seeding, harvesting and threshing, and will pay big dividends to any farmer or thresherman.

SAWYER-MASSEY Steam Tractors are the most economical, most easily handled and the strongest built tractors in Canada. They are favorites wherever they are known, and every user is glad to recommend them as the best that can be bought.

Write for our new 1915 Tractor Catalogues, and learn the particulars about these machines.



SAWYER-MASSEY COMPANY, Limited

Builders of Steam and Gas Tractors, Threshers and Road-making Machinery

Head Office and Factory **HAMILTON, CANADA**
Branch Offices and Warehouses: **WINNIPEG, Manitoba; REGINA, Saskatchewan;**
CALGARY, Alberta; Agency, BUENOS AIRES, Argentina

SAWYER-MASSEY

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Vol. XX.

WINNIPEG, CANADA, APRIL, 1915.

No. 4.

THE average citizen nurses the impression that plowing the soil is one of the simplest of all the menial occupations of the day laborer; that any able bodied person can do all that is needful in turning up the soil for a fresh crop, and do it perfectly too, for all practical purposes. As a matter of fact there is no operation in field husbandry that is so little understood, that means so much, and upon which the fate of the crop is so completely dependent.

The theory and practice of good plowing is worthy of the most patient observation of any man who seeks fortune in return for intelligent labor devoted to the business of raising farm crops. Good plowing does not mean fanciful or mathematically straight lines scratched on the surface of the soil but it means the treatment of a particular soil in such a way that it yields (humanly speaking) the highest possible results in crop returns.

Plowing is probably the oldest as it is the most expensive tillage operation in the economy of farming. Experience and human reasoning have in course of time given us easily understood facts in place of the haphazard methods of the ancients, and the academic faculty need no longer seek to mystify the student with scientific elaborations. Plowing is an open book to any man who has eyes and who cares to make use of them in free co-operation with his own birthright of common sense.

What the plowman has got to determine in handling his own bit of land is the type of mold-board that will best adapt itself to that particular character of soils, how deep the plow share ought to go; is there an excess or deficiency of moisture, or is the condition of the soil just right for plowing? He will also consider whether it is necessary or advisable to plow at all for a given crop.

The main purpose of plowing is the destruction of plant life in weeds or grasses that are unfriendly to the desired crop, the burying of stubble, etc., with the funeral so thoroughly "conducted"

The Fine Art of Tillage

that there is no chance of the trash coming to the surface again as the result of subsequent tillage.

A broad, deep furrow will cover old or obnoxious vegetation

and sticky masses. But this result cannot be obtained with flat-furrow plowing or when the soil is overloaded with moisture.

"Flat-furrow" plowing is the result when the furrow slice lies

compounds that the plant cannot use. The tining of the soil by the plow increases enormously the surface area of the soil particles resulting also in a greatly enlarged feeding area for the roots of the plants.

Deep Plowing.

Other tools than the plow may be used and are used to a very limited extent in starting the seed bed, but next to the spade, there has not yet been found any device that so effectively fills the bill as the plow which at the same time can be multiplied to cover a wide area in one operation without impairing its intensive work at any point. Some of the larger gang plows of the leading makers are most impressive examples of present day methods in tillage and their work is conclusive testimony to the fact that extensive operations in capable hands can be carried out to any extent and still more thoroughly than horse flesh could ever hope to arrive at.

Heavy soil constituents of clays and clay loams may be made to hold more moisture by deep plowing. As rain will penetrate a loose soil more readily than it will a hard compact one, it can be seen that the rough surface of the land after plowing in the fall receives and holds rain and snow precipitate that would simply return to the air from unplowed land.

The little depressions act the part of so many reservoirs that catch the moisture and hold it until it has time to pass into the soil. When the precipitate is taken care of in this way, the wastage of valuable soil by erosion is prevented to a great extent. Many fields that have been cut up into small creeks and gullies by heavy rains and rapid thawing of snow-fall would never have suffered in this way had deep and careful plowing been practised.

The nature of a particular soil will, of course, to a great extent determine the depth to which it ought to be plowed. Heavy soils should be plowed deep, and as a general rule the lighter the soil the less is it needful or advisable

The Man Behind the Plow

We sing about the glories of "The Man Behind the Gun,"
 And the books are full of stories of the wonders he has done;
 There's something mighty fetching in the flag that's waving high,
 That makes us want to holler when the boys go marching by;
 But when the shouting's over and the fighting's done, somehow,
 We find we're still depending on "The Man Behind the Plow."
 We're building mighty cities and we're gaining lofty heights;
 We're winning lots of glory and we're setting things to rights;
 We're showing all creation how the world's affairs should run,
 Future men will gaze and wonder at the things that we have done;
 But they'll overlook the feller just the same as we do now,
 Who's the whole concern's foundation, that's "The Man Behind the Plow."

—Sam Kiser

better than one that is narrow and shallow. When a heavy weed or green manure crop is to be plowed under, a chain should be used with one end fastened to the beam of the plow and the other to the end of the double-tree; and let it never be forgotten that organic matter decays more rapidly and gives greater results as a natural fertilizer if deeply buried than if just covered or partially covered.

A plow that knows its business pulverizes the soil, leaving it in a crumbly state free from clods

flat on the bottom of the preceding furrow. The plowman who is out to do the best that can be done with the soil will see that the furrow slice is broken to pieces and will not be satisfied till he has an implement that will accomplish this and that leaves nothing in sight except the brown earth—every corn stalk and weed enemy out of sight.

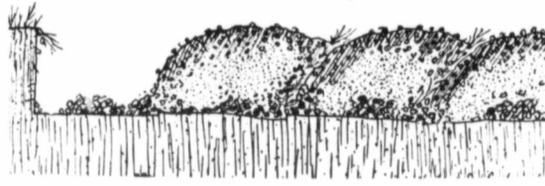
The soil is thus exposed to the action of the air, rain and frost, liberating plant food which would otherwise remain locked up in

to plow deeply. Deep plowing on heavy soils is one of the best guarantees of great results inasmuch as the soil is loosened, drained and aerated. Light soils are often robbed of their virtue by deep plowing since the operation makes them looser and as a rule they are already too loose and "leachy."

The plowing depth is also regulated to some extent by the nature of the crop. Root crops require much deeper plowing than is necessary for the ordinary grain or fodder crops. It is considered excellent farm practice on good soils that have only been plowed to a depth of 3 or 4 inches to plow about an inch deeper each year until a depth of seven or eight inches has been reached, provided that the work is done in the fall where the soil freezes in the winter as it does in Western Canada to a considerable depth.

It is hardly necessary to specify "the time" for plowing which, of

furrow slice is turned. Clay or gumbo fields have been nearly ruined for crop results by plowing them once or twice when too wet. When a heavy soil turns over in great clods in the spring, there is trouble ahead for the farmer. Sometimes these clods



Plowed Field before Sub-packing.

cannot be worked down for several years into the condition of a good seed bed.

Sub-surface Packing

There is probably no subject connected with farming on which there is so much mis-information as on the matter of sub-surface packing. One who has spent his

There is but one implement that will do this surface packing, and that is the sub-surface packer. This implement is made of a series of skeleton wheels, with diamond-shaped rims that cut into the plowed field with a downward and lateral pressure, firming the under

portion of the furrow slice and leaving the surface rough. A disk set straight will do some good but the action of the disk is to loosen rather than to pack, and it therefore can never take the place of a sub-surface packer. Let us fully understand this. A corrugated roller or these duck-foot packers do not do the job—they are surface packers and affect the seed bed only.

When to Use the Sub-surface Packer

The sub-surface packer should be used immediately after the plow, and followed by a harrow to form a surface mulch unless the soil is in such a condition that a mulch of sufficient fineness is left by the packer.

The sub-surface packer should not be used on all soils nor at all times. If there is sufficient time for nature to do the packing, as in fall plowing, it is unnecessary to pull a packer over the plowed field. But when the soil is loose or when a crop is to be sown immediately, if you want to have an ideal root-bed for your plants to grow in, use the sub-surface packer and use it immediately after the plow while the soil is

Power for Cultivation
In the change from animal to mechanical power which is taking place in response to the demands of modern farming, the tractor that can pull from four to ten plow bottoms has become the dominant type. In most of the literature put out by the factories the plowing stunt has been emphasized to the exclusion of the lighter work on the farm, and the needs of the small farmer are a substitute for the team of horses. Plowing must be done and in our great grain country it must be done in the shortest possible time. A tractor that will plow, pack, harrow and seed thirty acres per day certainly has its place in the wholesale farming district of the West. But what is needed also is a tractor that will adjust itself to cultivating the smaller crops and to the capacity of the small farmer generally.

This problem of small tractors has been a difficult one to solve but several manufacturers have made distinct progress along the line. They have found that the are vast tracts of land in Western Canada that will not bear the weight of some of the unwieldy machines that were about the only thing offered for sale two or three years ago. As power equipment they were all right till their excessive weight was felt on some of the light and in many cases spongy soils. They also require first class trained engineers to handle them successfully, and the skilled men were not then available in sufficient numbers to man the big fleet of gas tractors that came west in train loads.

This experience is bearing fruit to-day. The traction engine schools in the interval have done yeoman service, not only in doubling the interest in power farming among the young fellows of the farm and city who have

Next... has taken... the list... that... which... is the... now... where... been... equipped... with... which... right... the... A... and... great... success... is also... of the... sta... the... sively... for the... "We... from... to... ing... a... and... an... We... of... If... heavy... enough... down... until... suit... us... This... a... time... as we... for... nearly... all... of... fall... breaking... the... way... until... spring... it... angling... with... as... not... to... turn... use... a... disk... drill... the... press... we... can... again... after... the... used... the... rolling... the... plow... but... q... acme... because... the... much... sod... and... r... hard... to... work... de... spaces."

Harrowing

So much advice on this subject...



A big job and a good job.

course, will depend upon climate, the condition of soil and the convenience of the farmer. Fall plowing is decidedly the "psychological moment" for Western Canada. In so far as getting the ground in ideal form for a perfect seed bed is concerned, our great annual freeze and the subsequent thawing out is one of our best assets in these latitudes. The soil is put in the pink of condition for disking and harrowing in the spring.

The earlier the better is the word for spring plowing when it has to be done in the spring in order that the least possible wastage of moisture may take place. If a big acreage of spring plowing has to be done, the soil should be thoroughly disked as early in the season as the job can be done so that the land may have the protection of a mulch until the plowing is reached. Early plowing also aids in drying and warming the soil while it puts the land in the best possible condition to catch and hold the spring rains.

While early spring plowing is recommended, it is a mistake to plow land before it is so dry that it crumbles readily when the

years in the study of soil cultivation says: "Some writers refer to this process as subsoil packing, as if the subsoil ever needed packing. Others recommend a roller or a clod-crusher for the purpose of packing and firming the sub-surface of the plowed field.

These implements are all right to pulverize and firm the seed-bed but they have no effect on the sub-surface, the under portion of the furrow slice that comes into direct contact with the subsoil, and known as the root-bed.

Let us get clearly in mind what is needed after the plow has done its work. The furrow slice is turned over more or less completely and somewhat pulverized, but the under portion, next to the sub-soil containing the trash and lumps is loose and full of air spaces. Now unless this is packed firmly against the sub-soil, capillary action will be cut off and no moisture can come up from below. And more than this, no root ever grows into dry and loose soil, so if you want to have the crop take root, the root-bed must be firm and moist and directly connected with the sub-soil.



Transforming a Wilderness of Scrub

moist and pliable. It is useless to attempt to pack dry soil. It is generally admitted that the one effective type of sub-surface packer is the "Campbell" type, made by a number of factories in the United States and Canada.

taste (and in some cases a gain) for mechanics but in turning quite a large number of men are capable of handling any that will "go" as easily as guide their horses in front of the sulky.

into a perfect seed for judgment. Shall wheat or our flax crop when, are the questions almost daily. He like most every other or should be governed.

Cultural Implements

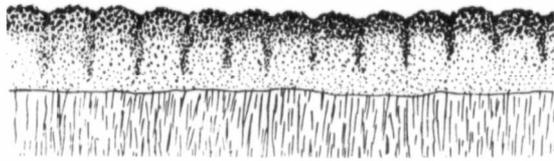
Next to the disc harrow which has taken a permanent place in the list of farm tools and without which the farmer can make good, is the acme harrow. This tool, now pretty thoroughly known wherever scientific methods have been introduced is a steel harrow equipped with a special type of coulters with a double twist with which it throws the soil to the right and the left, giving it a complete turn. As a light surface cultivator and weeder the acme is a great success, cutting off the weeds and leaving a well-pulverized mulch on the surface. The acme is also used in the preparation of the seed-bed following the turning of sod ground. One correspondent states that he has used the acme on sod ground exclusively for the last two years. He says: "We first break the sod from four to five inches deep, pulling a packer behind the plow and an acme harrow behind the roller and an iron harrow behind the acme. We aim to get two inches of mulch. If the tools are not heavy enough we weigh them down until they work the soil to suit us. This work is done all at a time as we use traction power for nearly all of our work. On fall breaking the soil is left in this way until spring when we harrow it angling with a light harrow so as not to turn up the sods. We use a disk drill and place on all the press we can get. We harrow again after the drills. I formerly used the rolling disk harrow after the plow, but quit them for the acme because they turned up too much sod and made the ground hard to work down to fill all air spaces."

Harrowing Grain

So much advice has been given on this subject that the average farmer begins to distrust his own

judgment. Shall we harrow our wheat or our flax or our oats and when, are the questions that come in almost daily. Harrowing grain like most every other farm process or should be governed by conditions.

Here is what the North Dakota experiment station has to say on the subject: "Grain may be harrowed to good advantage after it is four to six inches high, providing the soil is firm, the harrow light and the day warm, dry and the sun shin-



Plowed Field after Sub-packing.

ing brightly. Wheat and oats may be harrowed to good advantage just before they come up. If barley or flax are harrowed at any time after they are up, great injury to the crop will result. Wheat and oats are the small grain crops that can be harrowed to best advantage, but great injury may result if the ground is harrowed during cold, damp weather, when the dew is on the young plants when they are less than four inches high, when the soil is loose, when too heavy a harrow is used or when a heavy, dashing rain falls within twenty-four hours after the harrowing is done. Experience on the demonstration farms indicates that the best time to harrow is just when it is beginning to germinate, which is usually a week or ten days after seeding. There is no implement as good as the harrow for exterminating annual weeds which start from small seeds, such as buckwheat, pig weed, French weed, mustard, etc. The harrow is useful in the early spring in getting the weeds to start and in warming up the soil while later applications of the harrow will, if used judiciously, go a long way towards exterminating

production now facing the Saskatchewan grain grower, and in view of the fact that over two-thirds of our cropped area is stubble, it would seem that this portion of our farms should receive very much greater consideration than has ever been given them.

The causes of low yields, he points out, are:

1. Low moisture content of the soil.

2. The presence of grass, shrubs and weeds.
3. A poor seed bed.
4. Insufficient "soluble" plant food.
5. The stubble itself.
6. Unavailable subsoil moisture.

The first of these is the most general, but any one or all of the others may be contributing factors. Some cannot be controlled absolutely, but all of them can be materially influenced by the farmer, and most are entirely within his control.

Some Good Tillage Practices

As the result of careful experiments carried out on the University farm from 1911 to 1914 seasons (inclusive), Mr. Bracken and his colleagues recommend:

"The necessity of plowing 'grassy' stubble.

The average yield of wheat for three years on untilled grassy stubble was 5 bushels, 25 pounds less than on untilled stubble that was free from grass. There are times when it may not be best to plow clean stubble fields, but there is seldom a time or condi-

tion that makes it advisable to leave grassy stubble unplowed.

It was observed that in all cases where grassy stubble was plowed the yield was increased and the grass was either totally killed or very much lessened. When the same land was left unplowed, in many instances it became overrun with native quack or, in low places, with sweet grass and the cost of redeeming it was thus much increased.

Cereal crops cannot compete successfully for moisture and plant food with established perennial plants. Neither burning nor surface cultivation will kill the latter, and when they are present in any quantity in stubble fields, plowing for the succeeding crop, either in fall or spring, becomes almost a necessity.

Burning Stubble

Burning stubble is permanently wasteful, but immediately profitable.

The average yield during three years for all stubble land that was

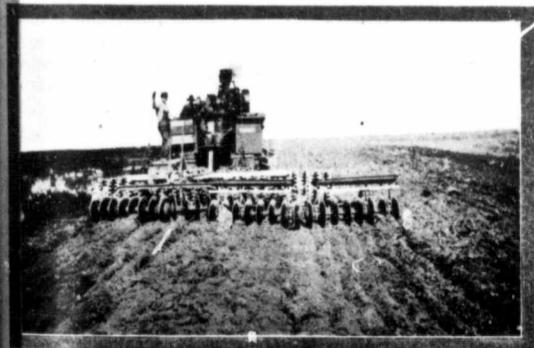


The Harrow behind the Plow saves tons of moisture.

surface cultivated in any way was 15 bushels and 56 pounds of wheat, while the average for the same length of time for land that was burned and then surface cultivated was 16 bushels and 33 pounds per acre.

A very much greater increase from burning has been reported from the Qu'Appelle Valley and Regina Plains, where the soil is heavier and where the stubble grows longer and holds more snow. It would seem that on heavy rich soils, where the straw grows tall, burning in the spring after the long stubble has been left to gather snow, is a practice that, for immediate profits, is conducive to large net returns.

On the other hand, this method does not give opportunity for controlling the spread of annual and biennial weeds. In regions where spring burning has been followed for any length of time, these are very abundant. In some older districts where weeds are abundant, and where the fallow blows so badly that the drifting soil covers stubble fields and renders spring burning impracticable, fall burning and surface cultivation is



into a perfect seed for any Crop that can be sown.

annual weeds."

Tillage of Stubble Land

In a recent article on this subject by John Bracken, Professor of Field Husbandry, University of Saskatchewan, offers some

THE CANADIAN THRESHERMAN AND FARMER

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APRIL

"Cheap" Implements

1915

OUR GUARANTEE

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SO LITTLE HAS PRICE to do with the character and value of a manufactured article that many things at the very bottom of the price list cost far more in the long run than the high-priced line at the top. This was never more true of any class of manufactured goods than of agricultural implements, tools and machinery. What farmer of any experience has not had it forced upon him that a "cheap line" in a plow, a binder or a box wagon, is something like the untrained troops the Minister of Militia has referred to as "worse than useless—they are a menace?" A few extra dollars on the original price would have covered the wide difference between the very lowest type of material and workmanship and the highest grade in both cases. Those extra dollars would not only "never have been missed," but they would have saved the tragedy and loss of a whole season.

"CHARACTER IS MORAL ORDER seen through the medium of an individual nature," says Emerson in speaking of men. It is no less true of anything that men make, and the first thing that any man of sense will consider is the *character* of an article he contemplates buying. If it is of doubtful character, it is probably the most expensive thing of the kind he can buy, even if it may be "given away with a pound of tea." If he needs it and knows it to possess those qualities it must have to deliver the goods, it is a decidedly cheap investment, even if he pays what may seem a high price for it. Bargains are not necessarily low-priced acquisitions. A "bargain" is something that is positively worth more than it costs. A "cheap" article, according to the most recent dictionary, may either be that or it may be "worthless," "of little account."

ALL THAT THE ADVERTISING WRITERS can say, all that the publicity experts can think of to illustrate and embellish a poor razor, may sell many thousands, but can never make it a good shaving tool. What a sorry reflection, is it not, to know that the greater part of manufactured products are sold by advertising (which is another name for "reputation"), and how relatively few find their way to the consumer by their unemblazoned *character*? What a lot of our farm machinery still finds its way from the dealer to the heart of the farmer by its appearance! And yet we may not say that one such attractively garnished commodity is a "base subterfuge," nor can we scorch the manufacturer of it with the brand of dishonesty. The demand has been created somehow for a certain thing at a price, and the manufacturer is doing nothing more than meeting the demand.

A STREAK OF MEANNESS runs through human nature everywhere that must be gratified or pacified, but its "satisfaction" is usually short-lived. An offence against

common honesty, it brings its own punishment in a certain disappointment and loss that the fair-minded man rarely has to face. It is a common axiom in all trading that one usually gets just what he pays for. So that if an article of cheap unseasoned timber is painted or veneered to have the appearance of the best, no one but a fool will be misled by its price. An honest man will never expect to get for five dollars a thing that looks like the "real mahogany" and which costs ten dollars. Wonderful tricks can be performed with iron, steel and timber—and a lick of paint. A little paint will go a long way, and you know it is but a protecting garment. The value all the time is in the *character* of the tool.

CHARACTER IS THE ONLY THING worth buying. The initial cost in excess of the "cheap line" is usually inconsiderable, even to the poor man. Even if it represented a wide margin, the difference *pays* over and over again in long life, immunity from all sorts of leakages in repairs, enforced idleness, and in the quality of the work done. This is especially the case with regard to agricultural machinery and implements. There are few purchases in which the buyer can be more easily "done" than in a composite of wood and iron. A really good farm wagon costs say \$110, but another very *like* it can be had for \$90 or less. Where's the difference? At practically every vital point—underneath the paint. One is made from natural *air-seasoned* oak and hickory, the other from maple, or birch, *kiln-dried*. When the farmer is calculating "costs" does he figure out the difference in *character* and therefore price between oak and maple? And that while it takes two or three years to thoroughly *season* timber, it can be "dried" with hot air in a few weeks?

THIS IS BUT ONE OF MANY instances in the construction of an agricultural implement in which there is mighty spread in lasting quality and therefore market value between the solid, wear-resisting, weather-proof article and its cheap likeness. How is the novice to get to know the solid from the pinchbeck in the maze of catalogued articles that are offered him? Well, the price difference will startle at once on an interesting inquiry, as at first sight it looks as if one applicant for his patronage was attempting to rob the other. A name can be carried too far as a recommendation to a manufactured article, but industrial history tells us that wasn't the "name" that built up the great business of the leading manufacturing houses, but the *character* of the goods that made the name for the house. Good "names" are quite as much to maintain them as it did to make them. Eternal vigilance did not keep them at concert pitch to-day; they would blow out in one season.

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MIXED FARMING

MANITOBA - SASKATCHEWAN - ALBERTA

BY W.C. McKILLICAN B.S.A



No. 14.

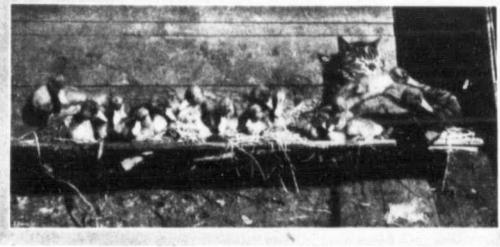
Conservation of Moisture Under Mixed Farming

IN the production of crops in Western Canada, the supply of soil moisture is probably the most important factor. There are more crop failures and light crops caused by shortage of moisture than by any other single cause. In many parts of the country the average rainfall is less than enough for good crop production, and in all parts, occasional seasons of drought occur. Consequently no system of farming is complete or satisfactory that does not take cognizance of this fact and include methods of moisture conservation. In grain growing operations a system of farming, known generally as dry-farming, is recognized as the best means of conserving the moisture. This, however, concerns itself specially with grain production rather than with mixed farming. It is the subject of this article to combine and co-relate the principles of dry-farming and mixed farming, and if possible to show how conservation of moisture may best be accomplished under mixed farming practices.

Dry Farming

Let us first see what are the principles and most important practices of dry-farming so that we may intelligently try to apply or adapt them to mixed farming conditions. Probably the essential principle is the use of the moisture of two seasons for one crop. This is accomplished by means of the summer fallow, which aims to store up and conserve one season's moisture and carry it over for the use of the next year's crop. Another principle of dry-farming is that the seed bed should consist of fine particles firmly pressed together in order that soil moisture may be readily available to the seed and roots, and that there shall be above this a layer of dry, loose earth to act as a surface mulch to prevent loss of moisture by evaporation. Dry-farming calls for deep plowing in order that there may be a large storehouse for the holding of moisture, it calls for early plowing of summer fallows in order that this storehouse may be ready to receive the rains when they come. It requires frequent surface cultivation

in order to maintain a surface mulch and keep down weeds, thus preventing the loss of the moisture which has been accumulated. It calls for packing immediately after plowing to establish connection between the furrow slice and the lower earth and thus to prevent drying out of the furrow slice. It also calls for packing in the preparation of the seed bed, where it is needed, to give the seed bed the proper firmness. There are other lesser principles in the system and many other practices that may be advisable under certain conditions, but the above are a few of the more outstanding features of the dry-farming system. As in all systems of good farming it includes thorough cultivation,



"MIXED" Farming.

conducting operations at the right time and attention to detail.

Principles Applied to Mixed Farming

Most of these principles are equally applicable to a mixed farming system as they are to grain growing. Deep plowing, packing where it is needed, the firm seed bed, the surface mulch and the general conditions required are applicable without alteration. However, some adaptation must be made in regard to the frequency of the summer fallow and in regard to the handling of the other crops which mixed farming includes. These alterations and adaptations we must deal with somewhat more in detail. As the conditions in different parts of the country vary greatly we shall have to discuss the subject differently for the different conditions. For this purpose Western Canada will be divided into three divisions: "Very dry," "medium dry," and "moderately moist." Very dry districts are those where a full crop can only be grown on a summer

fallow on an average year and which have occasional crop failures. Moderately dry districts are those in which moisture is the chief consideration in crop production, but where good cultivation makes a crop reasonably sure. In these a summer fallow every third year is found advisable under straight grain growing conditions. Moderately moist districts are those where the average rainfall is about sufficient for crop production, where under grain-growing conditions a summer fallow every four years or less frequently is sufficient, and where weeds, frost or lodging are equally as likely to lower yields as is lack of moisture. I shall not attempt to divide the country geographically under these head-

require a changed system.

For any system of farming in these very dry lands, the summer fallow must be an important feature. With grain crops, summer fallow every second year seems to be necessary to insure a crop. With the introduction of mixed farming the summer fallow cannot be discarded though its frequency may be reduced somewhat. In these districts, corn roots may be grown successfully but should always be sown on summer fallowed land. Corn may then be used to grow a grass crop, after which a summer fallow would be due again. Grass crops are grown with considerable difficulty under very dry conditions. However, brome grass can be grown successfully. It should be sown on summer fallow corn land and sown without a nurse crop. Land should not be left long in sod as the first two years are the most productive after that time the yield rapidly dwindles. In breaking up sod, year has to be lost in order to rot the sod and accumulate moisture before sowing grain again. The best method in breaking up sod is to break shallow early in the season and pack immediately after plowing, then back-set 12 inches deeper in August or September.

Alfalfa may be grown in the driest parts of Western Canada but must be handled properly to insure success. It must be sown only on well summer fallowed land, the land must be inoculated the alfalfa must be sown in rows about two to two and a half feet apart and cultivated between rows. Light seeding, not more than five pounds to the acre is best. A good stand of alfalfa may profitably be left for many years, and in the driest districts it may be used for seed production as well as for hay. Moisture conservation is kept up by cultivating between the rows several times each summer.

The importance of a bare summer fallow is very great in the very dry districts and the possibility of growing pasture on land that is being fallowed is not at all permissible. In order to save the moisture there must be absolutely no growth on the summer fallow and frequent cultivation must be given in order to preserve the surface moisture.

(Continued on page 13)

ings but shall leave to the reader the decision as to which conditions his farm is under.

Very Dry Districts

In the driest portions of Western Canada, the conservation of moisture is such an all-important factor in crop production that all other considerations must take second place. It is here that the greatest difficulties in the adoption of mixed farming present themselves. Shortage of moisture for the growing of fodder crops, and shortage of drinking water for live stock make mixed farming under these conditions much more difficult than in districts of greater rainfall. The ranch was the ideal type of agriculture for this territory, as it made up in extent for the shortage of production per acre and it allowed freedom of movement of stock over large areas in search of water. But this land has been converted into farms, and in the meantime it is used largely for exclusive grain growing. But this system cannot continue; soil blowing and the exhaustion of fertility will very soon



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SOME FIGURES THAT ARE FACTS

Ordinarily the farmers of Western Canada do not think of Winnipeg as a manufacturing centre. A feeling is prevalent that manufactured goods used in Canada West are made elsewhere and that Winnipeg is nothing more than a distributing centre.

Therefore, let it be known that Winnipeg has approximately 400 manufacturing establishments employing over 20,000 men and an invested capital in excess of \$50,000,000.

Has it ever entered your mind when purchasing overalls, shirts, tea, pickles, canned goods, etc., to look and see whether or not they are made in Winnipeg? Just keep this in mind the next time you go to your local merchant and you will be surprised at how generously his shelves are stocked with Things You Need Made in Winnipeg

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It must be rather amusing to the farmers of the West to realize how suddenly important they have become to the Dominion government and its not election time either. The number of bulletins and war books being issued to guide the farmer on his way are quite astonishing. Some of them contain excellent information in a fairly practical form and are well worth reading and following in so far as they suit individual conditions. The money spent on some of them would have been better spent on seed for distribution, but as we cannot have everything we want in this sinful world it is well to make the most of the goods the gods provide.

SEEDING BARLEY

Just a word about barley. Seed is hard to get, but it is not impossible to secure it, and barley is going to be a mighty good thing to seed this year, especially if it is planted on good clean land in good time. Barley is exceedingly scarce in Canada for malting as well as seed purposes, and the country has never had its barley bins as empty as they are to-day in twenty years. The demand next fall will be good, both in Canada and the United States, prices will be at a profitable level. The better the yield the larger the profit, and the better the land is cultivated on which barley is seeded, the better will be the yield.

FODDER CORN

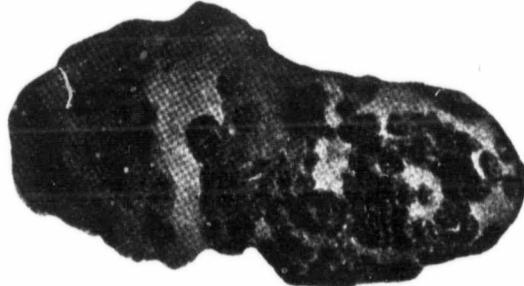
Every farmer should have a patch of fodder corn. The man who had a patch of fodder corn last year was the man who was able to keep his stock in good condition all winter. The man with fodder corn was never on the market during the winter selling cattle so thin they were only fit for canners. James Carr, of Warren, who took the first prize for wheat and the grand sweepstakes at the Provincial Seed Fair, farms a half section, and in 1914 he took over 4,500 bushels of grain off it, in addition he had 3 tons to the acre of alfalfa from his patch, but from eight acres of corn he had 115 tons of splendid feed, and he declares he would not be without it for any other crop that could be offered to him. Down in Southern Manitoba, where many of the grain crops were very light owing to the drouth, the ten, fifteen and twenty

acre fields of fodder corn gave heavy yields of fine fodder. Land for corn should be well cultivated, no use wasting seed on half cultivated land.

POWDERY SCAB OF POTATOES

The west is threatened and gravely threatened with one of the potato plagues of the Eastern provinces, to wit, powdery scab. It is rife in the Maritime Provinces and Quebec. It is so bad in the Maritime Provinces and Quebec, the United States have instituted a very strict embargo against potatoes from those provinces, except where it can be certified that they are from uninfected districts. As the growers of those provinces seem not to have fully realized the danger of

buy them. Dealers in the smaller towns owe a duty to their country in this respect; if they have bought potatoes from these provinces they should state frankly that while they are all right to eat, it is unwise to use them for seed. If they are bought for table use the parings should not be thrown out anywhere where they can contaminate the soil, or manure pile, or where the feet of poultry can carry the infection. Parings should be burned and any water used for washing these potatoes should either be sterilized by boiling or, if thrown out, should have a little quick lime sprinkled over the spot. It is impossible to exercise too much care in this matter.



Powdery Scab on Potato.

this disease, it is spread over wide areas and it is difficult to certify given areas known to be clear of it. There are thousands of bushels of potatoes in these provinces that cannot be marketed across the line, and the holders are naturally seeking markets elsewhere and a number of carloads are coming, and some have come west; one Winnipeg dealer is known to have thirty cars on order, all for Winnipeg and Saskatchewan points. The trouble will not be with potatoes actually showing the scab, the government are sharply on the look out for these, and they would be subject to seizure. The real trouble is with potatoes which appear sound but which may have been exposed to the contagion. Potatoes apparently healthy can carry the germs of this disease on their skins and will if planted infect the new crop and the ground in which they are grown. In buying seed potatoes insist on knowing whether or not they have come from the Maritime Provinces or Quebec, and if they have do not

buy them. Dealers in the smaller towns owe a duty to their country in this respect; if they have bought potatoes from these provinces they should state frankly that while they are all right to eat, it is unwise to use them for seed. If they are bought for table use the parings should not be thrown out anywhere where they can contaminate the soil, or manure pile, or where the feet of poultry can carry the infection. Parings should be burned and any water used for washing these potatoes should either be sterilized by boiling or, if thrown out, should have a little quick lime sprinkled over the spot. It is impossible to exercise too much care in this matter.

It is a good thing to treat seed potatoes with formaldehyde in any case. If the potatoes were actually diseased with powdery scab the formaldehyde would render them fit for seed, but it would cleanse potatoes that merely have the germs adhering to the skin, and it is excellent for preventing the ordinary scab, which, of course, takes greatly from the commercial value of the potatoes.

A pound of formaldehyde 40 per cent strength in thirty gallons of water is the proper allowance, and the potatoes should be put in whole, allowed to soak for 1½ to 2 hours, taken out and dried off, and are then ready for cutting and planting. Powdery scab differs from the ordinary potato scab, in that when the skin of the scab breaks it is full of brownish green powder, and where the powder is rubbed off it will be found that the pustule is divided from the normal tissue by brownish membrane which limits it quite sharply.

Too much emphasis cannot be placed on the need of careful matter, if the soil of the West to be kept free from this disease.

TREATING SEED

Every farmer who has not ready purchased the formaldehyde to treat his seed should get it at once, or he may find it hard to get. The fact that Germany is a heavy manufacturer of formaldehyde (by the way, the name formalin, so commonly used in this country, is really the name of a German brand of formaldehyde) has caused, now that the supply is cut off, a good demand abroad for Canadian formaldehyde. Up to the present Canadian manufacturers have been exporting to any extent, as the prices offered are better than those at home they are anxious to do so, as soon as Canadian contracts are filled, that late comers may find the supply run short, and this is a time when no man can afford to get untreated seed. The country wants all the \$15,000,000 worth annually by smut for other better purposes.

Just a word as to how to treat your supply. It is very much easier to buy it in either bottle or stone jugs, with the manufacturer's label thereon; but if you buy from a barrel, see that the barrel is well shaken and has been kept in too cold a place. Formaldehyde thickens with cold and falls to the bottom of the barrel, and as the barrels are tapped from the bottom, the late comer naturally gets it of less strength and may kill his crop. If it looks milky as it runs out, it is too strong. The barrels are shaken up and made of an even strength, but it is hard to do hence the better way is to buy in the smaller vessel, the additional cost is very small. The method is advised by G. H. G. chief of the seed grain division of the Dominion Department of Agriculture, and is also endorsed by Professor Shutt, the Dominion chemist. The proper proportion are one pound of formaldehyde thirty-five gallons of water, oats particularly should be pickled longer than five minutes.

CO-OPERATIVE WOOL SALES

Am glad to see that the Saskatchewan government are again ranging to sell co-operatively.

Continued on page 17

Place your order early for that New Century. It Pays to Advertise. Let your Customers know what You've bought. A Big Run is sure to follow.

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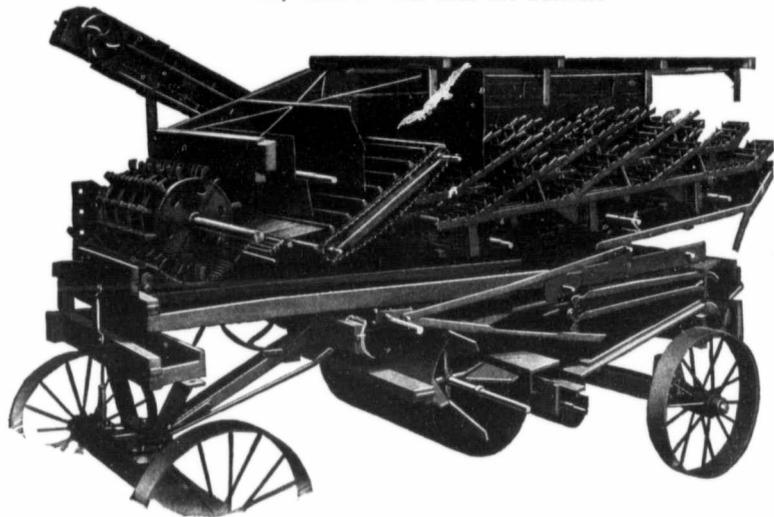
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P.O.

The New Century Separator

A Friend of the Canadian Thresherman and Farmer

That Rotary Rack is what does the Business



Place your order early for that New Century. It Pays to Advertise. Let your Customers know what You've bought. A Big Run is sure to follow.

A FEW YEARS AGO the Thresherman could operate most any old kind of a separator—anything that looked like a separator—could waste the farmer's grain—not half clean what he did save, and quite often be laid up for repairs for days at a time, and still hold his run. Things are different nowadays—entirely different conditions prevail, and this season, particularly, will the Thresherman be compelled to save the farmer's grain. Prices look too good to the grain grower for him to stand for any waste—he wants his grain in the sack—not in the stack. He wants, and is going to require of his thresher, a good, clean job—and he wants quick work of it, too.

Such a machine to meet these conditions—these requirements—to make its owner the most money—satisfy the farmers the best, is the NEW CENTURY—the separator with the big capacity—its cylinder takes in the straw and threshes it as fast as you can get it there—the open web conveyor assists in separation and delivers the straw to the straw rack in a hurry. The Rotary Straw Rack does the rest—it saves every bit of the grain. The NEW CENTURY does the work in excellent shape—delivers the grain in the measure. You can't deceive the farmers. They know when a machine is doing the right kind of work—they all like the NEW CENTURY—the NEW CENTURY owner is always given the preference—that's one reason the New Century owner makes the most money—another reason is that he is not lying idle half of his time waiting repairs—not spending half of his earnings to keep the machine going. There are a lot of other reasons—reasons that mean so much to an operator.

Use the Coupon or drop us a card for full particulars.

THIS IS IT!

Cut Out This Coupon and Mail It To-day

I am interested in your Machinery and would like to have you send me Catalogs describing the machines herein checked:

- New Century Separator
- Steam Traction Engine
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Calgary, Alta., Canada

Mixed Farming

Continued from page 12

Nevertheless the use of grain crops for pasture is a good policy though they must not encroach on the summer fallow where moisture is so precious.

Light seeding is a doctrine strongly emphasized by all dry-farming advocates. Where the supply of moisture is very limited it is better to succeed in producing properly a limited number of plants than in trying to grow the full number, all should be brought to grief for lack of moisture enough to go around.

