

The **CANADIAN** THRESHERMAN AND **FARMER**

WINNIPEG CANADA
MARCH
NINETEEN NINETEEN

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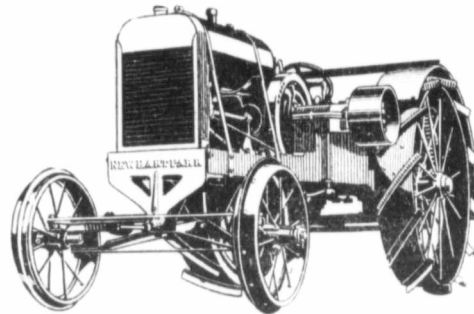


Published Monthly by E. H. HEATH CO. LIMITED - Our Seventeenth Year

KEROSENE SUPREMACY

SPECIFICATIONS

Power. Pulls three plows, 30 H.P. on belt.
Motor. 2 cylinder twin cycle. Valve in head, 750 R.P.M.
Motor Frame. Cast steel, one piece. No bend. No twist.
Carburetor. New Day kerosene shunt.



SPECIFICATIONS

Bearings. S. K. F. and Hyatt.
Speeds.—Two forward, 2 and 3 m.p.h., one reverse.
Transmission.—Selective sliding gear.
Radiator.—Perflex. Shaft driven fan.
Lubrication. Madison Kipp. Force feed.
Weight. 5000 lbs.

The New HART-PARR



FIVE inches is average plowing. The New Hart-Parr will turn up seven a 40 per cent increase. It will do it quicker and cheaper pulls three plows and is a one-man outfit. This deeper and timely plowing means bigger crops. With the New Hart-Parr you find that you plow for crops that you now try to disc or drill in. With the New Hart-Parr you can disc and seed in one operation it also pulls two binders easily. At plowing and other field work it chugs right along with no trouble with power to spare with no overheating. At threshing or other belt work it passes from no load to full load or vice versa without misfiring and without throttling being necessary. **THE DRAY KEROSENE SHUNT** does it. Then the extra work it does **hauling, grinding, crushing, sawing wood, cultivating** and many other jobs that cut the cost of farming, increase production, and leave more to sell. It does as much work and more on kerosene than can be done on gasoline. It is guaranteed to burn kerosene, to develop as much power from it, and use no more of it than gasoline. You want to know what the New Hart-Parr will do on your farm. Send us a card to-day and we will tell you fully.

At the first big demonstration of P&O held at Columbus, Ohio, under the direction of the Ohio State University, the New Hart-Parr was officially credited with producing 37 1/2 horse-power, 5 horse-power more than any other three-plow tractor in the field.

Dimensions and Data		Official Tests		Dimensions and Data		Official Tests			
Make and Size	Kind of Fuel	Revolutions per minute	H.P. developed	Fuel cost per H.P. hour	Make and size	Kind of Fuel	Revolutions per minute	H.P. developed	Fuel cost per H.P. hour
HART-PARR 30	Kerosene	750	37.5	0.150	Huller 12-25	Kerosene	1000	28.3	0.195
Avery 12-25	Kerosene	1000	18.3	0.178	H. H. 15-30	Kerosene	775	33.0	0.216
Avery 8-16	Waldrop	1000	11.3	0.221	Moline 9-18	Gasoline	1050	28.2	0.171
Avery 15-30	Kerosene	900	33.4	0.221	P. H. 12-25	Kerosene	900	34.4	0.144
Aultman-Taylor 10-18	Kerosene	1050	19.8	0.173	Rainley 12-20	Kerosene	900	35.2	0.134
C. Case 15-27	Kerosene	900	27.7	0.166	Russell 20-40	Kerosene	825	31.6	0.254
Cleveland 12-20	Gasoline	1000	19.2	0.192	Shelby 9-18	Gasoline	1100	18.6	0.161
Egan 12-25	Kerosene	950	19.2	0.159	Star-Mule 12-20	Kerosene	900	21.4	0.183
Emerson 12-20	Kerosene	900	24.7	0.210	Taney 10-20	Kerosene	900	24.1	0.150
Frick 12-25	Kerosene	900	24.7	0.163	Waterloo Boy 12-25	Kerosene	750	21.2	0.158
Fordson 11-22	Kerosene	1000	23.4	0.177	Wallace Cub 15-25	Gasoline	850	31.8	0.286

WHAT IT PROVES

Average fuel cost of all other competing test 0.234 per H.P. hour
Fuel Cost of the New Hart-Parr 0.150 per H.P. hour
 Average developed H.P. all other 3-plow tractors 24.3 H.P.
Developed Horse-Power of the New Hart-Parr 37.5 H.P.
 Average reserve power developed by other 3-plow tractors on maximum load test 6.84 H.P.
Reserve Power Developed by New Hart-Parr Maximum Load Test 7.50 H.P.

WE ARE DISTRIBUTORS FOR P&O PLOWS AND SUPERIOR DRILLS. A FULL LINE OF REPAIRS CARRIED IN STOCK

Hart-Parr of Canada, Limited
 612 McIntyre Block, WINNIPEG REGINA, CALGARY
 WAREHOUSE AND SHOW ROOMS: 47 HIGGINS AVE. EAST

Manitoba Agents for
AULTMAN & TAYLOR
 Tractors and Separators

AULTMAN-TAYLOR Farm-Power Machinery

Experience

Lack of experience causes more failures in the farming business, or any business for that matter, than any other known thing—and YOU know that it does. Likewise, lack of experience on the part of designers and builders of power farming machinery has caused the American farmer more grief and loss of money than anything else—and YOU know that it has.

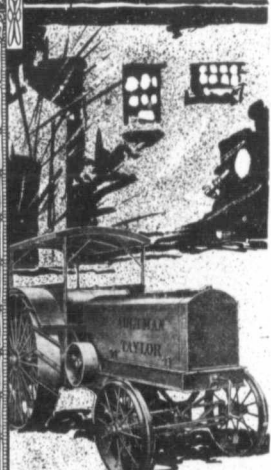
The wide-awake farmer, like every good business man, profits by experience. He buys only such farm equipment as has a record of reliable performance back of it. Aultman-Taylor Tractors, Threshers and other power farming machinery are bought and sold everywhere on a basis of the greatest amount of work done, with the least cost for operating and upkeep.

Aultman-Taylor Tractors have been undisputed leaders for ten years. They have more good features than any other tractors—EXPERIENCE placed them there.

Aultman-Taylor New Century Threshers are champion grain savers and cleaners—EXPERIENCE has made them so.

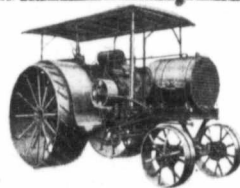
You will always hire an experienced man in preference to a "green" one. Then, how about your machinery? Do you not think it a good policy to buy your power farming machinery from a concern whose reputation and good faith you well know—a concern whose products are of the highest standard of quality and long since passed the experimental stage.

You buyers must choose between the Aultman-Taylor tried and proved machinery, with 54 years of "knowing how" built into each machine, and the untried products built by the inexperienced firm who knows nothing about your requirements or how to build machinery to meet them. Do you want them to experiment at your expense? To be sure you do not. Then, you had better play safe right from the start. Write us to-day for Catalog and full particulars.



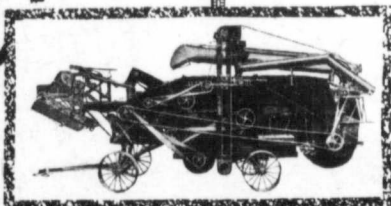
15-30
H.P.

22-45
H.P.



30-60
H.P.

Best for heavy farm
duty and road work.



NEW CENTURY
4 SIZES

2 small sizes for
individual use.

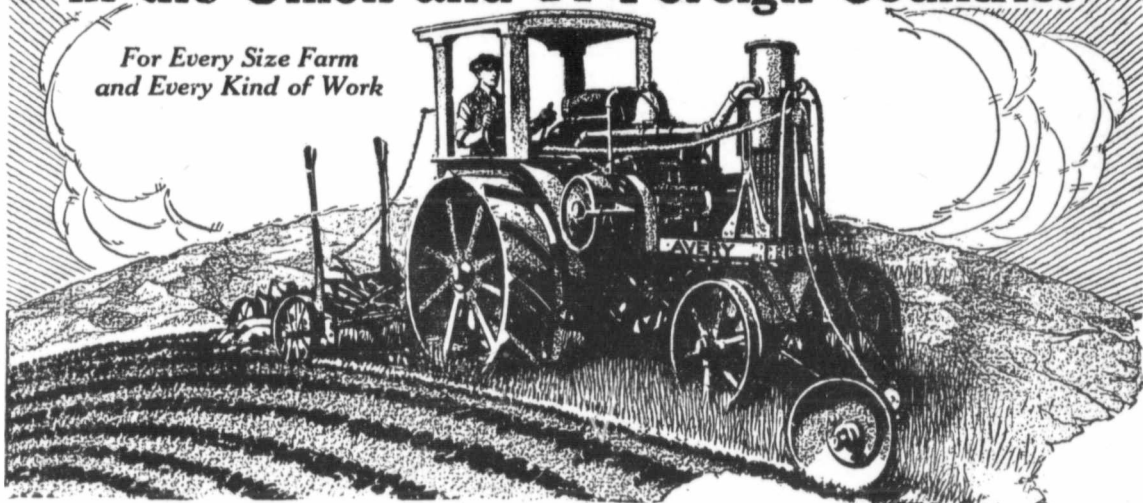
**The AULTMAN & TAYLOR
MACHINERY COMPANY**
MANSFIELD, OHIO
CANADIAN BRANCHES: CALGARY & REGINA

THE HART-PARR CO. OF CANADA, LTD.
DISTRIBUTORS FOR MANITOBA

The World's Farm Power

Avery Machines are Used in Every State in the Union and 61 Foreign Countries

For Every Size Farm
and Every Kind of Work



On Tuesday of the show week in Kansas City, two solid trains of about 40 cars each, loaded with Avery Tractors, arrived at Kansas City from the factory at Peoria, Ill. All of these tractors were for delivery to Avery Dealers in Kansas and Oklahoma. This is the largest single shipment of tractors ever made to dealers in any part of the country.

YOU are not trying out an experiment when you get an Avery Tractor. You get a machine that has been tried out and proven a success by tens of thousands of farmers in this and other countries. You get a tractor that has been entered in every important contest and demonstration and has been put to the hardest tests.

You get a tractor that is built complete in the Avery factories, which insures a high standard of workmanship throughout, and a tractor that is backed by a company which has branch houses and distributors covering every state in the Union which insures prompt and permanent service.

You get a tractor with a "Draft-Horse" Motor and a "Direct-Drive" Transmission—a motor that is strongly constructed and runs at a low speed, and a transmission that drives direct in high, low, reverse, or in the belt, and is the simplest and most efficient tractor transmission built.

You get a tractor with patented adjustable crankshaft bearings which you can adjust instantly to take up wear; renewable inner cylinder walls which wear longer and can always be renewed; kerosene and distillate gasifiers that turn kero-

sene or distillate into gas and burn it all; and a round radiator with thermo-siphon cooling system which does away with pumps, fans, belts, chains, and other trouble-making parts. You get a tractor that comes to you complete with wheel guards, platform, wide tires, wheel lugs, coupler, belt pulley, etc., saving you the expense of buying extra equipment which you need regularly.

Do All Your Work With Avery Motor Power

Use an Avery Tractor for your heavy work, such as plowing, preparing your seed bed, harvesting, threshing, ensilage cutting, etc. Use an Avery Motor Cultivator for planting and cultivating your corn, cotton, beans and other row crops, and light belt and traction work. Use an Avery Grain-Saving Thresher to save your grain after you raise it.

Write Now for the New 1919 Avery Motor Farming, Threshing, and Road-Building Machinery Catalog

Get all the facts about the complete line of Avery Tractors, built in sizes for every size farm, with the smallest size tractor selling at only \$350.00, f. o. b. Peoria—the Avery Motor Cultivator with which you can cultivate corn, cotton, etc., with motor power—and the complete line of Avery Grain-Saving Threshers and Plows for every size tractor. Ask for the new 1919 Complete Avery Catalog, also for the FREE Avery Tractor Correspondence Course and 100 Questions and Answers to Tractor Troubles. All free. See sample machine at the nearest Avery dealer's

CANADIAN AVERY CO., LIMITED

Western Canadian Distributors

Branches at REGINA, CALGARY, SASKATOON

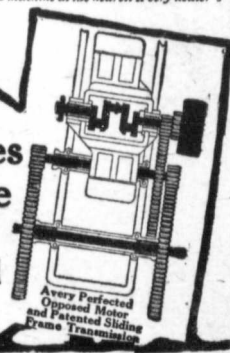
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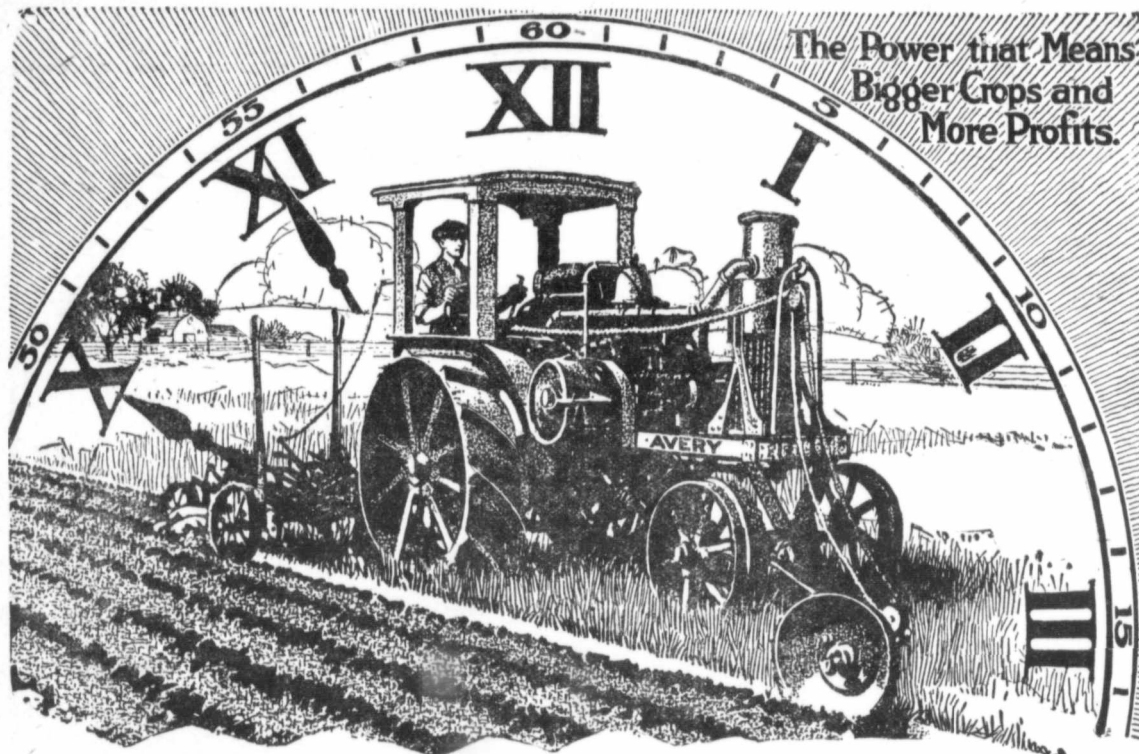
AVERY

Motor Farming, Threshing and Road Building Machinery

Five Sizes
the Same
Design.
Standardized



The Power that Means
Bigger Crops and
More Profits.



Do In Hours With a Tractor Work That Takes Days With Horses

PLAN your time this year in hours of tractor work instead of days of horse work. Start this year's work with a tractor and get your plowing done at exactly the right time and raise bigger crops. Do your work with less hired help, or farm more acres with the same help. Let an Avery Tractor make you as much money in a few hours this year as you made in a day before, with horses.

What You Get In An Avery Tractor
You get a tractor with a "Draft-Horse" Tractor Motor built in our own motor factory especially for tractor work and only for Avery Tractors.

You get a tractor with a "Direct-Drive" Transmission that is the simplest tractor transmission system built and which delivers more of the power of the motor to the belt wheel and drawbar.

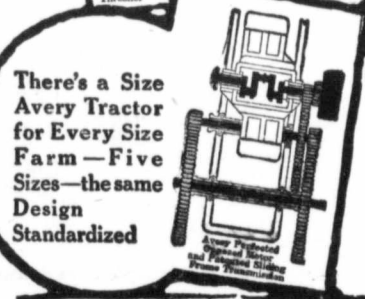
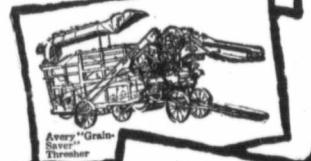
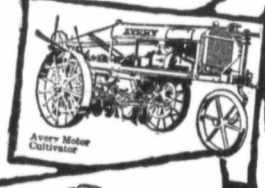
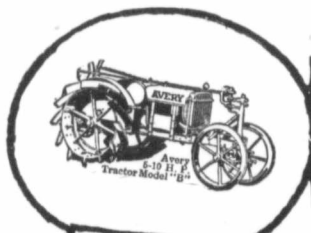
You get a tractor with these Avery exclusive and protected features—renewable inner cylinder walls, adjustable crankshaft boxes, duplex kero-

sene and distillate gasifiers, double carburetor, practically unbreakable crankshafts, round radiator, sliding frame transmission, universal self-cleaning, non-slipping lugs, etc.

You get a tractor that is built complete in the three large Avery factories, which insures one high standard of quality; a tractor that is backed by national tractor service through our branches, distributors and dealers which insures prompt and permanent service; and a tractor that is successfully used by farmers in every state of the Union and in 61 Foreign Countries.

Write For the New Avery Catalog

It tells you all about Avery Tractors, Motor Cultivators, Plows and Threshers. Also ask for the Avery Free Tractor Correspondence Course and the Avery Special Circular entitled "100 Questions and Answers to Tractor Troubles."



CANADIAN AVERY CO., LIMITED

Western Canadian Distributors

MAIN OFFICE, WINNIPEG

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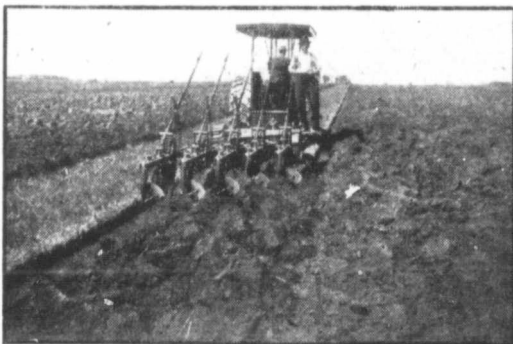
AVERY

Motor Farming, Threshing
and Road Building Machinery

There's a Size
Avery Tractor
for Every Size
Farm—Five
Sizes—the same
Design
Standardized



Hauling 400 bushels of wheat to town with a Sawyer-Massey 11-22 Kerosene-Burning Tractor. (Photo taken at Windthorst, Sask.)



Pulling 5 plows with a Sawyer-Massey 20-40 Kerosene-Burning Tractor, near Brandon, Man.

For Your Work

Mr. Grain Grower:

YOU SAID you wanted a Kerosene Tractor, not only to plow, harrow and put in your crops, but one that had sufficient speed to pull binders and be suitable for freighting on the road, and for general farm work. It must be a steady threshing power and be a tractor that you could run and look after yourself, and that would last.

WE OFFER YOU a Kerosene Burning Tractor, built in Canada, specially to do all of the above work. The power is flexible. Two-speed gearing allows you to instantly change the tractor from a slow powerful puller for plowing and heavy work to a fast hauler for pulling binders, harrows, and doing general work. In the belt it is a wonder, a four-cylinder motor furnishing a steady stream of power with no more vibration than an automobile.

We manufacture these tractors in four sizes: 11-22, 17-34, 20-40 and 25-50 horse-power. All are of the same general appearance and design, four steel road wheels with traction drive to both rear wheels, two-speed gearing, spring-mounted radiator with brass tubes, high tension ignition with impulse starter, no batteries. All are conservatively rated and have ample reserve power.

Let the Sawyer-Massey Tractor do your work. Get in touch with our Local Agent in your Town, or fill out the coupon below for free literature covering the 1919 Model Sawyer-Massey Tractors.

THRESHERS: We manufacture Grain Threshers in sizes ranging from 22-inch to 40-inch cylinders, and the only Combination Threshers having 6 wheels and a 4-cylinder kerosene burning motor. Remember in dealing with Sawyer-Massey Company, Limited, you are doing business with a strictly Canadian firm, established in 1836, and who has earned an enviable reputation for building honest, serviceable goods, and for dealing fairly and squarely with their customers.

FILL OUT THE COUPON AND MAIL TO YOUR NEAREST SAWYER-MASSEY BRANCH HOUSE.

READ THIS LETTER FROM AN OWNER

Maple Creek, Sask., December 2nd, 1918.

Sawyer-Massey Co., Ltd.,
Regina, Sask.

Sirs:—Thinking it would be of some interest to you to know what success I have had with my 11-22 Sawyer-Massey engine which I bought in March, 1918, might say it is in a class by itself. It is surely a perfect kerosene burner, and the beauty of it is that it burns kerosene without mixing any water. I plowed for eighteen hours without stopping the motor, and after I stopped, the water was but hot and my engine was never to a boil yet. If anyone can beat that I'm from Missouri.

The engine is pulling a three-bottom, fourteen-inch John Deere Gang with ease and she is surely an easy starter and the smoothest running engine I have ever seen, having practically no vibration. I plowed 220 acres with 439 gallons of kerosene at 24c per gallon, 6 gallons of gasoline at 39c per gallon, and 27 gallons of lubricating oil at 72c per gallon, so you can figure out for yourself what it cost me per acre.

If I had to buy another engine it would be a Sawyer-Massey. If anyone is intending to buy a tractor, he will not make a mistake in placing his order with the Sawyer-Massey. In the first place we are getting the best engine made and are patronizing our home industry, which we as Canadians should be proud to do. Do not let us send our money to the United States as long as we can get just as good, or better, goods at home.

Respectfully yours,
(Sgd.) E. G. STROBEL.

Request for Free Information Coupon (Mail to nearest Sawyer-Massey Branch).

Kindly place my name on your mailing list to receive free 1919 Literature, covering the Machinery which I have marked with an X below.

- 11-22 Kerosene Burning Tractors.
- 17-34 Kerosene Burning Tractors.
- 20-40 and 25-50 Kerosene Burning Tractors.
- Steam Engines.
- Individual Threshers.
- Large Custom Threshers.
- Combination Threshers.
- Road Machinery.

Name

Address

Date /

Sawyer-Massey Co., Limited

Head Office and Factory, HAMILTON, ONT.

Branch Offices and Warehouses:

WINNIPEG, Man., SASKATOON, Sask., REGINA, Sask.
CALGARY, Alta.



Vol. XXIV

WINNIPEG, CANADA, MARCH, 1919

No. 3

IT IS A "tall order" under the very best facilities of transportation to perform the feat of being in two places at once. The three-ring circus isn't in it with the distracting problem of one man seeking to "take in" simultaneously some ten or a dozen meetings and demonstrations—every one of which is presumed to be of first-class importance to the agricultural interests of Western Canada generally, and of Manitoba in particular. Frankly, it can't be done.

The thing is to take in all you can and, as the kitchen recipe book has it, "what you haven't got leave out." So that's what we did, but in discriminating as to what we would not leave out, we have no reason to repine because we got a big cart-load of splendid food, and all the encouragement and inspiration one could reasonably assimilate within the compass of five crowded days.

The list given in the above heading by no means exhausts the various organizations which were in full blast during that great week of getting together, but they just fit in to a reasonable space as a sub-heading, and they were probably the biggest features of the annual round-up.

This is not intended as a mere report of these various conferences. Their matter-of-fact details have already appeared in the daily and weekly press, and what follows is the impression, or it might be the "considered opinion" of our man-in-the-street, as to the

Manitoba Farmers in Conference

A bird's eye impression of the Convention of Agricultural Societies, Boys' and Girls' Clubs, Home Economic Societies, Soil Products Exposition, and Dairy Show held in Winnipeg during this week February 17-22, 1919

certain details of his investigational work on cereals—which we were privileged to hear, and on comparing notes with many keenly interested agricultural representatives, we believe it was an outstanding feature of the week's banquet of good things.

The first impression was that here is a public servant whom you cannot buy or intimidate. A student who is fascinated by and engrossed in his one theme of finding out what it is possible to discover for the improvement of

the world's grain crop, and chiefly as it can be grown in the Dominion of Canada.

It is no use reckoning with his physical bulk because he is as thin as a shadow; but when you seek to carry the tape-line about his atmosphere, you begin to realize the bigness and the single-mindedness of the man, and to find that the best service you can render him is to refrain from advertising or in any other way impeding him in his work.