The application of barnyard manure on very dry soils must be attended with great care or it may easily do more harm than good. The soils need the manure, both for its fertilizing effect and for the increased waterholding capacity which it gives. But if manure is applied regardless of moisture considerations, it may be injurious. It may open up the soil so as to increase drying out and the fermentation and decay if the manure uses moisture. Probably the best time to apply manure under semi-arid conditions is to plow it in when plowing summer fallow. It then has the summer fallow season in which to rot and to become incorporated in the soil.

In conclusion, this type of farming requires comparatively large areas of cheap land in order to be profitable. No matter whether grain alone is grown or mixed farming is adopted, there must always be a large proportion of the land under summer fallow as the whole success of the system depends on conservation of moisture.

Medium Dry Districts

A very large part of the best wheat land of Western Canada receives only a very moderate rainfall and has to be farmed with close attention to the supply of moisture. While moisture is not the only factor in proportion, it is probably the most important single consideration. In a straight grain growing system, a summer fallow every three years is required for good results in these districts. The principles of dry-farming hold good in these districts though they are not so much a life and death matter as in the very dry districts. In adopting mixed farming in a medium dry district, one must keep the principles of dry-farming strictly in mind and not depart from them. By means of satisfactory substitutes, the frequency of the summer fallow may be cut down from once in three years to once in five or six years. It is scarcely practical even under the best rotation to eliminate the summer fallow entirely. The summer fallow must be as thoroughly

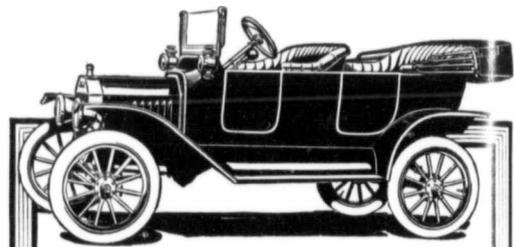
done under mixed farming as under straight grain growing; and while some pasture such as rape may be grown on the fallow without failure resulting, the yield is lowered as compared to what would be obtained with an absolutely bare fallow.

Corn is an essentially valuable crop in combining dry-farming and mixed farming in moderately dry regions. If the land is not too filthy with weeds, corn may be used as a substitute for summer fallow. If the corn is thoroughly cultivated throughout the season, the crop of wheat the following season will be as good as on summer fallowed land. Where land is dirty, it is better to plant corn on fallowed land or on sod land.

Forage crops, being heavy moisture users, do much better where the rainfall is only moderate than where it is really deficient. But even here they must be handled with a due consideration for the conservation of moisture. Grasses may usually be sown along with a nurse crop, but it is better that they should follow summer fallow or corn than to come after grain. They should be plowed up when only one or two years old as the sod gets dry and unproductive after that age. In plowing up sod the method described for very dry conditions will be best for old tough sods or in dry locations, but in more favorable locations especially with timothy or Western rye grass, one plowing as soon as the crop of hay is taken off in July is sufficient. This land should be plowed from four to five inches deep and kept cultivated so as to absorb and hold moisture.

Alfalfa must be sown alone in these districts as there is not enough moisture for it and a nurse crop. It should be sown on fallow or corn land. Except in the lighter soils it may be sown with the ordinary drill in rows six inches apart, but on light soils it should be sown in rows two feet apart as described for very dry districts.

The handling of manure is not fraught with as great difficulties as in very dry land but nevertheless it has to be handled with care. It should never be applied in such quantities as to form a porous layer in the soil, and should never be applied on soil that is in any danger of being short of moisture. On old land, it may go on the summer fallow as described for very dry land, but this is not advisable where the land is new and rich as it makes an excess of plant food and consequent lodging of crop. For corn or roots is an excellent way of applying barnyard manure, and if



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Ford Touring Car Price \$590

Prices of other Ford cars are: Two-passenger Runabout \$540, Two-passenger Coupelet \$850, Five-passenger Sedan \$1150. All cars fully equipped, including electric headlights. Prices F.O.B. Ford, Ont. Buyers of all Ford cars will share in our profits if we sell 30,000 cars between August 1, 1914 and August 1, 1915. Write Ford Factory, Ford, Ontario, for catalogue B.



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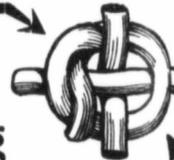
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A Fence without A Failing

will bear the heaviest side strain without snapping; stands perfectly straight when erected, no bowed uprights or sagging laterals; built with an absolutely non-slipping lock.



The "Leader" Double-Grip Lock

LEADER STANDARD WOVEN WIRE FENCE

made in many different styles and sizes for Farm, Stock and Railway purposes, etc. All wire guaranteed full standard Imperial gauge, with the best of galvanizing and workmanship. The Leader "double-grip" lock is the strongest fence lock in use and will not slip.

We are the oldest and biggest Wire Fence Co. manufacturing in the West, and are equipped with the latest and most up-to-date wire fence machines. All our stock is shipped fresh from the looms, bright and clean, unvarnished and unaffected from long storage.

See Our Agents or Write at Once for Catalogue

We have Agents at every important point, who will furnish you with all particulars and prices. If no agent in your immediate vicinity, write direct for Catalogue and particulars.

We also manufacture an extensive line of ornamental lawn fencing and gates, steel frame drive and walk gates, etc. Full particulars in Catalogue.

The Manitoba Anchor Wire Fence Co., Limited

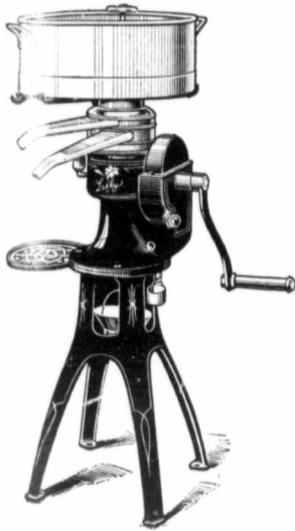
Cor. BEACON & HENRY AVE. WINNIPEG, MAN.

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is "short" it is dress meadows

Moderately

While there is in Canada the humid, there where the moisture is sufficient for growth. These districts are suited for many of them general parlance districts." moisture is a important consideration districts and year and dry season attention must moisture quest summer fallow districts is conducted for the control of renewing of the soil as for the moisture. It is possible by a suit crops to climatic flow entirely an factory crop every on a farm passes and clove ways in accomplishing them and plow and plow and plow must be plow of moisture. Working where necessary of the sur



International Harvester Cream Separators

“AFTER you put in a cream separator and once experience the relief it gives and the work it saves, you will never go back to the old way of handling milk and cream.” So says a farmer's wife who has managed a farm dairy for over twenty years, and who now has an IHC cream separator.

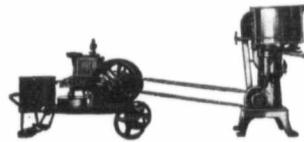
International Harvester cream separators—Lily, Bluebell, or Dairymaid—fill the bill completely. They turn easily. They skim closely—leaving barely a drop of cream in a gallon of milk. They need few adjustments and none that a farmer or his wife cannot easily make. They have the large, low supply can; the strong frame with open sanitary base; the quiet, easy-running gears oiled by an efficient splash system; and the clean, classy appearance which make IHC separators such favorites wherever they are used. There is room for a 10-gallon can under the milk spout.

International Harvester separators can be furnished with pulley equipment for the use of power. Belted to a small International Harvester engine, or to a line shaft, they give you the very best cream separating outfit it is possible to buy.

The cream separator that gives you the most cream, saves you the most work and lasts the longest time. See the IHC local agent who handles either Lily, Bluebell, or Dairymaid cream separators, or write to the nearest branch house for full information

International Harvester Company of Canada, Ltd.

BRANCH HOUSES at Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton.



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it is "short" it may be used to top dress meadows.

Moderately Moist Districts

While there is no part of Western Canada that can be called humid, there are large areas where the moisture is usually sufficient for good crop production. These districts are the best suited for mixed farming and many of them are known in general parlance as "mixed farming districts." The conservation of moisture is not the most important consideration in these districts and yet dry seasons occur and dry spells come in almost any season, so that careful attention must be paid to the moisture question even here. Summer fallowing in these districts is conducted fully as much for the control of weeds, and the renewing of the supply of plant food as for the storing up of moisture. It is consequently possible by a suitable rotation of crops to eliminate the summer fallow entirely and grow a satisfactory crop every year on all the land on a farm. Hoed crops, grasses and clovers are the mainstays in accomplishing this: In growing them and the grain crops that follow and precede them, attention must be paid to conservation of moisture. Deep plowing, where needed, the maintenance of the surface mulch, and

thorough cultivation generally are the means used here as well as under drier conditions. Thorough cultivation of the hoed crop whether corn, roots or potatoes is one of the principal methods of moisture conservation under rotation farming. In plowing up sod or alfalfa, the plowing should be done in midsummer so as to accumulate moisture before the following spring.

Where the summer fallow is used in these districts owing to limited area of hoed crop, it may be advisable to moderate the storing of moisture and at the same time provide for feed for stock by growing oats or rape for pasture on the fallowed land. This will prevent late, frosted or lodged crops brought about by excessive storage of moisture. Another point in which greater supplies of rainfall make a difference is in the quantity of seed; greater amounts being justified where the supply of moisture is abundant.



Farm Problems

Continued from page 14

the wool of the province if entrusted to them. There were 180 farmers who shipped in this way last year, and they realized more than six cents per pound more free than the average price obtained for several years previously.

Every man who has sheep should avail himself of this method of disposing of the wool, as in so doing he not only helps himself, but lessens the cost to all the others going in for the scheme. This year the scope is being extended and in addition to concentrating the small lots at Regina and packing and grading them there, the Co-operative Department of the government will sell carlots that are packed at individual points. Wool will be very high this year, the enormous drain for soldiers' clothing alone has tremendously depleted the world's stock of woollens. All woollen goods are advancing rapidly in price, and the men with sheep may look for good returns from this year's clip, in addition to the high price of lambs and mutton. Sheep were the most profitable live stock marketed last year, and made the most money for the growers.



The Fine Art of Tillage

Continued from page 9

sometimes practised. A good burn cannot always be obtained in the fall and this practice is generally more dangerous to property. It offers better opportunity to "conserve" moisture and kill weeds, but less to hold snow. The chief faults of stubble burning are the great waste of organic

matter and nitrogen and the lack of opportunity spring stubble burning offers for the control of weeds.

The Importance of "Net" Returns

Our aim must be to produce "net" profits rather than "gross" returns. A large yield is not always the most profitable. On the other hand a poor yield, even though no cultivation has been given, may not pay the interest and maintenance charges against the necessary investment in land, buildings, machinery, fences and stock.

As long as land is cheap and labor and equipment are high in price, intensive methods are not likely to prove as profitable as carefully thought out and intelligently practised extensive ones. Nevertheless, if overhead charges against the investment are to be met, the conditions that cause poor crops must be controlled. At the present time in Western Canada, intelligent, timely and sufficient tillage is the greatest means at our disposal for controlling, not only the factors that limit yield, but the net revenue as well.

Little Jane from the city was visiting her uncle in the country and had been given a drink of rich new milk. After a long sigh of satisfaction, she said: "My, I wish our milkman kept a cow."

ROAD DRAINAGE

Address by Prof. W. J. GILMORE, delivered to "Good Roads Convention" Manitoba Agricultural College, March, 1915

THE greatest drawback to rural life to-day is bad roads, for they isolate the farmers from social enjoyments and pleasures, increase the wear and tear on his equipment, and increase the cost of transportation. Good roads make habitation in the rural districts more desirable, as they bring the rural mail, and are an aid to education, religion and sociability. Hold the rural community back and we feel the effects. It has been said that the road and the school are the two most important agents in advancing civilization. Notice that roads are mentioned first.

The difference between good and bad roads is often equivalent to the difference between profit and loss. Besides convenience, comfort, social and refined influences, which good roads always enhance, there is a financial advantage because they pay a dividend each year.

People generally are beginning to realize that road building is a public matter, and are taking more interest in the construction of good roads. A few years ago so little interest was taken in this subject that the majority of intelligent citizens did not know the simplest principles connected with the building of a good road. It is unnecessary to discuss here the benefits to be derived from improved roads. What we are concerned mostly in at this time is: How may we eliminate water—the natural enemy of roads—from our highways?

Drainage is the most important matter to be considered in the construction of country roads. Drainage alone will often change a bad road into a good one, or a road which is in good condition during the dry seasons will very likely be a poor road in the wet seasons by the absence of road drainage. No road, no matter of what material, built in our cold climate, can be good all the year round, unless the water is off from the surface, out from the sub-grade, and away through the ditches to the natural water ways.

Isaac B. Potter, an eminent authority on roads, says: "Mud is the greatest obstacle to the traffic and travel of the farmer. Mud is a mixture of dirt and water. The dirt is always to be found in the roadway, and the water, which comes in rain, snow and frost, softens it; horses' hoofs and narrow tires knead it and mix it, and it soon gets so bad that a fairly loaded wagon cannot be hauled through it.

We cannot prevent the coming of this water, and it only remains for us to get rid of it. In our province this is a difficult problem, but it can be assisted somewhat. On each mile of road, fifty feet wide, in the Red River Valley in 1914, there fell 16,500 tons of water. Add to this the large quantity running into and held in the side ditches, where drainage is poor, and you are impressed with the fact that drainage demands a very important place in road construction. If you do not give it a fair chance to run off, it will stick and stay, as if there were no other place for it. We cannot make a hard road out of soft mud, and all the factories in Manitoba could not build enough machinery to make a good road, that will stay good, unless some plan is adopted to get rid of the surplus water.

A perfectly drained road will have three systems of drainage, and each must receive special attention if the best results are to be obtained. This is true whether the trackway be of earth, gravel or broken stone, and is emphatically true of the common earth road. These three systems are surface drainage, side ditches, and under-drainage.

Surface Drainage

In order that the water may be removed from the surface of the road, it is necessary to give the surface crown, or transverse slope. This crown is formed by the intersection of two planes or by a curved surface. As a general rule, the more impervious the surface, the less should be the crown. Generally speaking, it should be from 1/2 to 1-inch per foot. There is often a temptation to slight the shaping of the cross section, especially the portion along the shoulder line. If the section is slighted at the shoulder line the road will have too heavy a cross slope, with the result that it is uncomfortable to travel in wet weather. If it were possible for all vehicles to use the crown of the road, perhaps this matter would not be so serious. The shoulder should be kept up and not merely give the road a ridge in the centre to provide for surface drainage. Where the road has been dragged in such a manner that dirt has been drawn to the middle, giving too much crown, it is advisable to drag the dirt away from the centre.

Side Ditches

Side ditches receive the water from the surface of the road, and

should carry it rapidly away from the roadside. Ordinarily they need not be deep, and if possible should have broad flaring side toward the travelled way, to prevent accident if a vehicle is crowded to the extreme side of the roadway. The outer bank need have only sufficient slope to prevent caving. Such a form should easily be made by a usual road grader. The size of the side ditch should depend upon the character of the soil and amount of water they are to carry.

In our province, or many parts of it, it is difficult to secure sufficient fall. This is a hindrance to road drainage, which may be overcome by long, open ditches.

As a rule the side ditch will not have too much fall, but where the road is built on a grade some provision should be made to prevent the ditch washing too deep. In extreme cases the bottom of the ditch is paved with stone.

In excavation great care should be taken to provide ditches on each side, to prevent water from running down the middle of the road. This will prevent gullies, which are dangerous and unsightly.

The ditches should have a free outlet. No good road can be obtained with side ditches that hold water until it evaporates. Side ditches that hold the water from the road surface, also draw that from the adjoining farms, must not be permitted to stand to soak up the road bed and make it soft; yet this is just what is noticed in so many cases, sometimes only owing to lack of suitable outlet.

Ditches that drain level stretches usually lead to culverts, which accommodate cross channels for drainage. In shaping the road with the grader it is usually necessary to turn the grader out when coming to the culverts. This causes a break in the ditch line at the culvert. Usually no attempt is made to cut a channel from this point to the culvert, and as a result water will stand in the ditch adjacent to the culvert.

When culverts have small bulkheads it is not uncommon to drive the grader outfit straight through, the grader blade being raised. This causes a small amount of dirt to be deposited at the end of the culvert, which must be shovelled out to make a completed job.

Under Drainage

The third system of drainage is under drainage. This is little practised in our province at the

present time, and probably will not be to any extent for some time. The object is to lower the water level and any soil, in which the standing water comes within 4 or 5 feet of the surface, will be benefited by tiling.

In states where a great deal of tile is used to drain the farms, the farmer is encouraged in selecting an outlet for such drains along a road. In many cases the town pays for such tile and the farmer for putting it in.

Under drainage is a benefit, that it greatly reduces the effect of frost. A road bed which retains water will upheave by freezing. When thawing takes place the ground is left honey-combed and spongy, and, under traffic, breaks up.

Under drainage is accomplished by placing a line of tile along the side of the road bed, which keeps the ground water low and is a benefit; but for conditions this system will probably be little practised for some time yet.

Culverts and Bridges

A large proportion of the cost of constructing or maintaining our highways is used in constructing culverts and bridges. To secure the maximum of economy it is necessary that bridges and culverts be intelligently designed and that they be properly constructed of durable and permanent material. We do not like to see culverts washed out, as a result of faulty design or poor workmanship, nor see the driver always driving piles and teamsters filling approaches, and read of bridge floors giving way, letting a traction engine into a stream. The damage to engines and separators is heavy each year on our highways. This is much compared with the loss of life. Much of this is caused by a poor culverts and bridges, yet we have been building highways for years. Usually accidents occur on bridges where comparatively small permanent culverts were care for the drainage and involved a smaller expenditure of public money.

The first feature in the construction of a culvert is the determination of the size required. Often the size is not in proportion to the needs to be met. If small, the cost of maintaining water channels will be largely too large, the initial cost is higher than necessary. The required waterway area of a culvert

Continued on page 20

April

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Mount eighty per cent to put

The value of this organic ground, in the district

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Take an remove all shafts and ments and

Rebuild as high as some two feet then away the John I. Heater on



The L Sprea the E W

LIBRARY
UNIVERSITY OF TORONTO

Increasing the Yield

While the saving to the farmer by using the manure spreader is material, it is insignificant as compared to the increased yield in crop. Repeated trials extending over a number of years have demonstrated the fact that a manure spreader used on forty acres of land will more than pay the cost of the machine in one season by increasing the crop, to say nothing of the great saving in labor.

Barnyard Manure is Indispensable

Barnyard manure is the one reliable substance upon which the farmer must depend if he hopes to maintain the fertility of his soil.

Manure from live stock contains approximately eighty per cent of the plant food taken from the soil to produce the animals' feed.

The value of manure is not alone in the twenty-five or thirty pounds of plant food elements which a ton contains, but its greatest worth is in the organic substance which, when placed in the ground, makes available plant food elements stored in the disintegrated particles of rock that compose the substance of the soil.

Save Manure! It is Valuable

Farmers, save manure from your live stock. It is as precious as the golden grain in your bin.

A ton of average barnyard manure is worth from \$3.00 to \$4.00 and the organic matter which finally resolves into humus is worth even more. Poultry and liquid manures have a fertilizing value of from \$7.00 to \$9.00 per ton.

Manure deteriorates rapidly unless properly cared for. If carelessly left in the yard, nitrogen is lost by evaporation and other elements are washed away. It has been proven that if horse manure is left in a pile unprotected for a period of five months it loses fifty-seven per cent in weight, sixty per cent of its nitrogen, forty-seven per cent of phosphoric acid and seventy-six per cent of potash and more than one-half its value.

How Manure Should be Spread

In order to secure the full value of manure it should be spread evenly over the land. A mechanical spreader is the most economical means of accomplishing this. While manure can be spread evenly with a hand fork, the task is too great. If the manure is left in bunches, as it usually is when spread with a fork, there will be too much in one place and not enough in another. If spread on a meadow or pasture, the grass will die (smother) under the chunk. If plowed under, because of the uneven distribution of fertility, the crop will make an uneven growth and the ripening will be uneven. Trials have demonstrated that an even distribution of manure will yield from 25 to 30 per cent more crop than the same amount of manure spread with a hand fork, leaving it in bunches as is usually the case.

The Spreader to Use is the

Low Down JOHN DEERE, Simplest and Strongest Made

Different from all Others

Take any manure spreader you have ever seen, remove all the clutches and chains, all the counter-shafts and stub axles, do away with all adjustments and mount the beater on the rear axle.

Rebuild the spreader so that top of box is only as high as your hips. Make it stronger. Remove some two hundred trouble-giving parts and throw them away. You will then have an idea of what the John Deere Spreader—the Spreader with the Beater on the Axle—is like.

Where the John Deere Spreader Leads

Up to the time of the John Deere Spreader the Spreader with the Beater on the Axle—the chain drive for the beater was considered the most practical.

But even the chain drive means extra shafts, stub axles and the like that must be kept in alignment.

Mounting the beater on the rear axle solved this problem and brought with it many other features of advantage. It simplified construction and, probably the greatest advantage of all, it made a low down spreader with high drive wheels possible.

The beater and all its driving parts are mounted on the rear axle. There is no strain on the frame, no shafts to get out of line, no chains to give trouble, no catches that need adjustments. There are only half the parts heretofore used on the simplest spreader. The John Deere is just a wagon when out of gear. It has light draft, easy to load, only hip high to the average man.

Easy Loading

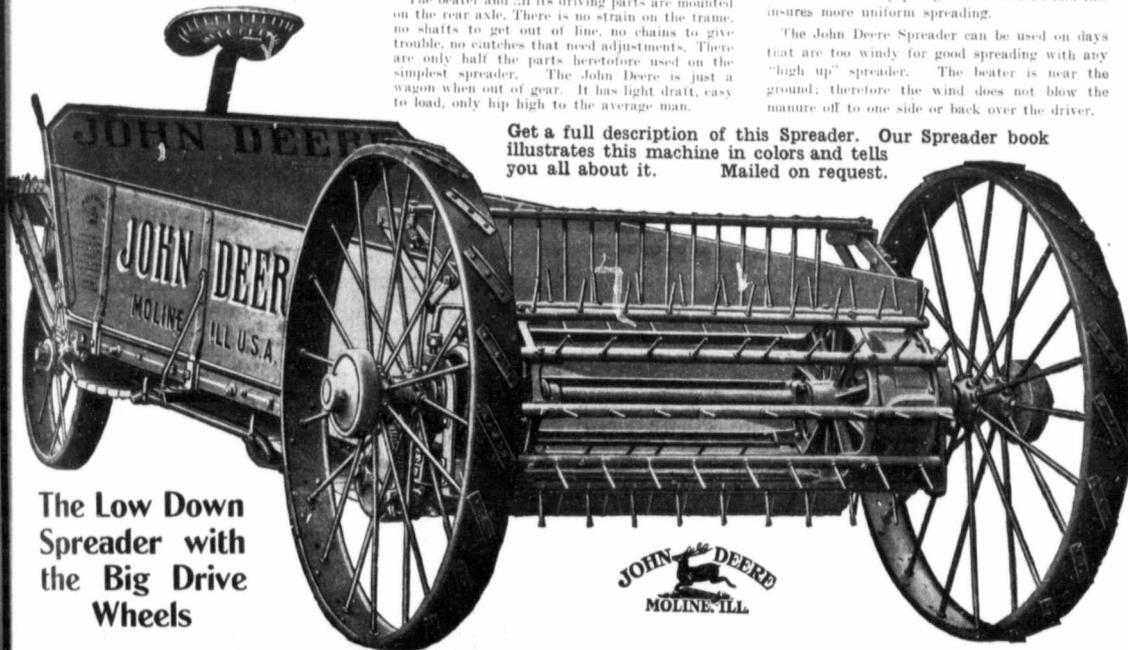
It is comparatively easy to lift manure the first three feet. From there to the top of the ordinary "high up" spreader is where the hard work comes in.

Each fork of manure, when loading a John Deere Spreader, is lifted only hip high. The real hard work is done away with.

You see into the spreader while you are loading. Each fork of manure can be placed exactly where wanted. Naturally you get an even load and this insures more uniform spreading.

The John Deere Spreader can be used on days that are too windy for good spreading with any "high up" spreader. The beater is near the ground; therefore the wind does not blow the manure off to one side or back over the driver.

Get a full description of this Spreader. Our Spreader book illustrates this machine in colors and tells you all about it. Mailed on request.



The Low Down Spreader with the Big Drive Wheels



JOHN DEERE PLOW COMPANY, LIMITED

Winnipeg Regina Saskatoon Calgary Lethbridge Edmonton

Road Drainage

Continued from page 18

affected by the following conditions:

1. Area of watershed which must be drained through the culvert.
2. Character of soil and vegetation which affects the rapidity of the run off.
3. Shape and slope of watershed which controls the time required for water from different parts of watershed to reach the culvert.
4. Rate of Maximum rain fall.

The design of the bulkhead and smoothness of the culvert walls also are factors.

Culvert Materials

Various materials are used for culverts, such as stone, vitrified pipe, iron and steel pipes, wood and concrete. It is needless to say that durability is a determining factor in selecting a culvert material, and the above mentioned materials give a very wide difference in this respect. Also cost and ease of transportation must be considered. The writer will not go into detail in the discussion of these materials, as this phase of drainage will no doubt be considered in the discussion by the Provincial Highway Commissioner and others.

Wood—Wood for culvert material is in quite extensive use in many localities. A wood culvert is easy to construct, and serves well for a short time; then comes the repair man after a heavy load has gone through the rotten lumber, and a new piece of work is put in. It is needless to say that this material stands low in durability.

Vitrified Pipe—When used for culverts it should be the best glazed sewer pipe of good strength. The pipe generally is made in two-foot lengths, with diameters from 12 to 35 inches. Under ordinary conditions encountered in highway work, this material serves quite well, as it is cheap and serviceable if not placed too close to the surface, or left full of water in freezing weather; either may be the cause of slight damage.

Cast Iron Pipe is in little use, owing to the cost and expense of handling. It is very strong and has the advantage that it can be placed close to the road surface.

Corrugated Metal—During the last few years a great many metal culverts have been sold to municipalities. Perhaps the chief reason for the popularity of this form of culvert is, that it is easily handled, and when on the ground is easily and cheaply installed. These culverts have been in use in various parts of the United States for some time, and many users have learned by experience that many are not up to a standard. That is they are of inferior quality, and sold on the theory

that all corrugated culverts are alike, because the outward appearance makes them look alike. Learning that this is not true has been a very expensive lesson, in that in past years they have been repairing and replacing these culverts.

In many states purchasing officials have been advised concerning these facts. As a result, specifications based upon chemical and engineering observations have been made. These specifications deal with two important considerations, first purity of metal used in the manufacture, and second, thickness of metal in proportion to the diameter. If the metal is properly galvanized and properly installed, the life depends largely upon these two things.

Such material is in use by railroads for small culverts, and is easy and convenient to place. While in good condition it is strong, if not placed too close to the surface. A good weight and quality of corrugated iron will last for years, but make sure of these qualities. These are difficult to determine sometimes, and in some cases it is advisable to get expert advice.

Concrete—There is no purpose to which concrete can be put to better use than in the construction of plain, or reinforced, culverts and bridges. The ability of reinforced concrete to resist transverse stress, permits the use of flat slabs, both in top and bottom. Concrete has a low tensile strength, and a relatively high compression strength, and great durability. When steel is used to take care of the tensile stress, the combination constitutes a form of construction hard to excel. In vicinities where good sand and gravel are convenient, the cost of a good concrete culvert need not be excessive, and if properly constructed of the proper materials will last for years. This material is being used very largely for permanent culverts in states far advanced in road building, and should have much consideration in our province if we build for permanency.

The quality of concrete should be of relatively high grade. This means that proper materials should be selected. The sand should be composed of hard material, free from vegetable loam, clay, sticks and organic matter. Preferably it should be of coarse grain, or of graded size with coarse grains predominating. Fine sand requires more cement and more thorough mixing for a given strength. The maximum strength of concrete will be secured for a given quantity of cement when the aggregates are so proportioned as to size that they will reduce the percentage of voids to a maximum. To secure

WEBSTER

In his Unabridged Dictionary, defines the word



BEST



1st. Having Good Qualities in the highest degree. As an illustration: **The Best man; the Best road; the Best cloth; the Best abilities; the Best**

Self Feeder, which is THE RUTH

If an article is **Best**, it is **Best**, and that is all there is to it. So when we say that we know **The Ruth Feeder** is the **Best** feeder in the world, that settles it. We say "We know" most of the threshermen in Western Canada will agree with us, because they have one; so it is the man who has some other make, or that is buying a new Rig, that we want to talk to. We honestly believe, in fact we know, that the

Ruth Feeder is the Best

LET US PROVE IT TO YOU

Send us your name and address and we will gladly send the proof

Do not forget that we are headquarters for Threshers' Supplies—everything that a thresher uses, except Separators and Traction Engines

We are the Exclusive Western Agents for the **STICKNEY ENGINES**

The Maytag Co.

WINNIPEG

Limited

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

The

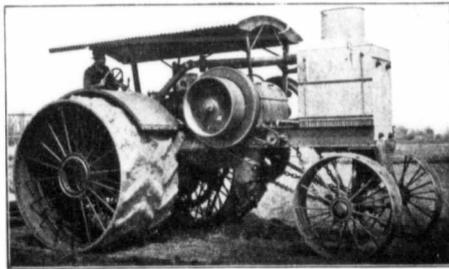
such a dense gate should e different sizes will fit into t larger. A un stone or gray gives a conct and strength. gravel is used often he had l mixing. This important in r where plain c The subject large one. Ti to fully discus is not everyth piece of work. ing Materials statement was cent of failure due to poor w cent due to th per cent due to failure of 90 pe workmanship yet there is no much depends materials, prop as possible, n well, and whe placed in the moisture is ad concrete to har Bridge build guard against u mixing concrete carelessness usi in districts wher tin water. T

The Splendid Record of this Tractor

Is the Result of over 35 Years' Experience in Engine Building

We have been building and selling Fairbanks-Morse Engines to farmers for over thirty-five years, during which time we have put out over 160,000 in all parts of the Continent. The experience gained in so long a period is something that cannot be duplicated in any other way. It tells in the service that Fairbanks-Morse Engines give everywhere under any conditions.

A Tractor succeeds or fails according to its engine. With this fact in mind, we put into Fairbanks-Morse Oil Tractors the best engine that money, skill and experience can produce, and make you a Tractor that will prove a good sound investment.



The Fairbanks-Morse Oil Tractor

15-30 and 30-60 H.P.

A Modern Waterworks System at Little Expense

The Fairbanks-Morse Eclipse Pumper is designed to give you just that. It will pump all the water you need and do it at very low cost. It is thoroughly frost-proof and so easy to start that a boy or girl can do it with ease. It has no complicated parts to give trouble and is GUARANTEED for one year against defect.

The Eclipse Pumper

consists of a powerful Fairbanks-Morse Engine, mounted on the base of a special Fairbanks-Morse Pump-Jack. Equipped with two driving pulleys, so that it can be used for other small jobs; loosen four screws and you can take engine away without disturbing pump. Ask us for catalogue fully describing this splendid machine, which pumps over 1,100 gallons of water against a head of over 100 feet on one pint of gasoline.



will develop more than full rated horse-power, because transmission is simple and direct, so that full power of engine is converted into tractive effort. Its strong rugged construction makes it free from vibration, and every part is get-at-able; gears are of steel, running at low speeds. Burns oil or gasoline and though the oil be poor and load variable, the Fairbanks-Morse will plug away steadily with a remarkable absence of noise and smoke—a built-for-business Tractor long on endurance. Let us send you our Tractor Catalogue—full of facts and figures worth knowing, and letters and photographs from owners.

We Manufacture

Fairbanks-Morse Oil Tractors, 15-30, 30-60 H.P.; also Gasoline Engines, all types, portable and stationary, 1 to 500 H.P.; Binder Engines adapted to all makes of binders; Marine Engines, 2 and 4 cycle, 3 1/2 to 100 H.P.; Hand and Power Pumps for every purpose; Truck and Pitless Wagon Seals, especially designed for Farm use; Electric Lighting Plants suitable for country residences.

The Canadian Fairbanks-Morse Company, Limited

WINNIPEG SASKATOON CALGARY
 Montreal St. John Ottawa Toronto Vancouver Victoria

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

such a dense mixture, the aggregate should consist of particles of different sizes so that the smaller will fit into the space left by the larger. A uniform size of broken stone or gravel filled with sand gives a concrete of less density and strength. When bank run gravel is used, better results may often be had by screening and re-mixing. This, however, is more important in reinforced work than where plain concrete is used.

The subject of concrete is a large one. Time will not permit to fully discuss it. The material is not everything in delivering a piece of work. Before the Testing Materials Convention, the statement was made that 90 per cent of failures of concrete was due to poor workmanship—8 per cent due to the aggregate, and 2 per cent due to the cement. The failure of 90 per cent due to poor workmanship is probably large, yet there is no question but that much depends on it. Use good materials, proportion as correctly as possible, mix the materials well, and when the concrete is placed in the forms, see that moisture is added to assist the concrete to harden properly.

Bridge building crews must guard against using bad water for mixing concrete materials. Such carelessness usually takes place in districts where it is hard to obtain water. The farmer's well

may be dry, or water in them scarce or hard to get, and pools the easiest supply available. Good concrete cannot be made from dirty water. Mud and silt are fatal to the cementing properties necessary for the production of good concrete.

Regardless of whether a road is a common earth road, or the most modern type of construction, it is important that the culverts be of a durable nature. It is not traffic that destroys properly constructed culverts, but the elements. A culvert will wear out or rot out as quickly on a road over which one rig passes daily, as on one sustaining heavy traffic. If a durable culvert is not constructed the work will be temporary and wasteful. A great deal of poor concrete work is done—the material may crumble or the foundation will give way.

For a small culvert, corrugated metal of good quality certainly has a place, and for larger culverts a good job of concrete is hard to excel. However, if the concrete structure is poor, it is better to use corrugated metal if the size is not too large, and you know the material is good. A small amount of work, and a small extra cost, will often transform a slipshod piece of work into one which would be a credit to any community.

How the Women Can Help in Immigration.

The opportunity given to the women of Western Canada to help immigration in the past has been very meagre. The opportunities in the West have been considered men's opportunities and only men have been employed in the schemes for attracting immigration. This order of things is to be changed by the Canadian Northern Railway. All the women in Western Canada are to be given the chance to do something. The plan as outlined in the Canadian Northern advertisement on page 63 is one which has this publication's editorial sanction.

There are many women in the West who know that they could not be persuaded to return to live in their old home in the East and South, but would dearly love to have their old friends as neighbors. The chance of bringing this about is offered by the Canadian Northern Railway. Their plan is to bring old friends together in this new land. Won't you please help them? If you send in a list of names with addresses of your friends whom you think will be interested the Canadian Northern will do their level best to induce them to settle in your district.

HIGH-CLASS 'BRITISH' MACHINERY

The "Marshall" Oil Tractor

Built like a Battleship
 Runs like a Watch



The Dreadnaught of the Prairies

This Tractor is made in 2 sizes, 16 H.P. Drawbar, giving off 30-35 Brake H.P. on the pulley; 32 H.P. Draw-bar, giving off 60-70 Brake H.P. on the pulley. They are economical, durable and reliable. Guaranteed of finest materials and best workmanship. They need few repairs.

IF YOU WANT SATISFACTION, BUY OUR TRACTOR AND THAT WILL STAND UP AND GIVE YOU MANY YEARS OF SERVICE

Farmers are seriously warned not to be misled by the light, short-lived, inferior, cheap (so-called) Tractor; it will not stand up and only causes trouble, vexation and loss.

SEND FOR CATALOGUE SEMI-DIESEL, TWO CYCLE, OIL ENGINES, STATIONARY AND PORTABLE

suitable for General Farm Work, Threshing, Electric Lighting, Contractors, and General Commercial use. **STEAM ENGINES**, all kinds, 2 to 2,000 H.P., also Boilers.

Marshall, Sons & Co. (Canada) Ltd.
 ENGINEERS
 Saskatoon Canada
 P.O. Box 1564 Telephone 3393

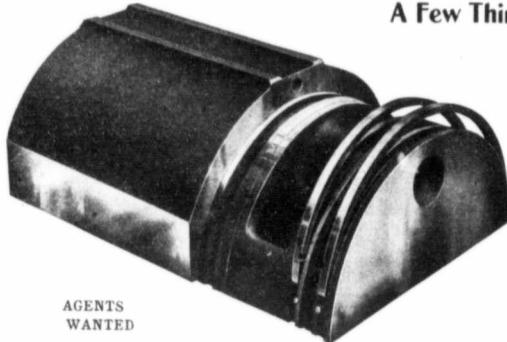
Would You Drive To Town With One Wheel Locked?

Of course not! But if you are using an old style valve on your engine you are doing something just as foolish as locking one wheel of your wagon when driving to town.

The reason is simple. You are using from 15 to 30 per cent of the steam you make to operate that out-of-date valve alone!

A Few Things the Gould Balance Valve will do for an Engine:

- increase its power from fifteen to thirty per cent, depending upon the size of your cylinder and the size of the common D slide valve you are now using.
- save you from fifteen to twenty-five per cent of fuel and water, and develop the same power you are now getting.
- save you fifty per cent of oil.
- save your valve gear.
- save your repair bills on your valve gear.
- makes your engine run smooth and noiseless, without any rattling on the valve gear.
- enables you to get a better and steadier motion for your separator thus doing better work.
- enable you to reduce your boiler pressure and develop the same power you are now getting.



AGENTS WANTED

We have an attractive proposition to offer to live threshermen who will represent us in their territory. Why not use your idle days between now and spring and during the summer in placing these valves among the threshermen in your locality? They are easily sold and we offer a liberal proposition to a few good hustlers.

Send to-day for our 11th annual catalog containing information on valve setting, or our agency proposition. The catalog and other literature will be sent you post-paid. Address

VALUABLE INFORMATION ON VALVE SETTING

Our 11th annual catalog contains pages on instructions for setting slide valves. This information alone is very valuable to any thresherman. The instructions are written in very plain language and are very easily understood by most experienced operators.

Gould Balance Valve Company, Dept. "A"
KELLOGG, IOWA, U.S.A.

Manufacturers Gould Balance Valves, Iowa Ensilage Cutters, Gardner Grain Conveyors.

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

The Marshall Oil Engines

We are glad to refer our readers to the announcement of this great Anglo-Canadian engineering house which will be found on another page.

Marshall Sons & Co., Ltd., started business as agricultural engineers at Gainsborough, England, in 1848, since which date they have built and marketed over 158,000 engines, boilers, threshing machines, etc., an aggregate far exceeding that of any other British firm in their line of business. It is also a notable point that they were the first British engineering firm to undertake the manufacture of agricultural oil tractors of the internal-combustion type, and in the design and construction of these engines, the firm have concentrated the best of their vast experience and mechanical knowledge of the requirements of agricultural engines for breaking, plowing, cultivating, threshing and haulage.