Some grain growing enthusiasts did the meeting a real service by venturing to "heckle" the professor in a friendly way as to what he would recommend under certain conditions,

what he hoped to accomplish along certain lines and when; what was the cause of this, that and the other thing, etc. To all of which it was delightful to listen to the instant but by no means unconsidered replies.

More than once there came the honest avowal of the conscientious investigator — "I don't



MANITOBA'S COMING FARMERS AND FARM WOMEN.

Champions (1918) of their respective Boys' and Girls' Clubs, entertained during Convention Week, February 17-22, in Winnipeg, by the T. Eaton Company. Dr. Thornton (Minister of Education) takes off his hat to the young folks and is seen in foreground.

significance of what he did see and hear.

Dr. Charles Saunders

When one has grown accustomed to so much that is mere platform pastime, it does feel like the freshness of real hill air to listen to one who captures the attention and sustains the interest of his audience from the first sen-

tence he utters. Such is Dr. Charles Saunders, a man whose pen we had often followed, but whose voice we heard for the first time.

He travelled from Ottawa to deliver addresses to the Seed Growers' Association and to the Convention of Agricultural Societies. It was the latter — giving

know;" "I cannot tell you because I haven't found that out myself yet." But when the affirmative was used, it was covered with such a fine mantle of velvet there was no dogmatic rasp in the simple announcement; it was as far off as it could be from the pedantic chin music of the paid demonstrator.

Dr. Saunders spoke apparently from very brief notes, but there was not an unnecessary word in his whole address, and the whole subject matter of it was of the utmost value to the entire grain growing fraternity in Western Canada. For that reason we join with one of the executive in expressing the regret that no one had been assigned to the business of taking a careful shorthand reproduction of that man's address and of the discussion which followed.

Some of the addresses given at those meetings are not worth reproducing. They are the merest piffle from men who apparently had not the common decency to prepare themselves. But when it is something which from all past experience it is known will be a service of "real meat," surely it is of the first importance that it might not only be preserved, but have the widest publicity that can be given to it.

The rank and file of the agricultural press does not seem equal to the task of doing justice to these occasions. Under the most favorable circumstances, space is not available for even a small portion of the vast miscellaneous accumulation at the week's end, and then every editor having his own peculiar ideas as to news' value, in the long run, much of what is priceless and should be made permanent in educational value is crowded out by many columns of "news" that is of no value or interest when it is a day old.

No doubt there are some full records of Dr. Saunders' investigations in the Dominion archives and in sundry bulletins. The public service requires, however, that this knowledge should be within easy reach of the whole people instead of the mere handful of delegates who are privileged to hear him when he can leave his work to go afield. But as the Dominion Printing and Publications Department is under a cloud at the moment, it might be well not to pursue the matter further at this writing.

Returning, however, to the man and his work, we wondered as we listened to him whether his countrymen as a whole have measured the full stature of the man and his moral weight in the affairs of the Dominion. As we contemplate the spare figure, the sincerity and thoroughness of the impeccable

student to whom a newly-ascertained fact is of far greater account than all the money value it may subsequently lead to, the feeling grows on one that here is at least one reliable man possessed of the gift of patience and continuity, who does not work for the mere "pay" of the thing.



A unique assembly of well-known Manitoba educationalists.

One can't "pay" a public benefactor like Dr. Saunders, and he seems as indifferent to glory, celebrity, notoriety, or however the personal element may be designated as the inarticulate golden wheat on which he is experimenting. We know nothing of what wages or "salar," he receives, but whatever the fitful moods of changing Ottawa Governments may have decreed it to be, since he succeeded his wonderful father, it may be taken for granted that it remains at so modest a figure in the gross "appropriation" for investigational work, no person who is alive to

investigational work conducted by Dr. Saunders should be looked into, understood and fully appreciated, not only by a select committee of Government pundits, but by every one interested in the progress of this department, and that means every citizen who depends for his living

on the growing and marketing of grain crops.

The experimental farm system in Canada was started about 30 years ago, but only within the last 16 years had anything of consequence been accomplished along the special lines Dr. Saunders is pursuing. At the start, old standard varieties were taken hold of and severely "cross-examined," as it were, as to just where they stood up and where they fell down in all essential points.

But those 16 years contain an amazing story of perseverance and of high achievement. If some one thoroughly capable of setting

in spite of their modest but firm request to use the soft pedal in so far as their personal efforts are concerned. So it is not the men who have done the work who may be expected to write the story.

It was Dr. Saunders who made things possible for energetic followers like Seager Wheeler and Samuel Larcombe to start in on their own account and win world's records repeatedly. Not only so, but it led into the ring, in the case of Wheeler, new developments of his own.

In response to a question from the audience, the speaker, while paying a generous tribute to some of these new types bred from "Marquis," etc., was careful to urge that no new thing of the kind should be recommended as a suitable variety to be used in broadcast fashion the first or even the second year after it had been discovered. Some of the much advertised new varieties, he considered, had not been sufficiently proved to warrant much of the extravagant language of the advertisers.

Five or six years was the period Dr. Saunders considered a reasonable time to settle the character of a new production beyond all doubt, and then it was not to be recommended for every locality and condition of soil and climate. It was the policy of his department to try out thoroughly and then recommend, but he regretted that it seemed to be the practice in some quarters to succeed at the first flush of success and then try out.

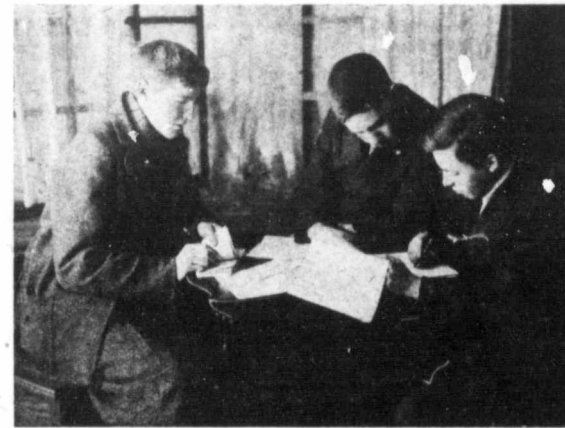
Thus the man who claimed to be no more than "a student," but who is out with the single purpose of discovering all he can of those facts in the great empire of the cereal crops which, so far, have failed to reach the observant eye of the investigator.

Samuel Larcombe

Elsewhere will be found a more extended account of this young man's performances in the various functions of Convention week. Here let us, however, pay a tribute to his unflagging zeal and terrible energy. We have watched him when he didn't know we were about and have seen him laboriously and stealthily picking his way through the purlieus of Winnipeg to reach his boarding-house before midnight.

He carried a bulky gunny sack like a burglar's outfit, but we were able to assure the police that he had been "up to" nothing worse than fixing up and dressing the Birtle display at the Soil Products' Convention.

What a splendid demonstration it was, too, of clean farming and keen intelligence in handling seed and soil, but what a rotten place and surroundings in which to exhibit anything of the kind!



Young farmers who will be leaders in Manitoba's future. The Gladstone Boys' and Girls' Club executive totting up the affairs of the club.

the extreme importance of that work will dare to criticise unless to increase it.

This leads us to say that since we are no longer fighting and have but one dominant idea in the national programme — Reconstruction, the time is now ripe when this vital department of in-

it out could be found to collect the facts and publish them, it would be the finest thing in Canadian literature that has ever found its way to the reading public. The men who really have made the story are not much given to talking, and where any "advertising" has been done, it has been done

Scarcely less should be said of the miserable provision allotted to Professor Harrison and the Department of Immigration for their more ambitious exposition of grains, grasses, vegetables and exhibits of recent experiments in silage material and values.

Something has been said in the newspaper press about organizing a Summer Show in Winnipeg. What could be more foolish until a building or series of buildings have been provided which are not only weather-proof, but in point of space, light and general convenience are really worthy of the occasion?

That the men of the Agricultural College and the Immigration Office were able to do what they did in the time and with the wretched accommodation reflects infinite credit on their patience and doggedness. The Poultry Show did not finally clear out of the Convention Hall till late on Saturday or early on the Monday on which exhibits were supposed to have been finally judged and set out for the public inspection.

Every one of those splendid men and women who took the trouble to raise their produce and bring it long distances to this much-advertised show had complete justification for the worst complaint they had to make. The conditions need not be described—they are well known, and the almost unanimous feeling of exhibitors and public is that nothing of the kind should again be attempted until the housing question has been settled beyond all doubt.

Larcombe again came out Grand Champion, and his winnings have already been advertised from Thunder Bay to Dawson City. At the Seed Growers' Association meeting he waxed eloquent as to his methods. He is a young fellow of 68, otherwise he couldn't have got through the work he covered single-handed—his only son being with the Overseas Forces.

After years of careful experimental observation he is satisfied that in sowing 48 pounds of wheat to the acre, he can obtain from two-and-a-half to six bushels more at threshing than in sowing the usual proportion. He plants his seed six inches deep in rows one foot apart, in this way saving valuable seed and, at the same time, increasing his yield.

If you saw him at a distance on his farm at certain periods of the growing season, one would imagine he was pushing a baby carriage through his wheat crop, but, on a nearer approach, you will find it is only a "Planet Junior" drill which he is taking for an airing on his seed plots; and he manages to cultivate two

acres a day with this little machine.

THE SOIL PRODUCTS

The Government exhibit, as usual, did the highest credit to the men in charge of the fine assembly. It took the usual form, to a large extent, but an outstand-



A fair specimen of Manitoba farm boys and girls preserving and canning all that can be canned.

ing feature this year was one which created considerable interest among stock-men, representing as it did one of the most valuable bits of research data in live-stock feeding.

This was the specimen jars of different forms of silage prepared by the Manitoba Agricultural College Experimental Staff. As stated by Professor Harrison, the object in view was to ascertain what forage crops could be grown in Manitoba for ensilage production, and then to extend the experiment to determine the state of maturity at which such crops could be ensiled.

judged that each crop was at its best for this purpose. The silos were opened on February 3, 1919, and samples taken for analysis. The air-dried weight of these samples have been submitted by the Chemistry Department, and as they indicate the succulence of the ensilage they are included in

the following table, which shows the date that these crops were cut, and the green weight per acre as delivered to the silo.

Name	Date cut	Date ensiled	Green Weight Per acre	Air-dried Weight of Ensilage
Corn	Sept. 11	Sept. 13	18 1560	15.90%
Sudan Grass	Sept. 11	Sept. 13	5 1320	20.15%
Millet	Sept. 12	Sept. 13	15 506	20.53%
Alfalfa	Aug. 8	Aug. 9	5 (2nd ctg)	46.69%
Cereals & Peas (50/50)	Aug. 2	Aug. 3	12 380	20.84%
Rape	Aug. 2	Aug. 3	30 280	14.06%
Buck-wheat	Aug. 2	Aug. 3	13 1720	18.25%

When the silos were opened on February 3rd, the ensilage was found to be in an excellent state of preservation. To test the

greedily eaten, the Corn, Cereal and Peas, Millet and Rape were eaten with about equal relish. The Buckwheat, on the other hand, was refused, and was not eaten until other food was withheld. We have not, as yet, tested out the actual feeding value of these foods, so as to make a comparative report, but we hope to submit this at a later date. We submit the following opinions, however, on their apparent value.

Oats and Peas, or Sudan Grass, seem to be, at present, the best substitute for corn for ensilage, where corn cannot be grown. These crops can be handled by ordinary farm machinery and can be cut with a grain binder. The dry matter per acre compares very favorably with corn, and the resulting ensilage is of sufficient quality to make them worth while growing. Millet makes good ensilage, but does not yield sufficiently heavy in a normal season to be profitable. Alfalfa may be ensiled if, if owing to wet weather, it is difficult to cure for hay. Ensilage from this crop is rather dry. Buck-wheat and rape both make very succulent ensilage, but they

are difficult to harvest.

Samples of the resulting ensilage were on exhibit all the week at the Industrial Bureau in the College exhibit.

Samples of this ensilage are now undergoing analysis by the Chemistry Department, and we will have further information to submit at a later date.

We are planning to continue these experiments in the production of ensilage, and to extend the number of crops to include Sunflower, Sweet Clover, etc., and expect to report on a more exhaustive test at a later date."

Their Desire

The presiding elder was strolling about in the yard in comfortable commune with Mr. Gap Johnson, of Runus Ridge, Arkansas, when suddenly Blister and Banty, two of the Johnson olive branches, came swirling round the corner of the house with a piece of rope between them, and tripped up the clergyman.