With a big "roll of honor" to their name in world-wide winnings against all comers, this enterprising house opened up in Canada some years ago and is now established at Saskatoon with a complete equipment for handling western trade and a full representative line of all their products. At this point—the dawn of a new season—we are very pleased to bring the name of our old friends once more before our readers who may be contemplating additions to their equipment for the great year of 1915.

Tile Draining Successful

During the past two years considerable work in tile draining has been done at the Agricultural College farm just south of the city, for the purpose of determining the extent to which it would be profitable for the farmers of the Red River Valley to tile-drain their farms. So far the results have been satisfactory. It has been interesting to note that for the two years since the tile has been laid some of the drains have begun to discharge in both years between March 15th and 17th, thus indicating that tile drains will be a material aid in removing surplus water from the soil early in the spring.

On March 23rd of this year six out of eight main drains were discharging. The rate of discharge from three was measured and the following results obtained:

Main "A" was discharging .21 gals. per sec., or 2803 cu. ft. in 24 hours.

Main "J" was discharging .34 gals. per sec., or 4690 cu. ft. in 24 hours.

Main "E" was discharging .62 gals. per sec., or 8572 cu. ft. in 24 hours.

If this water had not been removed, it would have caused the soil to become puddled, and caused it to remain cold and late. Poor drainage is one of the chief causes of the late seeding and low crop yields which often occur in certain localities in the Red River Valley.



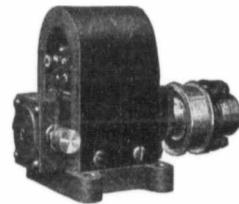
Artificial Limbs

MADE IN WINNIPEG

We can fit you at short notice with the best that money can buy. Write us for full information.

J. H. M. Carson

357 Notre Dame Ave. Winnipeg



Light and Ignition

For Your Gasoline Tractor

Plow at Night with Perfect Light

Eureka Lite

The Fact Is With Our Eureka

You can light almost any old car as light as day. But you can't afford to light a Ford in any other way.

Low Cost—High Efficiency

Used with or without Storage Battery

Prices \$24.00

And U. S. According to Capacity Required.

Special Attachments for Ford, Maxwell and other Cars.

Large Profits to Dealers.

Write for Particulars To-day.

HENRICKS MAGNETO & ELECTRIC CO.
 1504 St. Paul St. INDIANAPOLIS, INDIANA

The World's Best Eveners Help to Stop Your Farm Leaks

Heider 2, 3, 4, 5 and 6-horse eveners on the market 12 years. Often imitated but not equalled. The Heider 4-horse plow evener works 4 horses abreast on gang, sulky or disc plow, one horse in furrow, three on unplowed ground. Heider 5-horse wagon evener for wagon, manure spreader, grain drill or other implements with pole.

HEIDER EVENERS are the means of many short-cuts in farming. They save time, labor and horses, consequently make you money. The Heider line is complete and manufactured in the largest evener factory in the world and is no experiment. They are made right by expert workmen, of best material and fully guaranteed. Why take chances with the ordinary kind when you can get the best? ASK YOUR DEALER for Heider Eveners. If he has none in stock, write us for free circular showing entire line and we will tell you where to get them. Address Heider Mfg. Co., 725 Main St., Carroll, Iowa. Write for free Circular Showing

HIDES

Send your HIDES and FURS to us, we will buy them, giving you the highest market price, or we will tan and make them up into Robes, Coats, Gauntlets, Etc.

AND FURS

WRITE FOR OUR PRICE LIST

A NEW TANNERY AND A NEW AND UP-TO-DATE PLANT

Wheat City Tanner, Brandon, Man.

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

You Every durability whether 3 engine po power ble



JOHN W. Seventy Y

There is 1 building that incentive to abiding c he is the heir his sires had in the estee. nity of which his keeping.

Canadian 1 family name household we erations. Th to the lips of some outstam nation's life i connection. 1 of the country to trace the fo through every

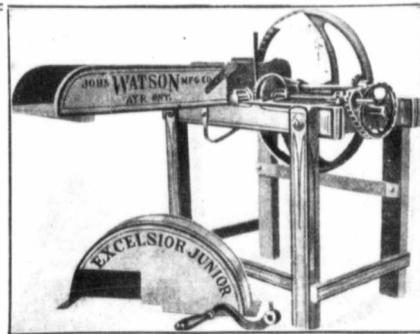
The marria manufacturing ada has never worthy name Watson, of Ay far cry from 1 year, the mos haps, in our In yet 1847 produ great things.

In that yea practice of int was handicape of to-day will There were as Ontario in 1847 where in the W 1915, but in 184 very best infor ence could pr slowly because equipment.

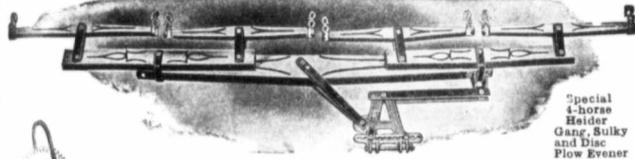
John Watso founded the im turing house th name, and befor

You Can't Go Wrong on Watson's!

Every Watson implement or machine is built to increase farm profits—minimum first cost, efficiency, durability, are their prime features. Here, for instance, is the Excelsior Junior Straw Cutter—a paying investment whether you own five head or a whole ranch. Will cut up to 1 1/2 ton per hour, on hand, horse, windmill, or engine power. Specially tempered English knives. Simple lever, handily placed for start, stop, or reverse. With power blowers, will elevate up to 20 feet.



Excelsior Junior Straw Cutter



Special 4-horse Heider Gang, Sulky and Disc Plow Evener

The Heider Evener is a Spring Necessity

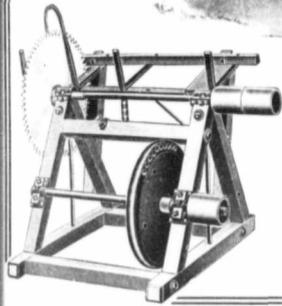
The Heider Special 4-horse Plow Evener, as illustrated, works four horses abreast on gang, sulky, or disc plow, with perfect distribution of load. We also supply 3, 5 and 6-horse Heider Plow Eveners, and 3-horse Heider Wagon Eveners. All of best seasoned material, fully guaranteed.

Watson's Pole Saws

Strongly braced frame of hardwood, easily repaired in case of damage, rigid, and sits firmly and evenly. Heavy steel slatts and boxes, solid fly wheel and J pulleys. Blades of best English steel with lasting temper and free of flaws.

WATSON'S STEEL BOSS HARROWS

are made with extra strength throughout. Bars are 1 1/4 in. angle steel, cross-bars of channel steel, strongly bolted. Steel wedges hold each tooth securely, with edges directly in line of draft. Two sizes: 101 teeth (17 feet), 149 teeth (24 feet).



- WE SELL**
- | | | |
|--------------|------------------------|----------------------------|
| Harrow Carts | Root Pulpers | Straw Cutters |
| Pulverizers | Grain Grinders | Turnip Seed Sowers |
| Lawn Goods | Pole and Cordwood Saws | Warehouse Trucks |
| Wheelbarrows | Horse Powers | Double trees and Neckyokes |
| | | Janesville Plows |

You Can't Go Wrong on Watson's



311 Chambers St.

WINNIPEG

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

JOHN WATSON MFG. CO. Seventy Years the Farmer's Friend

There is nothing in character building that will prove a greater incentive to any man than the abiding consciousness that he is the heir to a great past, that his sires had earned a high place in the esteem of men, the perpetuity of which has been placed in his keeping.

Canadian history teems with family names that have been household words for many generations. They rise instinctively to the lips of every citizen when some outstanding feature of the nation's life is spoken of in any connection. They are the history of the country and it is pleasant to trace the footsteps of those men through every epoch of their lives.

The marriage of agriculture to manufacturing industry in Canada has never begotten a more worthy name than that of John Watson, of Ayr, Ontario. It's a far cry from 1847 to the present year, the most momentous, perhaps, in our Imperial history, and yet 1847 produced its own crop of great things.

In that year the theory and practice of intensive agriculture was handicapped in a way that we of to-day will never appreciate. There were as good farmers in Ontario in 1847 as there are anywhere in the Western provinces in 1915, but in 1847 the man with the very best information and experience could progress but very slowly because of the lack of equipment.

John Watson in that year founded the implement manufacturing house that still bears his name, and before many years had

passed he put into the hands of the farmers a series of tillage tools and farm machinery that enabled them almost in the space of one season to step from a condition of ill-requited drudgery to an experience in their life's work that meant better work, less toil and more leisure to enjoy the increased earnings.

Later on, younger members of the family came into line with the



E. S. STRACHAN,
Western Manager, John Watson Mfg. Co.

old gentleman. The designing and manufacturing of agricultural implements seemed to be "in the blood," and in due course a strong company was formed consisting entirely of members of the household.

In our limited space we cannot begin to tell of the honors that have accrued to the house of Watson, richly earned every one of them again-t all comes in

world wide contests in North America, in Europe and in Australasia. A few of these were embodied in a trade mark, which we reproduce from the original wood cut in the household organ—"Watson's Farm Journal" of 1884.

In the first rank of Canadian manufacturers at that date, so today do we find them outclassed by nothing in their own industrial line. Their last catalogue is alone a splendid tribute to Canada's industrial reputation because of the extraordinary variety, character and utility of its illustrated contents. "Downright quality" is the starting point and "quality" is the finishing stroke in the last detail of their handiwork.

The John Watson Company is entitled to the proud claim of being the oldest firm in the business in Canada, as well as to the fact that it is the source of the largest assortment of implements in the Dominion. Every farmer knows of Watson feed cutters, grain grinders, cordwood and pole saws, sleighs, etc.

At the present season, however, their tillage implements are of special interest. If only to obtain some knowledge of the making of a perfect seed bed, that portion of their catalogue dealing with harrows, pulverizers, packers, etc., is a "liberal education."

The Watson all-steel diamond harrow is an implement (the only one of its kind that will not "creep") that must surely take a big part in this great year of "Patriotism and Production." It is one of Watson's most valued products. Every tooth is set on line of draft, and the complete equipment is made in four sizes: 60, 80, 100 and 120 tooth, fitted in 3, 4, 5 or 6 sections respectively.

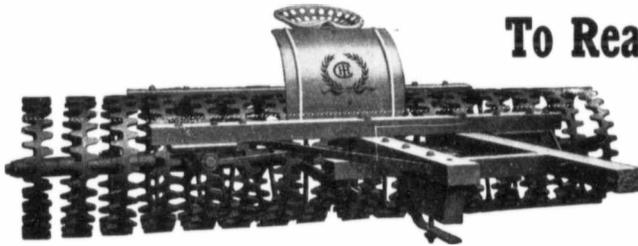
The boss wood and boss steel harrows are varieties that have their own points of interest according to the class of work and the preference of the farmer, and with any or all of these, Watson's steel wheel harrow cart should be seen and handled, especially where a big season's work is in contemplation. Without adding sensibly to the load of the horses, this convenient accessory enables the farmer to ride at his harrow, thus tremendously lightening the work of harrowing.

The mere list of other farm details made and marketed by this firm, such as doubletrees and neck yokes, steel harrow draw bars, buggy jacks, farm and stable barrows, trucks of all kinds, would occupy more space than we can afford at the present writing.

We have much pleasure in offering this small appreciation of a historic house that is still devoting its best energies to the conserving of a great reputation,



Ye Ancient Trade Mark.



To Reap Full Crops You Need An International Land Packer

YOUR QUESTION PROBABLY IS—which land packer shall I buy? To-day everyone knows how very necessary this implement is in getting best crops from Western Canada soils and conditions. The land packer packs and pulverizes the upper sub-soil, conserving the moisture. With spring plowing especially, you need this artificial packing. For all small grains the land packer insures putting your seed bed in the ideal shape—mellow, shallow, compact, moist.

Buy an **International Land Packer**. The more carefully you look into its designing and construction, the more certain you will be that it is nearest correct for the work it is to do.

The International has four sets of high-quality easy-oiling steel bearings which make it light in draft. Frame is solid and well braced. The packer is made with two flexible independent gangs. Wheels have removable bushings. A seat-shield protects the driver from the wheel-rims.

The International land packer is made in two sizes, 16 and 22 wheels. Both can be equipped with a forecarriage at small additional cost.

See the IHC local agent about an International land packer. Write the nearest branch house for information, and for the agent's name if you do not know.

INTERNATIONAL HARVESTER COMPANY OF CANADA, LTD.

BRANCH HOUSES:

at Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton



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

and in adding fresh laurels to its fine record of achievement as manufacturers and distributors of agricultural machinery and implements specially designed and constructed for Western conditions.

E. S. Strachan is and has been for many years in charge of the company's Western business, with offices and main distributing warehouse at Winnipeg. Mr. Strachan is himself "a product of the West," having spent practically a lifetime in association with the farm and its equipment. We are glad to reproduce him in this column, knowing as we do that his well known frontispiece will be recognized by a wide circle of his friends who are readers of the Canadian Thresherman and Farmer.

The Out-of-Works

As spring approaches, the question of work for the unemployed becomes more and more acute. Those who remember the terrible happenings in Lancashire during the American Civil War, when close upon 200,000 men were known to be out of work in that county alone, will tremble with apprehension. At that time the philanthropic spirit of Britain arose nobly to the rescue, no less a sum than \$9,500,000 being pub-

licly subscribed. This fund was so well administered that although the distress lasted for a period of nearly five years, \$650,000 remained in the hands of the trustees, and was expended in the erection of a convalescent home in Lancashire. Things are different in Canada to what they were in England at that time. The country was not at war, and although prices were high and the suffering was widespread, people had not been called upon for aid to the almost innumerable works of charity that they are now. While some of the money subscribed was used for direct relief, the bulk of it was invested in public works that commanded the greatest amount of individual labor.

It is a fair estimate to presume that at this moment in Canada there are 100,000 unemployed. Mayor Martin, of Montreal, has placed the number of out-of-works in that city at 45,000. In Toronto there are known to be half as many. In the big Western cities, especially Winnipeg and Vancouver, there are probably another twenty or twenty-five thousand. So that we are not long in arriving at the total suggested. It is not a question of statistics, however, so much as the need for instant, resolute and sustained action. Work must be found. It is not a matter of "I cannot dig and to beg I am

ashamed." Practically all are willing to work. The trouble is that they mainly belong to the constructive trades. There are, of course, many clerks, operatives in factories, and salesmen and women among them, but the hardest to be suited are those who have been employed on buildings and railway works, which are now almost at a standstill.

In the face of this state of affairs, the land is crying for labor. One thing that can be done is to separate the wheat from the chaff and endeavor first of all to employ the wheat, giving preference as far as reasonable to the men who have others to support. For this purpose, and in fact for treatment of the whole situation, committees should be formed in every city and town, and registration embodying suitability strictly kept. Then such public works as are in any way possible should be proceeded with. When we arrive at the matter of farm labor we come to the very crux of the situation. The large majority of the unemployed have never seen a farm except as they have been travelling past. To another section the work is un congenial. Unhappily, it is frequently shown that even under stress, men and women will not do work for which they feel completely unfitted. But these cannot be left to starve.

EUREKA HARNESS OIL

is manufactured expressly for harness. That's why it prevents cracking and makes the leather soft and pliable. One rubbing with Eureka makes an old set of harness look like new.

Dealers Everywhere

The
IMPERIAL OIL COMPANY
Limited

Made in Canada

MODEL

Implement Shed and Repair Shop

The most convenient time, labor and machine saving building ever designed for the farm. Fire-retarding. Lightning-proof and Permanent. Fill in particulars below and we will send you Free, Plain, Blueprints and Quotations.

The Western Metal Products Co.

Dept. T, 481 Toronto St., Winnipeg, Man.

Name

Post Office

Location of Farm

Station

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THE QUESTION OF A THRESHERMAN'S WAGES

"One of our corresponding friends (W. Horden, Dundurn) calls our attention to the following case heard last fall and reported in the "Saskatoon Daily Star."

"Whether a thresher should be paid for the time he was unable to work owing to rain, even though he held himself ready to work, was the question which Magistrate Smith was called upon to decide this morning. He decided in favor of the thresher, as it was shown that the man was engaged at so much a day and there was nothing to show that his agreement should be suspended or his pay cancelled during such days as work was impossible.

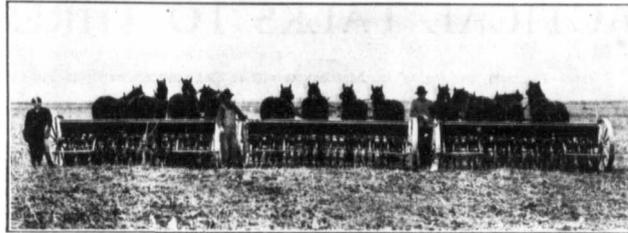
"R. W. Cunningham claimed \$75 from D. B. Kyle, and Kyle admitted that he owed him \$60, but disputed the remainder on the ground that Cunningham was not working all the time. The magistrate allowed the plaintiff his claim for the full amount."

This decision means that a worker around a threshing machine, engaged in the usual way a thresherman engages his men, may go to any court or magistrate and claim his full daily pay for any and every day the machine is laid off during rainy weather and for the time during which the grain is drying out before threshing begins again. This is quite contrary to the general practice under which these men have hitherto been paid. The rate of daily pay is high and the men are only paid for the actual working time they have put in, but by this decision they must in future be fully paid for every working day they remain with the thresherman.

This will make a considerable and serious addition to the thresherman's working expenses. Often enough now the rig comes off a job and has made nothing beyond expenses. We are more likely in future to be "in the hole" oftener than before by paying wages for work that is never done.

There was supposed to be a Thresherman's Association for the province of Saskatchewan, formed at Saskatoon last summer to protect the interests of threshermen, to regulate wages paid, to regulate the prices for threshing grain, to draw up contracts for hiring men, and contracts between the farmer and thresherman as to threshing. This is all good, but I never heard that the association actually did any of these things at all. They collect or want to collect our money for joining with them, but we have received no aid, no contract forms or anything else we were promised came through.

By the decision of the court at Saskatoon, the only thing now open for threshermen to do is to look after their own interests.



More Wheat and Better Wheat By Using Massey-Harris Drills

MORE WHEAT

Because the right amount of grain is uniformly distributed in a right-shaped seed furrow, the seed is not crushed or bruised—and all of it is covered at the proper depth. This insures speedy germination, each plant will get a good start, and have ample room from which to draw nourishment. Strong, sturdy plants are the result. Such plants are not easily choked out by weeds nor so likely to be affected by an unfavorable season.

BETTER WHEAT

Because strong, healthy plants are less liable to damage by rust, smut or any other enemies of growing grain, than are those which are weak and stunted. Another point is—that the grain sown by a **MASSEY-HARRIS DRILL**, being evenly distributed and uniformly covered, will ripen at the same time and yield plump, well-matured kernels which will grade well.

But conditions vary greatly in different parts of Canada. A drill which would do satisfactory work in the fall in rich, sandy loam might be entirely useless for early spring seeding, as it is carried on in the North-West, and in certain portions of Eastern Canada it is found advantageous to sow Commercial Fertilizer at the time the seed is sown.

The complete organization of the Massey-Harris Co. has made it possible for them to keep abreast of the requirements in all parts of the Dominion—and as a result, the Massey-Harris line of Drills is complete—and no matter what the farmer needs there is a **MASSEY-HARRIS DRILL** which will just fill the bill.

The **MASSEY-HARRIS DRILLS** have become famous for uniformity of sowing and for all-around reliability, and are recognized as the standard Drill for Canada. Much of this, no doubt, is due to the fact that they are made in Canada and are made especially for Canadian conditions. Their popularity is attested by the very large number of these Drills in use all over the Dominion.

Massey-Harris Co., Limited

BRANCHES AT

Winnipeg Regina Saskatoon Yorkton
Swift Current Calgary Edmonton

AGENCIES EVERYWHERE

For each owner to have definite contracts of his own, and each man employed to sign his contract, and each man receive pay for the actual time he worked, and to receive no pay while the machine is laid off for any cause.

It is a serious question whether this decision at Saskatoon could have been enforced. It is in direct conflict to established custom. If the Thresherman's Association had appealed to a higher court, it is likely enough the decision would have been reversed, but until something of this kind is

done, the decision remains law, and any thresherman can be compelled to pay full wages for rainy days.

The above are Mr. Horden's observations, and we sympathize most completely with his view, as it is perfectly evident that no thresherman can "live" and pay the present rate of wages to his employees if a large or any sensible portion of their time is to be spent in idleness for reasons over which he has not the slightest control.

It also happens in practice that a threshing hand laid off by wet

weather will rarely put a hand to anything else that he could be employed upon during the waiting period. No, the threshing outfit is "his job," and he will identify himself with no other. Where the executive of the Thresherman's Association he refers to?

While the law is as it has been determined by the interpretation of the Saskatoon judge, it is evident that every employer will have to make a contract with every man he engages and a contract that cannot be upset by any random "interpretation."—Ed.

PRACTICAL TALKS TO THRESHERMEN

Talk No. XCII.

Conducted By PROFESSOR P. S. ROSE

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

TRACTOR motors are still built in a variety of styles. Some are mounted vertically, some horizontally and some inclined. A few tractors are still made with single cylinders, and some with four and even six cylinders. Hardly any two tractors are made with the same style of motor nor does there seem any likelihood that the manufacturers will soon agree on any particular style.

The automobile trade started out with just as wide a variety of motors but they quickly settled down to the multi-cylinder of either four or six cylinders. The tractor people, on the other hand, are as far apart as they were in the beginning. It may be that the conditions under which tractors operate admit of a wide variety of efficient motors, or it may be due to a disinclination on the part of the manufacturers to make changes, or to trade jealousies. Whatever the reason may be, the fact remains that almost every style and type of motor known is used on some one or more tractors.

Kinds of Motors.—Tractor motors may be classified roughly as single cylinder, horizontal; single cylinder, vertical; two cylinder, opposed; two cylinder, twin; four cylinder, vertical; and six cylinder, vertical. All of these different styles of motors are used by the large successful tractor companies at the present time. Claims of superiority are made for each of the different styles as adapted to the particular style of tractor on which they are used. The result of all this diversity is, naturally, more or less confusing to the prospective buyer, and unfortunately there is no means, available for him to determine if there is any marked difference in the efficiency or reliability of the different styles.

Arrangement of Cylinders.—The single cylinder motor is limited to small sizes of 25-horse power and less. It has been found impracticable to build gasoline or kerosene burning engines with one cylinder larger than about 25-horse power. Gas burning engines and engines of the Diesel type with larger power in single cylinders have been built, but four cycle engines working on the Otto cycle are limited to about twelve inches bore and a stroke of from fifteen to eighteen inches. In fact, a ten by fifteen-inch cylinder is as large as any of the manufacturers are attempting at the present

time. For tractor service they are limited to slow speeds of from 250 to 300 revolutions per minute.

With such a narrow limitation in power it naturally follows that single cylinder motors must be used only for light weight tractors or those that are intended to be sold at a low price. In fact, it is a question if the cost of manufacturing is not one of the main considerations in adhering to this style of motor. For it is a fact that a single cylinder motor can be built at much less cost than one with a number of cylinders because there is less machine work involved and less assembling. It is also a fact that the manufacture of tractors is not a particularly profitable business, mainly because the business has not been done on an economical basis. When the thresher companies took hold of the tractor trade they carried on the business in just the same way that they had carried on the thresher trade; that is, they sold tractors to anybody and on any kind of terms and that, too, at a time when the tractor was in the experimental stage. The automobile people on the other hand insisted on the cash when the sale was made. This placed them in a much stronger position and enabled them to develop better and faster than was possible for the tractor companies.

There is perhaps very little choice between a horizontal motor with one cylinder and a vertical. The claim is made that the horizontal motor will wear out of round sooner because the weight of the piston is on the lower side all the time but this is more of a trade argument than anything else. We have thousands of steam engines of the horizontal type that have been in service a great many years and are still in good condition, which have done more work in a year than a traction engine motor does in its entire lifetime.

Two Cylinder Motors.—These motors are built in two styles, the twin and the opposed. Twin cylinder motors have the cylinders placed side by side on the same side of the crank shaft and opposed motors have the cylinders placed on opposite sides of the crank shaft. Both motors are used extensively and appear to give satisfaction. The former has been used since the beginning of the tractor industry in America but the latter has come into use by a number of very good companies during the last five years.

One of the great advantages of the twin is its compactness. The motor occupies the minimum of space and makes the arrangement of the rest of the machinery quite easy and, also, lends itself to the proper distribution of weight on the drivers very easily. It has another advantage in that both cranks turn in the same direction and both pistons run either over or under, generally over, making lubrication the same in both cylinders. There is the disadvantage that both power strokes follow each other, thus making an engine that does not run quite as steadily as one in which the power strokes occur at regular intervals. An objection that is sometimes raised against the opposed engine is that since one piston runs under and the other over, lubrication is not certain in the cylinder where the piston runs under. Whether there is any foundation in fact for such a claim the writer is not prepared to say. It is merely brought up as one of the objections to this type of motor. It would seem, however, that if such a difficulty does exist it could be overcome with a properly designed lubricating apparatus.

Four Cylinder Motors.—The limit of power in a two cylinder motor is about 50-horse power, consequently when greater power is required recourse is had to four or six cylinders. These companies that build opposed motors and want more power simply add two more horizontal cylinders, placing two on one side of the shaft and two on the other, while those that build twin cylinder motors generally adopt the vertical style. Everything that has been said for or against the opposed motor applies equally well to the four cylinder opposed. Both the two and the four cylinder motor of this type are easy to balance except against a certain amount of side vibration, due to the fact that the cranks are not in line. The tendency of the motor is to swing about a horizontal axis midway between the two cranks. This causes the entire machine to vibrate in the same direction. There is, however, no tendency for motion back and forth along the line of the tractor frame as there is with the twin engine tractor. Both of these tendencies can be almost overcome by a proper distribution of the weight of the moving masses.

The four cylinder vertical motor is the style adopted by the automobile engineers. For that kind

of service it has proven itself ahead of any other kind of motor. The reason for this is undoubtedly due to the fact that the automobile is designed primarily for the comfort of the passengers rather than for heavy service. A four cylinder motor is easy to balance.

In going over the entire subject and considering the various claims and counter claims, we can arrive at no definite conclusion. If there are any particular advantages of one type of motor over another there is no evidence upon which one can base a positive assertion. It may take several years yet for anything like uniformity to appear in tractor design. The best one can say now is that apparently the two cylinder twin opposed and the four cylinder opposed vertical machines are the favorites.

Motor Presented by Canadian Automobile Company

The McLaughlin Carriage Co. of Oshawa, have established precedent in their generous and valuable gift of a 37 horse power Motor Ambulance for service at the front.

Their lead, however, has been quickly followed. Last week the Lincoln County Council inspected the McLaughlin Ambulance in the company's show rooms and unanimously decided to order a similar one and donate it to the Canadian Red Cross Society, on behalf of their county.

In appearance, it expresses efficiency and practicability. It is grey green in color, with sides of specially prepared waterproof duck. The sides can be rolled up to give air when required, or left down for perfect protection. It is so arranged inside that the seats may be turned into beds for stretchers.

It is understood that several other organizations, such as municipalities, sabbath schools, etc., are contemplating similar donations and in connection with this fact, it is interesting to note that the McLaughlin Company have made special arrangements by which these ambulances may be turned over to such organizations for presentation to the Red Cross at manufacturers' prices.

The Red Cross Society has announced that there is no limit at the present time to the number of such machines actually needed for service at the front.

Vertical text on the right margin: An stro with man NI Kansas Lincoln Fargo,

The Old Reliable

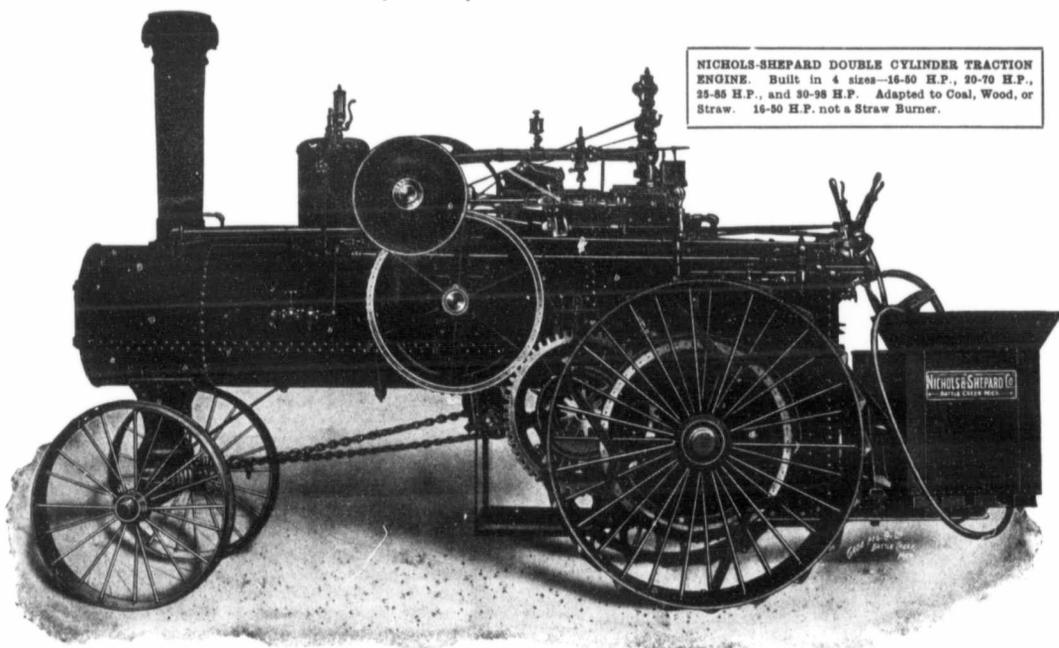
It led away back in the beginning. It leads now and will lead in the future.

The reason is that it has been, is now, and will be built in the future by a Company that never lets up in its effort to build the best.

A Steam Traction Engine that will produce the best of results and will stand up under the hardest kind of usage for long profitable wear.

An Engine built by a Company that has been in business since 1848, and that has closely confined its efforts to Threshing Machinery and power to drive it.

An Engine built to fill the needs of the Thresherman, to furnish ample power, to steam easily, convenient in every feature, and to prove a profitable investment for him.



NICHOLS-SHEPARD DOUBLE CYLINDER TRACTION ENGINE. Built in 4 sizes—16-50 H.P., 20-70 H.P., 25-85 H.P., and 30-98 H.P. Adapted to Coal, Wood, or Straw. 16-50 H.P. not a Straw Burner.

An Engine that has led the field, that still leads, and will continue to lead, because---

It is Designed right; it is Built right and is built of the Best Materials.

It has all semi-steel castings, semi-steel and cast-steel gearing. It has the largest shafting, the strongest gearing, the most thorough lubrication, the best reversing system, the strongest boiler found with any traction engine. It is all the result of many years' effort confined to the one line.

There are innumerable reasons why the Nichols-Shepard Steam Tractor is the best for the Thresherman, and our New Catalogue gives all these reasons. Write for our New Big Catalogue.

NICHOLS & SHEPARD COMPANY, Battle Creek, Mich. In Continuous Business since 1848.

Builders of Steam Traction Engines, Oil Gas Tractors, Red River Special Separators, Gearless Wind Stackers, Universal Self Feeders, etc., etc.

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| Branch Houses with Full Stocks of Machinery and Repairs at | | | |
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Geo. H. Gallagher Co., Spokane, Wash. Nichols-Shepard Sales Co., Dallas, Texas
 Consolidated Wagon and Machine Co., Salt Lake City, Utah

That Model 10,000 Acre Machine Power Farm in Western Canada

To the Editor, Canadian Thresherman and Farmer.

Dear Sir: In your February number of the "Thresherman and Farmer" you published quite an interesting letter written by Jas. R. Lingle about the large farm formerly known as the "Weitzen" Farm.

Now this is not the first letter that has been written boosting this farm in such a manner as to lead people who are not familiar with the actual conditions to believe that this farm is truly a model one, the management and operation of it something to be copied by every up-to-date farmer.

I will, if allowed space in your valuable journal, endeavor to give a few facts regarding this farm that are not mentioned in Mr. Lingle's letter. Of course, Mr. Lingle's letter is principally a history given by Mr. Boyd to Mr. Lingle while he (Mr. Lingle) was a guest for a couple of weeks on the farm.

Now we do not pretend to say that Mr. Boyd is not a good business man, because he has proven himself a success, but when he undertook the active management of this farm he proved himself a failure because he undertook something he knew nothing about.

Mr. Boyd credits himself with having first sold this large tract of land to the Weitzen Co., while he was connected with the C.P.R. which was good evidence of his business ability, but it has proven a very big drawback to the vicinity in more ways than one.

One of the drawbacks of this Western country is that it is so sparsely settled and neighbors are so far apart, yet, when companies are allowed to gobble up such a large tract of land as this and only about half cultivate it there is not much chance for a thickly settled district. Where do the town people expect to get their business, situated among such conditions where supplies for these large farms are bought wholesale.

Mr. Lingle is quite right in saying this is a fine tract of land as in our opinion it would be hard to find such a large district as this suitable for power farming. But Mr. Lingle in his letter would lead you to believe that this large farm was managed by Mr. Boyd without any difficulty; that his system was so perfect and his organization so complete that everything went along almost without a hitch to net that \$9,260.25 profit in 1913. I would like

to say this and I say it without fear of successful contradiction, that there is no one man can manage a farm of this size and make a success of it in every way.

Mr. Boyd, for instance, tells how he handles strikes and relates a little incident in his own way of how he and his bookkeeper chased ten swarthy harvesters who ran like a bunch of coyotes. Now this part of the letter appears to me to be too much like blowing one's own horn and is only a sample of what we read farther on.

Mr. Boyd, it seems never told Mr. Lingle how he handles weed inspectors. But hush! Probably Mr. Boyd does not care to let anyone know he ever had any weeds on this model farm, especially during his term of management, nevertheless it is a fact, only too well known to Mr. Boyd, and especially those farmers whose land lies alongside of this which we are safe in classing one of the weediest farms in Saskatchewan. However, on one of the inspectors many visits to Mr. Boyd, he asked him to put on some men pulling weeds on a certain piece of land and Mr. Boyd absolutely refused. "All right," says the inspector, "I will hire men and have them do it myself." Mr. Boyd says he will shoot the first man who goes in there to work at those weeds. However, the inspector had men engaged pulling the weeds the next morning and so far as we can learn Mr. Boyd has not shot any of them yet.

During the season of 1913, Mr. Boyd had two engines and a number of binders busy cutting weeds on his summer-fallow ahead of the plowing and in all, that account of receipts and expenditure which Mr. Boyd or his bookkeeper, Jack, have arranged so nicely, we fail to find one cent charged up to the eradication of noxious weeds. But, of course, it would not do to show up everything in the way of expense as then it might not be possible to show that net profit of \$9,260.25.

We will now look over that threshing account and see where Mr. Boyd discovers some more of that net profit of \$9,260.25 and just ask any man who knows anything about threshing to note the absurdity of it.

According to this statement of Mr. Boyd he had a total of 104,160 bushels of grain threshed by the three outfits in 21 days at a total cost of \$4,706.10.

There were 33,760 bushels



COLUMBIA batteries

The Brain of the Engine

The best engine is worthless without a good battery. Buy Columbia Batteries. There's a lot in the name—quarter century experience—world reputation—steady, dependable service—cost no more, last longer. Sold and used everywhere, for all battery purposes.

Made in Canada by Canadian National Carbon Co., Limited, Toronto, Ontario



Steam or Gas Tractors

Equipped with

PICKERING THE GOVERNOR WITHOUT JOINTS

give greatest efficiency

FITTED TO EVERY BUILD OF ENGINE

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

The Pickering Governor Co.

PORTLAND

CONN., U.S.A.



Polarine advertisement featuring an illustration of a tractor in a field and text describing the oil's benefits for cold weather and engine performance.

Family Group Photos a Specialty

AT STEELE & CO., LTD. MAIN ST. AND BANNATYNE AVE. WINNIPEG

Vertical text on the right edge of the page, including 'April', 'Q is the of G can skill c nothi', 'You can get any power!', 'Gul', and a list of items like wheat, bushels, threshing exp, etc.

QUALITY WITHOUT A KINK

is the uniform character of every lineal foot of **Thresher Belting** made by the **Canadian House of Gutta Percha and Rubber Limited**. You will need every protection that quality alone can guarantee for the strenuous work of 1915. If you will be guided by experience and the skill of men who have spent a long life-time at this one job of making thresher belts, you will buy nothing but the



Lion Brand

Rubber Belt

OR THE

Maple Leaf

Endless Thresher Belt



You can get them from any thresher company doing business in Canada. They cost a little more than other fabrics that are a big risk from the day they are used in any power transmission, but we guarantee our goods against all disappointments from slippage or breaking. They are the "guards" that will never betray their trust under any pressure—at threshing time or at any time.

Gutta Percha and Rubber Limited, WINNIPEG CALGARY

NOT IN ANY TRUST OR COMBINE

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

wheat, 48,000 bushels flax and 22,400 bushels oats, and his direct threshing expense is only \$4,706.10, or a fraction over 4 cents per bushel.

Now the threshing on this farm would have cost Mr. Boyd by contract at the price usually charged in our district (N.E.) wheat, 9c.; oats, 7c.; flax, 20c. a total of \$14,206.40, thus, according to Mr. Boyd's figuring, the net profit of \$9,260.25 is more than made up by the saving of \$9,509.30 in the threshing account.

Now let us look over the various items in the threshing account:

	21 days
2 tractors, fuel, \$20 per day each	\$1,260.00
3 engineers, \$5.00 per day each	315.00
Cooks, and assistants, \$3.00 per day each	189.00
4 teamsters, \$2.00 per day each	168.00
40 assistant threshers at \$2.00 per day	2,058.00
Food for 65 men, 50 cents per day	682.50
Food for 8 horses, 20 cents per day	33.60
Direct threshing expenses	\$4,706.10

What do you suppose those 65 men were doing with only eight horses, and I wonder if Mr.

Lingle or Mr. Boyd expects any one to believe that he operated three threshing outfits with only eight horses? As far as I could see there were eight teams of horses hauling stooks to each outfit as the ordinary stook wagon was used, and that is without the team used to haul oil and water.

You will see that all that is charged up to the threshing account for horses is the \$33.60 for feeding those eight horses the 21 days. You will notice that Mr. Boyd got off rather cheap then in view of the fact that some of the threshers in this vicinity paid \$6.00 per day for a man and team.

We will not weary you by analyzing those other accounts, only a few more of those statements, such as this one, where Mr. Boyd says there is no economy in using a tractor more than three years and that he charges 50 per cent depreciation on his tractors. It might be interesting for Mr. Boyd to know that the summer of 1914 which was the fifth season for some of those tractors, they seemed to run with fewer stops and gave as little trouble as any season since the beginning, and while I am not boosting the Big 4 engine (which is the kind mostly used on this farm) I think it an injustice to the manufacturer to allow that they are practically

useless after three years. Those engines will be going out again this their sixth season, and no doubt will give good service as usual. Mr. Boyd states that those tractors move the camps from one place to another at a speed of two miles per hour, yet he gives us an account of moves of two miles in three quarters of an hour. Strange, isn't it that an engineer can line up an outfit of cabooses, etc., and complete a move of two miles in three quarters of an hour with an engine travelling at a speed of two miles per hour?