"Yur, you young hellions!" yelled their sire. "What in torment are you trying to do—break the parson's leg for him?"

"No, we just wanted to hear what a preacher says when he setr down hard."



AN OLD 'UN WHO STILL LEADS IN MANITOBA
Donald MacVicar (Portage la Prairie), in his registered wheat plot. Champion in "Registered" Class, Soil Products Show, 1919.

Seven experimental silos were filled in the fall of 1918, as follows: 1, Corn; 2, Sudan Grass; 3, Millet; 4, Alfalfa; 5, Mixed Cereals and Peas (50/50); 6, Rape; 7, Buckwheat.

These crops, with the exception of alfalfa, were sown on May 13, and cut and ensiled when it was



palatability of these various kinds of ensilage, they were fed to dairy cows. The Sudan Grass was eaten greedily and seemed to "tickle the palate." The cows would eat this in preference to any other kind of food to which they had access.

The Alfalfa ensilage was also

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AUTHORIZED BY THE POSTMASTER GENERAL, OTTAWA, CANADA, FOR TRANSMISSION AS SECOND CLASS MATTER

March

Penny Wise---Pound Foolish

1919

OUR GUARANTEE

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

MOST people suffer from this human weakness. All governments do, and some of them develop it to a point that would spell insanity were the disease diagnosed in the case of a private person. Our own Dominion Government is perhaps no better and no worse on the whole than other governments—contemporary, as well as those which have preceded it at Ottawa. "On the whole," in many respects, a comparison with certain of its predecessors might pan out to the credit of the present controllers of the exchequer, but even they have a disposition to use the public funds on certain business of an extremely speculative character with reckless prodigality, while in other cases (far from unimportant side-lines) the treatment is in the highest degree niggardly.

* * *

Having taken counsel with more than one friend in the know, we more than suspect that one of the most flagrant cases in which the public funds are doled out with a beggarliness that is inexcusable is in connection with the "support" which is accorded to the investigational work carried out

under the Department of Agriculture, more specifically that section of it under the direction of Dr. Charles Saunders, in which experiments and tests are conducted with a view to improving the character of the cereal crop, especially in discovering new varieties which will stand up to local conditions, to which the older strains have been found unequal. In view of the remarkable results which have followed this one man's patient and unobtrusive labors, is there anything on which Canada's dollars could be more profitably invested?

* * *

We are not, and we cannot imagine anyone else who could be in "collusion" with Dr. Saunders on this matter. So far as we know, we are quite unknown to the gentleman, but in the course of his address to the Manitoba Agricultural Societies' convention he did drop a remark in reply to an inquiry from the audience which set us thinking. Someone asked for an opinion as to whether certain results might be looked for, and the reply was that the possibilities were great, but that the work of endeavoring to realize these had "suffered from handicaps which were ridiculous and inexcusable." Those were the doctor's exact words, and he proceeded to assure his heckler that in order to reach what he was asking for, certain things were imperative: money, land, men, time and enthusiasm.

"You can have practically anything you want if you have the necessary price and the conditions," is a self evident proposition. The people of Canada are perfectly able to help Dr. Saunders to four out of the five things he considers necessary to "get there": money, land, men and enthusiasm; and were they a little better informed as to how his department is served by the men higher up, there can be little doubt they would see that he got them. If he did, then it is humanly certain that a few more years would place on his "statute book" of established facts some findings that would represent a still more amazing return than the country has realized from "Marquis" wheat. Just think what the one item of "Marquis" wheat has meant to the joint stock interests of the Dominion of Canada! And Dr. Saunders gave Canada Marquis wheat.

* * *

Let it be understood that Dr. Saunders was in no petulant or complaining mood when delivering the address referred to. The remark as to "inexcusable handicaps" dropped out in quite a matter-of-fact way in course of answering a query. It may have no reference whatever to a paucity of financial support. We are making our own deductions, but from what we know from other sources to be the habit or disposition at Ottawa with regard to this unpretentious branch of the public service, we can't make another guess that seems to have anything to it. If we are right, then we would strongly insist that the many applauding delegates at that convention should see that Dr. Saunders gets the backing he needs.

* * *

So many politicians we know who have gone to Ottawa have developed "ideals" that were unsuspected in pre-election days. These are in striking contrast to what they were accustomed to dilate upon in church parlors and economic conventions. When men are returned to parliament, they've got to do something out of the way to justify the high opinion of their constituency, and to give the lie to the predictions of their opponents. But the quiet backwater of "investigational work" is altogether too tame an affair for the purpose. It must be something far more noisy and spectacular. At the risk of being accused of "overdoing it," we would like to say that so impressed are we with the importance of this work and the character, fitness and enthusiasm of the man who is in charge of it, that if we had the money we'd like to make him and his associates independent of the caprices of governments for all time.

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"Old Number One" Still on the Job

IT was F. Gasperich, owner of OilPull No. 314, one of the first 30-60's built—and also still on the job—that first told us about "Old Number One."

"There is a bit of sentiment attached to the OilPull machine, familiarly called 'Old Number One,'" he wrote, "It has been in our vicinity ever since its purchase in 1910 and is still on the job, running better than many new tractors of other makes. It is owned by Frank Schultz, of Agar, S. Dak., and I don't believe there is a man in this state who has done more plowing and threshing with OilPull machines. Recently I had an opportunity of witnessing the performance of this old OilPull and I will say that it is still a marvel of reliability."

So we asked Frank Schultz to tell of his experience with the pioneer OilPull, and he writes as follows:

"I have done more work with my 30-60 OilPull tractor than any other engine around this part of the country. I don't know just how many hundreds of acres it has plowed or bushels it has threshed, but she's always been on the job and never lacked for power.

"Some of my neighbors have so-called oil-burning engines, but when they get down to a hard pull, they're a lot better on gasoline. Many a time I've had 'Old Number One' running on heavy load all day without a stop and she never overheats. This I don't believe any other tractor owner in this part of the country can say. As far as burning kerosene is concerned, it is the only real kerosene burner that I know of.

"And the OilPull has a lot of reserve power, which a fellow needs going up steep hills breaking

sod in South Dakota. It's the only engine I know that is under-rated.

"The OilPull has more bearing surface and larger shafts than any tractor I've ever seen. I also like the heavy foundation to hold the motor and gearing in place. The carburetor is as simple a mixing device as can be made.

"When you see the OilPull work in the belt you realize the power it develops—how steady the power is and how easily it handles the largest separators.

"In my day I've operated a good many different makes of tractors, but I have yet to see one that will stand up like the Rumely OilPull. All the repairs that have been bought for 'Old Number One' would not amount to \$200."

What a tractor can do is best told by what it has done. What "Old Number One" OilPull has done during all these years sets a record for tractor performance that anyone can well use as a standard by which to judge any tractor made.

Moreover, into every OilPull is built the same long life, dependability and economy that "Old Number One" has proved out—it's just an example of what OilPull tractors are doing today for over 8,000 owners.

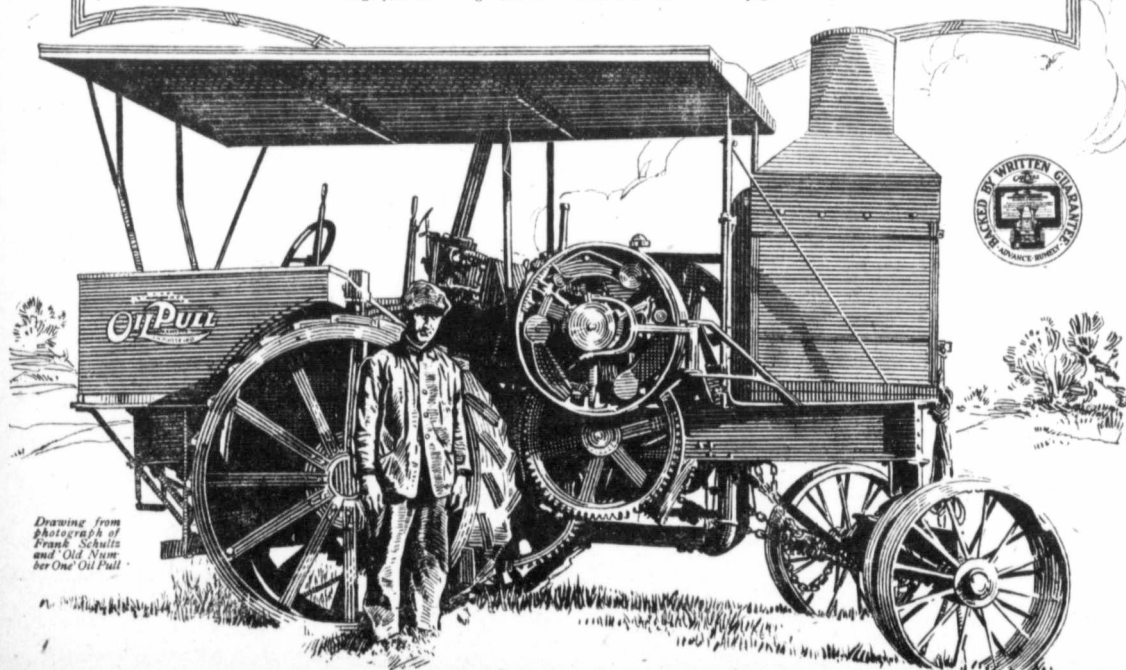
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Drawing from photograph of Frank Schultz and 'Old Number One' Oil Pull.

WE HAVE discussed the question of horse-power in the last three issues of the Canadian Thresherman. We hope we have made the subject clear to the majority of those interested in the question. It is a very important question. The discussion naturally concludes with the question: What size of a tractor shall I buy?

This tractor must be an all-round machine if it is to be of the greatest use in Western Canadian agriculture. We must take into consideration the number of plows it can handle as well as its adaptability for belt work.

The question responsible for the following discussion is: What size of tractor is the best for the average Western farm conditions, taking into account the number of plows it should handle as well as its suitability for belt work?

In answering such a question the writer knows that it is impossible to give one that would meet the requirements of everyone. We all have our own opinions, and since there are a number of very desirable tractors on the market that can give a very good account of themselves, we have decided to lay before our readers certain data which may help the individual to attack his own problem.

The actual size of the tractor will depend upon your system of farming. If you plan to hire an engineer at a wage of from \$100 to \$200 per month with board, you should have nothing smaller than a 4-plow outfit. On the other hand, if you plan to operate it yourself, or with ordinary unskilled labor, then a 2-plow, or better, a 3-plow outfit may be more desirable. Many farmers are getting better acquainted with the internal combustion engine through the automobile, and it may be better for them to operate the engine themselves and hire cheaper labor to handle their teams. Many farmers who are engaged in mixed farming, and using horse-power, could use a small 2-plow outfit to great advantage in heavy work of spring and fall plowing, breaking and summerfallowing in hot weather.

For average conditions we must have an all-round tractor, good on the drawbar and good on the belt. We will also assume that we should have the following classes to choose from:

Class 1—A tractor that can pull two 14-inch plows at a depth of 6 inches at a speed of 2½ miles per hour. This means from 8 to 10 drawbar horse-power.

Class 2—A tractor that can pull three 14-inch plows at a depth of 6 inches at a speed of 2½ miles per hour. This means 12 to 15 drawbar horse-power.

Class 3—A tractor that can pull

What Size of Tractor Should I Buy?

By J. MCGREGOR SMITH, University of Saskatchewan

four 14-inch plows at a depth of 6 inches at a speed of 2½ miles per hour. This means 18 to 20 drawbar horse-power.

Class 4—A tractor that can pull six 14-inch plows at a depth of 6 inches at a speed of 2½ miles per

hour. This means 25 to 30 drawbar horse-power. This discussion can arise on this question, and the resulting debate could go either way. We wish to be absolutely fair in the presentation of our figures. Our estimates may be conservative, but it is better to err on the safe side,



Two-plow outfit being operated by A. Spencer, Manitow Rapids Reserve, Emo, Ont.

hour. This means 25 to 30 drawbar horse-power.

We will eliminate Class 4 because it does not concern the average farmer; the large farmer and thresherman will have to consider this class.

There are still many things concerning tractors that are confusing to the farmer, and dealer, too, for that matter. The one outstanding point, if we read correctly between the lines of the question, is the relationship be-

as the number of plows pulled does not necessarily mean the greatest efficiency.