Now, Mr. Editor, there is a lot of things in this letter of Mr. Lingle's I would like to deal with but I have already trespassed on your valuable space, so let us hope that when anyone goes to the trouble to boost up any more of those large model farms, that they get a little closer to the real facts and not lead the public to believe any farm is a real model when it is far from it.

Yours truly,
Citizen.

The Seed Law

With the opening of the 1915 seed trade, seedsmen, farmers and gardeners may wish to review the conditions under which sales may

be made. The Seed Control Act provides that timothy, alsike, red clover and alfalfa seed must not be put on sale for the purpose of seeding without being plainly marked with the grade, namely: Extra No. 1, No. 1, No. 2, No. 3. Farmers may sell seed below No. 3 in quality only to dealers to be cleaned and brought up to grade. All other grass, clover and forage plant seeds and those of cereals and flax must be marked in a plain and indelible manner with the common name or names of any noxious weed seeds present.

Seeds of cereals, flax, grasses, clovers, forage plants, field roots and garden vegetables must have a germination of two-thirds of the percentage standard of vitality for good seed of the kind or be marked with the percentage that are capable of germinating. "Papered seeds" must be marked with the year in which the packet was filled.

Representative samples of seeds for purity and germination tests may be sent to the Seed Branch, Calgary, Alta. Two ounces of grass seed, white or alsike clover; four ounces of red clover, alfalfa or seed of like size and one pound of cereals are desired. Samples require postage but are tested free of charge up to 25 in number for each person or firm.

A MAN'S TALK TO MEN

By
REV. DR. J. L. GORDON



Great In Grief

THE test of character is grief. The wealth of life is the sum total of all you have left when your heart is broken. What is the measure of your confidence when your friends have proven false, when your plans have failed of full success, when the flush of strength has gone out of your nervous system and when all things seem strangely uncertain—this is the test. Mr. Bright was once overwhelmed by a calamity. It was well that a friend was at hand to arouse him to his duty towards the living. He thus spoke of it years afterwards, in a speech at Rochdale: "In the year 1841 I was at Leamington, and spent several months there. It was near the middle of September there fell upon me one of the heaviest blows that can visit any man. I found myself left there with none living of my house but a motherless child. Mr. Cobden called upon me the day after the event, so terrible to me, and so prostrating. He said, after some conversation, 'Don't allow this grief, great as it is, to weigh you down too much; there are at this moment, in thousands of homes in this country, wives and children who are dying of hunger,—of hunger made by the law. If you will come along with me, we will never rest till we have got rid of the Corn Law!'"

Sixteen and Sixty

SIXTEEN" and "sixty" are as closely related as cause and effect. What you "do" in youth you "are" in your maturity. The hens which come home to roost, were never far away—they simply made a circuit of the hen-house. Youthful thoughts are the forerunners of grey haired convictions. Youthful habits are the prophecies of aged infirmities. Youthful virtues are the harbingers of saintly virtues. Youthful self control—the best guarantee of a ripe old age, grand in achievement, rich in memory, and holy in universal respect. "What you plant as a youth," says Dr. MacLaren, "you will reap as a man. This mysterious life of ours is all sowing and reaping intermingled, right on to the very end."

Let "Go" Occasionally

LET "go" occasionally. Do not forever "stand on your dignity." Do not be too circumspect in form and ceremony. Do not be afraid to "unbend." Do not act as though you were continually on dress parade. You are not in a court of justice where every word is weighed in the balance. You are not in an editor's office, where every question means an extra line in a published interview. You are not in a commercial establishment where every verbal transaction is recorded in the cash register. Let "go" occasionally. Henry Ward Beecher once remarked: "I am accused of slopping over. I suppose I do slop over sometimes. Well, it's the mistake of temperament and disposition. Can you carry a brimming pail without its slopping over? Put a pint of milk in a big bucket and it will stay there. And take a man that has but a pint in him, and if he is a roomy man there is no danger he'll slop over. But bring a bucket of water from the well, and it will be dripping, dripping, dripping all the way, and every blade of grass and daisy is glad of it. So don't be sorry you have been generous even to an unworthy object. You can't afford to calculate when you'll be mean. Give your heart some headway, and in the long run it will be better."

Poetry in Things

THAT barn door would be worth \$5,000 if you could turn it into an oil painting of quality. That setting sun would be worth \$10,000 if you could frame it and hang it in the National Art Gallery. That old woman's face would be gazed upon by the wondering eyes of wealth and culture if you could reproduce its wrinkles and flesh tints on canvas or card. Think poetically! The incidents of your life may become the events of history. Who knows? The author of "Sixty Years in Public Life," says: "In the year 1838 or later, I was in his office when Alvin Adams, the founder of the Adams Express Company, made his first trip to New York as an express messenger. Staples afterward stated in conversation that Adams had but one parcel, and that he loaned him five dollars to meet his expenses. At that time Harnden's express was in operation with an office at No. 8 Court Street. Harnden's company disappeared in a few years, and the Adams Express Company became an institution that has the appearance of perpetuity. At a time perhaps as late as 1850, I met Adams on Washington Street, when he expressed the opinion that his business was as profitable as any business in the country."

Prove It!

PROVE your creed by your character. Prove your doctrine by your self-denial. Prove your principle by your persistence. Prove your theory by your practice. Prove your religion by your life. Dore was once wandering in the mountains of Switzerland when some officers demanded his passport. "I do not have it with me," he replied, "but my name is Dore." "Prove it, if you are," replied the officers. Taking a piece of paper, the artist hastily sketched a group of peasants that were standing near, and did it with such skill that the officers exclaimed: "Enough! you are Dore." We say we are Christians. The world's challenge is—prove it.

Keep Pure

KEEP pure. One act of sin and life is never the same. One night of dissipation and the dial of time can never be turned back. One moment of license and memory is forever blackened and scarred. One hour of evil association and the skein of life becomes a tangled web. Keep pure. Shield your eyes from the evil forms of sin and sensualism. It is not necessary to "see the world." Seek for beauty in all its forms of loveliness. Ever regard the bloom of an untarnished character as sacred. Have you ever noticed on a plum, a blueberry, or a grape, what is commonly called the bloom? Its beauty is so delicate that a touch mars it; once marred, it can never again be whole.

Your Art Gallery

YOUR art gallery is a certain chapel in the cathedral of your mind called, the Imagination. Into that chapel all the treasures of beauty and harmony must be carried through two gates, one of pearl, the other of crystal. Through the eye—the gate of beauty—come the treasures of beauty, and through the ear—the gate of harmony—enter all the strains of music. Feed your soul on the dainties of color and sound and you will grow rich in the art gallery of your soul. Professor Rossiter W. Raymond, who grew up under Mr. Beecher's ministrations, says: "Many of his applications of science in the service of religion have been such as to invite collaboration and assistance from me, which I have given, receiving a good deal more than I gave. Mr. Beecher used to carry rubies and topaz in his pockets. He never included diamonds, as he did not like them. Some of the stones belonged to him; some were lent. I have known him sit for over an hour at a time with his head in his hands, simply looking into the heart of these stones. He told me they were like flowers to him, only more convenient to carry."

The Bright Spot

LOOK for the bright spot. The storm seems cold and chill but there are diamonds on the snow. The rain falls in a blinding sheet but the streets are clean and the earth looks new. The leaves have fallen like the trees are bare but the view is more distant and the hills appear outlined in amber and gold. The day is dark and the clouds hang heavy, but the home never seemed so cosy or the burning coals in the open grate so full of cheer and welcome. We are naturally prone to listen to the testimony of the five senses as to things material, rather than to the evidence adduced by faith as to things unseen and eternal. On a dark night in the castle of Erfurt, Luther awoke Melancthon, saying: "Philip, do you hear the nightingale?" "No," said Philip. "I hear no nightingale; I hear a thousand frogs croaking in the swamp near by." "But listen again, Philip; surely you can hear a nightingale, singing softly through it all." The physical senses speak to us thus, with voices loud and clear, but faith has a still, small voice; and only they can hear it who go apart, like Elijah, and bend low with their faces between their knees.

An Honest Eye

NO dishonest man ever had an honest eye. Honesty is self revealing. It can be detected in the motion of the feet, the gesture of the hand, the turn of the head, the bend of the body, the contour of the face and the expression of the lips. The face does not lie about the man who owns it. An honest face can only be possessed by an honest man. Be honest, be truthful, be genuine. Dr. Sargent states, that at a slave market in one of the Southern States, in which he was present, a smart, active colored boy was put up for sale. A kind master who pitied his condition, wishing him not to have a cruel owner, went up to him, and said, "If I buy you, will you be honest?" The boy, with a look that baffled description, replied, "I will be honest whether you buy me or not."

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PATRIOTISM and PRODUCTION

"Belgium as a producing factor is obliterated from the map. Britain, always unable to sustain itself, will have stronger needs. That beautiful section of France where a little more than a year ago I saw the countless stooks of golden grain is now scarred with the deep-dug trenches. Surely, surely there is need for all that we can do."

HON. MARTIN BURRELL, Minister of Agriculture.

The Empire Needs Many Foods

The Empire asks Canada to increase the production of staple foods—not merely of wheat. Great Britain wants oats, corn, barley, peas, beans, potatoes, turnips, onions, meat, dairy products, poultry and eggs.

In the past Great Britain has imported immense quantities of these staple foods from Russia, France, Belgium, Germany, and Austria-Hungary as shown by the following:

Average Imports Years 1910-1913	
Wheat	28,439,609 bush.
Oats	23,586,304 "
Barley	15,192,268 "
Corn	7,621,374 "
Peas	703,058 "
Beans	639,653 "
Potatoes	4,721,590 "
Onions	271,569 "
Meat	26,509,766 lbs.
Eggs	121,112,916 doz.
Butter and Cheese	91,765,233 lbs.

Make Your Land Produce More

Millions of bushels rather than millions of acres should be Canada's aim. The fields already under cultivation should be made more productive. Keep in mind good seed and good cultivation.

That there is abundant reason to expect larger returns from the same area is conclusively shown when we compare the average production of the present time with the possible production. Note the following brief table which shows our average in 1914 and the possible production per acre:—

	Average	Possible
Fall Wheat	20.43	52.
Spring Wheat	14.84	33.
Barley	16.15	69.
Oats	36.30	91.
Corn, Grain	70.	200.

Corn Ensilage—	Average	Possible
(Tons)	12.	19.
Peas	15.33	37.
Beans	18.79	50.
Potatoes	119.40	450.
Turnips	421.81	1000.

By "possible" is meant the actual results which have been obtained by our Experimental Farms and by many farmers. These "possibles" have been obtained under intensive cultivation methods and conditions not altogether possible on the average farm, yet they suggest the great possibilities of increased production. By greater care in the selection of seed, more thorough cultivation, fertilization, better drainage, the average could be raised by at least one-third. That in itself would add at least \$150,000,000 to the annual income of Canada from the farm. It would be a great service to the Empire, and this is the year in which to do it.

The above mentioned sources of supply of staple foods are now, in the main, cut off as result of the war. Great Britain is looking to Canada to supply a large share of the shortage. Every individual farmer has a duty to perform.

Have You Attended Your District Conference?

If you have, you know that you heard once more the same old gospel of crop production. Have you talked over with your neighbour farmers the problems discussed at the Conference? If there are any questions on which you are at all doubtful write at once for information to the Canadian Department of Agriculture, Ottawa, or to your Provincial Department of Agriculture. They will be pleased to help you.

Increase Your Live Stock

Breeding stock are to-day Canada's most valuable asset. The one outstanding feature of the world's farming is that there will soon be a great shortage of meat supplies. Save your breeding stock. Plan to increase your live stock. Europe and the United States, as well as Canada, will pay higher prices for beef, mutton, and bacon in the very near future. Do not sacrifice now. Remember that live stock is the only basis for prosperous agriculture. You are farming, not speculating.

Make use of the Free Bulletins issued by the Canadian Department of Agriculture. They are mines of valuable information. The Government has nothing to sell and its reports are unbiased. There are special bulletins on wheat, oats, corn, barley, peas, beans, potatoes, turnips, onions and live stock. Send coupon below (no stamp on envelope necessary).

**Canadian
Department of
Agriculture,
Ottawa, Canada**

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Please send bulletins on wheat, oats, corn, barley, peas, beans, potatoes, turnips, onions and live stock.
(Mark out Bulletins you do NOT want.)

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**CASE Power, Steam, Gas or Oil —
Meets Every Need**

IT makes no difference how large your farm, what kind of tractor you need, or what your work is. CASE can furnish you with exactly what you need. CASE Steam Engines, famous for years as the very best steam engines, as you know, come in sizes from 30 to 110 horse power. For all around work, year in and year out, the fine materials that go into them, the high-grade workmanship and the excellent design of CASE Steam Engines have earned for them the world over, the title of the "Best Steam Engine." When one speaks of any CASE machine, he always thinks of the best.



Our 1915 Facts From The Field, showing by picture and letter just what CASE machinery is doing in the hands of its owners, is ready for distribution. A copy of this interesting book is yours for the asking.

CASE Gas and Oil Tractors

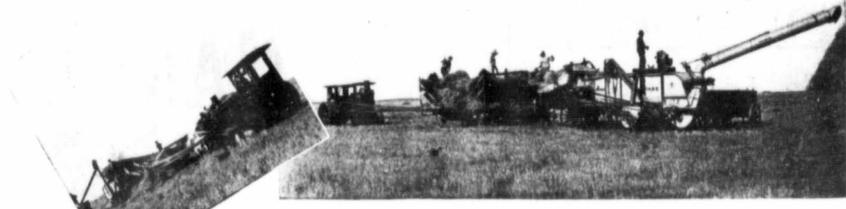
With the addition of the latest CASE tractor, the 10-20 gas tractor, to our line, there is no size that you cannot get to fill your needs. CASE Gas Tractors, by actual proof of work done, are acknowledged to occupy the same position in their class that CASE Steam Engines occupy in the steam class. They are the very best gas tractors. Take your choice of the following sizes, and be successful: 10-20 Gas; 12-25 Gas; 20-40 Gas and Oil; 30-60 Gas and Oil. Each one has been designed and built to meet the needs of its class. Simple in every way, accessible in every part, efficient on every job. Our catalogs tell you more. Do you want one?



J. I. CASE T. M. CO., Inc., Racine, Wis., U. S. A.

741-791 STATE STREET

Canadian Branches: Toronto, Winnipeg, Saskatoon, Regina and Calgary



**CASE Steel Threshing Machines—
Your Best Investment**



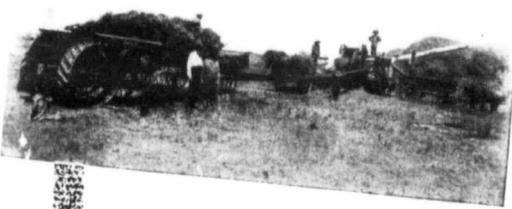
YOUR threshing machine is your investment. It must pay you a good profit—dividends—else you have made a bad investment. Did you ever think of it in this light? Then what you want to know is, why is the CASE your best investment—and here is the answer: The extreme simplicity of CASE Steel Threshing Machines requires the minimum of fuel and power to run them, and the least attention. They have the fewest parts, and therefore seldom get out of order. Hundreds testify to the surprising smallness of their repair bills.



Then, too, these machines deliver the grain to the sack. Practically all of the grain is pounded out of the straw before it reaches the straw rack. The very few kernels left are shaken out by the fishbacks and risers on the rack before the straw has reached the end of the rack.

Remember, too, that they are general purpose threshers. With our attachments they will thresh perfectly every grain or seed grown.

Last but not least is the fact that their steel construction makes them almost indestructible.



What good is an investment that any moment is apt to be lost by fire, wind or water? When all's said and done, better be safe than sorry—So buy a CASE.

Let us send you our latest picture catalog, illustrating and describing all CASE machinery, or Facts From The Field—just out. This booklet tells you of the great success that others are enjoying with CASE machinery.

J. I. CASE T. M. CO., Inc., Racine, Wis., U. S. A.

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Feeds that Satisfy the Dairy Cow. By J. H. GRISDALE.

THE dairy farmer, to make a success of his business, must be prepared to supply his cows in milk with as large quantities of the right kind of feed as they can be induced to consume. This, of course, refers to the treatment he should give his cattle in summer as well as in winter. To induce cattle to consume liberal quantities of feed necessitates catering to their tastes; that is to say, the first consideration in producing crops for dairy cattle should be the ensuring of a high degree of palatability in the resultant forage. As aids to palatability, succulence, variety and quality in the ration take first rank.

Succulence can be imparted in some degree to dry forage by sprinkling it with water, either pure or flavored, as with feed molasses, and allow it to lie softening for some time before feeding. The only really satisfactory method of ensuring succulence in the ration, however, is the growing of succulent feeds and storing them as such. In any case, succulence is the almost absolute condition of success in feeding dairy cattle.

Variety, like succulence, is undoubtedly a material aid to palatability, hence it is important that the dairy farmer do all he can to provide some variety in the feeds he stores for his cows. Cattle have a somewhat different idea of what constitutes variety in food than have men. Men as a rule like their rations to vary day by day; cattle, however, like the same ration continuously, but like it to include as many different kinds of food as are available, and to have them all in the same proportion each day.

To illustrate, a ration including both red clover and alfalfa hay is likely to give better results than either the one or the other fed alone. A ration including both corn ensilage and mangels will usually prove more satisfactory than the ration whose chief constituent is exclusively one or the other of these two probably equally valuable succulent feeds.

Quality is another peculiarity of the feeds going to make up a ration likely to add greatly to its palatability, which is the same as to say to add to its effectiveness.

Quality means that peculiar condition of a forage or a feed which is observable when the crop from which it has been prepared has been cut at the right time, cured in the best way, housed under the most favorable conditions, and preserved in the best shape possible. Quality in the ration is a feature too frequently lost sight of, a feature quite frequently entirely ignored by the average dairy farmer, but nevertheless a feature of exceedingly great importance and of very high value where it is desired to get the best out of the individual or the herd.

Palatability is undoubtedly the most important characteristic to be provided for in producing crops for dairy cattle. But a feature not to be overlooked, and in fact the feature which has most commonly been dwelt upon by men dealing with this subject, is the suitability of the feed for the end in view. Suitability in this connection has been considered to mean that quality in the ration which makes it fill up and satisfy the craving of the appetite for something to distend the digestive organs, and, besides this, suitability in the way of composition for the attaining of the end in view—milk production.

Producing large quantities of milk means, the utilization of large quantities of protein, that is, the flesh-forming part of foods. Fortunately, experience has shown us what foods possess this peculiarity and which of them are likely to please the dairy cow and enable her to give good results at the pail.

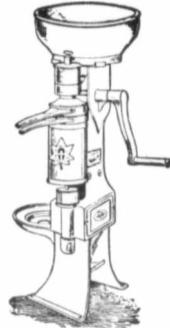
Common Foods Suitable

Among the feeds that we find most suitable for milk production and that come the nearest to complying with the conditions of success in feeding, are corn ensilage, mangels, turnips, alfalfa, red clover, alsike, pea and oat hay, brome grass hay, blue grass hay and mixed hay; while for concentrates a mixture of oats, peas and barley, oats and peas, or of peas alone or oats alone, barley in small quantities, corn, oil cake meal, cotton seed meal, gluten meal, wheat bran, wheat shorts, or middlings are about the best that can be fed.

To the concentrates, with the exception of the by-products and mill feeds mentioned, we need pay little attention, since they are

Knowledge Is Power

So runs the copy-book heading, and to the same effect Napoleon said that "the successful man was usually the man with the best information." Lots of men have the will to do it if they only knew how. Our special mission is to point the way to success in dairy farming—to tell you that the best knowledge in handling milk products that experience and years of research have discovered is embodied in the



"MAGNET" Cream Separator

The "Magnet" stands alone among cream separators for its strength, steadiness and rapid work—it is easiest of them all to operate and to keep clean. No machine of the kind running holds such a reserve strength to stand the enormous speed strain of bowl.

It is not the lowest priced machine made but it is the best value in any Cream Separator known. Quality, Character and the highest possible efficiency is first guaranteed by the severest tests, then a modest profit to the manufacturer is added over bare cost of material and construction.

The "Magnet" is made in Canada by Canadian engineers who have first of all gained their experience on Canadian dairy farms in all essentials to a separating machine that fits it perfectly and economically to every requirement. The result is "The Magnet"—a separator that more than fulfills the last promise made in its name.

We will easily prove what we say by showing you the MAGNET in your own dairy. The design and construction of the machine is what has compelled us to double the output of our factory this year.

The Petrie Mfg. Co. Ltd.

Head Office and Factory: HAMILTON, ONT.

Winnipeg, Calgary, Regina, Vancouver, Montreal, St. John, Edmonton, Lethbridge.

Advertisement for Dr. Thomas' Eclectric Oil. Includes illustration of a horse and rider, and text: 'Relieves all Pain in Man or Beast. 25 Cent Bottles at all Dealers.'

Superior Fanning Mills Best For Canada

Advertisement for Superior Fanning Mills. Includes text: 'Thirty years' use has proved the Superior to be the best mill for Canada. You may have clean seed with a Superior. Proven by the most severe tests to be the most perfect system for separating wild and tame oats from wheat and barley.' Also includes illustration of a fanning mill and contact information for Cushman Motor Works of Canada.

Advertisement for FURS AND HIDES. Text: 'SHIP YOUR FURS AND HIDES TO McMILLAN FUR & WOOL CO. WINNIPEG, MANITOBA. Write for Circular.'

grown and every farm economical roughness of forage is, he important. To the memo submitted. To be high should be shortages in age is very than a sim concentrate therefore, merits for margin of and better than is lik should be al To get the sure of a suf year, some t em or rot; lowed. Wh land has to each year, a probably the cient rough the farm to p pasturing, b then a th likely to give On that p voted to croj four-year rot hoed crop; seeded down six pounds, al clover ten pot is well drained pounds an ac two cuttings; or hay as nece Corn for en stable crop or It is a safe crocally never fa safe feed. C uniform quali to end of the is, during t months of the Mangels, su brets, and turn feeds for dairy grown profitab siderable hand a rule more e produce than which, of cour classed. In the prod proper points to the seeding dov of the hay the generous seedir by expensive an of some peopl really cheap, as profitable. Libe greatly increase ting a good "cat rapid growth v the crop ready earlier than wh ing is practised, time a growth e s to ensure a v quality of hay seeding. The st

grown and grown fairly cheap on every farm. The question of the economical production of the roughage or coarse part of the forage is, however, an exceedingly important one, and a few ideas on the methods of production are submitted.

To begin with, "Abundance" should be the watchword. Any shortage in the supply of roughage is very much more serious than a similar condition where concentrates are considered; therefore, in making arrangements for forage production, a margin of at least one-quarter, and better still one-third, more than is likely to be necessary should be allowed.

To get the best results and to be sure of a sufficient supply year by year, some regular cropping system or rotation should be followed. Where part of the arable land has to be used for pasture each year, a four-year rotation is probably the best. Where sufficient rough land is included in the farm to permit of all necessary pasturing being done thereon, then a three-year rotation is likely to give best returns.

On that part of the farm devoted to crop production a good four-year rotation is: First year, hoed crop; second year, grain seeded down as follows—timothy six pounds, alsike two pounds, red clover ten pounds, and if the land is well drained, alfalfa six or eight pounds an acre; third year, hay, two cuttings; fourth year, pasture or hay as necessary.

Corn for ensilage should be the staple crop on every dairy farm. It is a safe crop, that is, it practically never fails, and provides a safe feed. Corn ensilage is of uniform quality from beginning to end of the feeding period, that is, during the whole twelve months of the year.

Mangels, sugar mangels, sugar beets, and turnips are all excellent feeds for dairy cattle, and can be grown profitably, but require considerable hand work, and are as a rule more expensive crops to produce than corn, along with which, of course, they must be classed.

In the production of hay the proper points to be considered are the seeding down and the making of the hay the next season. A generous seeding while apparently expensive and in the opinion of some people extravagant, is really cheap, and certainly most profitable. Liberal seeding means greatly increased chance of getting a good "catch," a much more rapid growth when in hay, and the crop ready to cut somewhat earlier than where thinner seeding is practised, and at the same time a growth of such character as to ensure a very much better quality of hay than from thin seeding. The superior quality is

due in this case to the thickness of the growth which makes finer stems and taller crops, which means considerably improved quality in flavor and digestibility of the cured hay.

Heavy Seeding Upheld.

The grain area or field of the rotation might be devoted to oats, or oats, peas, and barley. It is usually well not to sow the grain too thickly, and to do everything else possible to the end of ensuring a good catch of grain and clover. Thorough tilling or harrowing until the seed bed is in perfect condition for firmness and fineness, then rolling, seeding, rolling and lightly harrowing after the second rolling, is the treatment likely to give the best results under average weather in this province.

Protecting the catch from cattle in the fall and spring is about the only other thing that can be done by the farmer to ensure a good crop of hay the next year.

Milking a Fine Art—Not a Chore

Milking is not as simple an operation as it is generally considered. A cow may be developed to her very best or ruined by the manner in which she is milked. One milker may be able to get a quarter more milk from a certain cow than another, while still another may put her dry in a few weeks by failing to draw the full flow.

The best method of milking is that which results in the work being done as quickly, quietly and thoroughly as possible. A cow is largely a creature of habit, also of temperament. She cannot do her best if milked irregularly, by strange persons, or under disturbing circumstances. Like a person, she does her most capable work when in a calm and satisfied mood. For this reason experienced milkmen handle their cattle with great regularity and care.

The milk cows should never be hurried when driven from the pasture to be milked, nor should they be kept waiting outside the stable door and bawling for their feed. At the regular hour they should be brought up, stabled, fed, and milked. In summer they should be relieved of the torment by flies, for flies as much as anything else are responsible for the decrease in milk flow during this time.

After the dust and dirt have been brushed from the cow's quarters and udder, the milker should quietly sit down at her right side and with dry hands milk her out. If possible the milk pail should be large enough to hold her entire yield, in order to avoid interruption. If there is a sore teat the milker must exer-



The Survival of the Fittest

TRIED IN THE FURNACE OF competition and subjected to the test of years of practical use on nearly 2,000,000 farms the world over, the De Laval has proved its overwhelming superiority to all other cream separators.

TWENTY YEARS AGO there were as many makes of factory as of farm separators, but for the past ten years the De Laval has had this field almost to itself, 98 per cent of the cream separators in use by creamerymen and market milk dealers to-day being of the De Laval make.

IT HAS TAKEN THE INEXPERIENCED farmer a little longer to sort the wheat from the chaff, in the maze of conflicting catalog and local dealer separator claims, but year by year the ever-increasing proportion of farm separator buyers is reaching the same conclusion as the creameryman—that the De Laval is the only cream separator they can afford to buy or use.

MANY OTHER CREAM SEPARATORS have come into the lime-

light of publicity for a few short months or a few short years, claiming to be "as good as" or "cheaper" than the De Laval, but their users have sooner or later found them lacking in some one respect or another, and even where a few have seemingly done well their users have come to learn that the De Laval was a still better machine.

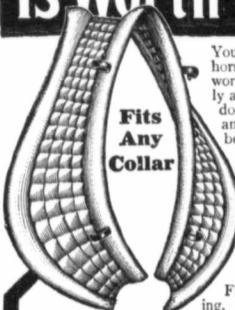
THE UNFIT OR THE LESS FIT cannot possibly survive for long in separators or anything else. Think of all the separators you used to see advertised so extravagantly in your favorite farm papers. Where are they now? Why do you seldom, if at all, see their names mentioned? Simply because the fittest must survive and the others must fall out of the race.

THE DE LAVAL HAS TRIUMPHED over all other separators, and its supremacy is now almost as firmly established in farm as in factory separators because its separating system, design and construction are essentially different from and superior to other separators.

A De Laval catalog to be had for the asking explains and illustrates these differences. A De Laval machine, to be had on test or trial from the nearest local De Laval agent, does so better still. If you don't know the nearest local agent, simply write, the nearest De Laval main office as below.

DE LAVAL DAIRY SUPPLY CO., LIMITED
MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

A Horse in Harness Is Worth Two in the Stall



Fits Any Collar

You lose money when you put your unpadded horses out to spring work. As soon as they begin working off their winter fat the collars hang loosely and bruise, chafe and gall them. They can't do a full day's work with raw and bleeding necks and shoulders. You lose work and make the beasts suffer needlessly. There's a remedy—use

HORSE COLLAR PADS
TAPATCO
REGISTERED BRAND TRADE MARK

This Low Priced Pad Adds Many Dollars to the Working Power of Your Horses

Filled with our own Special Composite Stuffing. Light, soft, springy and very absorbent. No dirt, no trash, no short cheap limy hair with hide attached to attract rats and mice. TAPATCO pads are cool and properly ventilated. They quickly absorb all sweat. The cost is only a few cents. One day's idleness of your horse would lose you more than the cost of a year's supply of TAPATCO pads.

ASK YOUR DEALER
PADS FOR HORSES

The American
Pad & Textile Co.,
CHATHAM, ONT.



cise the greatest of patience and gently milk it dry, using a milking tube if necessary. Under no circumstances abuse the cow because she kicks at such a time. In fact she should not be abused at any time even if she kicks without apparent reason. Nothing was ever gained by maltreating a dairy cow with the milk stool or a pitchfork. On the other hand gentleness and patience will if continued long enough effect a cure on even the most unruly cow.

Special care must be exercised to secure all the strippings, both because they are the richest part of the milk and because milking them all out will result in maintaining the highest yield. The first milk drawn usually contains only a small per cent of butterfat, but the last contains from 3 to 5 per cent more than the average.

There is no animal on the farm which responds to careful treatment like the dairy cow. Extra time and special care on her behalf will yield the best returns.

Horse Sense on Hog Raising

In the raising and fattening of hogs, common horse sense is a most essential factor. It is an essential factor in all farm operations but it seems that peculiar sixth sense possessed by some men then coupled with modern scientific knowledge of rations insures success in the hog business. In finishing hogs for market, much will be saved if the swine are in good flesh at the beginning of the fattening period. It will take less feed and better gains will be made if the hogs can be pastured until they are in good flesh before they are put up and given the heavy grain ration. This has been demonstrated so often by feeders that it is not necessary to argue the question.

The entire farm should be fenced with hog-proof wire because the manager will desire to change the crops in the rotation and graze some of these crops with swine. The pea-field, the oat field or the corn field generally will furnish considerable grazing. If peas were planted in the corn at laying-by time, the corn field will afford excellent grazing with the ears left in the field, perhaps enough to fit the porkers for the fattening ration.

For the finishing, it is advisable generally to put the hogs in a clean, dry pen where they may have shelter. It is not economy to let the animals run in a pasture during the finishing period, as they fatten faster when confined in close pens. They will need plenty of water and clean, wholesome surroundings.

On the basis of 1,000 pounds live-weight, the hog uses about

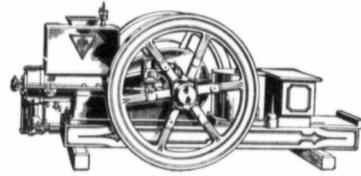
275 pounds of dry food, the sheep 160, the steer 125 per week. The hog will digest about 230 pounds, the sheep 120 and the steer but eighty-eight pounds. To secure 100 pounds of increase, as a rule, it requires 1,000 pounds of dry feed for the steer, 910 pounds for the sheep and 420 pounds for the hog. From this comparison, it will be seen that while the hog eats more heartily, it consumes more food and produces more gain from the feed than either the steer or the sheep.

But we must remember that there is economy in feeding hogs up to a certain weight. For instance, a pig of the proper age and weighing 100 will require less than 300 pounds of feed to produce 100 pounds of increase, whereas a hog weighing 300 pounds will require on the average 500 pounds of feed to produce 100 pounds of gain. The best range of economical feeding is between 175 and 250 pounds, depending of course upon the price of hogs and the value of feed.

One thing we should remember, that is, corn, kafir, barley, milo, feterita and other grains do not afford a balanced ration. Corn alone does not supply an economical fattening ration because it does not contain enough protein. Even when the fattening period is short, a protein supplement such as tankage, cottonseed meal, wheat shorts, rice polish, meat meal, etc., should be given. One part tankage to 8 or 10 parts corn, kafir, milo or feterita makes a good ration. If cottonseed meal is used as a supplement to the fattening ration, one part cottonseed meal mixed with bran or shorts to about five or six parts of grain may be fed. After about fifty days of successive feeding cotton seed meal, change the ration for awhile or reduce the cottonseed meal for awhile.

For good bacon, it is highly desirable that the hogs be pastured previous to fattening so that the animals will be well developed. The legumes such as alfalfa, clover, peas, soy beans and peanuts are very fine grazing crops because they are rich in protein, which constituent must be available to produce lean meat. Then when the hogs are being fattened for the block they should have a sufficient quantity of such feeds as tankage, cottonseed meal, shorts, etc.

Care should be taken to feed all the animals will eat clean without leaving the feed. They should have just enough and no more. By using care in feeding, one can soon determine how much to give at one feed. This is an important consideration in feeding economically. At the beginning of the feeding, the hogs will require from 40 to 50



Alpha Engine Facts

Alpha Engines are reliable. Use all fuels. Are easy to start. Develop full power. Are free from vibration. Have best pulley arrangement. Have simple, reliable ignition. Are thoroughly standardized and parts are interchangeable. Strictly modern in design. Are high-class in appearance. Will fit your needs for size and equipment. Make best showing when directly compared with other engines. Are sold and backed by a Company that has a world-wide reputation for selling only high-quality machines and equipment.

An ideal engine for farm use

Eleven sizes, 2 to 28 horse-power. Each furnished in stationary, semi-portable, or portable style, and with either hopper or tank cooled cylinder.

Every farmer needs an "Alpha." Send for catalogue.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
MONTREAL PETERBORO WINNIPEG VANCOUVER

More Power for Your Tractor

More power from the same amount of fuel, or the same power from less fuel—that is one secret of tractor economy.

PREMIER MOTOR GASOLINE

gives most power per gallon. It is pure; quick-starting; clean burning. It is always uniform and does away with carburetor adjustments.

Its comparatively low cost is made possible by the unrivalled refining and distributing facilities of this company.

SILVER STAR ENGINE KEROSENE

A powerful and reliable refined oil for kerosene-burning tractors. The established favorite with Canadian farmers for years.

Branch Stations Throughout the Dominion

THE IMPERIAL OIL COMPANY Limited



Made in Canada

PEERLESS PERFECTION
Horse High — Bull Strong — Pig Tight
It's made right—from high grade material. In the construction of our PEERLESS FENCING we use Open Hearth steel wire. By this process impurities are removed from the metal, thus eliminating one of the chief causes for the rapid rusting of fence wire. Patents are granted to give you satisfaction. Send for sample. Agents wanted everywhere. Agents wanted in open territory.
THE BARNWELL-BOYLE WIRE FENCE COMPANY, Ltd.
Winnipeg, Man. Hamilton, Ont.

The Gas Engine...
The world is...
and the Canadi...
young hopeful...
supply. To me...



Fire-Proof

PEDLARIZE your Barns and Dwellings now. Pedlar's "George" and "Oshawa" Metal Shingles typify the highest development in metal roofing. A "Pedlarized" Roof is safe and inexpensive—proof against fire from lightning or sparks from the threshing engine.

Pedlar's "GEORGE" Shingle

is made expressly for barns and large buildings. It is 24 in. by 24 in., and it requires only 25 shingles to cover a roofer's square of 100 square ft. (10 ft. x 10 ft.). You can lay "George" Shingles yourself with the aid of a hammer, nails and a pair of snips. The nailing flange of each "George" Shingle has nail holes placed at regular intervals which act as a guide and make laying easy. The side lock is very tight-fitting, and when one shingle is nailed in place, the nailing flange is completely covered by the next shingle which effectually seals it against rain, snow or moisture. "George" Shingles interlock on all four sides, providing a roof that is practically one solid sheet of galvanized steel, fire-proof, weather-proof, wind-proof and rust-proof. The "Oshawa" (16 in. x 20 in.) steel shingle, for dwellings and small buildings, is of the same high quality as the "George" Shingle, and has all its special features, excepting size.

MADE IN CANADA

Write Today for Free Booklet—also get our quotations on Galvanized Corrugated Iron Siding and Roofing, Corro-Crimp Roofing, Silo Covers, Culverts (Fluted and Nestable), Eaves Lough and Conductor Pipe, Finials and Ornaments, Metal Ceilings—in fact, anything and everything in metal products. Ask for Catalogue "CT," Address:

THE PEDLAR PEOPLE Limited

Established 1861

80 Lombard St., WINNIPEG, Man.

Executive Offices and Factories, Oshawa, Ont.
MONTREAL TORONTO OTTAWA LONDON



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

pounds of dry matter to 100 pounds liveweight. The amount will diminish to from 25 to 30 pounds as the fattening period advances. The porkers should be watched very closely, fed just what they will eat and no more; plenty of water supplied.

It must be remembered that some animals lay on flesh much more economically than others. A bushel of corn will produce more pork when fed to one animal than another. This is why it is important to select the feeding types and to reject the types that are not economical feeders.

In fattening, it is well to know when it is economical to stop feeding and slaughter or market the animals. It will be clearly seen that to feed longer than is necessary to finish the swine will not be good economy. Experience only can guide one right in determining the time to market or slaughter. In general it may be said that when the animal is "filled out" well, "blocky" and "plump," it is finished.

The Gas Engine as a Labor Saver

The world is asking for bread and the Canadian farm is the "young hopeful" in the source of supply. To meet this demand,

the farmer cultivates his lands. In order to carry on his operations successfully, he must have adequate and efficient assistance.

The scarcity of dependable farm labor has already become an agricultural problem that is standing as an obstacle in the way of maximum production. In order that the farmer shall meet the demands that are being imposed upon him, more intensive cultivation must be followed, and every available acre must be made to produce its highest yield.

The demand for adequate assistance on the farm can most readily be met by means of the most modern mechanical appliances. The farmer of to-day and to-morrow must possess mechanical skill if he would succeed. If we go to the factory we find the machine has supplanted hand labor because the machine has proved itself more efficient and more enduring, while on the farm, the home of the world's basic industry, the costly manual methods are still employed to a very large extent.

But to-day the farmers of the West are making new demands; they desire some means by which the mental strength of a single man may control the energy that might be exerted by a dozen men with their unaided hands. Farming is rapidly advancing from a plane of mental labor to that of a

great industrial project. The introduction of modern machinery and power has already reduced the labor required to produce a single bushel of grain by 85 per cent, as compared with that required previous to the last decade. Therefore, it is obvious that the same industrial reasons that demanded power in the factories applies with equal, if not greater, force to the farm.