Let us turn, first, for a few moments to the experience of the farmers in the United States. Bulletin 719 sums up the whole situation very well in one paragraph: "The 4-plow size seems to meet the tractor requirements of the average farm in Illinois; it enables plowing to be performed at a much faster rate than is usual when horses are employed. The



L. C. Peters, of Coaldale, Alta, pushing his three-plow horse for all it is worth.

tween horse-power, drawbar pull, and the number of bottoms that can be handled to advantage. We have discussed recently in these columns the "horse-power" problem in detail, so that it is not our purpose at this time to burden you further with definitions and formulae concerning foot-pounds of work per minute. Much

man-labor is also reduced when using this size tractor, as one man attends to four plows at one time, instead of two, as is ordinarily the case when horses are used. Furthermore, this size of tractor is generally powerful enough to operate all the machines which are so commonly found on the average farm, including the en-

silage cutter and medium-sized thresher. At the same time it is not too expensive in operation to prohibit its use for many odd jobs which do not demand a great deal of power.

Tractor investigations were conducted by the American Thresherman in 1915, and again in 1917. The reports tabulated as received and came in from the Canadian Northwest to Texas, and averaging over 90 reports, we find the average repair bill was \$50, while 21 machines averaged \$13.92 annually. The relationship of the rated horse-power to the work done in 10 hours' plowing:

Rating of Tractors	Acres Plowed
5-12	6.3
8-16	6.6
10-20	7.7
12-25	9.0
15-30	11.8
25-45	19.2
30-60	21.0
40-80	25.75

The figures seem low in some cases and high in others, but they represent field conditions, and, of course, some people call 16 hours a day, in which case the average can easily be increased.

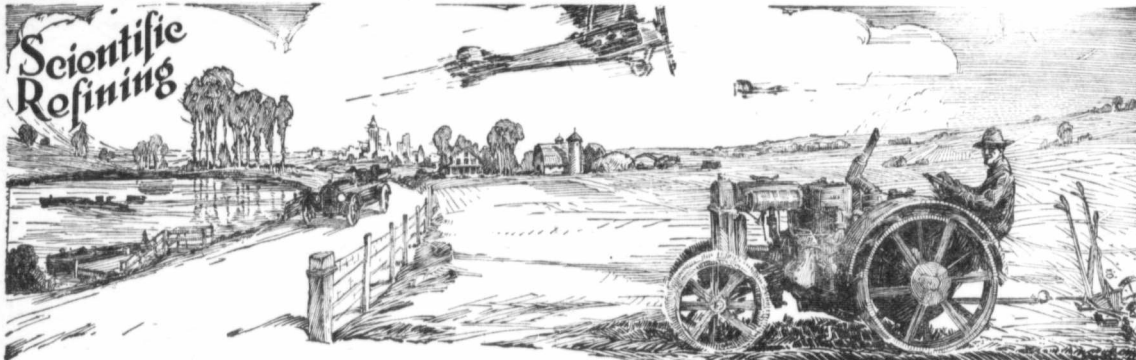
Go to the plowing demonstrations such as the one held at Brandon in July, or to any local demonstration you can attend, and see what each machine can do. Compare the soil they are in with your own, and a very close estimate can be formed of what you may expect. Do not overload. Take off a plow and put on a harrow, and you can probably go along at a higher speed. It still seems to be the ambition of some owners to see how much they can get the engine to pull. Stick it, if possible, is their ambition. It is a short-sighted policy.

Here is an engine that has two speeds, 1.85 and 2½ miles per hour. Let us suppose that it is in land where it has to labor very hard to pull three plows in low gear. In fact, it works something like this: The engine pounds and almost stops, the clutch is pulled and shoved in again as soon as the speed is up, then a plow is pulled just as the engine dies. After cranking 15 minutes, off it goes again, and the same operations are repeated. A waste of time. While by taking one plow right off, and perhaps attaching a harrow, it can go right along in high gear. Let us suppose it plowed continuously for 10 hours, what would be the difference in the amount of work done?

3 plows at 1.85 m.p.h. in 10 hours = 7.84 acres plowed.

2 plows at 2½ m.p.h. in 10 hours = 7.09 acres plowed and harrowed.

Of course, we refer to a case where the engine was overloaded with three plows; there are parts (Continued on Page 16)



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That Drop, Drop, Drop!

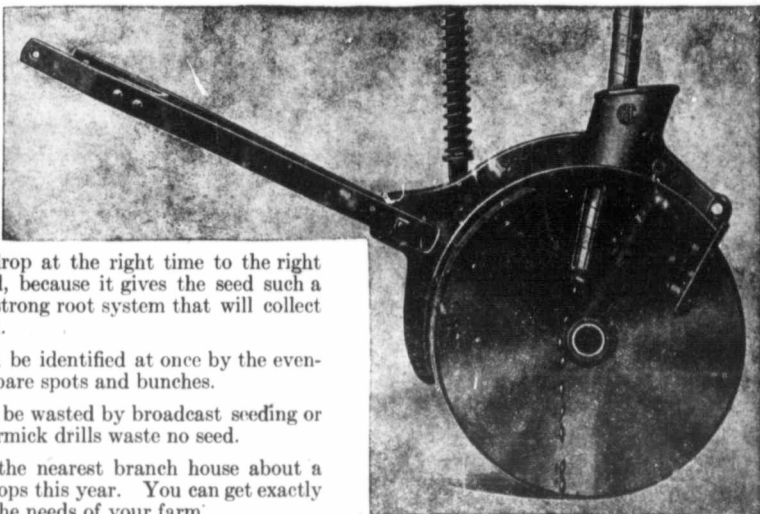
THIS illustration shows the famous double disk marker with one disk removed so that the front seed delivery can be seen. The seed is dropped with precision and regularity in front of the disk bearing and goes directly to the bottom before any dirt can fall into the furrow.

It is this steady, drop, drop, drop at the right time to the right depth that gives a uniform stand, because it gives the seed such a good chance to stool out from a strong root system that will collect plenty of moisture and plant food.

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See the local agent, or write the nearest branch house about a McCormick drill to plant your crops this year. You can get exactly the style and size best suited to the needs of your farm.



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EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N.B.

IN VIEW of the devastation caused in Western Canada from soil drifting in 1918, no doubt every farmer who stands the risk of losing his property in this way has put on his thinking cap with the purpose of taking what steps are humanly possible to prevent this calamity in his own case. The following from the Farmers' Bulletin No. 421 (U.S. Department of Agriculture), will no doubt be found of great value to some of our readers:

Means of Preventing Damage

The means by which the damage may be prevented or decreased must be, in principle, two: (1) Increasing the cohesion of the soil, and (2) decreasing its exposure to the wind. The cohesion may be increased practically: (1) by increasing the water content of the soil, (2) by increasing the amount of humus which it contains, and (3) by modifying its texture, as, for instance, by adding clay or by leaving it in small clods instead of in a finely pulverized condition. The exposure may be decreased (1) by providing a cover of growing vegetation, (2) by leaving the stubble of the last crop still standing on the land, (3) by providing an artificial cover of straw, brush lines, etc., and (4) by planting wind-breaks to protect the fields. In

Control of Blowing Soil

addition to the above methods, the roughening of the surface by proper cultivation really protects the finer soil particles from blowing, as they soon become located in the depressions, where the exposure to the winds is much less.

The degree of usefulness of these various general methods of control in any particular case depends upon local conditions of soil character, climate, the lay of the land, etc. All of them are in use under various circumstances and in varied combinations. Indeed, most of practical expedients employed to prevent blowing act in two or three of these ways, frequently leading to both increase of cohesion and increase of exposure. Some of the practical expedients may be outlined as follows:

Suitable Cropping System

Where it is possible to do so the easiest way to prevent wind damage is to plan the use of the land so that it will always be covered with some form of protective vegetation during the season when dangerous winds are to be expected. Whether this can be economically done depends altogether on the climate, the relation to markets, the season in

which the windy periods occur, and other factors of the same sort. All of these are so entirely local that a general discussion is impossible. A few general expedients along this line can, however, usually be employed. For instance, if fall plowing is not necessary, the stubble of the last crop should be left on the soil until as late as possible in the spring, or oats or barley may be sowed in the late summer or early fall. The plants will be killed by the frost and will form a protective mat on the soil surface. This will prevent blowing during the winter and early spring.

In other cases it may be possible to combine with a slow-growing crop, subject to wind damage a more rapid-growing nurse crop, which forms a cover very soon after seeding and protects the other crop during its early life. Thus a thin seeding of rye or barley may be used in which to introduce alfalfa.

One cause of blowing which is connected with the cropping system is the use of the summer-fallow. This leaves the land fully exposed, and if dangerous winds are to be expected in the summer it is usually better, if enough

water is available, to replace the summerfallow by corn or a leguminous crop (preferably intertilled), which is plowed under in the fall. If there is not enough water for this, it may in extreme cases be necessary to let the stubble stand all summer instead of plowing it under in the spring. Any needed harrowing should be done so as to damage the stubble covering as little as possible. Another method is to seed rows of coarse-growing crops at intervals across the fallow field at right angles to the direction of the prevailing winds. Sandy lands are most likely to blow, and these fortunately absorb water readily without spring cultivation.

Suitable Methods of Cultivation

In preparing a seed bed and in handling a summerfallow, if it be necessary, there are certain methods of cultivation which are frequently useful in decreasing soil blowing. These are specially important in the intermountain regions of the West, where control by the use of crops is usually impossible because of the seasonal distribution of rainfall. The first of these is the compacting of the surface soil by rolling or otherwise. This acts not only in the direct production of a firmer and more resistant surface, but also by bettering the capillary properties

Continued on page 18A



It gives you city efficiency on your own farm

Delco-Light brings to the farm the final aim of years of work—electricity in an efficient, economical form. Because of its low-cost and money-saving it is within the reach of every progressive farmer. It puts the farm on an equal basis with the city. It gives you city efficiency right on your own farm. Every farm should have a Delco-Light plant.

Delco-Light saves work—increases production—makes farm life happier.

So simple a child can operate it. So sturdy it will last for years.

Economical because it runs on coal oil (kerosene). Gives you ample power and light. Developed and backed by world-famed engineers.

Completely illustrated literature will be sent free by your nearest distributor. Read the complete story of Delco-Light. See in pictures what it is and what it does.

Write to-day.

The Domestic Engineering Co.
Dayton, Ohio

Bruce L. Robinson
Calgary, Alberta

Breen Motor Co.
Winnipeg, Manitoba

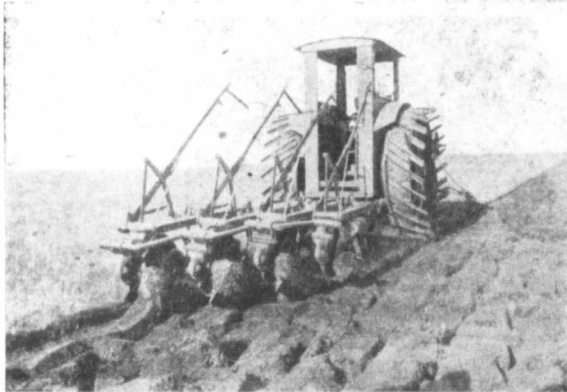
DELCO-LIGHT

The complete electric light and power plant for farms and country homes.

where it could pull three plows very easily.

The reader must now be convinced that this subject is one which is very important for him to grasp clearly. Every short course in agriculture should set aside one or more sessions for this work alone. Every operator should take advantage of any opportunities offered. Many companies are to be congratulated on

of 10, 12 and 15 respectively. At the same time taking into account the number of plows recommended, the number of pounds pull they are guaranteed to exert at a given speed as set forth in the manufacturers' specifications. The above ratings fall within the limits of the two first classes outlined below, and in them the majority of problems will come. Some ratings, you notice, are con-



Four-pow engine of L. C. Peters, Coaldale, working just ahead of his three-pow, seen on p. 14.

the splendid assistance they are giving in this kind of educational work. They are rendering a real service to important to keep all the engines working than it is to sell more machines, is the policy of one firm. Those who do not think this way, get busy.

It has been suggested by the Society of Automotive Engineers that tractors be rated at 80 per cent of their power. It is evident that when some do so, and others do not, that it places conservative firms at a disadvantage when dealing with many people.

servative; others are not. It is the number of pounds that can be pulled at a certain speed that counts. Remember, also, that a 14-inch plow may require a pull all the way from 200 pounds to 1,600 pounds, depending on the soil and its conditions, as well as the shape of the moldboard, set and general adjustment of the plow. If you are in sandy loam you can probably do better than we estimate, while if you are in heavy gumbo you will have to be satisfied with less. Let us say we must have 5 drawbar horse-



John E. Morin, Watson, Sask., using his "Rumely" with a six-bottom gang on stubble.

Every tractor operator should possess the "Tractor Field Book," published by the Farm Implement News of Chicago. It costs only 25 cents. It contains the specifications of practically every tractor made and sold on the North American Continent. On looking over the list we picked at random three tractors from classes which have rated drawbar horse-power

power for every 14-inch plow. Some land is rolling, some is light, some is heavy, therefore no figure can be given that will be infallible.

We will now consider the following specifications, for example, where we read: "A 2-pow tractor with two drive wheels and two steering wheels; 3,000 pounds maximum pull at plowing speed,

TIRE TROUBLES

Partridge Tires

Out-weigh Tire Troubles

Made by The F.E. Partridge Rubber Company, Limited Guelph, Ont.

The Trademark

Westwo

Is Your Guarantee

YOU make your purchase with the absolute knowledge that you must get satisfaction. Every dealer selling this popular line knows that any defective product bearing this trademark will be promptly replaced by the manufacturer—that, together with the fact that *Westwo* goods look better and give greater satisfaction is why most dealers recommend them to their customers.

Remember *Westwo* wagon sets and hitches are painted red, and varnished in natural colors.

To make sure of getting most value for your money buy with this guarantee.

If your dealer cannot supply you, write us direct.

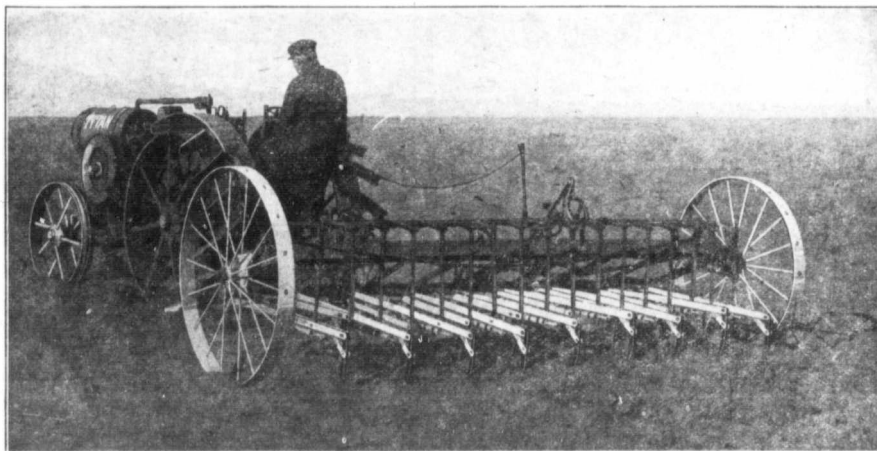
West-Woods Limited

WINNIPEG

WANTED, PERSONS TO GROW MUSH-ROOMS for us at home; from \$15 per week upwards can be made by using waste space in Cellars, Empty Rooms, Root Houses, etc. Address Montreal Supply Company, Montreal.

WANTED to hear from owner of good farm for sale. State cash price, full particulars. 15 F. Bush, Minneapolis Minn.

FOR SALE—A 3-pow tractor, slightly used. Cheap for cash. L. C., Box 3164, Winnipeg.



Kill the Weeds--Save the Crop

Weeds are over-running Western Canada. Hardly a section that is not infested with sow thistle or weeds of some kind. International No. 2 cultivator is a specific for weeds. It cultivates clean. With a Titan 10-20 tractor and a 12 foot cultivator 35 or 40 acres per day is an ordinary job.

This machine is light draft, with high steel wheels, the spokes cast solidly into hubs and riveted tightly to the 3 in. rims. The angle frame is steel, durable and rigid. The stub axles are removable, as are also the bushings in the hub. It is a long-wear machine.

No other cultivator has two sets of teeth. No weeds can escape it however small.

International No. 2 is made in four sizes, 6, 7½, 9 and 12 foot (tractor size). A size for every condition.

This machine is built expressly for summer fallow work. If the ground is kept absolutely clean by summer fallow cultivating, the noxious weeds that choke your crop will be entirely killed. This machine, with its strong, over-lapping teeth, cuts off the growing stems of the weeds, preventing the formation of leaves or blossoms.

See the local agent or address the nearest branch house listed below for full particulars about the International No. 2 weed killing cultivator.

International Harvester Company of Canada, Limited

BRANCH HOUSES:

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N.B.

two speeds forward, 2½ and 4 miles per hour." We have in each case taken the speed closest to 2½ miles per hour as plowing speed. This is 220 fet per minute.

Tractors Rated According to Drawbar Horse-power

Tractors with a Drawbar Horse-power of 10

Rating	Plows Recommended	Pounds Pull	Speed M.P.H.	Power Developed
A 10-20	3	2650	2	14 2/15
B 10-20	3	1800	2½	12
C 10-18	2	1800	2 1/3	11 1/5

Tractors with a Drawbar Horse-power of 12

Rating	Plows Recommended	Pounds Pull	Speed M.P.H.	Power Developed
A 12-15	3	2000	2½	12
B 12-25	3	3000	2 3/8	19
C 12-25	4	2800	2	14 14/15

Tractors with a Drawbar Horse-power of 15

Rating	Plows Recommended	Pounds Pull	M.P.H. Power	Speed Developed
A 15-30	4	3000	2	16
B 15-30	4	2350	2.4	15 1/25
C 15-30	3	3000	2.4	19 1/5

The last column in each case shows actually the guaranteed pull, which decides the drawbar horse-power. You will notice that A in the first list develops more than A in the second, also that B in the second develops more than A in the third, and practically the same in the third table.

From the same list of specifications let us see what each is recommended to do in 'threshing.

Size of Machine Recommended

- A 10-20... 26-inch thresher
- B 10-20... 24-inch by 40-inch
- C 10-18... None recommended, probably a 20-inch or 22-inch machine
- A 12-25... 24-inch machine
- B 12-25... 24-inch machine
- C 15-25... 22-inch by 36-inch
- A 15-30... Threshers up to 32-inch
- B 15-30... 28-inch by 48-inch
- C 15-30... 28-inch by 43-inch

Again we find a difference of opinion, and since threshing conditions in the West are not the easiest, err on the safe side and take into account what the experience of others has been in your neighborhood.

Before closing we would again emphasize the importance to the individual purchaser of carefully studying out the tractor problem for himself. The best place where this may be done is at the exhibitions, and particularly at those exhibitions where tractor demonstrations are a part of the show.

In conclusion, let us quote the following very good advice:

Price is what you pay for a thing when you get it. You pay it once.

Cost is what you have paid for a thing when you are done with it. It includes original price, running expenses, repairs, depreciation, trouble, loss of time, loss of service.

Value is what you get out of a thing while you have it. It is measured by economy of operation, freedom from repairs and trouble, constant service and length of life.

Moral — Buy from a reliable company that is capable of rendering you service of the best class, when necessary.

A Great Testimonial

It is I think the greatest labor saving device yet invented. The perfect system in which it is oiled takes all the worry away from the engineer's mind.

It has not cost me one dollar for repairs, and I don't think it needs anything to start with for next season. I plowed with it three days last fall pulling a three furrow Emerson plow, not an engine plow, and could plow six inches deep, and make a round on a half mile stretch in twenty-five minutes. The land here is medium loam and rolling. I think it would without too many stumps or bluffs in the field, do as much as ten horses, and I am sure that it could pull 4 plows in spring.

I had the steering device on which is a great advantage. It will go from one end of the field to the other without the operator which gives the operator more time to watch the plows. The plowing is well done and is plowed deeper than it would be possible if done with the horses.

—David G. McMillan, Terence, Man.

THE FAMOUS Garden City Feeder

Has done more to take the hardship out of threshing and make it a PLEASURE than any piece of machinery on the farm.

BECAUSE it feeds a threshing machine as it should be fed regardless of the antics of ignorant or mean pitchers. No more swearing at them. Let them pile the sheaves on any way they please, and as fast as they want to; the Garden City Feeder will deliver the grain end first to the cylinder, in an even flow of uniform depth. No more broken spikes or slugged cylinder, no more overloaded straw racks or sieves; no clogged blower; no broken or burned belts; no wasted grain; no long waits for repairs. Just a steady run all day, every day, season after season. It's fun to thresh that way, and profitable too. Don't take our word for it, ask any user, or let us prove it to you.

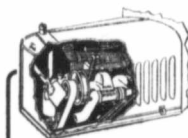
WRITE TO-DAY FOR FREE CATALOGUE

The Garden City Feeder Co., Limited REGINA, SASK.

BRUCE DAVISON CO. Brandon, Man. W. S. MUNROE CO., Calgary, Alta
A. E. GARDINER Saskatoon, Sask. MART McMAHON, Lethbridge, Alta

Remember we are sole agents for the CASWELL BELT GUIDE SATISFACTION GUARANTEED

Here's the Remedy for a Hot Motor— In all Tractor, Belt-Power or Truck Attachments



The Dual Cooling System

The Dual Cooling System will keep your Ford motor cool under all conditions—positively rectifies all engine troubles due to an overheated motor. No longer need your tractor, belt-power or truck attachment be out of commission for hours at a time. Install the Dual System and say goodbye forever to high fuel and lubrication bills and burnt out bearings. Rather than discard good machinery isn't it worth your while to investigate the merits of this wonderful device? The cost is so low and it is installed without drilling or tapping. Full information furnished gladly. Write us.

Also distributors for Staude Mak-a-Tractor and Dearborn Truck Units.

See your dealer or write direct

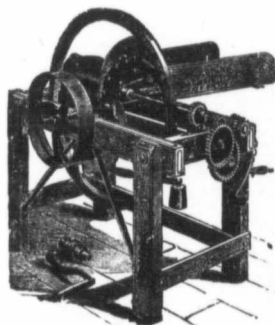
Western Canada Auto Tractor Company, Limited

316 Hammond Building

MOOSE JAW SASK.

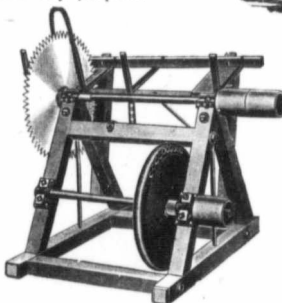
"Excelsior Junior" Straw Cutter

To feed profitably it is absolutely necessary to cut the feed. The "Excelsior Junior" is all that can be desired for a few head of stock. We have a variety of sizes and designs in both power and blower cutters, suitable for any purpose.



Watson's Pole Saws

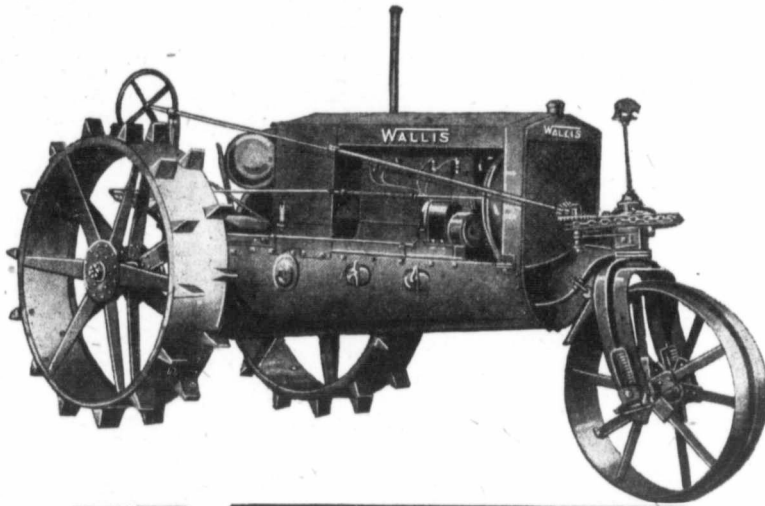
are the most economical wood-cutters. Strongly built to stand any racket; they are always satisfactory. Heavy, hard-wood frame, steel shafts and boxes, solid fly-wheel and three pulleys. The saws are built to standard Watson quality—of flawless steel.



John Watson Mfg. Co. LIMITED

311 CHAMBERS ST.

WINNIPEG, MAN.



WALLIS

America's Foremost Tractor

Mechanical perfection is the outstanding Wallis characteristic. By this we mean all that the science of mechanics includes—choice of materials for their quality; design; and the perfect machining of motor and gears for maximum efficiency.

By the elimination of needless weight, by employing steel instead of heavy cast iron, the Wallis is made stronger, more powerful, lighter and more economical. It makes possible "lower plowing cost per acre."