The farmer of the past has tried various forms of mechanical power. The tread mill, the sweep power, the water wheel and the steam engine have all rendered grand assistance to advancement of agriculture, and with no undue criticism to these pioneer forms of mechanical power, we must, however, admit that none of these were ideal or efficient when applied to the numerous duties of the farm.

The Gasoline Engine

The ideal farm power is one that is difficult to obtain, due to the fact that so much of the farmer's work must be done on the shortest notice and in a variety of locations. His power must, therefore, be easily moved from place to place, and cost the minimum when not in use. It must be safe, defensible and easy to operate under all extremes of climatic conditions.

Up to the present time, the only power that has met these various

demands with any degree of success is the gasoline engine, and this through its wide adaptability, has won such favor among the farmers that instead of a luxury, it has become a real necessity. The gasoline engine is to-day driving the feed grinder, the pump and the washing machine and many similar devices, thus relieving farm life of many of its most undesirable and irksome tasks. In the field under the direction of a single operator, it is plowing, harrowing and seeding in a single operation, and doing it quicker and cheaper than the horse. In the harvesting, threshing and marketing of the farmer's crops, the engine has come to the farmer's rescue, and works day and night without hunger and thirst, threshing until the purpose of its owner is accomplished. Again this modern farm power, by operating many of our irrigation systems, has made the barren wastes to produce, increasing by a large per cent the arable acreage of the world. It has saved the world thousands of dollars annually by protecting the fruit growing districts against insects, pests and fungous disease. We might go on indefinitely enumerating the tasks that have been lifted from the shoulders of man by the application of mechanical power.

Not only in the field and about

the barn has the gas engine lifted the burden of labor, but it is rapidly emancipating the farmer's wife from the drudgery which until recently was supposed to be one of the unavoidable conditions of farm life. It has entered the house and will soon transform the farm house with its back-breaking labor into a modern home with all the helps that twentieth century ingenuity has devised. At a very slight cost, a gasoline engine can be installed that will run a dynamo to light both house and barn, and furnish heat for the flat-irons. It will run the washer, the cream separator, the churn, pump the water, make the toast and bake the cakes. Out of doors it will saw the wood, turn the grindstone, clean the grain and cut the feed. The coming of the gasoline engine will mark the beginning of the era of scientific farming and the modernizing of the farm home.

The Effect of Summer Tillage

From the "Scientific Farmer"

In the early spring of 1913, April 15, I selected a ten-acre field intending it for summer fallow. I went on with a disk harrow, disking it twice by lapping one-half. I followed this with a heavy home-made plank drag, thus firming the soil, and causing weed seeds and grain to germinate speedily. When they made their appearance on the surface, I used the common drag harrow, killing them completely. By frequent operations with the drag harrow, when required, I found I could keep the weeds in check and always preserve the moisture. About June 25, I commenced plowing, seven inches deep, following immediately with the disk, equipped with rims and heavily weighted. This is a grand substitute for the Campbell subsurface packer. Following this packer came the drag harrow, about once a week, and always after a rainfall. I had the field to go into the winter a real garden. This spring I harrowed twice and seeded one bushel and one peck of good plump seed wheat with a double disk drill, depositing the seed about three inches deep, following this with the plank drag, and a week later with drag harrow. Since then I have done nothing more to the field, but watch it grow. I have now one of the best stands of wheat I have ever had. Present indications promise over forty bushels to the acre. We had a couple of falls of rain which added greatly to its advancement, although I am convinced that I had ample moisture stored to mature the grain. I find it necessary to

again thank the Campbell system for this success.

James Taylor.
Edgerton, Alberta, Canada,
July 15, 1914.

The Making of a Lawn

C. B. WALDRON, N.D. Experiment Station

The elements that enter into the development of a good lawn are simple and easily understood, but are none the less important on that account. The failure to obtain good lawns arises from the fact that the soil is not of the proper kind or has not been carefully prepared or that the wrong kind of grass seed has been used. Only soil which remains reasonably moist throughout the growing season will maintain a good lawn. Hard, dry, gravelly soil may produce a little green grass during the early part of the season, but it quickly turns brown in the middle of the summer. The best soil for lawns is a deep, porous clay loam. This should be plowed to a depth of a foot if possible and cultivated and graded until it is brought down to the proper slope or level. If it is necessary to do any large amount of grading in order to obtain the proper contour, care must be given to get a natural appearance.

A lawn surface should not have the appearance of being put into place by artificial grading. All of its undulations, if there are any, should be easy and natural flowing lines, such as one finds in the land surfaces of a natural landscape.

It is a great mistake to sow the grass seed before the grading has been very carefully done and the ground put into the best possible condition for sowing the seed. It must be remembered that it is practically impossible to do anything in the way of improving the outline of the surface after the grass is once seeded. As freshly graded soil settles unevenly, it is well to give it plenty of time so that the final surface will not be full of irregularities. If grading is done late in the fall, it is sure to develop irregularities during the winter and it will require some additional surfacing to get the lawn into proper shape in the spring. The best tools for this purpose are the disc, acme harrow, split-log drag and a plank drag for the final smoothing. If the soil is too heavy to get a good seed bed, as is often the case around a building where excavations have been made, it becomes necessary to cover the ground over with two or three inches of fine surface soil.

The grass can be seeded during the latter part of October, after there is no chance of its germinating or else as early in the spring

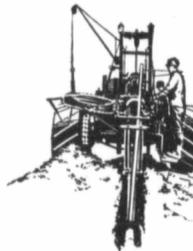
Business Comes to the Man with a Buckeye



THE demand for tile ditching always exceeds the supply. Among the hundreds of Buckeye owners there isn't one who has to seek orders. As soon as a Buckeye enters a community its owner is assured steady and profitable business and can earn \$15 to \$18 a day.

BUCKEYE TRACTION DITCHER

For All Soil Conditions



It's easy to buy a Buckeye this spring. A reasonable down payment—the balance out of your earnings in a few months.

Write for Catalog 79 and terms.

The Buckeye Traction Ditcher Co.

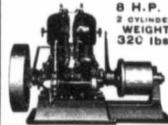
Findlay, Ohio

Makers also of Buckeye Open Ditchers, Trench Excavators and Tractors

Cushman Binder Engines for All Farm Work

Cushman Binder Engines may be used for all power work on the farm—grinding, pumping, sawing, and fanning mills, as well as all the little jobs. They are the most practical and most useful engines for the farm. Not only will they do all the regular work that any gasoline engine will do, and can be attached to other machines, as binders, hay presses, etc., but they are so light that they can be easily moved around from job to job. Special features of the Cushman Engines are Sensitive Throttle Governor, Schebler Carburetor and Friction Clutch Pulley.

Ask your dealer or write for information.



8 H.P. 2 CYLINDER WEIGHT 320 lbs.

CUSHMAN MOTOR WORKS OF CANADA



4 H.P. Binder Engine on Truck. For All Farm Work. Weight 190 lbs.

Builders of Light Weight Engines for Farm and Binder Co. Distributors of Reliable Power-driven Machines, such as Grinders, Saws, Fanning Mills, Power Washing Machines, etc.

With Clutch Pulley

285 Princess Street, WINNIPEG, MANITOBA

DOORS AND WINDOWS LUMBER SHINGLES AND MOULDINGS

DIRECT FROM THE MILL AT WHOLESALE MILL PRICES

Prices were never more favorable for the Farmer than RIGHT NOW. Send us your list of material and we will promptly send you an itemized estimate, telling you what each item, as well as the cost of the entire lot, delivered, FREIGHT PAID, to your station.

THE HIGH STANDARD OF QUALITY, maintained in our shipment, assures us of additional orders from every district. PLEASED CUSTOMERS are our best advertisement and our only salesmen.

WE WHOLESALE TO A NATION INSTEAD OF RETAIL TO A NEIGHBORHOOD

CONSUMERS' LUMBER COMPANY VANCOUVER, B.C.

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

as the shape of the growth of sary amount in soil amounts about six inches in height. The heavier soil equally a result. For these purposes, we Blue Grass as anything. Where it watered fit to put in of Timof ground on case 25 or Blue Grass about 6 White clover one desires nice to sow and drag it ground two the seed w incorporated this the gro so as to ha there is dan, it can be ce fresh straw ing. This sh as soon as tl minute.

It frequent first year's st the entire a thin patches tempted to p over again. In this case to grass seed in in the spring until it has a whole surface

The questi whether or grass upon th This can be de if the native right elevatio the required l be disturbed. seed should be surface in the time about c garden soil app the grass and with the back she grass wi there and eve possession of t all of the turf- n sooner or late bunch grasses, able to clip th the first season cut too short. I particular about of his lawn, it have the cut will strengthen t and to keep an starting.

as the ground can be gotten into shape. In order to keep down the growth of weeds, it will be necessary to use a much greater amount of grass seed than is used in seeding field crops. The amount seeded per acre is usually about sixty pounds of such varieties as the Red Top and Kentucky Blue Grass. A somewhat heavier seeding than this will give equally as good, if not better, results. For general lawn purposes, we consider a mixture of Blue Grass and Red Top as good as anything that can be used. Where the lawn cannot be watered from the first, it is well to put in a generous sprinkling of Timothy. For an acre of ground one would want in this case 25 or 30 pounds each of Blue Grass and Red Top and about 6 pounds of Timothy. White clover can also be added if one desires. It is common practice to sow the seed broadcast and drag it in by going over the ground two or three times so that the seed will be thoroughly incorporated with the soil. After this the ground should be rolled so as to hasten germination. If there is danger of the soil drifting it can be covered with straw or fresh strawy manure after seeding. This should be removed just as soon as the seed begins to germinate.

It frequently happens that the first year's stand is not good over the entire area; there will be thin patches and one will be tempted to plow it up and start over again. It is much better in this case to simply rake in more grass seed in the early fall or late in the spring and keep this up until it has a good turf over the whole surface.

The question often comes up whether or not to start tame grass upon the native prairie sod. This can be done very readily and if the native sod has about the right elevation and the slope of the required lawn, it should not be disturbed. Instead Blue Grass seed should be scattered over the surface in the fall and at the same time about one inch of good garden soil applied, raking it into the grass and leveling it down with the back of the rake. The blue grass will start here and there and eventually will take possession of the entire lawn, as all of the turf-making grasses will sooner or later drive out the bunch grasses. It is not advisable to clip the grass too soon the first season, nor to keep it cut too short. Unless one is very particular about the appearance of his lawn, it is just as well to leave the first year's seeding without any cutting at all. This will strengthen the grass and will tend to keep annual weeds from starting.

Walks in the lawn should be so arranged so there will be no temptation to tramp across the lawn. It is impossible for a lawn to have a rich, neat appearance if there are bare spots here and there across the surface.

It is quite important to have a good lawn in the back yard as in the front. Because of the temptation to tramp promiscuously over the back yard and let it run insensibly in the barnyard, there is often need of a better stand of grass in that place. The farm yard should be cut off from the door yard and the part toward the house should be provided with sufficient walks so there will be no necessity of keeping the lawn tramped to death. Around the farm buildings or places where there is from necessity considerable tramping, it is better to use brome grass. This holds its own against weeds of almost any description and keeps the farm yard and the region immediately about the buildings green and attractive throughout the growing season.

There is no one element that adds so much to the richness and tidiness of a place as a thrifty lawn and any one who makes an effort to establish it and keep it in good shape will be amply repaid.

Cultivation

You cannot have a good farm unless you have a good garden, and you cannot have a good garden unless you have a good cultivator. In making your garden and planting trees, plan to make it so that you will have the rows as long as possible, then get a single horse, one or two hours' work each week will keep your garden clean and in the highest state of cultivation, helping the soil to conserve moisture and giving you the best results. Try it, you will soon find the single horse cultivator to be one of the most valuable implements you can use on a farm.

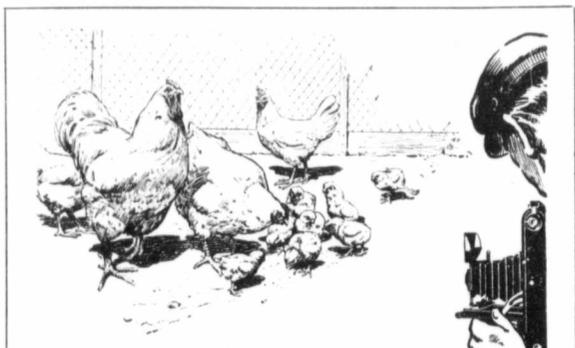
These are the best cultivators made, and the Patmore Nursery Co., of Brandon, offer them at the low cost price of \$8.50 for five tooth, and \$9.50 for seven tooth with adjustable wheel and extra hoes.



The Chinese are not a race given to flattery.

A gentleman called at a Chinese laundry for his clothes. On receiving the package he noticed some Chinese characters marked upon it. Being curious, he asked, pointing to the lettering:

"This is my name, I suppose?"
 "No. 'Scliption,'" was the Chinaman's bland reply. "'Lil of man, cross-eyed, no teet!'"



The Kodak on the Farm

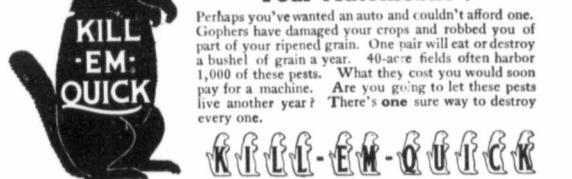
EVERY live thing on the farm is worth a photograph—and just now when chicks and lambs and calves are arriving so rapidly is a most interesting time to start a Kodak record—such a record often becomes more than interesting, it becomes a business asset.

Picture taking is very simple by the Kodak method and less expensive than you think. Ask your dealer or write us for our new booklet, "The Kodak on the Farm."

CANADIAN KODAK CO., LIMITED, 606 King Street, W., TORONTO

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

Have Gophers Eaten Your Automobile?



Perhaps you've wanted an auto and couldn't afford one. Gophers have damaged your crops and robbed you of part of your ripened grain. One pair will eat or destroy a bushel of grain a year. 40-acre fields often harbor 1,000 of these pests. What they cost you would soon pay for a machine. Are you going to let these pests live another year? There's one sure way to destroy every one.

KILL-EM-QUICK

It kills Gophers. It's the only way—you can't trap or shoot enough to make any impression on the increase. But Kill-Em-Quick Gopher Poison will clean them out in a day. Its odor attracts them. The sweet taste suits them. The tiniest particle eaten kills instantly. It's the one absolutely sure way to destroy gophers, prairie dogs, squirrels, mice, etc.

Kill-Em-Quick is the most economical to use. It's the safest. There's no danger in preparing—simply soak the grain over night, drain in the morning, pour the box of Kill-Em-Quick Powder in and stir thoroughly. Then drop a few kernels of grain into their holes. Next day every gopher in your field will be dead. Or, if you want to collect a bounty drop the grain four or five feet from the holes. No gopher will ever travel four feet after eating Kill-Em-Quick.

We unreservedly guarantee that Mickelson's Kill-Em-Quick is not only the cheapest gopher poison you or any other man can use, but the most effective you can use at any price. Kill-Em-Quick comes in three sizes: 50c, 75c and \$1.25; enough for 40 acres, 80 and 160 acres; enough to kill 1,000, 2,000 and 4,000 gophers. Backed by a cash guarantee. Full satisfaction or money back. Get it from your druggist. If he can't supply you, we send prepaid on receipt of the price. Send for FREE gopher book.

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Lime and Gypsum as Soil Correctives

By CHARLES B. LIPMAN, Agricultural Experiment Station, California.

There is much confusion in the popular mind regarding the actual nature of lime and gypsum and their use as soil builders.

The Nature and Functions of Lime

The term "lime," as we employ it in the agricultural sense, includes the following materials: Burnt lime (oxide of calcium), hydrated or water-slaked lime (hydrate of calcium), ground limestone or air-slaked lime (carbonate of calcium). Even in the agricultural sense, the term lime does not include gypsum. The latter is an entirely different substance from the three named above, as will be explained later. Speaking with the correctness of the chemist, the term "lime" is applied only to burnt lime (quicklime) or calcium oxide. Just how the three materials discussed agriculturally under the name lime are to be employed and where one is to be preferred to the other, are questions which we will endeavor to answer.

Before going into a detailed description of the function of lime in soils, it is well to state clearly the relative values for practice of (1) the quicklime; (2) water-soaked lime, and (3) the air-slaked lime. These lime materials are largely valued for the amount of calcium oxide which they contain. Quicklime is nearly all calcium oxide. Hydrated lime or water-slaked lime contains less calcium oxide but may be looked upon in practice as nearly equivalent, ton for ton, to the quicklime. Air-slaked lime (like the ground limestone) contains only a little more than half the amount of calcium oxide that the quicklime does and therefore two tons of it should be employed if it is used in place of quicklime.

1. Lime materials have the power of shrinking clay and making it more pervious to water and air, by making a large number of crumbs from large sticky masses. Therefore, lime makes clays and clay adobe soils looser, prevents their packing, baking and cracking, makes plowing and cultivating easier, and, in general, makes the soil, physically, a healthier medium for plant growth.

2. Lime materials furnish calcium to plants. Calcium is one of the ten essential chemical elements in plant growth.

3. Lime materials make "sour" soils "sweet." Speaking correctly, they change an acid soil condition to a slightly alkaline one. Acidity of soils is very detrimental to the growth of

many crops. A slightly alkaline condition is ideal for them.

4. Lime materials are necessary for useful and beneficial bacteria and other micro-organisms of the soil. By its physical effects lime produces good air and moisture conditions for bacteria as above described.

5. Lime materials promote the normal decay of soil organic matter through their effects on the agencies of decay. The normal decay of organic matter in soil prevents accumulation of poisonous materials in soils which are detrimental to plant growth.

The Nature and Function of Gypsum

Gypsum is the sulphate of calcium and therefore is not the same as "lime," nor the same as any of the three forms of the latter above described. The only thing which gypsum has in common with the three lime materials named, from the point of view of chemical composition, is that it contains calcium. Let us study its functions in soils.

1. Gypsum exerts a similar effect to that of lime on the clay and adobe soils.

2. Gypsum, like lime, serves as a source of calcium.

3. Gypsum, like lime, stimulates the beneficial soil organisms on the roots of leguminous plants like the peas, beans, vetches, alfalfa and clovers.

4. Gypsum does not make "sour" soil "sweet." It will not change an acid into an alkaline soil as do the lime materials. Gypsum is a neutral salt (possesses no alkalinity), and therefore will not be of assistance, or act as a corrective to a "sour" or acid soil.

5. Gypsum does not share with lime, to any appreciable extent, the good effects of the latter on soil organic matter.

The question comes to us so frequently as to whether "lime or gypsum" will correct a certain difficulty in soils. This confusion of two distinct types of substances has done much harm, and the reader is asked to read carefully the statements made above with respect to each in order that errors may be obviated. As above noted, there are at least two very important functions which lime performs in the soil which gypsum can not perform. If soils need correction for acidity, or if it is desired to promote normal decay of organic matter only, the lime materials will do and not the gypsum. Too much emphasis can not be placed on this distinction. In fact, to be on the safe side, the use of lime is advised even in cases in which people with exact information might, perhaps, give the preference to gypsum. The distinct and limited uses for gypsum are

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1 pkt. Cucumber
3 1/2 oz. Onion, red

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Established in 1911.

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described, guide.

Lime

No dete made to heavy land improve it, sion, both apply and applying it, basis of the degree of baking and characteris, one to two t or of the hy two to four limestone, n to improve of heavy soil be made by several type machines or posited in pil shovel. It sl in and cover there is suffic soil for the li

Contin

Co-operative Saskatchewan As

The grain of Saskatchewan's tenth annual the most st ssembled in We ing the second of this year. took place in most impressiv of view.

Space is not accommodate place on records of the confederacy attention of ou It has already is projecting in Following a re at the previous were taken in after to organi Wholesale Dep to place our tings upon a loiti of merchandisi gain. The cont that of service tinue to be the

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ALACRITY

An Extra Early Developed by Experts at Central Farm, Ottawa. Sold in great variety in east adapted for Canada, in 1/2 size packet, 15c.

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described, however, to serve as a guide.

Lime on Heavy Soils

No determination needs to be made to inform the owner of heavy land if lime is necessary to improve its texture. The decision, both as to the amount to apply and the feasibility of applying it, must be made on the basis of the cost of lime and the degree of "running together" or baking and cracking, which is characteristic of the soil. From one to two tons of the burnt lime or of the hydrated lime, or from two to four tons of the ground limestone, may be safely applied to improve the working qualities of heavy soils. Application may be made by means of one of the several types of lime spreading machines or the lime may be deposited in piles and spread with a shovel. It should be well plowed in and covered up at a time when there is sufficient moisture in the soil for the lime to act well.

Continued next month.

Co-operative Venture of the Saskatchewan Grain Growers' Association

The grain growing fraternity of Saskatchewan held its fourteenth annual convention—one of the most successful ever assembled in Western Canada—during the second week of February of this year. The great gathering took place in Regina and was most impressive from every point of view.

Space is not at our disposal to accommodate all we should like to place on record from the transactions of this big farming confederacy but may call the attention of our readers to what it has already accomplished and is projecting in co-operative work. Following a resolution voted on at the previous convention, steps were taken immediately thereafter to organize a Co-operative Wholesale Department designed "to place our trading undertakings upon a loftier plane than that of merchandising for personal gain. The controlling motive is that of service which must contrast to be the dominating pur-

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pose of the association if permanent success is to be maintained."

Incidentally it may be stated at this point that the paid membership of this provincial association in 1914 (including 947 life members) reached the handsome total of 21,109 and representing in fees the sum of \$10,080.)

At the outset of this new movement it was recognized that the farmers could not carry on collective purchasing to any great extent without organization at local points and also that selling to individuals direct would break up organizations at local points and thereby the whole movement.

The management has insisted that locals buying in wholesale quantities must secure their goods at dealers' wholesale prices with the stipulation that the co-operative wholesale department secure its earnings back of these wholesale prices in order that the service of this department might be entirely free of cost to the locals.

Although the actual trading of this department covers only a period of about six months, so loyal has been the support of members that the total sales have amounted to over \$300,000.

A portion of this business was done with people engaged in trade but the bulk of it was done with the locals and those incorporated as co-operative associations. Nearly all the strong locals have been fully alive to the need of collective action on the part of all and have given all the advantage of their support of the common central whenever possible.

Commodities Handled

The principal commodities handled during these six months of trading were:

- Twine, 635,750 lbs.
- Flour, 4,549 sacks.
- Coal, 17,400 tons.
- Apples, 13,910 barrels.
- Potatoes, 35,000 bushels.
- Oats, 77,179 bushels.

Besides these there were handled fence wire and posts, lumber, metal roofing and siding, a full line of building papers and asphalt roofing, cordwood, corn, fresh fruit, vegetables, and a full line of groceries.

Many other lines have been added to the list and more will be added from time to time as it is found possible to handle the same with a saving to the membership.



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A short story every farmer should read.—Eaton.

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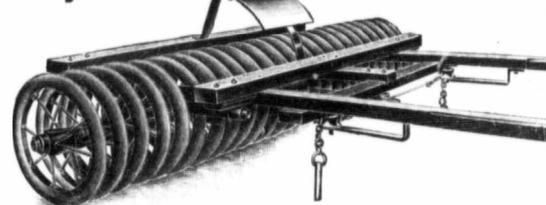
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10ft. 20 wheel, 2 tongues and pulley hitch.
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No. 1 Hard

April 5th, 1915

The outstanding feature of March markets was the heavy slump on March 5th when during heavy liquidation the May option touched \$1.36 3/8. Holders feared a big run of wheat once the Dardanelles were opened and that event seemed quite imminent. Italy seemed sure to join the Allies any day, hence an earlier termination of the awful war was anticipated. But soon the Allies suffered losses in the Dardanelles and another ship is reported lost to-day and it is now evident that we are yet a long way from supplies of wheat getting out from Russia, while recent reports on crop conditions in Russia indicate damage from freezing and thawing and too much rain. Italy has lallied around with no definite indication when she may engage in the war. The same is true of Greece and the Balkan States. But their grain requirements have been very large.

The shipments from the Argentine have greatly increased until last week 6,356,000 bushels were shipped out of a total world shipments of 17,126,000 bushels. Yet the Argentine surplus has steadily decreased in quantity and deteriorated in quality owing to the continued heavy rains. Much Argentine wheat lay out in piles on the ground through a rainfall of twenty to thirty inches in the last few months. Being disappointed in getting no Russian wheat, Europe recently turned again to America, last week very heavy shipments of 10,782,000 bushels (wheat and flour) clearing from North America. Exporters now report difficulty in getting boat space hence business is hindered. It is likely that with Italy still after supplies and such heavy April-May contracts made from America, ocean freight will be scarce for some months to come. Argentine freight rates are again advancing.

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Broomhall continually reports serious damage done to growing crops by excessive rains and further delay in seeding in the United Kingdom, France, Spain, Italy and Russia. The winter wheat crop in the U.S.A. is well spoken of generally, though a fortnight late, but Indiana and Ohio report droughty weather. Seeding will not be general over the Canadian West till April 12th.

The U.S. visible decreased heavily last week, \$2,992,000 bushels, while our Canadian visible increased only 600,000 bushels, but is now only half that of a year ago. Heavy sales made for the opening of navigation will likely bring good premiums on contract grades over the May option and cause no deliveries on the option till late in the month. Country elevator stocks on March 29th showed about 11,000,000 bushels against 19,500,000 bushels last year.

Speculative trade is relatively light but may not now be so timid since to-day the Department of Justice of the U.S.A. reporting to President Wilson, states that it found no evidence of a corner in foodstuffs in the United States. Yet it is widely felt that with such a good demand for cash wheat as we have had for weeks past, there will likely be a decided tightness in the May option. It is generally known that exporters have exceedingly heavy commitments for May-June loading and no where are stocks larger. In Chicago stocks of contract wheat are now only 35,000 bushels against over ten times that amount a year ago, hence shorts in Chicago May might possibly be badly hurt.

The great central wheat states east of the Missouri River report a lack of moisture, making the trade apprehensive. It is anticipated that navigation on the Great Lakes will open about April 20, and our stocks at terminals will quickly diminish. With Russia over-running two provinces of Hungary, Belgium, Poland and a large corner of France entirely unsown, it is very evident that America must supply a huge deficiency the coming year. Any material damage to the American winter wheat from drought or insects would quickly be reflected in strength in our new crop options which seem relatively low at present.

A new country in raising wheat is South Africa. A crop of about 25,000,000 bushels exportable surplus is now being harvested. Indian offers continue firm with the government controlling all export.

Altogether the situation strongly indicates improved values for cash grain in the next few months unless definite peace arrangements are made.

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28-in. Separator, alone, with all fittings, as shown, freight paid Manitoba and Saskatchewan. Cash \$317.00

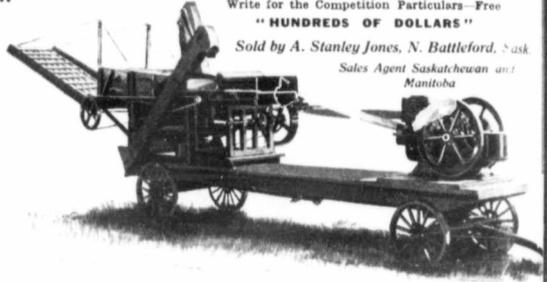
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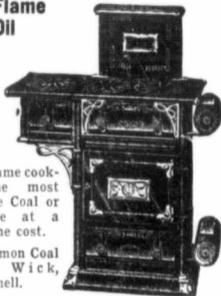
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H1125	Hog and Sheep Fence	8 wire, 32 ins. high, stays 12 ins. apart.	5.4, 5.5, 6, 6	7 1/2 lbs.	25c
H1126	Hog and Sheep Fence	8 wire, 32 ins. high, stays 8 ins. apart.	3.4, 5.5, 6, 6	8 1/2 lbs.	35c
H1127	Western Special Sheep and Hog Fence	9 wire, 42 ins. high, stays 18 ins. apart.	5.5, 5.5, 6, 6	7 1/2 lbs.	31c
H1145	Stock Fence	10 wire, 50 ins. high, stays 18 ins. apart.	3.3, 4.5, 7.5, 8, 9	10 lbs.	28c

"HERCULES" HEAVY SPECIAL HOG, STOCK AND POULTRY FENCE. No. 9 Top and Bottom, No. 13 Intermediate and line wire. Catalogue No. 1544. 50 ins. high, 18 line wires, stays 8 ins. apart, spacing 2, 2. Price, per rod **41c**

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H11129	Field Fence	5 wire, 40 ins. high, stays 22 ins. apart.	9, 10, 10, 11	7 lbs.	20c
H11130	Field Fence	6 wire, 40 ins. high, stays 22 ins. apart.	6, 8, 10, 10	8 lbs.	25c
H11131	Field Fence	7 wire, 48 ins. high, stays 22 ins. apart.	6, 8, 8, 10, 10	9 1/2 lbs.	28c
H11132	Field Fence	10 wire, 50 ins. high, stays 18 ins. apart.	3.3, 4.5, 7.5, 8, 9	11 lbs.	28c
H11133	Extra High Stock Fence	11 wire, 60 ins. high, stays 18 ins. apart.	3.3, 4.5, 7.5, 8, 9, 10, 15	10 lbs.	45c
H11134	Sheep and Hog Fence	7 wire, 26 ins. high, stays 12 ins. apart.	3.4, 5.5, 6	11 lbs.	31c

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USE THIS COUPON; IT PROTECTS YOU.

THE WINGOLD CO., LTD. Winnipeg (C.T.) 1915

Ship me _____ rods, Catalogue No. _____ Hercules Fence at _____c per rod and (Quantity Wanted) (Kind Wanted) (Price)

_____ rods, Catalogue No. _____ Hercules Fence at _____ (Price) per rod. I enclose M.O. (Quantity Wanted) (Kind Wanted) (Price)

or draft to the amount of \$_____ in payment for same. It is distinctly understood and agreed that should I be convinced on receipt of fence, that same is not all you claim, and not satisfactory as regards price and quality, I can return it, and you are to immediately refund purchase money and freight charges paid by me.

Railway () _____ Station () _____ Signed _____ Name of _____ Railway _____ Date _____ 1915. Address _____

Coarse Grains

Oats have moved rather in sympathy with wheat, the May option dipping early in March to 60c and recovering by the middle of the month to 66c, only to retrace again when corn went down. The provision trade in the U.S.A. is dull, hogs have been freely marketed. Corn exports early were disappointing and oats felt the dullness. Oats alone showed a small increase in the American market this week. Stocks at terminals are 3,214,135 bushels against 5,766,055 bushels last

year while in country elevators in Western Canada we have 3,150,000 bushels against 7,000,000 bushels last year. So that from the above it will be seen that possible exports of oats from Canada cannot equal one half those of a year ago. Good seed oats are scarce. Some oats which grade high this year are low in germination and farmers should immediately test all their seed, even if they grew it themselves and know that it suffered no frost. Barley stocks visible decreased

slightly in the U.S.A. last week but our market is quite dull. Stocks will likely be moved on the opening of navigation and the demand then ensues.

Flax

After its long sleep, flax woke up about March 10th and in a few days advanced about 24c., only to fall sharply again about 14c. under the pressure of Argentine offerings. The market is now steady with light trading. Flax would quickly show buoyancy should peace be declared any time.

Some Growing Weather!

"P'taters is good this mornin', madam," said the old farmer, making his usual weekly call.

"Oh, are they?" retorted the customer. "That reminds me. How is it that those you sold me last week are so much smaller at the bottom of the basket than at the top?"

"Well, replied the old man, 'p'taters is growin' so fast now that by the time I get a basketful dug the last one is about twice the size of the first."

Cutting and binding 100 acres per day for four binders is pretty big cutting, but it may be done. But how Mr. Boyd (or any one else) can get men capable of running a binder at \$2 per day and stokers at \$2 per day, while (if we may believe reports) they ask and obtain from \$3 up. Mr. Boyd not only gets stokers at \$2 per day, but he gets the best men I ever heard tell of, as, according to the barn (and it is only a yarn) he relates that his stokers averaged 10 acres per day in wheat that went 50 bushels per acre, oats 70, and flax 23, which is an extra heavy crop. The average stoker stooks about 10 acres in an average crop.

The cook and cookee, note, are still on the job at \$3 for the two, although they have to cook for 58 men (but they never did it)—and still the poor old horse gets only 10 cents worth of feed per day.

Threshing.—It appears to me that by the time Mr. Boyd has progressed thus far with his story of this wonderful farm that he and Mr. Lingle had not only inhaled the wonderful atmosphere of the West, but also some of that wonderful thing called "Scotch." As a result, they must have been "seeing" things. He now has 3 cooks and cookees and 65 men (although in cutting, 1 cook and cookee cooked for 58 men), but only 4 teams (and it takes 7 teams to haul in stooks for one thresher) for 3 gangs.

They must have seen the stooks moving in of their own accord as no provision is made for hauling them in (perhaps, you, sir, can tell us how many bottles that would take)—and the poor old horse still on a 10 cent diet.

One item comes into total receipts that we hear nothing of in the article, that is 12 acres of potatoes, but, like Topsy, they "just grewed," cost nothing for seed, nothing for attention, nothing for digging, and sold themselves for 80 cents per bushel. Then the yield of 500 bushels per acre beats the market gardeners who pay all attention possible to up to date methods of cultivation, but if they would do as Mr. Boyd, just leave 12 acres for them to grow in, trust to luck and a bottle of Scotch, they might have 500 bushels per acre in their mind,

where Mr. Boyd had them. Now, in conclusion, Mr. Lingle may be clever and evidently has considerable literary ability, but in writing of farming he is evidently out of his element. And I question very much the wisdom of an up to date agricultural paper publishing an article which is so contrary to the actual facts.

Even with all their evident optimism, if they had raised only an average crop of 25 bushels of wheat per acre (and that is a big average) that would have cut their income \$15,192; and 15 bushels is a big average for flax, that would cut income another \$12,000; 50 bushels is a good average for oats, this would reduce income \$2,880; cut his potatoes in two as he did not plant any, and really should have no income from their \$2,400; or on an average crop a total reduction of \$32,472; from which deduct his profit of \$9,260.25; leaves a total deficit on an average crop of \$23,211.75.

Of course, everybody but Mr. Boyd and Mr. Lingle knows that on no farm can you get men just for 10 or 15 or 20 days and no lost time. He says in his article, 10 men applied for work—he had no work for a week. He agreed to board them for the week if they would stay and work when work was ready, but no account of board of 10 men for seven days appears in the outlay. Then, during harvest and threshing, there is always some lost time during which men must be fed and the cook and helper paid—while the old horse got his 10 cents worth of oats.

You carry considerable gas tractor advertising, but what would some of your advertisers say if you asked them if their tractors were only good for three years and then fit only for junk? They might properly ask who says that? You reply: Mr. Boyd, of the Ciceter Farm, Rosetown, Sask.

I leave the reader to imagine what the gas tractor man would think of Mr. Boyd. Most people will treat his whole article so far as actual farming goes as a joke, but I think The Canadian Thresherman and Farmer should make it a point to dish up to its readers, and they sometimes do, actual conditions of farm life and not pipe dreams such as we have in the Ciceter Farm article.

Yours, etc.,
One Who Knows From Having Done It.

See also page 30.

Wise and Unwise Co-operation
From "The Farmer" (St. Paul)

Whenever farmers acquire the very desirable habit of co-operative effort, one of the first inclinations on the part of these

Save Money—Buy Direct

Absolutely Guaranteed **\$2.00**

Porter's Bolt Clippers No. 1 cuts $\frac{1}{2}$ **\$4.50**
No. 2 cuts $\frac{1}{4}$ **\$5.50**

Quality and Service

FITTED SHARES FOR ALL PLOWS AUTOMATIC AWL

Mends Barbs, Posts, Carpets, Etc., Sew-back **45c**

Set of 5 "8" Wrenches **60c** per set

Smooth Sickle Sections and Guard Plates Each **4c**

Write for Catalogue

WALLACE, McCORMACK & CO., 624 Avenue Blk., Winnipeg

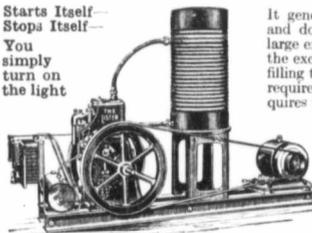
Automatic Electric Lighting For Your Farm Home

IDEAL FOR FARM HOMES, CHURCHES, MOVING PICTURE THEATRES, HOTELS, ETC.

The Lister-Bruston Plant is

BRITISH MADE

Starts Itself—Stops Itself—You simply turn on the light



It generates electricity automatically and does away with the necessity of large expensive storage batteries. With the exception of keeping it clean, and filling the supply tank, no attention is required. Automatic Lubricator requires filling only about once a month.

The cost is low, space required is small, and no foundations are necessary.

Non-Automatic Plant \$550 and up

This plant will light 8 or 10-room farm home and stables and out-buildings. It requires no expert attention, and is guaranteed to give entire satisfaction. Simply crank the engine, which starts easily, and you have light.

Let Us Send You Further Information

R. A. Lister & Co. Limited Dept. 5 Winnipeg

MADE IN CANADA

Rodo Price 25¢ 50¢ 1.00

The GOPHER KILLER

Manufactured only by the Prairie Chemical Company, Winnipeg, Canada

Kill Gophers Wholesale at Wholesale Prices

Order \$16.00 worth of RODO, the Gopher Killer, direct from the makers, and save middlemen's profits. Terms: F.O.B. Winnipeg, Cash with order.

Price List Large \$1.00 size, \$8.00 per dozen, 25-ounce (5 quarts) packages. Large 50c. size, \$4.00 per dozen, 11-ounce (2 quarts) packages. Large 25c. size, \$2.00 per dozen, 5-ounce (1 quart) packages.

RODO was invented by the greatest Gopher Poison Expert in the world. You can prove its efficiency at little cost; mail attached coupon for TRIAL PACKAGE. You will be wonderfully surprised to see the quick results from this preparation. It kills more gophers for the money than any other poison, because it is exceptionally attractive in color, taste, and odor.

SATISFACTION GUARANTEED OR MONEY REFUNDED

Name _____ Use This Coupon Blank _____
Town _____ Province _____

Ship at once by _____ .25 Pkg. .20 for First Trial mailed on receipt of address
_____ doz. \$1.00 size packages. .50 of address
_____ doz. 50c. size packages. 1.00 Stamps accepted.

PRAIRIE CHEMICAL CO.
304 Keewayden Building, Winnipeg, Man.

Raw Furs

We must have at once, 500,000 Rats, 10,000 Fox, 20,000 Wolf.

Remittance same day as shipment received.

We Will Pay Highest Prices

All prices given by personal letter.

We have orders so it will pay to ship to us.

British Raw Fur Co.
Toronto, Ont.

co-operators is to experiment in the matter of co-operative purchase of farm supplies. Frequently this enthusiasm results in a co-operative store; occasionally, the co-operators are content with

making a joint purchase of supplies, either through the established dealer or direct from the jobber or manufacturer. This tendency toward the habit of co-operative purchase has caused considerable opposition on the part of business men toward any effort to organize farmers fearing, as they do, that organization may prove disastrous to established methods of handling business. For this reason, the farmers' club movement which frequently leads to co-operative effort, in one direction or another, has even been feared as a possible menace to business interests.

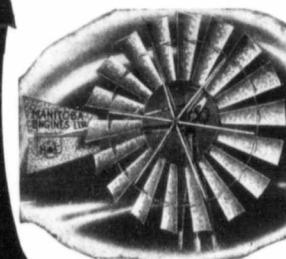
The relation of co-operation to both the farmer and the business man we believe to be frequently misunderstood and this misunderstanding of the fundamental principles of co-operation prevents the more rapid up-building of a permanent rural organization which is constructive and community-wide in its effects. In our estimation, co-operation has two especially significant aspects. First, co-operation properly means the elimination of waste and the increase of efficiency through unselfish, joint effort, based on the needs of the entire community affected. Second, co-operation should be directed along the line of productive effort with which the co-operator is familiar and in which he is actively interested.

Now, then, if these things be true, when the farmer takes the first step in co-operation where should he start? Should he join with his neighbors in making his own efforts more effective, as for instance in a creamery, a grower's association, a telephone line, an elevator? These lines of co-operation are a proven success in a great majority of cases. Or, should the farmer, smarting under the heavy cost of our distributive machinery, start with his neighbors in a co-operative effort to take a place in a business venture like a store, of which he possesses only a superficial knowledge? Co-operative stores, owned by farmers, do succeed with the right sort of management; but they fail quite as frequently because the right sort of management is scarce. In fact, shall the town and country work together in community upbuilding, or is it true that the interests of town and country are not identical?

It would not be fair to mention the farmer's side of this problem without also mentioning a frequent misapprehension about co-operation under which the business man frequently labors. If co-operation has placed the dairy farmer on a better basis than before the days of the co-operative creamery, if the co-operative elevator has added

Made in the West for Western Needs

We are Manufacturers of High-Grade Machinery



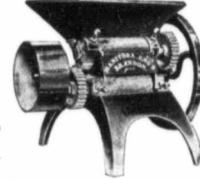
The Pumping Mill for the Windy West

Storm resisting, easy on tower, easy on pump, in two ways—it saves him work and money.

The only wind-mill manufactured in Canada west of Great Lakes.

8 ft. Mill at Brandon, f.o.b. factory **\$28.00**
8 ft. Mill at Calgary, f.o.b. Warehouse **\$30.50**
10 ft. Mill at Brandon, f.o.b. factory **\$42.50**
Our Mill fits any make of Tower.

10 ft. Mill at Calgary, f.o.b. warehouse **\$46.50**
8 ft. Mill and 20 ft. tower f.o.b. factory, Brandon, Calgary, f.o.b. warehouse **\$60.00**
\$67.50



A Two-Roller Manitoba Crusher

Will roll all your horsefeed this spring.

Capacity 40 to 100 bus. per hour

Kills all wild oats—leaves no dust.

2 Roller, Smooth Rolls—At Brandon, **\$38.50**, At Calgary, **\$42.50** With Fluted Rolls, \$5.50 extra.

3 Roller, Fluted Rolls—At Brandon, **\$49.00**, Calgary, **\$65.00** Rolls re-cut at \$2.50 per roll.

Write for our Catalogue, now in printer's hands

Authorized Capital, \$300,000.00
Increase in tariff will not affect our prices.

C. W. NORTHCOTT, Mgr., Calgary. **P. M. AMES, Gen. Mgr., Head Office, Brandon.**
Address Calgary if you live in Alta. or B.C. Address Brandon if you live in Man. or Sask.

Manitoba Engines Limited
BRANDON CALGARY

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

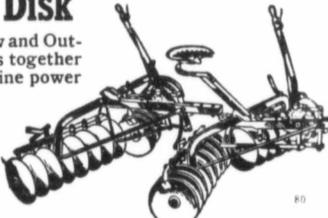
The "Bissell" Double Action Disk

is a two-in-one Implement. This Harrow is both In-throw and Out-throw. By hitching 4, 6 or 8 of the Bissell Disk Harrows together in a group, you can have a double action outfit for Engine power and disking on a large scale. The gangs are flexible on the Bissell Harrow and are not too long to fit the hollows made by heavy Engine Drive Wheels. These same Harrows may be used for double action or single disking with horses.

The "Bissell" will make a proper seed bed for you. Another Bissell special is a 28 plate wide sweep, 4 gang flexible Harrow covering 14 ft. It is nicely handled with 6 horses and is a favorite with many farmers. For further particulars write Dept. L.

MANUFACTURED EXCLUSIVELY BY
T. E. BISSELL COMPANY, LTD., ELORA, ONT.

Write to any of the Jno. Deere Plow Company's Branch Houses



dollars to the community, if the co-operative marketing association for eggs or live stock or any other commodity has brought added wealth to the community. Is there any menace to the business interests of that community in applying the co-operative principle to the agriculture of that community enabling the group of farmers to do the things which the individual farmer cannot hope to accomplish?

The great demand of the day in this country is the demand for efficient service. In the case of the farmer, this means getting from the soils the amount and quality of crops which we should receive, presenting these crops on the market in such a way as to render the greatest possible profit to the producer without laying an unnecessary burden on the consumer. Co-operation enables the individual to take his place in the group of efficient producers and handlers of farm products. In the case of the merchant, efficiency means handling his business by such methods of approved business procedure and fair dealing as to assure proper and economical

business service to that community. When both farmers and business men have the proper conception of community advancement, rather than the advancement of the individual or groups of individuals, when we are able to look to the welfare of our neighbors as well as the welfare of ourselves, it will be possible to erect all over this great agricultural west such communities as the world has never seen.

❧ ❧ ❧

A Better Way to Fight Gophers

About this time of the year everyone is talking gophers. In this connection, the pleasing announcement is made that a company has been organized in Winnipeg on a very large scale to manufacture a remarkably effective gopher exterminator. The article, which is known as Rodo, has been tested for many years and sold elsewhere in large quantities. The Thresherman is naturally deeply interested in the gopher question, and knowing the qualities of Rodo, and being personally acquainted with the

men behind it, has no hesitation in recommending it. There is, indeed, every reason why Rodo should set a new pace in the gopher-killing line.

ROSE COMB RHODE ISLAND REDS.
Eggs from a grand flock of heavy birds \$1.00 per 15. Harry Backus, R. No. 1, Elora, Ont.

PAKENHAM'S SILVER CAMPINES.
The hardest, the best. Winners at Grandest shows. Grand laying strain. Eggs at reasonable prices. Write for mailing price list. W. E. Pakenham, Norwood, Ont.

MAX Shipping and Storage

Barrels

FOR

Gasoline and Oil

are superior to all others.

Made in the West. Write for prices

Winnipeg Ceiling and Roofing Co. Limited

P.O. Box 3006 G.T. WINNIPEG, Man.

Name this magazine when writing orders

April

On the n of summer of Professo He says: From the moisture in found sume clean cultiva for a season in which to the rainfall sufficient to crop, it may till than to thereby stor one season's the rainfall son for the p crop. In ot "two years" but rather a first year's somewhat la second year's Our investig only under tions, that as of the rainfa be carried ov that during t season only carried over. than 60 per year's rainfall growing crop safe to assum less than one fully utilized under the bes fillage.

Summer till has been pract in the drier country. Alt of utilizing me an exceedingly probably the L for some crops conditions. It will hardly be mer till a shall soils the effect little value i Where there i pan, gravel, ro close to the st of water which of soil above hold is so limi sue good rain useless, therefo cultivated thro son. Crops gr of soil are almo nt on seasonal the very limited that can be sto a soil. We can water in such carry the crop t spell. As soon stored in the se will suffer or die

Summer Tillage

On the much discussed subject of summer tillage the conclusions of Professor Burr are significant. He says:

From the standpoint of storing moisture in the soil, we have found summer tilling, which is clean cultivation without any crop for a season, the most ideal way in which to store moisture. When the rainfall of a season is insufficient to produce a profitable crop, it may be better to summer till than to crop every year, and thereby store a small portion of one season's rainfall to use with the rainfall of the following season for the production of a single crop. In other words, to use not "two years' rainfall for one crop," but rather a small portion of the first year's rainfall, added to a somewhat larger portion of the second year's rainfall for the crop. Our investigation shows that it is only under favorable conditions, that as much as 33 per cent of the rainfall of one season can be carried over to the next, and that during the most unfavorable season only 10 per cent was carried over. Probably not more than 60 per cent of the second year's rainfall is utilized by the growing crop, and it is probably safe to assume that considerably less than one year's rainfall is fully utilized for crop production under the best system of summer tillage.

Summer tilling is a system that has been practised for a long time in the drier sections of the country. Although this method of utilizing moisture is seemingly an exceedingly wasteful one, it is probably the best one yet devised for some crops, soils, and climatic conditions. It is obvious that it will hardly be profitable to summer till a shallow soil, for in such soils the effect of cultivation is of little value in storing water. Where there is a layer of hardpan, gravel, rock, or sheet water close to the surface, the amount of water which the shallow layer of soil above this stratum will hold is so limited that probably one good rain would fill it. It is useless, therefore, to keep it clean cultivated through an entire season. Crops grown on this type of soil are almost entirely dependent on seasonal rainfall because of the very limited amount of water that can be stored in so shallow a soil. We cannot store sufficient water in such shallow soils to carry the crop through a long dry spell. As soon as the moisture stored in the soil is used, crops will suffer or die, according to the

duration of the drouth. On the deeper soils, however, which prevail over the greater portion of the central and western part of Nebraska, it is possible under normal weather conditions to store a considerable amount of moisture as a safeguard to the crop against drouth.

At the station a crop of winter wheat has been produced every year on summer tilled land. The yields have varied from 12 to 60 bushels per acre, depending upon the amount of water stored, the seasonal rainfall, and the climatic conditions. For winter wheat, summer tillage has proved a practical and profitable method during the eight years it has been tested. For spring grain the results have been indecisive, some years proving profitable and other years not. No benefit has been derived from summer tilling for corn except in the seasons of worst drouth.

**REMEMBER
Our Advertisers
are Trustworthy**

The Hammond Automatic Stoker Is Now on the Market!

This is the most important information any farmer can get. No more disappointments after having brought the grain to harvest. No more trouble with temporary hired help. No wages to pay; no board to give. No losses through shelled grain and scattered stalks. But all sheaves nicely stooked as quickly as the binder cuts them.

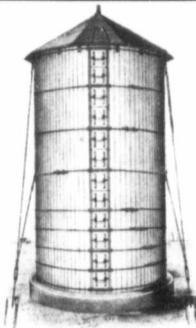
TO FIT ANY BINDER. NO EXTRA HORSES REQUIRED

**The Hammond Automatic Stoker is Guaranteed
It Means Safety and Economy for YOU!**

For Price and Full Information apply to

The Hammond Stoker Co., Limited

Phone Garry 3956. 430-2 Chambers of Commerce, WINNIPEG, Man.



Note Perfect Construction of Radford Silo

You'll Pay for a Silo Anyway — Why Not Have One?

Even though you haven't a silo, you pay for it in lost profits every year. Why not buy one this year and pocket the profits ever after? The fresh, green silage during our long Canadian winters will cut your feeding costs and fill the milk pail as never before.

Radford Fir Stave Silos

have thick non-conducting walls and air-tight doors that prevent silage from freezing, drying or spoiling, anchor equipment that defies storms, safe ladder, complete and durable in every respect. Made in the West so our dealers can sell at lowest prices.

CIRCULARS FREE

RADFORD-WRIGHT CO., LTD.

Dept. 18 WINNIPEG, MAN.

**Light
in
Draft—
Easy
on
Horses**



**Low
Down—
Easy
to
Load**

Cockshutt Manure Spreader

MADE-IN-CANADA

Here at last is a Spreader that combines the strength necessary for hard work with simplicity of working parts, with durability and yet with light draft—the only combination for perfect work.

A COCKSHUTT SPREADER distributes the load the way that saves all its fertilizing value—breaks it up into fine particles readily available as plant food, and scatters it evenly over a wider surface than most other machines. Covers all the space behind the wheels, so it is never necessary to run the wheels over ground that has been spread.

It spreads it in many different quantities per acre—by a mere shift of a lever. Use it for light top dressing or for heavy fertilizing.

A Compact, handy Spreader that it is a satisfaction to own and work—a Made-in-Canada product of best quality.

Realize the hard work you save yourself by buying a COCKSHUTT. The body is low down—only 41 inches to the top of the box. It's child's play to load it from the pile, because you have no back-breaking lifting up to a high box.

This machine has plenty of clearance underneath. Wheels turn sharp, and conveyor chains travel along angle supports beneath the frame so there is no danger of sticking the machine when going over rough ground.

Cockshutt Plow Co., Limited

Winnipeg Regina Calgary Saskatoon

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

Barred and Partridge Rocks



Eggs for hatching from the birds that have won the following prizes during the past 14 months in Winnipeg: 20 firsts, 10 seconds, 5 thirds, 3 fourths, 1 fifth, 1 sixth, 3 sevenths, 4 specials, 4 cups. Also 4 cockerels from my champion laying strain, \$3.00 and up. Eggs, \$3.00 per setting.

A. H. EARLE 640 Ashburn Street WINNIPEG

BUFF ORPINGTONS

McArthur and Kaup Strain.

EGGS at \$1.50 per fifteen

FERTILITY GUARANTEED



Can supply good large vigorous cockerel of which will improve your flock at \$5 and up.

Write for particulars.

Geo. H. VOWLES 1320 Wolseley Ave. Winnipeg

CRYSTAL WHITE PLYMOUTH ROCKS



Cockerels for sale from \$5 up. Eggs \$5 for fifteen. Fertility guaranteed.

Heaviest Prize Winner at Winnipeg Shows for the past five years.

N. M. JOHNSTON 675 Beverley WINNIPEG

Poultry, Butter Eggs and Hogs

We are in a position to pay you the best prices for all your produce. No consignment too large and none too small. Write for further information.

The Reliance Produce and Supply Co.

102 King Street WINNIPEG

SHIP YOUR

Live and Dressed Poultry, Butter, Eggs, Hogs, Hides, Veal, Mutton, etc., to

THE GOWLER PRODUCE COMPANY

159 Portage Ave., WINNIPEG

HIGHEST PRICES PAID

Get the Original Genuine **BUSY "B"**

Barred Plymouth Rock Eggs

FROM **Mrs. A. COOPER, Treesbank, Man.**

Fifteen \$3.00 Thirty \$5.00

Poultry Experience

SELECTING EGGS AND INCUBATION

The time of the year is at hand when the poultrymen must get busy. Profit or loss from the flock for the year 1915 will depend upon the skill and diligence of the poultrymen during the next two months. The two most difficult problems of the poultryman of today are the hatching of chicks and keeping them alive for the first three or four weeks. To succeed in solving these two problems the successful poultry grower begins early in the spring.

The first essential is to handle the breeding flock of hens in such a manner as to secure a high percentage of fertile eggs. To accomplish this, all small, weak or sickly appearing hens should be removed from the flock and only eggs from strong, vigorous, healthy hens should be used for hatching. The flock should, if possible, be allowed considerable range, if this is convenient, though extensive range is not necessary to secure fertile eggs. If the hens must be confined in small quarters, however, green food or meat meal must be used in the ration, and the hens must be compelled to scratch in clean litter for part of their feed in order to insure sufficient exercise.

Strong, vigorous cock birds must also be used and inbreeding avoided. For all meat and egg breeds one cock should be allowed for each ten hens, and for the lighter-weight egg producing breeds one cock bird for each fifteen hens.

A good ration for a flock of breeding hens is as follows: Wheat one-half, oats one-half; this is to be fed in the litter in the morning. In addition to this a dry mash should be fed in a self-feeding hopper, the hopper to be closed in the morning and opened at noon and allowed to remain open for the remainder of the day. The mash should be composed of wheat bran two parts, short two parts, ground oats two parts, corn

meal one part, meat meal one part and alfalfa cut fine or alfalfa meal one part.

Unless the hens have access to a free run on gravelly soil, both oyster shell and mica crystal grit should be supplied where the hens may have free access to it. If a free range is available the oyster shell will be sufficient.

Eggs that are to be used for hatching should be kept in a cool room in which the temperature is more or less moist. A basement that is not too damp is the best kind of a storage room. A room temperature of 45 to 55 degrees is preferable. Fresh eggs invariably show a slightly higher percentage of fertility and hatch slightly stronger chicks than eggs ten days old or more.

Where artificial incubation is used in hatching eggs several principles must be strongly adhered to if success is to be attained. First the incubator room and incubator must be well ventilated. Second, the atmosphere in both the incubator room and incubator must be kept moist. It is, of course, possible to go to extremes with each of the two latter requirements. A room in which strong drafts prevail is not a good incubator room because of the difficulty thus encountered in maintaining an even temperature. A room too moist will cause molding of the eggs and one too dry will cause excessive evaporation, either of which will kill a good many chicks in the shell and cause the hatching of many weak chicks which will die at an early age. A basement room is always preferable to an attic room as a location for an incubator, as it is easier to regulate both the room temperature and atmospheric moisture in a basement than in an attic or upstairs room.

There are many types and makes of incubators, most of which are quite satisfactory if properly located and carefully operated according to instructions given. As complete instructions

Live Poultry Wanted

We guarantee to pay the following prices:

Live Hens	per lb.
(large & small)	10c
Old Roosters	10c
Spring Roosters	12c
Ducks	10c
Turkeys	12c
Geese	10c

All prices quoted are for live weight F.O.B. Winnipeg. Let us know what you have and how many and we will arrange crates for shipping. Prompt returns.

To obtain these prices "Can. Thresherman and Farmer" must be mentioned in your letter.

Golden Star Fruit & Produce Co.
91 Lusted St., Winnipeg

GROCERIES

After ten years of successful trade in the city, we have opened a large Wholesale Department for country orders and country trade has been growing so large of late years and have ready a full line of all kinds of groceries at lowest possible prices. Please send for catalogue and it will be mailed to you at once.

PATERSON
Wholesale Dept.
222 Market Street Winnipeg

WE PAY THE FREIGHT!

From Factory to Farmer at Factory Prices



14 Bbl., \$16.00



12 Bbl., \$19.50

Twenty Gauge  **Rust Proof**

14 Bbl., \$16.00



13 Bbl., \$27.00



12 Bbl., \$35.00
16 Bbl., \$42.00

An Unconditional Guarantee with every Tank.

Freeland Steel Tank Co.
HALBRITE, SASK.

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NOT ONLY BIG HATCHES but chicks which are large, strong, vigorous and immune from disease. The kind which are easy to raise, profitable, and which encourage you in the poultry business. Aside from your ordinary farm work you can have growing several hundred chickens without any extra work—in fact a pleasure—with one of our outfits, which will net you 100 per cent clear velvet on your investment. The prices range from \$10.00 up, according to style and size which suits your requirements best. We guarantee them to be profitable and teach you to run them successfully. Send for our big interesting Catalogue, it gives full details and will interest you. Write to-day. **THE BRETT MANUFACTURING CO. LTD., 595 Erin St., WINNIPEG**



"Star"



Exceptional in Left hand drive

for the operat are supplied space will no discuss operat In selecting incubator on well shaped e as extremely l or eggs that normal shape v low price per sized chicks. Do not delay incubator for beyond April ages and pos are much gr hatched chick ones. The ear are the ones tl and winter laye chicks will n growth than lat one wishes to : this is a decide if one wishes to chick crop as l ers the market hatched early North Dakota tion.

Feeding Broc First Broc

The yolk of absorbed by tl just before em shells supplies tl

"Sturdy as the Oak"

"Oakland"

Model 37—Touring Car—\$1,750.00



Exceptional leg room. One-man top. Left hand drive. Heavy crown fenders

New Oakland Model 37, the Four that looks like a Six, is a stylish, comfortable, five-passenger car that is made with room to spare. The low, graceful, stream line body, the German Silver V-shaped radiator, the heavy crown fenders and the broad running board give it that unique beauty that has marked the New Oakland as the car beautiful of the year.

The four-cylinder, silent Oakland-Northway motor provides more power than you will ever need; marked economy in fuel consumption has been accomplished by reducing the weight of the car and equipping it with the Oakland-Stewart vacuum gasoline feed, doing away with the pressure system.

The low construction of the car without decreasing the road clearance adds to the safety, comfort and joy of riding. Fully equipped with Standard Delco Starting, Lighting and

Ignition system, with automatic spark advance, Non-skid tires in rear, Oakland One-Man Top, absolutely true to name, heavy Crown fenders, extra large Valves of Tungsten steel divided Windshield, Speedometer, Electric Horn operated from center of steering wheel, Headlights with dimmer, Shroud Light, Tail Light, Tools, License Tag Brackets, in fact every modern improvement and convenience for the comfort and safety of the driver and passengers.

The body is beautifully finished in either deep Royal Blue or Battleship Gray—with appropriate stripings, while the chassis is painted a durable, permanent black.

The New Oakland Model 37 is a Unit of BEAUTY, POWER, ECONOMY and SERVICE—a car you will be proud to drive alongside of the best of them and enjoy the comparison.

Canadian Motor Co., Ltd.

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

for the operation of any incubator are supplied with the incubator, space will not be taken here to discuss operation of the incubator.

In selecting eggs to place in an incubator only average sized, well shaped eggs should be used as extremely large or small eggs, or eggs that do not conform to normal shape will invariably hatch a low percentage of irregular sized chicks.

Do not delay the starting of the incubator for the first hatching beyond April 1st, as the advantages and possibilities for profit are much greater with early hatched chicks than with later ones. The early hatched pullets are the ones that will be the fall and winter layers. Early hatched chicks will make more rapid growth than late hatched ones. If one wishes to sell breeding stock this is a decided advantage. Also if one wishes to market part of the chick crop as broilers and roasters the market is best for those hatched early in the season.—North Dakota Experiment Station.

Feeding Brooder Chicks the First Few Weeks

The yolk of the egg which is absorbed by the young chicks just before emerging from the shells supplies the necessary food

during the first forty-eight hours of the life of the chick. The first requirement of the young chick is grit to aid in digestion and pure water. Small grains of sharp sand or pieces of egg shell are splendid for this purpose. Hard boiled eggs, thoroughly mixed with bread crumbs moistened in milk can be used the third and fourth days. Fine oatmeal can be gradually added to this mixture and fed sparingly at periods two or three hours apart.

A simple ration for chicks a week or more old may be made of two parts by weight of finely cracked corn, one part of broken wheat, one part oatmeal and one part of meat scraps. Whole wheat can be substituted when the chicks arrive at six weeks of age. Grit should be supplied at all times as well as green food. This ration ought to be fed about five times a day in a fine litter of straw or hay, thus encouraging the chicks to scratch for the feed. The water should be changed frequently and the food never ought to be allowed in any quantity greater than the chicks can eat up clean. Infertile eggs from the nests or incubator can be utilized.

Provide Shade for Poultry

Failure to provide shade for poultry during the summer months not only results in a large number of deaths, but the flocks are less productive. The importance of summer shade cannot be over-estimated. Poultry of all kinds require shade. Ducks and geese very quickly succumb if they are unable to get protection from the sun's rays. It is easy to provide plenty of shade. The Missouri College of Agriculture recommends the following ways of furnishing shade for poultry. Portable houses can be set up on blocks so that the birds may run underneath; orchards, sunflower patches, corn fields, etc., can be so arranged that the young stock or mature hens may run in them. Corn fields make excellent summer range for young stock. They furnish plenty of shade and other conditions for rapid economical growth are ideal.

An Eye to Business

A young suburban doctor whose practice was not very great, sat in his study reading away a lazy afternoon in early summer. His manservant appeared at the door.

"Doctor, them boys is stealin'

You Can't Beat Galloway Prices Anywhere

You can't get Galloway quality at any price where near my price. I get one small manufacturing profit, the rest of your dollar buys what you need. The other way your dollar pays the profit of the manufacturer, the jobber and the dealer. You have tried the old way. Now try my way and see what you save.

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One of these will suit your needs. Any plan allows you 30 days for trial of Engine, Cream Separator or Manure Spreader. If not satisfied that they are as good as any you ever saw or heard of, the goods can come back to me and you're nothing out. **CATALOG FREE**—Write for catalogue, prices, extra low on En ones, Sept 3rd, Sprayers, Advertisers.

Wm. Galloway, Pres. Wm. Galloway Co. of Canada, Ltd. Dept. 17 Winnipeg, Man.

your green peaches again. Shall I chase them away?"

The doctor looked thoughtful for a moment, then leveled his eyes at the servant.

"No," he said.

OUR YOUNG CONDUCTED BY Cousin Doris. FOLK

Girls' Cozy Corner

Forest Folks at Home

By Jake H. Harrison

Deep within the forest aisles Cooling breezes blow. While the verdant velvet leaves Flutter to and fro; Sighing with a lover's breath, Hear them whisper low. While the daisies underneath In their beauty glow.

Dancing ripples in the brook Laugh as they go by. Flirting with the water ferns, Smiling at the sky; While the minnows, pleasure mad, Glisten in the sun, As they leap and dart about In their wanton fun.

See the robin come to bathe In the cooling flood, Weary, warm and thirsty, too, From his quest for food; See his wings a-flutter now, Watch the water fly, See him preen his feathers, too, While they slowly dry.

And that saucy squirrel there, Watch him frisk about, See the teasing rascal, now, Drive the robin out; Hear him chatter in his glee At the mischief done, Clap your hands and see him dart— Now the tease is gone.

See that awkward woodcock there, Boring in the ground, In among that water mint, Where his food is found; Caution now, or he will fly. Ah, the timid thing! He has seen us and is off, Hear his whirring wing.

Forest folks are full of life, Interesting, too, And it is a pleasant thing, Watching what they do; Take your picture-gun along, Find their hiding spot, And each time you have a chance Snap them with a shot.

A Refining Influence

Among the many movements of our time there is none of which the value is less appreciated than that of animal protection. Whoever has watched animals closely and impartially must be convinced that they stand in a much nearer spiritual relation to us than the majority of people suspect. Not only on account of the animals themselves is their protection urgently necessary, but also as a means to raise the whole human moral outlook and the conduct of life.

It is extremely foolish to neglect their protection on the ground that the welfare of men is more necessary than that of animals. The care of animals is not at all antagonistic to the care of men, but is, on the contrary, the noblest way of helping mankind; it saves men from sinking into brutality.

We at once open to men a source of the highest enjoyment when we awaken in them an understanding of the soul-life in animals. He who can hear the song of a bird unmoved and without rapture, and who cannot discover in it the wealth of Love which constrains the little songster to pour forth his melody; he who does not delight in the boisterous jubilation with which the dog greets his human friends, in the faithful

eyes of animals so full of expression, in the beauty and interest of their ways and actions; he who does not love to watch the free unfolding of their undeveloped natures—to him are wanting a joyous and a refining moral influence. Such a person is indeed incapable of a right perception of natural feeling.

Dear Cozy Corner Girls:—You beat the boys this month. The offer is open until the first of May. A prize book is offered for the best essay on your favorite animal.—C. D.

Girls' Prize Essay

Bentley, Alta., Feb. 22, 1915.

Dear Cousin Doris:—As I saw in The Canadian Thresherman and Farmer your offer giving a prize to anyone giving the best description of their favorite animal. I thought I would try and write about my pet woodchuck I used to have, which is my favorite. He was dark and light

Lady. She is very small, and has a black tail and mane. She has a tiny white spot on her forehead. She has a pretty curved neck. When she travels she swings her feet out sidewise and goes very fast. We use her for a driver, sometimes by herself and sometimes with a chestnut, named Prince. When she is driven alone, she is not so anxious to go fast, as when she is with Prince, because she always wants to be ahead. If any one happens to be driving a piece ahead of her, and she can see them, she goes as fast as she can to catch up and then she wants to pass them. It isn't a year since the men broke her in to drive, and they have only driven her a few times single. My brothers say that when she is well broken single, mother and I will be able to drive her. She is not very frightened of autos. Well, I guess that is all I have to tell about her so I will close, and leave some room for others. (Age 14) Annie May Teeve.

letters. I am eleven years old and I am in the fifth grade at school and I have a very nice teacher. His name is Mr. Lay. I live nearly two miles from town and in the summer I walk and in the winter my father drives me to school. I have two brothers and two sisters. My oldest sister is twelve and she goes to school with me. My oldest brother is going to go to school at Easter. We have five cats and a collie, three cows and three pigs. My pets are a dog and cat, the dog's name is Sport and the cat we just call him. I have just been at one dance and liked very much. I would be very much pleased if someone would send me a song. "Just Break the News to Mother. I will send anyone any song I know a return. I can do a lot of house work, some of them are, bake, clean floors, wash dishes, wash clothes, iron and many other things. I like to read books very much. Some of them I have read that are named "The Homestead on the Hillside," "The People," "Out of the Fashion," "I can do a little sewing but just for my dolls. Well, we have had a very nice winter far till yesterday it was a little colder. My father has a threshing machine. I would like to correspond with any girl of my age (11 years) if they would please write to me first. Well, I must close now, there won't be any room for the other girls and boys. So I remain yours truly, Box 314 Ethel I. Hooke.



Before the War in Sunny France. A Golden Harvest of Spring Flowers.

color. He ate all that was sweet and would stand on his hind legs and beg. In the day time he would go in the woods and eat the plants. He would go down to the garden and eat the vegetables and when I saw him I had to bring him to the house so he would not spoil the garden. He was always eating and was so fat he could hardly walk sometimes. We all had lots of fun with him and I think a woodchuck is the best kind of pet to have. Now I will tell how I got my woodchuck and how to get it. First, my brother Earl went up to my uncle's and they went out hunting and came to a woodchuck hole and dug it out, there they found the old one and 10 little ones. Earl brought them home and made a coop for them but the old woodchuck got away and took one away with her then there were nine left. My brother took five away with him but lost them on the way. Well I had four left, one was smaller than the rest so I had it killed. Then the other three grew quite big and I dropped a stick of wood on it and it killed it. The other one ran away and I just had one left and I think he has gone away for the winter. I do think the woodchuck is the very best kind of pet to have. That is all about my woodchuck and I hope to get the prize. Laura G. Stephenson.

My Favorite Animal

Lemberg, Sask., Feb. 26, 1915.

Dear Cousin Doris:—My favorite animal is a horse, and my favorite among the horsekind is a little brown mare, named

Rosewort, Man., March, 1915. Dear Cousin Doris:—I saw in the last issue your offer for writing a description about a favorite animal. I never had got a prize book yet so I will try my best to get one now. My only pet I ever had was a dog. His name was Jimmy. His nose was white and he had a white stripe on top of his head and round his neck. His four legs were also white, the rest of his body was grey. He was very kind and never bit a person or anything unless he was told to. When he was told to get anything out of water he would do it whether it was the most dangerous spot. He saved my brother from being drowned. He caught him by the collar of his bathing suit and taking care to keep his (my brother's) head over the water he brought him to the shore. He once got my ring out of the water. One day a snake got after me (the snake was four feet long) and I ran and called for Jimmy and he came as fast as he could and caught the snake about in the centre of her body and shook her till she was dead. When we all go away and tell him to take guard of the house he would not let nobody enter the house till we came back. Wishing your Club every success. I remain your cousin, as ever. Teennie Hoffman.

Wapella, Sask., March 15, 1915.

Dear Cousin Doris:—This is my first letter to your most charming Club. My father has taken the Canadian Thresherman thirteen years and he likes it very much. I like to read the boys' and girls'

Beatty, Sask., Jan. 1915. Dear Cousin Doris:—I have been a silent reader for quite a while but I'm going to join your "Cozy Corner" now. We had a beautiful fall here, I think the nicest we have had for 10 years. When the trees had exchanged their masses of greens for masses of golden red and the sun smiled on them with a broad, satisfied smile, it certainly was scene worth looking at. One morning when I got up I looked out of my window and watched the sun rising higher and higher throwing its radiance over the beautifully colored leaves. The morning was very calm and quiet with only a bird's sweet singing breaking the silence. It reminded me of the peacefulness of a Christian heart, and as I watched the enhancing picture of Nature I thought truly nothing could be quite so comforting to a troubled mind as the beautiful scene that God puts before us. I love Nature and hope all the other readers away from their eyes open to the beauty of Mother Nature. The winter here seems to be very nice also, at present we are having lovely warm weather and sunshiny days. The frost is now taking place of the beautifully colored leaves that we had in the autumn, but when the sun shines on it, it looks like so many diamonds sparkling on the trees and the telephone wires and fences. Well, dear Cousin, I put my letter is getting quite long and I order to avoid the W.P.B. I will now be wishing all the readers and Cousin Doris a happy New Year. Agnes I. Hald.

The Difference

"Yes," said the world traveler, "The Chinese make it an invariable rule to settle all their debts on New Year's Day." "So I understand," said the American host, "but then the Chinese don't have Christmas the week before."

All Out

Irene—Don't you think that travels brings out all that is in one? Ira—Yes; especially ocean travel.

In Java, when a man marries, he goes to his wife's house, where the women sit in courtship upon all matters of importance and dictate the affairs of the house.

Canada

HOW BOY

Two things in box burnt boys—all long from the sun had boys to I became, in to had boys? have mentioned boys—quite it. Before begin be sure you a few good sharp ary, if you ex attempt to do child's cheap to dollars. For I seven tools bought, and the following work: 1. A large hi 2. An iron p 3. An iron p 4. A square. 5. A rule (w 6. A cross-e 7. An iron helpful, bu bench vice. A big jack-k

A nail-set ca of the end of a of sand-paper, stain or paint, ready to begin v. Borrow a b quarter-inch bit (screw-handle) f fastening the vi. I used to say you I state en boys—then the careful to select with enough pie sides to pay fo buy most of o large quantities, boxes given to u covers are far i boxes for us wh to buy them fo get an income in grocery or i cents for boxes useful when the enough to be pla as they may tl and slats.

We do not re dollars' worth e every year in t discard. I found throughout Euro notwithstanding i dents there are make weekly re shopkeepers, buy boxes of every c. We are very c boxes, so as to h and large and m boys have differ various kinds of these days, Wed Thursdays for p. The boxes are t can be easily rene uniform sizes, bein Next comes on steps if you labor—turn of your good—f start so that ea composes the six s split or broken t show how to do t per that, when y every piece of th again.

To open a box, (overstaid) boxes, between the cover nail to be remov driver given with nail is raised abo and withdraw the the hammer. The box from the in

Canadian Boys' Camp

HOW BOYS MAKE FURNITURE FROM BOXES

By Louise Brigham
Author of "Box Furniture" and Director of The Home Thrift Association of New York City.

Two things help to make good results in box furniture—good boxes and good boys—although I have found the results from the combination of good boxes and good boys to be equally successful, simply because, in my experience, I have found that boys to be "good boys." The boys mentioned here, however, are good boys—quite the best in New York City.

Before beginning to make box furniture, be sure you have your tools ready. A few good sharp tools are absolutely necessary, if you expect good results. Do not attempt to do anything with the small, useless tools which are often found in a child's cheap tool-chest, costing about five dollars. For that amount of money the seven tools here mentioned may be bought, and will last a lifetime. With the following tools you are equipped for work:

- 1. A large hammer with a good claw.
2. An iron-handled screw-driver.
3. An iron jack-plane (kept well sharpened).
4. Square.
5. A rule (we often use a yardstick).
6. A cross-cut saw. (A rip-saw also is helpful, but not necessary.)
7. An iron vise screw for the work-bench vise.
A big jack-knife every boy has.

A nail-set can be improvised by filing off the end of a large nail. With plenty of sand-paper, a little putty, and some stain or paint, of the desired color, we are ready to begin work.

Borrow a brace and two bits (one quarter-inch bit, the other the size of a broom-handle) for boring the holes when fastening the vise on the work-bench.

I used to say, first get your boxes; but now I state emphatically, first get your boys—then they will get the boxes. Be careful to select good boxes, that is, boxes with enough pieces of good wood in their sides to pay for purchasing them. We buy most of our boxes, as we use such large quantities, although we often have boxes given to us. We find that the shopkeepers are far more willing to save good boxes for us when they know we are ready to buy them for a small amount. It is not an uncommon thing for me to find, on my grocery or shoe bill, forty or eighty cents for boxes. Crates are also very useful when the strips of wood are thick enough to be planed to a smooth surface, as they may then furnish facings-strips and slats.

We do not realize that over a million dollars' worth of lumber is burned up every year in the boxes we ruthlessly discard. I found this wasteful condition throughout Europe as well as America, notwithstanding the fact that in both continents there are large box-companies that make weekly rounds among the various shopkeepers, buying and collecting old boxes of every description.

We are very careful to get a variety of boxes, so as to have thick and thin lumber, and large and small pieces of wood. The boys have different days for collecting the various kinds of boxes. Monday is for shoe boxes, Wednesday for grocery boxes, Thursday for parking cases from the grocery shops, for instance.

The boxes are then stacked in piles that can be easily reached by boys of all ages, uniform sizes being stacked together.

Next comes one of the most important steps in good furniture is to be the result of your labor—that of taking every box apart so that each piece of lumber that composes the six sides shall be intact, not split or broken to pieces. Few people know how to do this. You must remember that, when you make your furniture, every piece of this lumber will be used again.

To open a box, with the exception of dovetailed boxes, place the screw-driver between the cover and box, close to each nail to be removed. Strike the screw-driver gently with the hammer until the nail is raised above the surface a little, and withdraw the nail with the claw on the hammer. Then tap the bottom of the box from the inside, close to the nails,

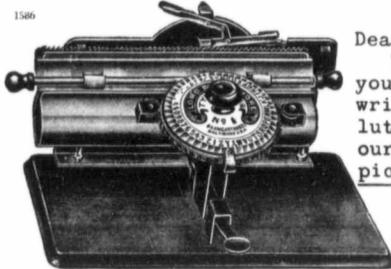
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Toronto, 15th March, 1915.

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Our war pictures include "The Destruction of the Emden" and "The Battle of Mons." These, with our other popular pictures, are genuine multi-color oleograph reproductions of famous paintings. These pictures are all suitable for framing, and sell on sight, at our cut-rate price of 15c. each; the regular store price is 50c. each.

Send us your order to-day for 24 of these pictures; we will forward prepaid, will them and return us our \$3.60, and this splendid typewriter will be sent to you at once, safely packed, all charges prepaid.

until they are "started," and withdraw the nails as when removing the cover. Remove the two sides last, as they are always nailed, or screwed to the two ends. Care must be taken in the next step, when every piece of wood, no matter how small or knotty, is placed according to length. The longest ones are arranged first, and so on down to the smallest. In this way a great waste of material is saved as one can readily find the desired length.