Write for our illustrated catalogue describing the Wallis in every detail

The Canadian Fairbanks-Morse Company, Limited

WINNIPEG

SASKATOON

CALGARY

CONTROL OF BLOWING SOILS

Continued from page 14

of the soil and increasing its capacity to draw water from the lower layers and to maintain a moist surface which is not easily blown. This very fact, however, is what makes rolling increase the surface evaporation so greatly, and therefore prevents its use when conservation of the soil water is important.

The second and more generally useful method is the roughening of the surface. If a field is in danger of wind damage its surface should so far as possible be left covered with clods, and the furrows be run at right angles to the direction of the dangerous winds. A rough, cloddy and furrowed surface acts in the same way as vegetation in preventing the rapid movement of the layer of air next to the ground, thus protecting the soil. When small patches of soil in fields commence

to drift with the wind the prompt use of a harrow or other implement to roughen the surface of the blowing areas will usually stop the damage and prevent its spreading to the rest of the field. Opening up furrows across the field at right angles to the prevailing wind will reduce the injury from blowing and also serve to reduce the run-off in case of heavy rains. The maintenance of a rough surface is especially important when a soil mulch is necessary. The recent rapid development of so-called dry farming and the use therewith of the dust mulch have caused a great increase of wind damage. The use of such a mulch means the complete exposure of large areas to the wind for months at a time. This difficulty can be met by maintaining (when the physical nature of the soil will allow) a mulch of small clods instead of fine dust. The efficiency in conserving moisture will be quite as

great and the field surface will be rough and not so likely to blow.

Adding Humus

The more organic matter a soil contains the greater will be its cohesion, not only because of the direct action of the organic bodies themselves, but also be-

cause they increase the water-holding power of the soil, and hence its ability to keep its surface moist. The presence of humus is therefore a powerful protection against blowing, and many soils can, by humus-forming methods of cultivation, be

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If you are not in possession of a recent catalogue let us supply you with one—free of charge.

Orders Over \$5.00
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WINNIPEG PIANO CO 333 PORTAGE AVE.

rendered naturally resistant to wind action. The practical means to this end are usually the plowing under of green crops and the use of stable manure. These measures are nearly always applicable to the sandy trucking soils of the East and in a measure to many of the soils in semi-arid and irrigated sections where intensive farming can be practised. They should be accompanied on all soils subject to blowing by the general policy of leaving on the land and incorporating with the soil the maximum of straw and stubble. The plowing under of a crop with matted roots will have an additional value in preventing blowing, because of the binding power of the roots. Freshly turned sod acts similarly, and therefore newly broken sod lands in the semi-arid sections are usually comparatively free from blowing for the first two or three years. Thinly sown grasses and similar crops are sometimes of value as nurse crops because of this binding power of their roots.

Artificial Protectors

A much-used method of protecting fields in windy regions is the planting of rows of trees or bushes, or the erection of fences, as windbreaks. They have the great advantage that they not only protect the soil, but also prevent direct injury to the plants by strong winds. However, their cost is relatively high and the percentage of idle land is considerable. They are not, therefore, advisable in extensive agriculture, and practically their use is restricted to the cultivation of valuable crops such as fruits, garden vegetables, etc. In these cases they will nearly always be found profitable for protection to the crop alone, regardless of the existence or non-existence of danger of wind damage to the soil.

Windbreaks are usually best made of trees or high bushes. The particular species which is most satisfactory will depend in every case on local conditions. The tree selected should be one which is

in full foliage and possesses its maximum of wind-resisting power at the season when dangerous winds are to be expected. It should not be of such a nature as to harbor insect pests or to spread by its root system out into the adjoining fields. The design of the windbreak system, the spacing between rows and between the trees of a row, depends entirely on the species of tree or bush selected, local conditions of topography, strength and direction, of winds (especially the constancy of this direction), crop to be grown, etc. In general, the protective effect of a windbreak will extend from ten to twenty times its height.

AN INTERNAL BATH

In last month's issue of this magazine there appeared an advertisement on the above subject as to which we have received certain inquiries. The common sense and perfectly clear statements of the advertisement we should say left no room for misapprehension. No one who is functionally perfect needs medicine or to follow any unusual procedure if he is living in harmony with Natural Law. We can say, for the benefit of any afflicted ones, that we have seen the testimony of one well-known and reputable citizen of Cupar, Sask. (A. M. Steele, Box 162), that after suffering considerably over a very long period he found entire relief in following Dr. Tyrrell's advice and winds up with the statement: "I feel very grateful to you for the Cascade. I consider it the best investment I ever made."

MANITOBA GOVERNMENT ACCOUNTS

On another page will be found the very clear and eminently satisfactory balance sheets of the Provincial Treasurer of Manitoba for the year ending 30th November, 1918.

They have been audited by Mr. John Scott, a well-known chartered accountant of the highest repute, who attaches the following note to his audit:

"There have been produced for our inspection the securities representing the investments, and these were found to be in order. The cash in banks was verified by certificates obtained from the banks.

"I further beg to certify that, in my opinion, the attached combined balance sheet is properly drawn up so as to show a true and correct view of the financial position of the province as at 30th November, 1918, as shown from the books of the Comptroller-General."

More Power with Less Gasoline



LUBRICANT CARBON REMOVER SOLVES THE CARBON PROBLEM

When your motor loses power, when it knocks, bucks and overheats, don't monkey with the carburetor. Send for a can of Lubricant Carbon Remover and pour two to four table-spoonful into each spark plug hole. Follow directions and the motor will do the rest. It works like a cathartic. You will see the proof in the cleaned spark plugs, and you will get more power and more miles out of every gallon of gasoline. Every can guaranteed.

Price \$1.75 prepaid. Agents Wanted
DORSON SALES CO.

WINNIPEG CANADA



The White-Allwork Kerosene Tractor

Practical for every power job on the farm

The White-Allwork Tractor is a wonder of simplicity, sturdiness and power. Well worth a place in "The First Quality Line." Use it for any field job, turning a three-plow furrow (four on some land), seeding or harrowing. Weighs only 4800 lbs. Will work on wet land without undue packing. Turns in a 12-foot radius. 28 H.P. at the belt and 14 H.P. on the drawbar—and plenty of extra power over these ratings, as hundreds of farmers have proved.

It will run a 16-inch ensilage cutter, or a 28-inch separator, grind feed, crush stone, saw wood, bale hay or straw—anything requiring power.

Decide for yourself whether it will pay

Let us tell you what the White-Allwork costs per acre for field work—What it will do on the blower. You can save money with a White-Allwork.

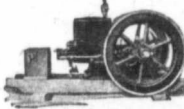
Ask for full information.

The Geo. White & Sons Co., Ltd.,
Moose Jaw, Sask. LONDON, ONT. Brandon, Man.
Makers of the famous White Steam Tractors and Threshers
"THE FIRST QUALITY LINE"




Motor
4 cylinders 5x6

Manitoba's "Square Deal" House



The "Stover"
Best East or West
1 1/2 H.P. with Magneto. \$75.00



"At Last"
Power Washer
Wringer and machine complete, only \$30.00
Can you beat it?

Plow Shares, for all Plows
12-in. ... \$3.50 14-in. ... \$3.85 16-in. ... \$4.00



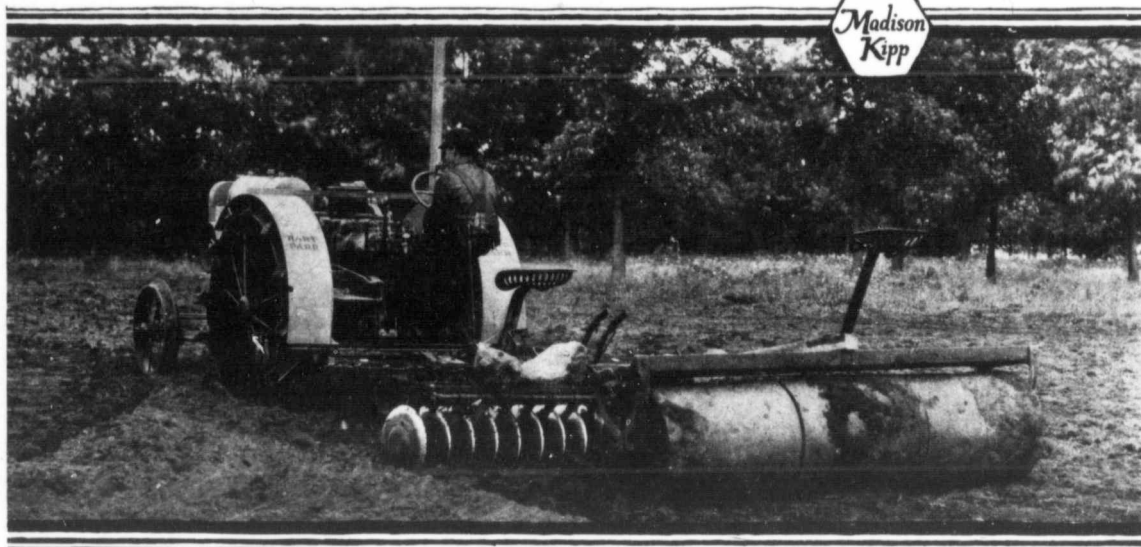
Harrow Teeth 7c each



Channel Steel, per Section \$ 4.50
Steel Boss, 140 tooth \$8.00
Wood Boss, 150 tooth \$3.00

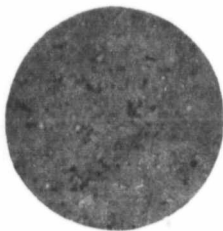
SEND US YOUR ORDERS OR WRITE FOR OUR CATALOGUE

The Canadian Stover Gasoline Engine Co., Limited
BRANDON, MAN.

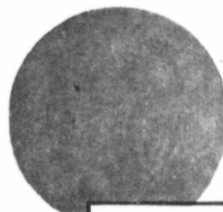


The New Hart-Parr Kerosene Tractor on which Madison-Kipp fresh oil systems are standard equipment.

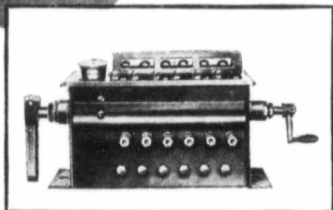
Tractor Life and Fresh Oil



Drop of oil from a crank case, as seen through the microscope. Note the punctures. Photograph by Crowder and Klapka.



Drop of fresh oil as seen through the microscope. Note the unbroken smoothness. Photograph by Crowder and Klapka.



Six Feed Madison-Kipp Lubricator

Tractor manufacturers provide Madison-Kipp Fresh Oil Lubricators because they make their tractors wear better and longer.

A motor must either wear out oil or wear out metal.

In a properly lubricated motor the oil takes the wear and the metal is protected.

A thin film of fresh oil—a thousandth of an inch thick—is enough.

No amount of used oil is enough, because used oil does not form a perfect film over the wearing parts.

The microscope tells you why.

Used oil is full of dirt and worn out oil which are equivalent to holes in the film.

Madison-Kipp Lubricators feed fresh oil to all wearing parts.

They do it so efficiently that the many tractors using them show an average oil-saving of from 10 to 40 per cent.

Because of the perfect lubrication they provide, they greatly reduce repair costs.

Because they furnish a perfect oil-seal, the tractors equipped with them really furnish the horsepower you pay for.

Protect Yourself

There are only two kinds of lubricating systems: those using oil over and over again and those using fresh oil only.

The first kind is described by many names—such as circulating, force-pump, splash, crank-case system and the like—but they all mean that the oil is used over and over.

The fresh-oil kind is commonly described in specifications by naming Madison-Kipp Lubricators.

Kipp-Equipt tractors cost you no more and are worth much more.

They need less repair, less oil, less fuel; they deliver more power and last longer.

Madison-Kipp Corporation, Madison, Wisconsin

Madison-Kipp Lubricators

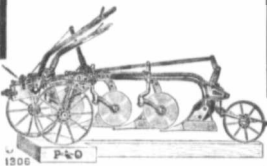
FRESH OIL SYSTEMS



LIGHT DRAFT PLOW

Walking, Wheeled Walking and Riding, and Tractor Plows—Moldboard and Disc, Drag and Disc Harrows, Tractor Tandem Disc Harrows, Corn and Cotton Planters, Listers, Cultivators, Stalk Cutters, Potato Diggers—in fact, "P & O" stands for a full line of tillage implements of field-proven merit. Seventy-six years of experience are hammered into every one of them. Every one of them has a field record for efficiency, simplicity, easy operation, lightness of draft and great wearing qualities. Every one of them has been made to undergo most rigid field tests before it was considered worthy to bear the "P & O" Trademark, so that the trademark itself is a guarantee of quality.