The next important step is making the work-bench. This work-bench set me I worked out several years ago in Norway, when I found that the average boy, both foreign and American, could do little with tools unless he had his fine, and usually expensive, work-bench. The expense of my work-bench seldom exceeds forty-seven cents, which is the cost of the vise screw. A good, strong packing box, the proper height for the person that is to use it, is selected for the bench. Place the best side up for the top, with your nail-set, "so" all the nails on the top so there will be no projecting nails with which to nick your tools, especially the plane. Remove the strips of one side of the box, leaving the top and bottom strip of wood to support the vise. Fit one of these strips inside of the box from the top to the bottom in the left-hand corner, and nail securely from the top and sides. This strip re-inforces the vise.

Nail together three of the boards that were removed from the side, keeping their tops flush, until you have a long, thick block about three inches thick by five inches wide—that is, just the height of your box. This block forms the vise. Five inches from the top bore a hole of the size of the vise screw, and another directly through the two strips of wood in the left-hand corner of the open side of the box, five inches from the top. Insert the vise screw so that it projects into the box. With your jack-knife, cut out and fit the vise screw into the vise block, and screw securely.

From an old broom handle saw a piece the length of your vise screw. This makes a good leverage stick. Bore another hole straight through the vise block and the bottom strips in the lower left-hand corner, about five inches from the floor, and insert the piece of broom-handle. Secure this to the vise block. Bore two or three quarter-inch holes in the projecting end of the broom-handle. A large nail, or peg, placed in the holes keeps the vise block parallel. An inch screw, screwed into the top of the work-bench, answers nicely for a bench stop, as the screw may be easily raised, or lowered, when planing boards of various thicknesses.

If properly constructed, this work-bench will be found very satisfactory. After one has been able to "do things" on this simple bench, it is an easy matter to add cupboards, doors, or a heavier top.

Minimum wage laws for women have been enacted in Oregon, California, Colorado, Massachusetts, Minnesota, Nebraska, Utah, Washington and Wisconsin.

Advertisement for Penmans Hosiery featuring an illustration of a man and a woman, and text describing the quality and comfort of their products.

ALL PENMANS PRODUCTS ARE MADE-IN-CANADA

New Envelope Drawer

A New, Dainty and Comfortable Under-Garment



Fits like a skirt. Has extension back which buttons in front. Protective insert. May be worn continuously. Easily cleaned. Made of finest nainsook, lace trimmed. Sent post-paid to any address in Western Canada on receipt of \$1.00. Give waist measurement when ordering.

O. L. BOYD

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Patronize those who patronize this Magazine

OUR WOMEN FOLK

CONDUCTED BY
PEARL RICHMOND HAMILTON

Mother's Corner

The Mother
By Edna A. Collamore.

The while she fits her brood for bed,
And scrubs away the dirt,
And gently brushes tangles out,
And heals the scratch that hurt,
She searches in their hearts as well
Each tiny bruised spot.
Where childish woes have pressed too hard
And left a bitter thought.

Says "Teacher wasn't cross—just tired,
She did not mean to scold."
And, "Grandpa did not understand,
Poor Grandpa's getting old."
"I think Tom said that just in fun,
Of course you must not mind."
"If she was mean, just pay her back
By being extra kind."

Thus, through her eyes, they view their world
In love's most favoring light,
Then, when the whispered prayers are said,
And all are kissed good-night,
In love-cleansed, God-guarded heart
"Can bitterness be found,
Since patient mother-lips have drawn
The poison from each wound."

Prayers in the Home

By Ruth W. Fisher

We have a custom in our home which, though perhaps not unique nor original, is nevertheless, the source of great comfort and inspiration.

In a magazine, I once found the following verses which I taught to my little daughters, aged three and five, and which they repeat together every morning. We call it "The Morning Prayer."
"Father who has made the mountains,
Who has formed each tiny flower,
Who has filled the crystal fountains,
Who has given us sun and shower,
Hear Thy children's morning prayer
Asking for Thy guardian care.
Keep and guide us through the day,
Lead us safely all the way."

The hurry and bustle necessary to an early breakfast and to getting father started toward his business in due season, are sometimes a little nerve wearing, but those sweet child voices and the beautiful thought which the words express always bring calm and patience.

At mealtimes they say together the following little grace.

"God bless this meat which we shall eat
This bread that I shall break,
Make all our actions kind and sweet,
We ask for Jesus' sake."

Although I have never been in any other home where any custom of this kind was observed, without doubt some such religious observance does obtain in many homes; but until one has tried it for one's self it is impossible to realize the blessing and influence for good it brings not only to the children but to mother and father as well.

Eugenics

Mrs. Kimmel of Belleville, Ont., is lecturing in Canada and the U. S., on Eugenics. She has this to say on prenatal influence, says the Tribune:

"A mother can, by right thinking and a high degree of mental and psychical concentration during the prenatal existence of her child, mold it exactly to her heart's desire, so that in all after life it will

evidence transcendently the traits she wishes it to have.

It will even possess the physical characteristics she has desired for it.

Suppose a child with raven black hair, midnight eyes, oval face and straight, red-lipped mouth with a quirk of humor in it is wanted?

In all probability the mother has seen some such face somewhere, in a gallery or picture shop, or the house of a friend.

It may be the face of a near and dear relative.

Let her get a photograph of the person or picture, if there is such a person or picture, and let her, the moment she realizes her condition, gaze long and often and lovingly on the picture, always with a high degree of emotion and entire concentration holding in mind what she wants to come about.

She will create it. The child will look like that picture.

Suppose there is no such picture. Suppose the face is a creation of her imagination. She should then visualize it constantly, lovingly and joyously always, and without forcing her mood. There must be real spontaneity always. The child will be like the visualized face.

Mrs. Kimmel is inclined to lay more stress on the mental and spiritual attributes of offspring than upon looks.

"What their children are going to be and do, rather than upon what they are going to look like, interest mothers most."

"What I mean is, most mothers deem character, disposition and talents more important than looks, and so they are," she says.

"Because mothers have thought so much of these, geniuses and people of character have been born. If you will notice, the mothers of great people have always longed and prayed for some of marked talents and have brought such into the world."

"Mothers with musical talents have prayed for children with talents greater than theirs and have had such children. Women who wrote wished their offspring, as great authors and have had such offspring. Poets in a small way dreamed of greater poets in their children and such children have been born to them."

"A greater demonstration of the truth of the mother's power to influence the unborn child has been made in the line of character and talents than of beauty, and the world knows the results."

In Mrs. Kimmel's thought it is the unrealized ambitions of the parents that are fulfilled in a child born after such prenatal influences have been brought to bear.

Widows' Pensions

Mrs. John Dick—representing The Mothers' Association of Winnipeg—has had personal interviews with every member of the Legislature of both parties, with the hope of interesting them in Widows' Pensions. The Mothers' Association have taken care of three families the past year as a test. They find the average cost of taking care of a child is less than one half the cost of a child in an institution, besides the greater advantage the child has—that of being mothered by his own mother. The homes are kept together and the mother is not forced out to work. From an economic standpoint widows' pensions would be an advantage to the province and it is hoped that these pensions will soon be granted to widows who are left with nothing and whose little ones would have to be placed in institutions.

The Mothers' Association of Winnipeg has accomplished great things. It was this little band of women who first started the playground association—they believed in using the school grounds in summer for children who had the street only for play.

It proved to be such a success that the city has assumed the financial responsibility and management and now the schools of Winnipeg boys and girls are happily under the supervision of respectable teachers.

The next venture this little band of women undertook was the establishment of a Day Nursery where women who were clean and for other people, may leave their little ones all day. The matrons and their assistants give the children good food and care for them tenderly till the mother returns at six o'clock. The little ones enjoy the day at the nursery and the mothers are happy because they know while they are at work their little ones are not neglected. Mrs. Fred Wood is president of the Association and she has worked most earnestly for the Day Nursery.

God Bless The Mothers' Association of Winnipeg.

Emergencies

Some knowledge of what to do in case of emergency where prompt action is a prime factor in the successful outcome of the case, will be found to be the best preventive measure against that dreaded condition known as "losing one's head."

Unconsciousness seems, perhaps, to the inexperienced person one of the most alarming conditions to cope with; but there are three important things to remember which if memorized now will serve a purpose in preserving self-possession should everyone else may be panic-stricken.

Remember that no attempt must be made to make an unconscious person swallow; instead, the external application of heat by means of a partly-filled hot-water bottle placed over the heart, rub the arms and legs from the extremities toward the body, hot-water bottles, hot flatirons, hot anything applied to the feet are the best measures to use. Aromatic spirits of ammonia or smelling salts should be held not too near the nose.

Remember that plenty of air should enter the room and that a number of people gathered around the patient will prevent his getting the benefit of it.

Remember that in cases of fainting or shock from fright, wound, severe pain or other accident where the face is pale and there may be a cold perspiration, the patient should be laid with his head lower than the rest of the body to favor the return of the blood to the brain.

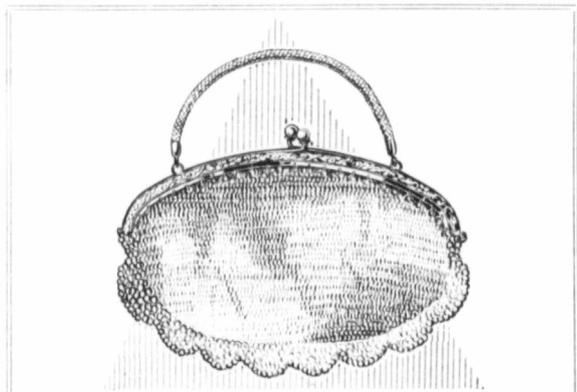
Remember that the clothing should be loosened.

Remember that after the return of consciousness a period of rest and quiet is essential.

The onset of apoplexy sometimes calls a stroke or "shock," is indicated by a face and breathing which comes in pants. Until the arrival of the doctor all that can be done is to make the patient comfortable in a recumbent position, loosen his clothing, and apply cold to his head. Sunstroke and heat exhaustion, however, may be due either to exposure to the sun or to prolonged heat indoors. Though often due to the same cause, they require different treatment, the first step in both cases rub toward the body. The object is to raise the temperature very gradually, since the immediate application of heat may cause mortification.

Poison ivy symptoms: The skin is red and swollen and covered with tiny blisters accompanied by a burning, itching sensation. First, wash well the infected area with weak ammonia water and apply boracic acid solution or "lead water" (dilute solution of lead subacetate).

Nose bleed, if severe, may require the services of a physician. The patient



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should sit on
backward. It
be applied to
the upper part
Through a
which induces
long breathing
any great
vomiting will
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Stiff and
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If the pain is
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condition, ever
may not have
right side.

Home

Dear Mrs. H. been neglected and work of the H.F.

We have all to do for our soldiers, would wish to the early days of our in our town several sewing n who are intere where every We to help may co and ready to m had very great s dine, but it is money has come eing that we orr an enclosing a paper which ex very much of ou our H.E.S. was means of unitin under the name Virden and Vieri across which ha our National Me (English); M has an open meti attended to the n in the town. In and about the s filed with many s contained one other items, mus sity of the prog I would like to of increasing the societies as it has I would like to their reports on t to live up to our Country" and our Institutes of Ont identified through this work in w interested. Your

A Good Record

Donations for P Purposes and W and Pati The following t pled by the socie but what contribi the use of the mon is them for disbu of which the wom feel proud. We herewith p monies received t time:—

- The VIRDEN A PATRIOT
- Boss Hill Ladies...
- Crous R Lodge...
- E.D.D.E.
- Sale of buttons (Vi Broilers' Dramatic Auditorium Manag Breadalban school

should sit in a chair with head hanging backward. Ice or cold wet clothes should be applied to the back of the neck, and a roll of paper slipped between the gum and the upper lip.

Hiccough generally yields to any means which induces the patient to take a very long breath. If, however, it persists for any great length of time the induction of vomiting will effect a quick cure in most cases; this may be done by touching with the finger the soft palate which hangs down in the back of the throat.

Stiff neck may be relieved to a great extent by rubbing it briskly with some penetrating liniment, such as Betol-oil and afterwards ironing it with a hot iron. The neck, of course, must be protected from the iron by several layers of woolen cloth.

Cramps or colic: Put the child to bed, a hot-water bag on the stomach; give him a glass of hot lemonade and later a Seidlitz powder. Rubbing is sometimes a help. If the pain is attended by fever and a chill, replace the hot-water bag with an ice cap and call a physician at once; appendicitis may be the cause of such a condition, even though the pain is yet away not have become localized in the right side.

Home Economics

Virden

Dear Mrs. Hamilton—I fear we have been neglectful of late of your pages which have been and are such a help to the work of the H.E.S.

We have all been so busy with the work for our soldiers, that much else which we would wish to do remains undone. In the early days of the war we obtained a room in our town hall in which we have several sewing machines and in which all who are interested meet for work and where every Wednesday any one wishing to help may come and get it all out and ready to make. We have not only had very great success in getting the work done, but it is quite wonderful how the money has come in to carry it on, considering that we organized without a cent. I am enclosing a clipping from our local paper which explains itself. I attribute very much of our success to the fact that our H.E.S. was strong enough to be the means of uniting all the other societies under the name of Women's Patriotic of Virden and Vicinity.

I wish also to tell you of very great success which has attended what we call our National Meetings. In Jan., Scotch; Feb., English; Mar., Irish; this last, which was an open meeting, an invitation is to be extended to the men and soldiers stationed in the town. In Jan. we had 150 present and about the same in Feb. The hall filled with many standing. Each program contained one educational paper. The other items, musical, etc., of the nationality of the program for that meeting.

I would like to recommend this means of increasing the membership to other societies as it has added members to ours. I would like to see our H.E.S. send in their reports on their war work, it's a time to live up to our motto, "For Home and Country" and our H.E.S. like the Women's Institutes of Ontario should be closely identified through their own name with this work in which we are all vitally interested. Yours very sincerely,

Rebecca Dayton.

A Good Record of Patriotic Work Donations for Patriotic and Charitable Purposes and Work Done by H. E. S. and Patriotic Society.

The following figures have been compiled by the societies mentioned to show just what contributions they received and the use of the money and goods entrusted to them for disbursement. It is a record of which the women have good reason to feel proud.

We herewith present an account of monies received and the use made of same:

VIRIDEN AND VICINITY WOMEN'S PATRIOTIC SOCIETY	
Boss Hill Ladies.....	\$25 00
Croesus Lodge.....	25 00
L.O.D.E.....	60 00
Sale of buttons (Virden schools).....	30 00
Brothers' Dramatic Society.....	50 00
Industrial Management.....	65 80
Broadbalt school concert.....	14 00

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

H. D. Crowe (percentage sale).....	\$31 00
Sunday sacred concert.....	14 00
Mrs. Brownlee's doll (raffle).....	10 70
Virden Dance orchestra.....	7 50
Tea at McCormick's sale.....	9 10
Mrs. W. P. Thompson (children's concert).....	85
B. McCormick, percentage sale.....	25 00
Boss Hill box social.....	41 00
Sox social (H. E. S.).....	10 80
R. T. of T's.....	2 50
Sale of buttons by other schools and private subscriptions.....	38 15
	\$461 10

From the foregoing receipts, flannel, yarn and flannelette, etc., have been bought and the following articles made for hospital and field, and sent forward:	
56 night-shirts (surg) at 75c.....	\$ 42 00
51 pairs bed-sox at 40c.....	20 00
353 cholera belts at 75c.....	250 00
121 scarfs, 2 yards long, hand made at 1.50.....	181 00
74 balaclava caps.....	50 00
228 pairs wristlets at 40c.....	91 00
72 pairs mittens at 50c.....	36 00
40 service shirts at 1.50.....	60 00
174 housewives at 65c.....	112 90
340 handkerchiefs at 10c.....	34 00
60 bandages (surgical) at 15c.....	9 00
55 pairs pyjamas at 1.20.....	42 00
56 nightgales at 60c.....	33 60
Cigarettes, tobacco, chocolates.....	11 00
204 pairs sox (H. E. S.).....	71 40
50 pairs sox, hand made.....	25 00
Postcards, with messages.....	6 00
Underwear.....	2 80
Boss Hill ladies, blankets.....	25 00
	\$1100 60

The H. E. S. collected from Virden and adjacent districts and forwarded to the Belgians through the proper channels the following list of new and second hand clothing, all cleaned and in good repair:—

32 pairs of blankets at \$2.....	\$ 64
7 pairs of pillows at \$2.....	14
9 quilts at \$2.....	18
50 pairs of shoes at \$1.50.....	75
30 suits of men's underwear at \$2.....	60
60 overcoats at \$5.....	300
245 men's suits at \$4.....	980
150 ladies' coats at \$3.....	450
Stockings and woollens.....	100

Children's clothing.....	125
Ladies' suits, dresses and blouses.....	400
Ladies' and children's underwear.....	25
	550
Total.....	\$2611

Committee in charge of this work: Mrs. Mullins, Mrs. Gee, Mrs. Seales and Miss Kennedy.

This society also got permission from the School Board to interest the school children and young people in the sale of war buttons, with the result that \$70 was collected, of which the Red Cross received \$40. The society also collected and sent to the Red Cross 30 pairs of blankets, value \$60. They also collected over 1000 lbs. of good second-hand clothing and forwarded it to the drought-stricken districts of Western Canada, value \$500; these items together with the above list make a total value of \$3211.00.

A committee appointed for the purpose also collected \$741.00 from the adjacent country districts, which has already been handed in to the Patriotic Fund.

If our woman's work shows nothing else, it shows the value of organization and a good community spirit. In no other way could we have obtained such good results, and we have no fear that as long as the war lasts and as long as there is any need, our women will be ready to deny themselves and give both money and work to help our Empire and make a little more comfortable the brave boys who have gone or are going to the front.

This statement was prepared at the Mayor's request.

Report of Elgin Rural H. E. S. Fruit Vegetables, Cereals

Sarathehair, Man., March 2, 1915. Meeting opened with the reading of the minutes and roll call. Meeting held at the home of Mrs. Leeson on Feb. 25th.

No business of note discussed except sending of clothes to Vanguard, Sask., where so many are in need of clothing.

By way of introducing the lesson a classification of foods was put on the board and attention was drawn to the new page started in the Ladies' Home Journal: "What Am I Feeding My Family."

After discussing the meaning of caloric, nutrition, nutritive value, Miss Cramer gave us her paper on "Principals of

Nutrition." Coming to the lesson proper Mrs. Evans took up at different times the lesson as it is given in the leaflet giving notes and using blackboard for classification. She was following in the order of the lesson first, by a paper on: "Uses of Fruit as a Food." Mrs. R. J. McLean; second by a paper on: "Classification and Composition of Vegetables," by Maria Morrison. This was supplemented by a paper on: "Cooking Vegetables in General," by Maudie Morrison, followed by a discussion on cooking of certain vegetables. Fourth, a paper on: "Cereals," by Lillie Pirie. The lesson closed by Mrs. Evans giving a short paper summing up on: "Fruits, Vegetables, Cereals."

Next meeting to be held at home of Mrs. Leeson on March 11th.

Lillie Pirie, Sec. Elgin Rural H. E. S.

Oak Lake H. E. S.

The regular monthly meeting of the Home Economics Society held in December was very well attended—considering the busy Xmas season. Unfortunately, the organ which has been loaned to us ever since the Society was organized was sold and we were therefore unable to have any musical selections. Mrs. Cochrane, however, gave us an exceptionally good paper on: "The Causes Which Have Led up to the Present War," a topic which we are all so much interested in just now.

The meeting of February was held as usual, in the Rest Room.

Dr. Wright gave a most instructive address on: "Medical Inspection in the Schools," dwelling upon the great necessity of this and telling of the progress which had already been made. He also stated that from infancy to school age was a critical stage in the life of a child, which was so frequently neglected.

A reading by Mrs. Helliwell and solos by Miss McDougall and Miss Carey added much to the enjoyment of the afternoon.

In response to an appeal made for cast off clothing for needy ones in the West, a great many articles were brought in.

The members met the following Wednesday and made over some of the under-clothing and other garments into suitable things for children.

Dufferin

The regular annual business meeting of Dufferin Home Economics Society was held on December 9th, at the home of Mrs. Frank Harris.

A review of the year's work was given by the Secretary, and the Rest Room report given by Mrs. Harris.

The election of officers was proceeded with and they are as follows:—President, Mrs. Frank Harris; 1st vice-president, Mrs. Corn E. Fender; 2nd vice-president, Mrs. A. S. Doyle; secretary-treasurer, Miss Beatrice Taylor; corresponding-secretary, Miss Helen Fender; directors, Mrs. F. E. Clark, Mrs. John Loblaw, Mrs. R. W. Parrott, Mrs. Jas. Aikens, Mrs. D. H. Pritchard, Mrs. T. W. Ivey, Mrs. E. Carson, Mrs. J. H. Woods, Mrs. N. Love, Mrs. G. Peck.

Mrs. Harris gave an interesting and instructive talk on: "How to Make the Most of Materials on Hand." She said that in the time of stress it was every housewife's duty to economize in every way she can, especially in "dress." It isn't the cost that makes a dress stylish. Sometimes with a little work, a little imagination and the determination to accomplish something, you can make a dress that is just as good as a new one out of some material you have on hand or, sometimes by combining two materials when you are sewing for children. Every one enjoyed this talk very much. A dainty lunch was served by the hostess and a social time enjoyed by all.

A very interesting meeting of the Dufferin Home Economics Society was held in the Court Room of the Land Titles Office on January 20th.

After the business was attended to, the ladies tied four nice quilts to be given where they were needed. The material for the quilts being donated by different members and the work done by some of the ladies. Our Society is doing Sunshine Work, a Club being organized for looking after the poor families who are in need this winter. A lunch was served and a social chat enjoyed. H. C. F.

Emerson

The Emerson Branch of the H. E. S. has been holding regular meetings, but they have been of a business nature instead of the programmes as formerly. We opened a Rest Room last spring and each Saturday served afternoon tea.

Two bales of clothing have been sent to the Industrial Bureau, the first containing over three dozen pairs of blankets, twenty-four surgical night shirts, twelve flannellette night shirts and six pair of socks. Thesecond contained twenty-five Balsaklava caps and eight flannellette night shirts, and a few other articles.

At present, we are preparing for a dinner and concert, the proceeds to be given to the Red Cross Fund. The officers for the year are:—Hon. pres., Mrs. Bell; pres., Mrs. McRae (3rd year); vice-pres., Mrs. Ballantynes; rec-sec. and treas., Mrs. M. Wallace; cor-sec., Mrs. S. R. Root; directors, Mrs. Dowswell, Mrs. Elkins, Mrs. Gray, Mrs. Fox, Mrs. D. Fraser. Two delegates have been appointed to attend the convention at the Agricultural college and bring reports.

We are looking forward to a good year's work. Much interest is manifested in Patriotic and Relief Work.

Valley River

The Valley River Home Economics Society met at the home of Mrs. Kilty. Members present, 13; visitors, 5.

President opened meeting with singing of a hymn. The minutes of the previous meeting were read and adopted.

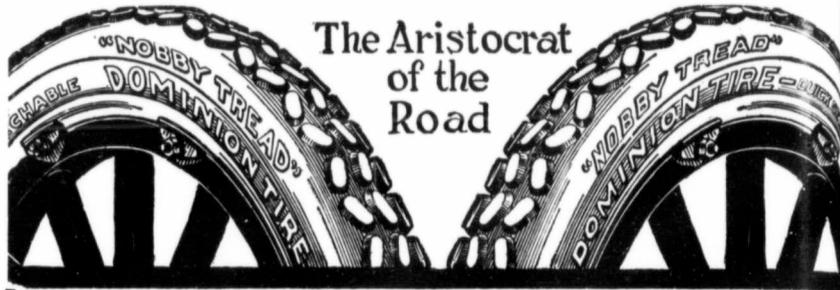
The society decided to frame the certificate of membership received from the college.

After the business had been discussed and members chosen to give papers or addresses at the next meeting, the president requested the delegates to give their reports of the Convention held at the M. A. C., Winnipeg. Evidently the convention was a great success as our delegates appear to have enjoyed themselves. Very interesting reports were given by Mrs. J. W. McQuay and Mrs. Ben Boughen.

Members decided to organize a boys' and girls' farm club.

After thanking delegates for their reports the meeting adjourned to meet next month at the home of Mrs. Grant. Luncheon was served by the hostess.

Mrs. A. W. McQuay, Sec.-Treas.



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Deloraine

The Deloraine Home Economics Society have had a change for the month of January. Instead of one regular monthly meeting we have had a demonstration each week in cooking by Miss Crawford of the Agricultural College. The demonstrations were much appreciated by the ladies as was evidenced by the increase in numbers each week, also about 20 of the High school girls took advantage of these demonstrations.

On the day of Miss Crawford's last visit, the Society met half an hour earlier and transacted what business there was to be attended to.

The President asked for volunteers to knit 25 lbs. of yarn contributed by Mr. H. L. Montgomery. She also asked the ladies to wash all socks before sending them in as it made them much softer.

Three delegates Mrs. Thornton, Mrs. Price and Mrs. R. A. Johnston, were appointed to attend the Convention to be held in Winnipeg on the 16th and 17th of this month.

Then after Miss Crawford's final demonstration Mrs. H. Crane and Mrs. Arnott asked the ladies to remain for a cup of tea with Miss Crawford, at which a 10-cent collection was taken up, amounting to \$3.70 to be handed over to the Patriotic Fund. R. H. P.

Minnedosa

The regular meeting of the Minnedosa H. E. S. at the Rest Room was opened by

calling the roll, each member answering by giving a motto for the year. Fifteen members were present.

Mrs. J. S. Beddome and Mrs. Davidson were appointed delegates to the Winnipeg convention.

A motion that Mrs. Cooper address the Neepawa H. E. S. was carried.

Mr. G. Grierson very kindly addressed the meeting on the subject "Parliamentary Procedure," so that the future meetings may be carried on in a more businesslike manner.

He pointed out that the business should be carried on by means of motions in writing so that words may be added or struck out by amendments.

Motions to be referred to directors if disputed.

It was also suggested that a "kicker" (or critic) had a tendency to keep the meeting down to business forms and that a good presiding officer and one or two members to take an interest and see that committees made their reports were discharged would lend to the meetings a more businesslike air.

A very heavy vote of thanks was given him after which the meeting was closed by singing the national anthem.

Anne G. Lamont, Sec. Minnedosa H. E. S.

Hartney

The Hartney Home Economics Society held an "At Home" in the Auditorium of the Town Hall on Tuesday evening,

Jan. 19th, from 7.30 to 10 o'clock. One hundred and seventy-five ladies gentlemen—friends of the members of the society were present. Mrs. B. Williams rendered a vocal solo. Miss Bell gave a very interesting and helpful address on the organization and work of the Home Economics Society. For twenty minutes Miss Playfair held the company bound by her wit and depth of thought. Miss Finch—a teacher in Hartney—read a paper touching on the wifely duties of the Hartney H. E. S. This was highly applauded. At intervals throughout the evening the Hartney orchestra rendered selections.

The ladies provided refreshments when the evening closed by the singing: "God Save the King." The friends seemed loath to separate but such an enjoyable social gathering, they thought it would be an annual affair.

The Hartney Home Economics Society held their regular monthly meeting in the Auditorium of the Town Hall on Feb. 12th, at 3 o'clock. Thirty members and three visitors were present. The meeting opened with the usual repeating the Lord's Prayer. After general business of the meeting the reports made for the Red Cross Society were collected.

A letter from Mrs. Hill—a member—is spending the winter in the South-west. She enclosed \$3.05 for the Red Cross Relief Fund. This money had been

received for... Lydia Hill... Miss Play... First Aid... knowing... give the... portable... and if there... might she... beured. If... something of... ministered... a smetic ab... sached on... use of an... a knot t... hood until... After tea... the meeting... month. The... \$3.55 for... was also... shiera belts... total money... purposes was... The Canadi... will be sure... month in the... way into Bea... The Febru... a week la... Convention a... during the w... time. Thoug... present, a mo... held and one... The Vice-Pres... previous meeti... ed. The Busin... tem, viz.: th... Cross money... reported for 19... and sales of 1... proceeds from... \$43.55, making... lose of 1914, \$... Red Cross Bra... \$1.10 raised... Cross work... most interest... tion was r... Canning. At... few minutes w... two points in... being possible... town, viz.: th... prizes for the B... Agricultural Fa... taining of a V... was heartily th... sets of her reg... vim and... with her as a r... the Convention, the members... Lesson II—S... the Home Nursi... in the form of... The meeting t... It is a matter... have been ab... by having nurs... ching nature... in every way... I might mentio... our 10-cent tea... sets to St. J... War Relief Fund... Red Cross w... had to vary the... having a 10-cent... work in evening... and the followi... and sale of home... Next month I... definite having b... the establishing... The matter has... think it possib... much sooner than... are awaiting... Mackenzie, Orga... We trust other H... the same matter... a community... Convention. It v... show how many... new communitie... Sec... Ja... There was a gr... H. E. S. meeti... water was that... and brought memb...

received for war emblems sold by Irene and Lydia Hill.

Miss Playfair gave a short talk on "First Aid Work." The importance of knowing just what to do in case of accident was emphasized. The speaker gave the name of an ointment that makes up the skeleton. Such accidents as taking carbolic acid, or strychnine often occur, and if there is no knowledge of what ointment should be given, the person might die before medical aid could be secured. If carbolic acid had been taken something of an oil nature should be administered; and if strychnine were taken an emetic should be given. The speaker touched on the method of bandaging in case of an accident. She explained how to tie a knot that would stop the flow of blood until the surgeon might arrive.

After tea and refreshments were served the meeting adjourned to meet next month. The proceeds from the tea was \$3.55 for the Belgian Relief Fund. \$1.50 was also handed in for the purchase of cholera belts to send to the soldiers. The total money taken in for fees and other purposes was \$19.10.

Beausejour

The Canadian Thresherman and Farmer will be sure of a hearty welcome each month in the new homes it has found its way into Beausejour.

The February meeting of the H. E. S. was a week later than usual, owing to the Convention at the Agricultural College during the week of our usual meeting time. Though a very small number were present, a most interesting meeting was held and one new member was received. The Vice-Pres., Mrs. Hough, took charge of this meeting. After the minutes of the previous meeting had been read and adopted, the business part consisted of one item, viz.: the disposition of the Red Cross money on hand. The Treasurer reported for 1915: from two 10-cent teas and sales of home cooking \$10.55; net proceeds from Girls' Minstrel Show, \$43.55, making a total of \$54.10. At the close of 1914, \$20 was handed over to the Red Cross Branch here, making a total of \$74.10 raised by this society for Red Cross work. This business concluded, a most interesting report from the Convention was read by the Pres., Mrs. Cumming. At the close of the reading a few minutes was spent in discussion and two points in particular were dwelt on, as being possible to put in practice in our town, viz.: the offering of a prize or prizes for the Boys' and Girls' Club at our Agricultural Fair next fall, and the obtaining of a V. O. nurse. Mrs. Cumming was heartily thanked not only for the contents of her report, but for the enthusiasm, vim and inspiration she brought with her as a result of her attendance at the Convention, and disseminated among the members.

Lesson II—Symptoms of Sickness in the Home Nursing Course was then taken up in the form of questions and answers.

The meeting then adjourned. It is a matter of regret to us that so far we have been able to brighten our meetings by having music or anything of an entertaining nature, but we hope to improve in every way we go along.

I might mention we are continuing with our 10-cent teas and devoting the proceeds to St. John's Ambulance for the War Relief Fund, instead of restricting it to Red Cross work as formerly. We intend to vary the teas for this month, by having a 10-cent musicale every second week in evening at the different homes, and the following week the afternoon tea and sale of home cooking.

Next month I hope to report something definite having been done here regarding the establishing of a V. O. nurse here. The matter has met with such favor that we think it possible to have it carried out much sooner than any of us anticipated.

We are awaiting particulars from Miss MacKenzie, Organizer of V. O. nurses. We trust other H. E. S. are also taking up the same matter—which means so much to a community—since the meeting of the Convention. It would be interesting to know how many nurses will be established in new communities this year.

Elise Green,
Sec., Beausejour H. E. S.

Miami

January

There was a good attendance at the H. E. S. meeting on Saturday. The weather was that of an ideal winter day and brought members into town from the

most distant points in all directions. There was the usual preliminary business of reports to be submitted and letters to be considered.

The secretary announced the receipt of a letter from the Superintendent of the H. E. S., objecting to the affiliation of the H. E. S. Societies to any other organization. Last June the Pilot Mound Society, wishing to extend its usefulness affiliated to the Local Council of Women. This, we are now told, is illegal, although the authorities can point to nothing in the H. E. S. Act to forbid it. They quote the case of the Red Cross Society and the St. John's Ambulance Corps, which, supported in part by the Governments of Great Britain and Canada, are not allowed to affiliate to any other body, for fear of losing their identity. After some further discussion, the secretary was instructed to strike out the statement that no affiliation had been undertaken, but to certify the willingness of the Pilot Mound H. E. S. to continue under the direction of the M. A. College. The annual convention was announced to take place on Feb. 16.

Miss Moffat, the special speaker was introduced and a moving account of her rescue work in Calgary. Such tragedies are deeply stirring to read but the appeal comes with irresistible force when one hears the personal experiences of a worker in our city slums. It was a great privilege to listen to such an address from one who has grown up among us and is not afraid to speak her message to a representative gathering of mothers and daughters.

The lunch committee, convened by Mrs. Cohoe, served refreshments which brought the proceedings to a close. The February program committee includes: Mesdames F. B. Bingham, Bisset, Blackburn, G. F. Brisban, Brewster, G. W. Brisban and Miss Blackburn. The lunch committee for February includes: Mesdames Craig (convener), McJannet, Cram, Manning, Miss Loney and McKinnon.

February

The meeting on Saturday, Feb. 6, was well attended, representatives being present from all points. The programme committee had secured Dr. Cohoe as special speaker, who gave a most practical and interesting address on "Home Remedies for Simple Emergencies." The doctor spoke on first aid treatment for burns, scalds, cuts and bleeding, and in his explanation of the circulation of the blood suggested methods of dealing with an emergency of serious bleeding. The society is grateful indeed for such an address, bringing as it does the results of medical science right into the homes, which are the units of our national life. During the business part of the meeting, the provincial position of the society was considered. The superintendent of the H. E. S. had written offering an advisory board, on which three women elected by the H. E. S. were to act, with the minister of agriculture, the president of the M. A. College, the senior H. E. S. lecturer at the M. A. College, and the superintendent of the H. E. S.

On a unanimous vote, it was decided to accept the composition of this board provisionally.

Two delegates were appointed to attend the H. E. S. convention to be held at the M. A. College on Feb. 16 and 17. The invitation issued to the societies includes, not only the official delegates, but all members who, though not entitled to vote, are asked to take part in the discussions. The meeting closed with the usual excellent refreshments.

The H. E. concert, which was given on Friday night in the Oddfellows' Hall, in aid of the Rest Room, was much appreciated and considering that the proceeds were in the neighborhood of \$50, the executive was well pleased. Mr. T. Rumbal kindly acted as chairman. The items presented were some fine selections by the orchestra, an amusing dramatic sketch by Miss Orchard and Messrs. Bryan and Orchard, and a splendid patriotic drill which 20 girls performed very creditably. Other musical numbers were a duet by Miss Botting and Dr. Shanks, song by Miss K. Campbell, song by Mr. Howard Hawken, quartette by Mrs. Anderson, Miss Cole, Mr. Rumbal and Mr. Bond. Needless to say, these were very much enjoyed, as were also Miss Mills' reading from Drummond, and Mr. Hawkins' recitation. A new feature was a song by 10 boys in which the music was composed by Dr. Shanks and the words by Mr. McNevin. The last item on the



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programme was very interesting especially to young men, when Mr. H. Botting auctioned off a number of valentine boxes of candy. This concert went to prove that for home talent Miami comes second to none.

Swan Lake

The February meeting of the H. E. S. was held on Saturday, 27th ult. Mrs. Gardner again kindly acted as Secretary during the absence of Mrs. Hartwell. The President opened the meeting by showing the members the Certificate of Registration which had been received from the Agricultural College and which it was decided to have framed.

The subject of the programme was "Delegates Report" of the H. E. S. Convention in Winnipeg. Mrs. Gordon gave her impressions first and spoke of the reception given to the delegates at the Agricultural College, touched on the friction which has existed for some time between those who are in authority and those who think they ought to be and which was much less noticeable this year, and of the nomination of an Advisory Board containing three Presidents of Societies.—Mrs. Speechly of Pilot Mound, Mrs. Cooper of Minnedosa and Mrs. Hunt of Benito, through whom local branches can send protests and suggestions and of which Professor Black still remains head.

Mrs. Moore gave a very interesting paper which cleverly skimmed the cream from the most important speeches given and which was brightened by amusing personal notes and comments. It is impossible, in the small space at our command, to give more than a resume of the most important points made. The Convention passed the following resolutions to be presented to the School Trustees' Convention: That, whereas the physical welfare of the children in the schools has an important relation to their mental development, this Society is desirous of putting itself on record as urging of extension of medical inspection in schools throughout the province.

Also resolved that this Society places itself on record as being in favor of increased attention being given to the teaching of agriculture and domestic science in the schools.

Miss Yeman of the Souris school spoke of the good influence the country H. E. Societies can have on the schools, and of the many ways the two bodies could work together for the good of the children, the parents, the teachers and the community at large. As matters are at present, the teachers have too much responsibility in the small towns; they are made responsible for the mental, moral and spiritual welfare of their pupils, whereas the parents should certainly be responsible in the last two instances. A mother's influence should be much stronger than it is, and a great deal of good would be done if parents would take more interest in the schools where their children attend and in the teachers who have the guidance of the growing child just at that period of its life when it is most readily influenced for good or evil.

Mrs. Broadhurst of Winnipeg insisted on the importance of a well balanced meal and proved that the food for the body

should be as carefully and scientifically prepared as that for the brain.

Mr. Newton also spoke emphatically on the value of good meals and said that he hoped before long to see every school in the province equipped with a rural kitchen, so that the country children could prepare themselves a good hot meal in the middle of the day, instead of having to depend on the sandwiches and cold lunches which were all they could bring with them.

Miss Mary Ard McKenzie, head of the Victorian Order of Nurses throughout Canada, spoke of the Nursing problem in the prairie homes and of the sore need of the country mothers for trained help at a moderate fee, and also spoke of her hope that before very long, a chain of nurses would stretch right across Canada, their stations being within such distances of each other that all who needed their help could avail themselves of it.

Mr. Putman, President of the H. E. Societies of Ontario, gave an outline of what they were doing and acknowledged that the Manitoba Societies were ahead of the sister province; he pointed out how all important the women of the country places are, and how self-reliant they must necessarily be. Mr. Putman also advocated manual training at the schools so that both boys and girls would have a trade to turn to, when school days were over.

Miss Crawford, who is very interested in the formation of Boys' and Girls' Clubs in the country districts, spoke of the success which had followed their organization in several places.

A very hearty vote of thanks was offered to Mrs. Moore, whose paper showed that her duties as delegate were taken on amare, and whose careful gleanings of every hint that could be helpful to our members should result in a plentiful harvest of good and advancement to ourselves and the community during the coming months.

WOMAN AND WOMAN

School teachers in Milwaukee and Los Angeles are limited to one year's absence for motherhood.

Miss Marie Herbst of London examines about 40,000,000 feet of moving picture films every year.

British women are now forming Tipperary clubs which will bring together not only the wives, mothers and daughters of the fighting soldiers and sailors, but also the cousins, sisters, aunts and every woman who wants to do something for the recruits and the absent soldiers.

Oregon has seven women electricians.

The Indiana senate has passed a eugenic marriage law.

Only 25 per cent of the population of South Africa are women.

Widows' Pension Bill Passes

The New York senate has passed the Hill bill, designed to provide pensions for widowed mothers. The measure calls for the establishment of Boards of Child Welfare in each county of the state, but their creation is permissive. The object is to prevent children from being separated from their mothers by being sent to asylums.

The Michigan Central Railway now employs women as dining car waitresses.

All babies born in Brussels are now registered as German subjects.

The Business of Being a Wife.

Collier's Weekly: A woman has just told us of what she did the night her young husband found himself bankrupt. His factory was closed, he had lost all he owned—plus a good deal more—and, as he looked at it, life was about at an end. He reflected that he had taken his wife from a happy and charming home and that he had brought disgrace and poverty on her. It occurred to him that a well-placed bullet might be the best all-round solution of his difficulties. His wife, at home made a poignant surmise as to what he was thinking. Suddenly it occurred to her that there was a chance for teamwork—an opportunity to

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show what being a wife really means. She prepared a delicious little dinner, she made her home as inviting as she could, and she arrayed herself in her most charming dress. Her husband returned, not to a disheveled and sobbing woman, to a neglected house and a drama of disaster, but to a home where everything spoke of resolution, of continuity, of expectation. The fire on his hearth, his simple, well-cooked dinner, the courageous eyes of his attractive wife, restored him to true sense of values. He was able, amid all his confusion of purpose and torment of realization, to see his failure as only a retrievable episode in his life. He is now a successful manufacturer, his debts are paid, and he has a happy home with a son and a daughter in it. He was saved from being a suicide by the fact that a woman was sportsman-like at the right moment. Not a bad thing to think about in these days when unaccustomed poverty is bringing dismay to thousands.

Styles of Woman's Dress

Mme. La Mode has proved herself a clever dame, for when she found the great fashion center of the world, the French capital, so torn with the great war that the famous designers would probably be unable to furnish novelties for the coming season, she resorted to the simple expedient of turning the wheels of fashion backward for some forty years, with the result of a revival of the quaint modes of that day.

The new French fashions will not be so freely shown this season, as the war has caused a discontinuation of the publication of most of the imported books, for which reason the only absolutely authentic information of the creations of the French capital are those brought back by the buyers who visited the French ateliers, and have obtained at exorbitant figures modes for the coming season.

The newest designs for the early spring and summer show almost everything in taffeta silk, and the models are seductively dainty, and shorn of many of the deplorable eccentricities which lately have disgraced millinery.

All accentuated tightness and transparency has entirely disappeared and lo! madame has again bethought herself of the dainty fripperies of by-gone days, when a graceful lift at the street crossings permitted entrancing glimpses of the most delicate laces and frills. This season the return of these pretty lingerie conceits has been so enthusiastically greeted, that many of the new circular skirts, which are fully eight inches off the floor, permit a view of at least three or four inches of attractive lace petticoats.

Simplicity will mark the dress of the spring, but not the simplicity of plainness, for elegance also will enter with dignified touches, and the details will give the cachet of style to the gown. For instance, a lovely three-piece street suit, which has just been brought over from Paris, is of midnight blue serge, of finest texture and simple design. The chic little jacket which accompanied the suit has a vestee of hand-wrought silver embroidery, finished with a girle effect of the Belgian colors, purple, red and yellow, also hand-wrought with the most exquisite effect.

All skirts are wide, and many of these have overdresses of plaited material, draped after the graceful effect that years ago was characterized as apron drapery.

Peplums are shown on nearly all of the newest coats, and the buttons which will ornament all street gowns are to be things of beauty, always reflecting the color tone of the costume.

There will be no short sleeves, not only for day and afternoon wear, but all of the evening dresses will have sleeves, many of the afternoon toilets showing a decided tendency to reproduce the Victorian puff and slashing.

All fashionable gowns button up to the throat, or if a V is shown, jabots of lace and high frills caught with black velvet bands finish the neck.

Taken as a whole, however, the new gowns are most attractive, and the return of fluffy petticoats and lace-frilled lingerie will ring the death-knell of the vogue for transparency, which has been the bete noire of well-dressed women for several years.



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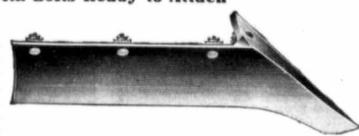
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tions, such as various inflammations, thickening and cases of stiff joints."

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VICTORIES WON BY MUSIC

"If Music is the Soul of Love— Play on!"

Shall we ever be able to say how much we owe to music? Alike in peace and war its victories have been far more numerous and complete than those which are usually accredited to the sword or the overmastering eloquence of the Senator.

The history of battles might well be written in musical terms, for in more cases than have been recorded the fact that but for the inspiration of the battle song, the crash of the trumpet or the thrilling notes of the pibroch the last ditch had never been taken.

While the day is over in which our fighting men go into the battle line to a full band accompaniment, when the history of "the great war" is written it will be found that there has scarcely been a trench or dug out where the Jews' harp, the homely concertina, the tin whistle, the skirl of the pipes or the compact little gramophone have not performed wonders in keeping men alive and steeling their nerves to do those great deeds which in the aggregate will spell the mightiest victory ever obtained over the genius of autocratic tyranny.

But "peace hath its victories more renowned than war," and we think also of the great battles in which men and women (especially "oor ain folk" of the Western prairies) engage with themselves in their loneliness and the recurring disappointments of poor seasons, small prices and unkindly conditions of all sorts.

Under the passing cloud, what will "keep the pot boiling" so cheerily as music in the home? What more than anything else but music will serve to remind men and women in the hour of depression that it is at the worst a passing mood, and that the bright sunshine is still overhead and will burst through the cloud before many hours have gone?

In this connection we strongly urge every homesteader to have something of the nature of music installed in his little dwelling—if it be but the humblest musical machine he can afford to purchase. Taking account of war times and the universal depression, financially and otherwise, our friends, the Doherty Piano Company, of Winnipeg, are offering some remarkable bargains specially thought of for the farm home and its surroundings.

On another page will be found their announcement which refers to some of the most exceptional piano, organ and phonograph bargains we have ever seen—even in "sacrifice" sales. It is not within our province to specify these, but we are glad to refer our readers to the Doherty Piano Company's brief notice of one or two items, and to say that, in dealing with this or any other house in our advertising columns, we have no doubt as to perfect satisfaction resulting from any business relationship. And, of course, we speak under cover of our own guarantee set forth on editorial page.

With a fairly long experience of life we say that we would rather miss the best meal of the day any day than the music of the home. We find that wherever it is necessary to economize, we cannot afford to cut out "the band" and that it pays to keep a piano. If not a piano, it will be no less the best investment a man can put any money into when he has provided for the necessities of his existence if he spends the remaining odd dollars on a hurdy-gurdy of some sort. And we have seen a second-hand two-dollar "hurdy-gurdy" develop into a "concert grand" in a very few seasons of cheerful waiting.



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BRUCE'S GIANT WHITE FEEDING BEET—The most valuable Field Root on the market, combines the rich qualities of the Sugar Beet with the long-keeping, large size, easy-harvesting and heavy-cropping qualities of the Mangel, 1 1/2 lb. 10c; 1/2 lb. 18c; 1 lb. 30c.

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BRUCE'S GIANT YELLOW INTERMEDIATE MANGEL—A very close second to our Giant White Feeding Beet and equally easy to harvest, 1/2 lb. 10c; 1/2 lb. 18c; 1 lb. 30c.

BRUCE'S NEW CENTURY SWEET TURNIP—The best shipping variety, as well as the best for cooking; handsome shape, uniform growth, purple top, 1/2 lb. 12c; 1/2 lb. 20c; 1 lb. 30c.

Prices are at Hamilton—Add for postage, 1/2 lb. 5c; 1 lb. 10c; 1 lb. 15c. Each additional pound 10c.—Where there are Express Offices this is the cheapest way to send all orders of 5 pounds and up.

FREE—Our handsomely illustrated 112 page catalogue of Vegetable, Farm and Flower seeds, Plants, Bulbs, Poultry supplies, Garden Implements, etc., for 1915. Send for it.

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National Trust Company, Ltd.

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Capital and Reserve, \$3,000,000

The strain and worry of managing Estates will all be borne for you by this Company.

A PRIVATE Executor may die or become incapable of acting before the completion of the Trust. A Trust Company is PERMANENT and will survive the longest Trusts.

This Company's financial strength and expert staff ensure responsible and capable administration.

We act as Trustee, Executor, Administrator, Guardian, Liquidator, Assignee, Financial Agent
SAFE DEPOSIT VAULTS SAVINGS DEPARTMENT

D. H. COOPER, Manager, Winnipeg Branch, 323-325 Main Street.

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

S. H. Henderson, Pres. E. H. Dewart, Vice-Pres. C. D. Kerr, Treasurer

The WAWANESA MUTUAL INSURANCE COMPANY

HEAD OFFICE: WAWANESA, MAN.

A. F. KEMPTON, Secretary-Manager

Amount of Insurance in force Dec. 31st, 1913 \$50,543,194.00

Assets over Liabilities \$602,467.96

THE NUMBER OF FARMERS INSURED, 31st Dec. 1913, 28,400

The Largest Farmers Mutual Fire Insurance Company in Canada. Agents wanted in unrepresented districts

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

Back Home



There is someone interested in your success in Western Canada. Possibly it is a former neighbor who may be induced to visit you and see what these provinces can produce. The opportunities Western Canada offers for poultry, butter, mixed farming and homemaking generally might induce her to again become your near neighbor, and that is why we ask you to turn in her name and address. You are interested in the growth and development of this country; we are vitally interested in the settlement and production and ask your co-operation to the end that we all may profit by encouraging the "Back to the Land" movement. Farm products will command a high price, especially for the next few years, and only ten per cent. of our soil is under cultivation. We will endeavor to interest your friend or friends if you will send us the names and addresses, and thank you for your co-operation in making our new plan a success.

Sit down and make a list of all your friends whom you think would be interested in Western Canada, and either mail the list to the

Immigration Department

Canadian Northern Railway

Room 255, Union Station, Winnipeg

or hand it to the nearest Canadian Northern Railway Agent.

HARNESS!

You want it good, don't you?—As poor harness is dear at any price. Send now for my free Catalogue A. It shows you 35 styles of the "Square Deal" Brand which is known from one side of the west to the other for its quality and is sold direct to you, the man who uses it—No agents.

THOS. McKNIGHT, Winnipeg, Canada

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

A Money Saving Bargain Catalog

is just what our **BIG FREE BOOK** represents. You should have it in your home, it shows a full line of Furniture, Stoves, Vehicles, Oils, Binder Twines, Belting, Groceries and Everything for the Farm and Home. Quality and price are 50% better than it is possible to obtain elsewhere, and we give you the very latest designs and improvements. Every article is fully covered by our **IRON CLAD GUARANTEE**. Send for your copy to-day.

Send for Our Carload Prices on **SALT, BINDER TWINE, WOVEN and BARBED WIRE, CEDAR POSTS**

The Farmers' Supply Co. Ltd.
179 Bannatyne Ave. East, Winnipeg, Man.

Imperial Bank

OF CANADA
Established 1875
Pelag Howard, President
Elias Rogers, Vice-President
Capital Authorized \$10,000,000
Capital Paid Up 7,000,000
Reserve and Undivided Profits 7,000,000

BRANCHES IN WESTERN CANADA

Province of Manitoba
Brandon Fortage la Prairie Winnipeg
Province of Saskatchewan
Baigorie Broadview North Battleford
Hosherm Fort Qu'Appelle Prince Albert
Saskatoon Moose Jaw Regina
Wilkie Hague Weyburn
Kandahar

Province of Alberta
Athabasca Landing Edmonton Strathcona
Banff Lethbridge Wetaskiwin
Calgary Red Deer
Medicine Hat Millet

SAVINGS DEPARTMENT AT ALL BRANCHES

Interest allowed at Current Rates
Drafts and Letters of Credit issued available in all parts of the world.

Winnipeg Branch
N. G. LESLIE,
Manager.



SYNOPSIS OF CANADIAN NORTH-WEST LAND REGULATIONS

THE sole need of a family, or any male over 18 years old, may homestead a quarter-section of available Dominion land in Manitoba, Saskatchewan or Alberta. Applicant must appear in person at the Dominion Lands Agency or Sub-Agency for the District. Entry by proxy may be made at any Dominion Lands Agency (but not Sub-Agency), on certain conditions.

Duties—Six months residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres, on certain conditions. A habitable house is required except where residence is performed in the vicinity.

In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price \$3.00 per acre.

Duties—Six months residence in each of three years after earning homesteaded patent, also 50 acres extra cultivation. Pre-emption patent may be obtained as soon as homestead patent, on certain conditions.

A settler who has exhausted his homestead right may take a purchased homestead in certain districts. Price \$5.00 per acre. Duties—Must reside six months in each of three years, cultivate 50 acres and erect a house worth \$300.

The area of cultivation is subject to reduction in case of rough, scrubby or stony land. Live stock may be substituted for cultivation under certain conditions.

W. W. CORY, C.M.G.,
Deputy of the Minister of the Interior
N.B.—Unauthorized publication of this advertisement will not be paid for.—44388.

Strite Variable Speed Governor

Is the best by every test for running cream separators, washing machines, faning mills, or any light machinery.

More cream separators driven by Strite Governor Pulleys than all others combined. THERE'S A REASON—ASK US.

STRITE GOVERNOR PULLEY CO. 5, 8RD ST., MINNEAPOLIS

AN IRISHMAN'S LUCK

Rev. Canon Gill, of St. John's college, Winnipeg, has become one of the most popular and voluminous of Canada's authors. He scored his first success as a novelist when he wrote "Love In Manitoba" thereby surprising many of his staid and reverend colleagues who did not know that the canon ever gave a thought to anything lighter than the subjects in the curriculum of St. John's. His first book was such an easy, delightful story and so true to life in the Minnedosa district where the canon spent so many years that it met with widespread welcome. The canon never intended that it should be called "The Rose of Sweden" but had picked out the more euphonious title of "The Rose of Sweden." The British publishers thought differently, however, and were determined to have the name Manitoba in the title on account of the interest in all things Western Canadian prevailing in Great Britain. The canon's next book was of the brochure type and was entitled "A Manitoba Choreboy." Its object was to show to lads in the old country the conditions under which they would have to learn the farming game in the west. His latest book "An Irishman's Luck" also deals with the efforts of a man from "The Old Sod" to make a success on a prairie farm. The book introduces a good many characters, all very true to type and some chapters fairly scintillate with true empire patriotism. The love element is admixed in judicious proportion and the book is one which will be read with interest by all Manitobans. A splendid feature of the canon's books in the West is that he never tries to boom unduly or to minimize the difficulties that beset the pathway of the greenhorn.

The War Tax on Letters

A war tax of one cent has been imposed on each letter and postcard mailed in Canada for delivery in Canada, the United States or Mexico, and on each letter mailed in Canada for delivery in the United Kingdom and British possessions generally, and wherever the two cent rate applies, to become effective on and from the 15th of April, 1915.

This war tax is to be prepaid by the senders by means of a war tax stamp for sale by postmasters and other postage stamp vendors.

Wherever possible, stamps on which the word "war tax" have been printed should be used for prepayment of the war tax, but should ordinary postage stamps be used for this purpose, they will be accepted.

This war stamp or additional stamp for war purposes should be affixed to the upper right hand portion of the address side of the envelope or postcard, close to the regular postage so that it may be readily cancelled at the same time as the postage.

In the event of failure on the part of the sender through oversight or negligence to prepay the war tax on each letter or postcard above specified, such a letter or postcard will be sent immediately to the nearest Branch Dead Letter Office.

It is essential that postage on all classes of mail matter should be prepaid by means of ordinary postage stamps. The war tax stamp will not be accepted in any case for the prepayment of postage.

EXPERIENCE EXTRACTS AND RECIPES

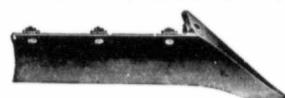
A House-cleaning Hint

To clean painted walls, dissolve two ounces of borax in two quarts of water. Add one tablespoonful of ammonia. Use half of this quantity to each bucket of water and do not use any soap. After washing the wall with this rub them with clean cloths until dry.

To Clean Laces

Delicate laces which have become soiled may be cleaned beautifully by squeezing them through skim milk to which a little bluing has been added. They come out of their bath looking like new and are just the right stiffness when stretched and dried, or dried and ironed between cloths over a Turkish towel pad.

FITTED SHARES AT LOWEST PRICES



We will save you money on reaches, harrow teeth, clevises, doubletrees, 3 and 4-horse hitchers, shafts, wire fencing, etc. Send for Catalog

12-in. \$2.00, 13 and 14-in. \$2.25, 15 and 16-in. \$2.50, 18 in. \$2.75, F.O.B. Winnipeg.

THE JOHN F. MCGEE CO. 74 Henry Avenue, WINNIPEG, MAN.

PINKERTON & COMPANY, United States Detective Agency

CHICAGO, ILLINOIS EVER SINCE

No connection with, or relation to Pinkerton National Detective Agency. SCIENTIFIC DETECTIVE WORK BY EXPERIENCED OPERATIVES. Our commercial department finds the Criminal Intent in Criminal Accounts, and reduces it to a practical basis. A criminal account is one that can pay, but won't. When the criminal feature is exposed, it works to pay.

This Detective Agency has been established for more than thirty years. CONNECTIONS ALL OVER THE WORLD. When requiring secret work, secure the best at a minimum cost by consulting with us. Investigation, records, embezzlements, forgeries, wills, legacies, etc.

PINKERTON & COMPANY, United States Detective Agency
Phone Main 3655 632 Somerset Block, Winnipeg, Man.

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Branches in Alberta:
Airdrie, Ailsa, Barons, Bashaw, Bassano, Bellevue, Blackie, Blairmore, Bowden, Bow Island, Brooks, Bruderheim, Calgary, Cardston, Carleton Place, Carstairs, Cereal, Chinook, Claresholm, Cochrane, Consort, Cowley, Didsbury, Edmonton, Empress, Foremost, Fort Saskatchewan, Grand Prairie, Grassy Lake, Hanna, High River, Hillebrand, Innisfail, Irvine, Jenner, Lacombe, Langdon, Lethbridge, Macleod, Medicine Hat, Okotoks, Pasmburg, Pincher Creek, Seven Persons, Standard, Strathmore, Swallow, Three Hills, Wainwright, Winifred.

With Cash in the Bank You Can Buy to Advantage.

Everything costs more when you have to buy on credit. Why not practice self-denial awhile, if necessary, open a Savings Account in the Union Bank of Canada, and with the money in hand, buy at cash prices. The saving will help your balance to grow.

320 Branches in Canada
Over 210 in the West

WRITE FOR BIG FREE CATALOG

2.25 DELIVERED NOW READY

SCOTTISH WHOLESALE SPECIALTY CO.

263 Talbot Ave., Winnipeg

A Typical Great-West Life Result

\$2000	20 Year Endowment	
Issued 1895	Matures 1915	
Age 21.	Premium \$93.48	
Cash Value at Maturity	\$3110 00
Premiums paid in 20 years	1860 00
Profit over premiums paid	\$1240 00

The Policyholder received a return of all premiums together with compound interest at 4 1/4%. Over and above this, he received \$45.44 and was protected by Insurance of \$2,000 during twenty years.

Ask for rates at your own age, and examples of other maturities.

The Great-West Life Assurance Co.

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Favorite of the West

DREWRY'S

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RICE BEER

E.L. DREWRY LIMITED
WINNIPEG

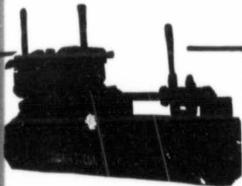
PATENTS TRADE MARKS AND DESIGNS

Write for booklet, circulars, terms, etc.

FETHERSTONHAUGH & CO.

FRED. B. FETHERSTONHAUGH, K. C. M. E.
GERALD S. ROXBURGH, B. A. S.C.

36-37 Canada Life Bldg. WINNIPEG



\$1500 to \$5000 Per Year

have been made by hundreds of people operating the "American" Drilling Machines, 40 years' experience, 40 regular styles and sizes and the output of the world's largest manufacturers of this kind of machinery make

"AMERICAN" MACHINES STANDARD

Made in types for every kind of earth and rock drilling or mineral prospecting, equipped with any power, or operated with your traction engine. Our new 1915 page Catalog Free.

THE AMERICAN WELL WORKS



General Office and Works: **AURORA, ILL., U.S.A.**

Chicago Office: First Nat. Bk. Bldg.

Double-acting, L.H. Tank and Spray PUMPS

of all kinds. Write for Circulars and Prices.

Steyn Flexible Door Hangers



PORK CAKE

1 lb. fat pork chopped fine, 1 pint of boiling water poured over it, 1 lb. of currants, 1 lb. raisins, 1 cup sugar, 1 1/2 cups syrup, 1 teaspoonful soda, 2 nutmegs, 1 teaspoonful cloves, 1 teaspoonful cinnamon, and either citron or lemon.

COFFEE LAYER CAKE

Grind three tablespoonfuls of strong coffee, add one and one-half cupfuls of boiling water; cover and simmer ten minutes and strain. Cream together one-half cupful of butter with two-thirds of a cupful of light brown sugar. Chop the meats of a half-dozen black walnuts and add. Beat separately the whites and yolks of three eggs, and mix them together with one-half cupful of the coffee. Add to the butter and sugar, beat briskly and add three cupfuls of flour that has been sifted with three teaspoonfuls of baking powder. Bake in two layers. For the icing, take one and one-half cupfuls of confectioner's sugar, a teaspoonful of soft butter and enough of the coffee liquor to moisten it to spread. Mix until all is blended smoothly, and put the layers together with this.

APPLE CHOCOLATE PUDDING

Stew one pint of chopped apples with an ounce of butter until soft. Sweeten and beat to a pulp. Boil four ounces of chocolate in a pint of milk until it is smooth. Beat four eggs and add to the chocolate. Place the apple pulp in a deep pie dish, pour over it the chocolate and bake from ten to fifteen minutes in a moderate oven.

SPICE CAKES

Two cupfuls brown sugar, one cupful butter, one cupful sour milk, three eggs, two and one-half cupfuls flour, one cupful raisins, two teaspoonfuls cinnamon, one teaspoonful cloves, one teaspoonful soda, one-half teaspoonful nutmeg and a pinch of salt. Bake in individual tins and when cold frost with white frosting and decorate with simple design in vegetable coloring with brush or with candied. Serve on a plate garnished with laurel leaves.

ICICLES

Make a rich pie crust of one cupful of pastry flour and half a cupful of lard, mixed with ice water to make of the proper consistency. Roll this out thin and spread with a thin coating of butter, then sprinkle over with fine granulated sugar and cinnamon. Roll up the crust very tightly and cut in proper lengths. If done properly the pieces will resemble icicles. Bake in moderate oven to a very light brown and while still hot roll in sugar. Arrange on a plate in star shape and garnish with laurel leaves.

APPLE AMBER

Pare, core and slice one pound of apples. Put them in a saucepan with four tablespoonfuls of sugar, three of butter, and cook until tender. Rub them through a sieve and mix in the yolks of three eggs, then pour into a pudding dish lined with pastry. Bake in a moderate oven fifteen minutes, then cool. Whip the whites of the eggs to a stiff froth, stir in two tablespoonfuls of sugar, pile roughly on top, decorate with candied cherries and return to the oven for ten minutes. Serve cold.

Memory Gem

Never are kind acts done
To wipe the weeping eyes,
But like flashes of the sun
They signal to the skies;
And up above the angels read
How we have helped the sorer need.
Then let us learn to help each other,
Hoping unto the end;
Who sees in every man a brother,
Shall find in each a friend.

A Commercial Crime

This month I have seen started in Winnipeg a form of display that is most deplorable. Little children—five and six years old—are used as models in the department store opening of spring gowns. The little ones are dressed in the new dresses, boots and hats and parade before an audience. What seeds of envy and self-interest will be planted in the minds of these little tots who pose for public approval! I'm sorry that this form of advertisement has made its bow to Western Canada.—P.R.H.

GILLETT'S LYE

The Standard Lye of Canada. Has many imitations but no equal

CLEANS AND DISINFECTS

100% PURE

WATCH THEIR READING

Take a glimpse into the books your boys and girls are studying these days. They will not be at all like those you studied when you were young, but you can learn many things from them that will be well worth while. In arithmetic, for example, you will find many short cuts that are worth mastering.

DUNLOP

"The Original Red Canvas Belt" Holds 46 medals and diplomas for "highest efficiency." Thoroughly waterproof, absolutely endless and jointless. Anti-friction edges. 1/3 greater tensile strength than other belts.

THRESHER BELTS

SEAL OF QUALITY

DUNLOP TIRE & RUBBER GOODS CO., LTD.

Head Office: **TORONTO** Branches in Leading Cities

Makers of Tires for Automobiles, Motor Trucks, Motorcycles, Bicycles and Carriages, Rubber Belting, Packing, Hose, Hubs, Mats, Tiling, and General Rubber Specialties.

FURS! HIDES! WOOL!

If you want quickest returns and most money for your furs, hides, wool, etc., ship them to

FRANK MASSIN Brandon, Man.

Write for prices and shipping tags.

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



Conducted for the benefit of Dealers, Threshermen and Farmers who have anything to sell or exchange. Five cents a word for each insertion.

FREE FOR SIX MONTHS—My special offer to introduce my magazine "Investing For Profit." It is worth \$10 a copy to anyone who has been getting poorer while the rich, richer. It demonstrates the real earning power of money and shows how anyone no matter how poor, can acquire riches. "Investing for Profit" is the only progressive financial journal published. It shows how \$100 grows to \$2,500 in six months and how it does it six months free. H. L. Barber, 490-20 W. Jackson Blvd., Chicago.

FARMS WANTED. We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 18 Palace Bldg., Minneapolis, Minn.

OXY-ACETYLENE WELDING—Save your cracked or broken castings from the scrap heap. We weld cylinders, crank shafts, gears, levers, etc., retain original form and strength at a small cost. Metal added to worn-out parts. All metals welded satisfactorily. The Manitoba Welding & Manufacturing Co., 624 Princess Street, Winnipeg.

FOR SALE. We have on hand at present a very full line of Rebuilt and Second-hand Engines and Separators, which we are offering at attractive prices. Write us fully what you are thinking of buying, when we shall be pleased to tell you what we have and our prices. All our rebuilt goods are sold under same guarantee as new ones and of course are carefully repaired and look exactly like new. If you write us at once we are sure to have the size you: almost want.

SAWYER-MASSEY COMPANY, LIMITED, Winnipeg, Man.

BARGAINS.

- 1 30 H.P. double undermounted Avery engine, with Alberta and Saskatchewan Boiler. This engine has been repaired and fixed up in first class shape.
1 30 H.P. undermounted Avery engine, with regular boiler, repaired and fixed up in first class shape—this would make a dandy threshing engine.
1 20-35 Avery gas engine—has been out two seasons and is in first class shape.
1 20-35 Avery gas engine—has been out seven days in 1913, is practically as good as new.
1 18 H.P. double undermounted Avery engine, coal burner, is in first class shape.
1 3-ton Avery farm truck, has been repaired and over-hauled and is in first class shape.
1 36 x 60 Avery separator, complete with feeder, weigher, wind stacker; has only been out 30 days. Has been repaired and repainted, looks like new.
1 32 x 54 Avery separator, only been out 20 days, and is in first class shape.
1 42 x 70 Avery separator, has run 30 days, has been repaired, repainted and over-hauled and is in first class shape.
If you are interested in second hand goods and none of the above suit you, let us hear from you, stating just what you want, and we feel sure we can fix you out all right. We feel sure we can fix you out all right.
CANADIAN AVERY COMPANY, LTD. Winnipeg and Regina.

FOR SALE OR TRADE for land or stock. 30 H.P. Rumely steam plowing engine and Cocksbutt Plow, nearly new. Address, Caswell Bros., Cherokee, Ia.

FREE—We will give free to any person interested in stock or poultry one of our 80 page illustrated books on how to feed, how to build hen houses; tells the common diseases of poultry and stock, with remedies for same; tells how to cure roup in four days; tells all about our Royal Purple Stock and Poultry Foods and remedies. Write W. A. Jenkins Mfg. Co., London, Canada.

OLIVER ENGINE GANG—Breaker bottoms, two sets of shares. Practically new. Will sacrifice it at half original price. Owner selling out. Alex. Santo, Bender, Sask.

FOR SALE or trade for small steamer, 35 H.P. Buffalo-Pitts plow engine and 10-furrow John Deere engine gang. Address, R. B. Preston, Young, Sask.

WINNIPEG TRACTOR AND DEERE ENGINE PLOW—Would take cattle sheep or auto in exchange. In excellent condition. \$1,000, easy terms. Jas. Myers, Bowell, Alta.

EXPERT GAS ENGINEER—Wide plowing experience. Open for 1913 engagements. Box 3164, Winnipeg, Canada.

EXCHANGE—My equity in Winnipeg lots for powerful breaking steam outfit. G. S. Gudmundson, Frammes, Man.

WANTED—Job firing plowing engine. Three falls' experience firing with straw. Robt. Sharp, Cottonwood, Sask.

FOR SALE—We have for sale a full line of second-hand rebuilt machinery, consisting of steam engines, gas engines and separators. These are being offered at good values. Should you be interested, write us giving particulars re size of rig that you may require, and we will gladly give full information. J. I. CASE THRESHING MACHINE CO., Regina, Saskatchewan, Canada.

FOR SALE.

- No. 15 Horse Case Simple Portable Engine 20540
15 Horse Case Simple Portable Engine 20540
15 Horse Compound Portable Engine . . . 13426
18 Horse Simple Traction Waterloo . . . 323
16 Horse Portable Sawyer-Massey . . . 8299
20 Horse Portable Sawyer-Massey . . . 1419
20 Horse Simple Traction Sawyer-Massey . . . 1116
20 Horse Compound Traction Engine . . . 7936
20 Horse Simple Traction Engine, Case 17721
20 Horse Simple Traction Engine, Case 16912
32 Horse Simple Traction Engine, Case 19012
J. I. CASE THRESHING MACHINE COMPANY, Winnipeg, Canada.

WANTED to hear of good farm or unimproved land for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

MEN AND WOMEN WANTED in all localities no matter how small the village to show samples to their friends and neighbors, position will pay \$20 weekly with a few hours work in spare time. This is new co-operative plan of trading, for example: Redpath's best granulated sugar, 4 cents per pound; Christie's large boxes sodas for 15 cents; Comfort, Surprise or Sunlight soap, 8 bars for 25 cents. These are merely a few sample prices, everything sold at factory prices to the consumer, men making as big as \$50 weekly with our plan. No experience required as the prices do the work. Sample case with samples and supplies furnished free. Write to-day for your territory. The Consumers' Association, Windsor, Ontario.

CASH FOR YOUR FARM OR BUSINESS—I bring buyers and sellers together. No matter where located, if you want to buy, sell or exchange any kind of farm, business or machinery anywhere, at any price, write me. Established 1881. John B. Wright, successor to Frank P. Cleveland, 181 Adams Express Building, Chicago, Illinois.

Holstein heifer calves from one to two months old. State lowest price in first letter, express prepaid to Lorette Station. Address, J. H. Kaplunovitch, Prairie Grove, Man.

AGENTS and district managers wanted in all western towns for our wonderful new labor saving, quick selling, household necessity. Every housewife buys. Permanent business and big money maker for energetic men or women. Write Northwestern Agencies, 920 Somerset Block, Winnipeg.

WANTED—Position as engineer on a steam or gas engine. Six years' experience plowing. Can furnish reference. Total abainer. Position in Alberta or Saskatchewan. Address, J. P. Ferschweiler, Trochu, Alta.

WANTED—A 15 or 20 H.P. Case second-hand engine. Will buy or trade a gas tractor. Write R. B. Preston, Young, Sask.

THE BLESSEDNESS OF DEATH—Swedenborg's great work on "Heaven and Hell" and the life after death. Gives positive proof. Over 400 pages. Only 25 cents postpaid. W. H. Law, 486-G Euclid Ave., Toronto, Ont.

WANTED—In every town in Western Canada, agents to handle our Imperial Bag Holder. You can make from 50 to 100 per cent handling this line. Write us for full particulars. Moncrieff and Endress, Ltd., 23 Galt Building, Winnipeg.

FOR SALE or trade for small steamer, 35 H.P. Buffalo Pitts plow engine and 10-furrow John Deere engine gang. Address, R. B. Preston, Young, Sask.

WANTED—Position as engineer on gas engine. Rumely preferred. Considerable experience. State wages. W. J. Bridgeman, Rowletta, Sask.

WANTED—Position as engineer on steam plow rig. Would run through threshing season. Over fifteen years experience. A Bradshaw, Lost River, Sask.

FIRST CLASS ENGINEER desires position on Rumely or Fairbanks tractor. C. J. Suprenant, Waverley, Minnesota.

WANTING TO BUY second hand steam plowing engine. M. Bartholet, Friedenthal, Alta.

GASOLINE ENGINEER wants work. Six years experience, best of references, any make of engine, by day or percentage. Write, Geo. Anderson, Dutton, Mont.

MEN WANTED in this and adjoining counties to show samples and distribute circulars for Canada's largest cut-rate grocery mail order house. Sample case free. Position will pay \$20 weekly. The Co-operative Union, Windsor, Ontario.

ONE 10-FURROW 14 in. Cocksbutt engine gang, both stubble and breaker bottoms, also Stewart sheaf loader, only run ten days, in good shape. R. A. Brodie, Pierson, Man.

WANTED TO HEAR from owner of good farm for sale. Send cash price and description. D. F. Rush, Minneapolis, Minn.

MOTOR CYCLES—New and second-hand. Cleveland wheels, made in Canada. Repairs for any kind of wheel or motorcycle, tires, pumps, horns and all accessories, wholesale or retail at Hall's, 1734 Cornwall St., Regina, Sask.

STEAM PLOW ENGINEER with 20 years experience wants situation for 1913. Saskatchewan, Manitoba and Minnesota. References in Manitoba refer to: Kootenay, Morden; Dewart Bros., Stockton; H. E. Tavish (2 seasons), Rosebank; W. H. Hall, Orterburn, Sask.; J. Wells, Saskatchewan; C. Wells (3 seasons), Francis; W. H. C. Housen, Gray P.O.; A. C. Kastor, Vancouver, P.O., Mon., or 188 Logan Ave., Vancouver, B.C.

IF THERE IS A MAN who wishes to roam over some of the most dreary wilds, obtain a 5 or 10 acre vegetable and poultry tract on the Kootenay Lake in Sunny Southern British Columbia, the district where the apple peach are the finest of fruit. Good climate. \$90 per acre at \$5 and \$10 per acre no interest. Agreement for sale with the Clear title. Lindsay Land Co., Gray City, B.C.

PURE BUFF ORPINGTON AND WANDOUT EGGS. \$1.50 per 15. Also Toulouse goose eggs. Richard Duff, Findlater, Sask.

BUFF ORPINGTONS—Winners International Laying Contest. Winners over shown. Stock and eggs sent for name. C. Robins, Chilliwack, B.C.

HIGH CLASS ROSE COMB Rhode Reds. Eggs from securities \$2.00 per 15. Richard Duff, Mekwin, Man.

A Chance to get a good Gas Engineering Book FREE!

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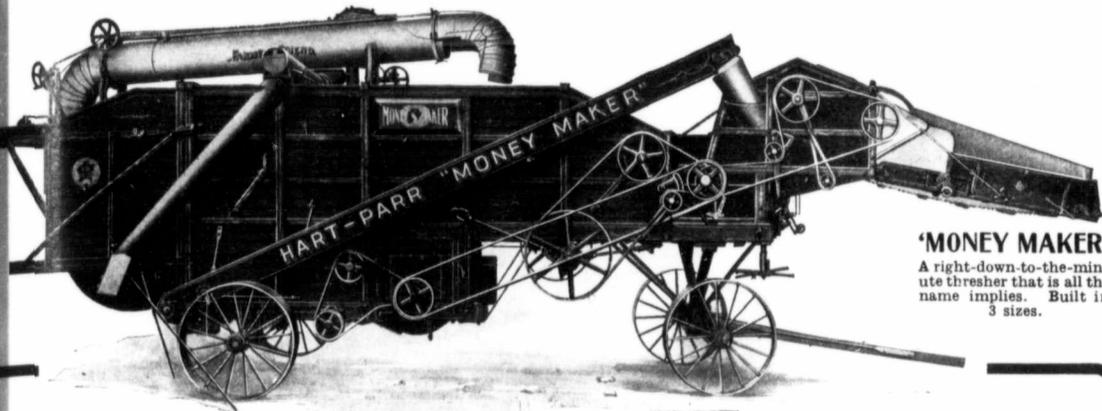
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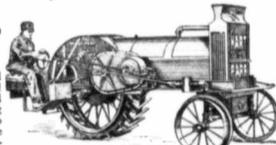
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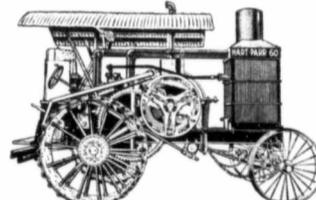
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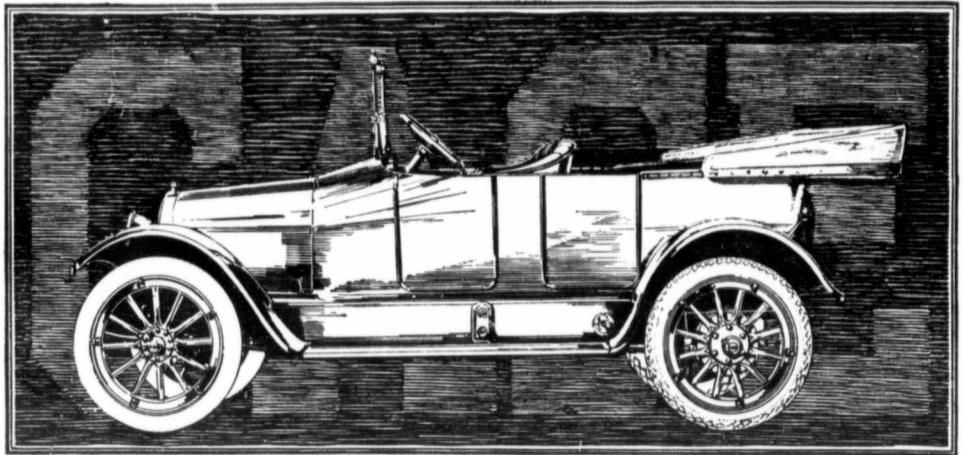
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