P & O Little Genius Tractor Plow



"P & O" Little Genius—plows for light tractors—to thousands of farmers those two groups of words stand for the same idea. The "P & O" Little Genius was the first successful plow of its type, and we have kept it always several jumps ahead of the profession.

Positive power lift on all three wheels. Operator handles plow easily by means of trip rope. One operator for plow and tractor. Strong, heavy, full-throated beams. Great trash clearance under beams and between bottoms. Power lift raises bottoms sufficiently high to avoid all trash in turning at ends of field—it is not necessary to resort to levers for additional clearance. Pin-break hitch. Hitch adaptable to any tractor. Automatic retracting levers. Perfect bottoms. Quick Detachable Shares. Plows can be raised by hand. Made in 2, 3 and 4 furrow sizes. Write now for folder: "P & O Little Genius Plows," or catalog: "P & O Tractor Plows."

PARLIN & ORENDORFF CO.
Canton, Ill., U.S.A.

HART-PARR OF CANADA
LIMITED

Sales Agents for Canada
WINNIPEG REGINA
SASKATOON CALGARY

The Source of Power in the Tractor Engine

By G. P. PEARCE

IT WAS during dinner hour on a large farm and the discussion had turned to tractors. Harry wanted someone to tell him just how the power in a tractor was developed.

"From the kerosene, of course," said Fred.

"No, it's the explosion," joined in three others.

"Isn't it due to the heat of the explosion?" suggested Joe.

"It's just the expansion of heated air," remarked Bill Steelworth.

Now everyone knew that Bill always had a very good reason for everything he said, and so the natural result of his remark was for all to listen to what he had to say after Harry had questioned:

"How do you figure that out, Bill?"

"Well, you all know that when

compression, is what produces power during the expansion stroke.

"This property of air, and, in fact, all gasses is what actually causes the engine to run and to your plowing. It makes no difference what method you use to heat the air so long as it gets heated. Heating by exterior means has proven too slow for modern engines, although for some special work it is being done, as in the Ericsson hot air engine; for instance, which is sometimes used for light pumping purposes; it can only make a few strokes per minute, however. Now in the tractor engine a much higher speed is wanted, and it is impossible to transmit heat to the air fast enough by any exterior means, so a method of burning the fuel right in the compressed



J. W. McPherson of Strathclair needs no valet

air is heated it expands. Push an empty bottle upside down in warm water, so it is well covered, and pretty soon you will see bubbles of air escaping, due to the air in the bottle getting warmer and expanding. Now your tractor engine is driven by this same air expansion, only the intensity of the expansion is much greater, due to the much greater temperature.

Pressure Considerations

"In fact, your engine runs about this way: First the cylinder is filled with air during the suction stroke; let us forget all about the fuel for a minute, and then this air is compressed during the compression stroke; now if everything were kept stationary and the air could be heated up to the temperature obtained by the usual explosion, then the pressure on the piston would increase exactly the same as it does during the running of the engine. This increase in pressure, over that due to the

air, at about the end of the compression stroke, was developed.

"At first the fuel and air were very imperfectly mixed, with the result that the time of burning was long and the speed slow. This worked all right, but took a large engine to get the power. In order to reduce weight and size it was necessary to run the engine still faster. To accomplish this the fuel had now to be very thoroughly mixed with the air and the combustion became so rapid that it was called an explosion.

Combustion to Explosion

"To get some idea of the speed of burning, consider some of the higher speed engines, say one running at 1000 r.p.m. In this engine, when running right, the air should be all heated while the engine turns through about 20 deg.—that is, from the moment of ignition to the end of complete combustion the engine shaft should not take more than 20 deg.

or 1-18 of a revolution. The amount of time it takes to turn this far is a little more than 1,3000 part of a second, and thus you see how extremely rapid the combustion has to be. Furthermore, heat has to be transmitted to every particle of air in that short time.

"To mix the fuel with the air in this thorough manner is the particular job of the carburetor, and it is really wonderful how very efficient a modern one is, especially when you consider the very small amount of fuel used per charge. Did you ever figure the amount of kerosene used per explosion?"

We all admitted that we had never attempted to figure it out.

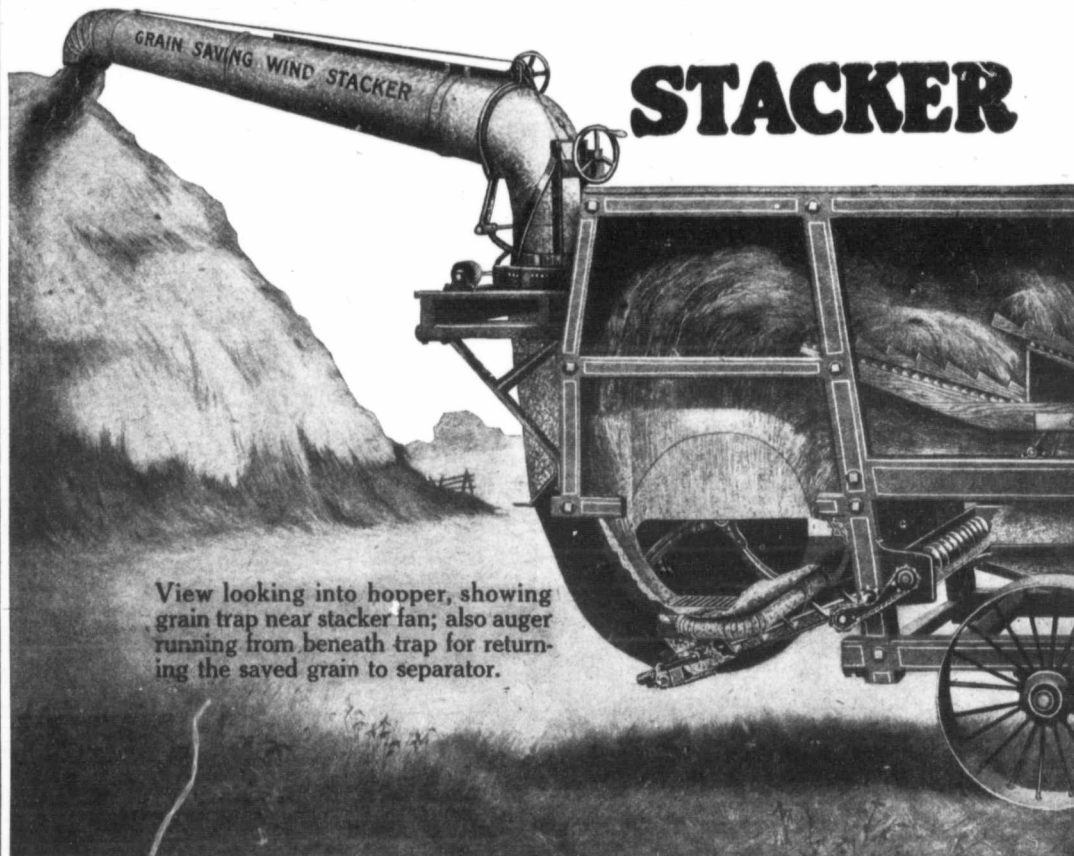
"Well," continued Bill, "take an engine developing 20 h.p. at 1000 r.p.m. and using 0.6 lb. of fuel per h.p.-hour, the fuel consumption will be 12 lb. or about 1.7 gal. per hour. On a four-cylinder engine there are two explosions per revolution or about 2000 per minute. The fuel consumption per minute is 0.2 lb. or 0.0001 lb. per explosion. There are about 16,000 drops in a pound of kerosene, and therefore the amount of fuel used per explosion is a little over 1½ drops, and this has to be thoroughly mixed in about 60 cu. in. of air. Thus you must admit that your tractor carburetor has quite a difficult job to fill, and it fills it very satisfactorily.

"This small drop of fuel does a surprising amount of work when you figure it out, for it amounts to 330 foot-pounds; that is, it would raise a weight of 33 lb. through a height of 10 ft. Did you ever consider the amount of air your 20-h.p. tractor uses? Well, in one hour it will take about 327 lb., or say about 4200 cu. ft., just about as much as there are in four good-sized rooms of say 11 x 12 x 8 ft. There are lots of interesting things about your tractor; the pistons, for instance, travel over ten miles of cylinder surface every hour they run. The pressure on the piston head at the instance of ignition is around 3800 lb. on a 4-in. diameter one. The impulses per revolution of the driving wheel are in the neighborhood of 90, which makes a twin six automobile act like a grasshopper in comparison.

"There is more to a tractor than I ever thought," said Fred. "There is one thing I have noticed, however, and that is the oil consumption on some of the best will not amount to more than one drop per fifty revolutions, which is certainly getting it down to a fine point."

"Yes," replied Bill, "especially when you consider there is somewhere around 350 sq. in. to be continuously lubricated."

GRAIN SAVING STACKER



View looking into hopper, showing grain trap near stacker fan; also auger running from beneath trap for returning the saved grain to separator.

Adopted by Canadian and United States Threshing Machine Manufacturers

THE Grain-Saving Stacker is the most important improvement in threshing machines developed in the last quarter of a century. It is designed to save kernels which are wasted by faulty adjustments of the sieves, improper regulation of the blast, undue speed variation, climatic conditions, or careless feeding.

The Grain-Saving Stacker positively prevents waste of grain due to these or other causes. For this reason it is now being made regular equipment on the standard threshers in Canada and the United States.

Because of the unlimited capacity of the Grain-Saving Stacker the threshing machine can be crowded to the limit, with

the assurance that the grain will go into the sack and not the stack.

The manufacturers of North America's standard threshing machines named below are prepared to furnish machines equipped with the Grain-Saving Stacker. Full information will be given you by any in this list, many of whom you will recognize as the manufacturers of the best-known tractors and farm implements. Write any of these for descriptive circular.

List of Manufacturers

Canada
 Robt. Bell Engine & Thresher Co., Ltd.,
 Searforth, Ont.
 Dominion Thresher Co., Ltd., New Hamburg, Ont.
 Ernst Bros. Co., Ltd., Mt. Forest, Ont.
 John Goodison Thresher Co., Ltd., Sarnia, Ont.
 Hergott Bros., Ltd., Midway, Ont.
 MacDonald Thresher Co., Ltd., Stratford, Ont.
 Sawyer-Massey Co., Ltd., Hamilton, Ont.
 Stewart Shaft Loader Co., Ltd., Winnipeg, Man.
 Sussex Mfg. Company, Ltd., Sussex, N. B.
 Waterloo Mfg. Company, Ltd., Waterloo, Ont.
 R. Watt Machine Works, Ridgeway, Ont.
 George White & Sons Co., Ltd., London, Ont.

United States
 Aultman & Taylor Machinery Co., Mansfield, O.
 Avery Company, Peoria, Ill.
 A. D. Baker Company, Swanton, O.
 Banting Manufacturing Company, Toledo, O.
 Batavia Machine Company, Batavia, N. Y.
 Buffalo Pitts Company, Buffalo, N. Y.
 Cape Mfg. Co., Cape Girardeau, Mo.
 J. I. Case Threshing Machine Co., Racine, Wis.
 Clark Machine Company, St. Johnsville, N. Y.
 Ellis-Keystone Agricultural Works, Pottstown, Pa.
 Emerson-Brantingham Co., Rockford, Ill.
 Farmers Independent Thresher Co., Springfield, Ill.

A. B. Farguhar Co., York, Pa.
 Frick Company, Waynesboro, Pa.
 Harrison Machine Works, Belleville, Ill.
 Huber Mfg. Company, Marion, O.
 Keck-Gonnerman Company, Mt. Vernon, Ind.
 Minneapolis Threshing Machine Company,
 Hopkins, Minn.
 Port Huron Engine & Thresher Co.,
 Port Huron, Mich.
 The Russell & Company, Massillon, O.
 Russell Wind Stacker Company, Indianapolis, Ind.
 Sawyer-Massey Co., Ltd., (U. S. Agency) Moline, Ill.
 Swayne, Robinson & Company, Richmond, Ind.
 The Westinghouse Co., Schenectady, N. Y.

The Grain-Saving Device Originated with The Indiana Manufacturing Co., Indianapolis, Ind., Who Also Originated the Wind Stacker

Sensible Care of the Tractor

By ARNOLD P. YERKES in "Farmers' Magazine"

THE lack of proper attention and care given to farm machinery has long been a subject for comment. While farm tractors, because of their greater value, do receive more attention at the hands of their owners than most other farm machinery, nevertheless it is exceptional to find a tractor that is being given the kind of care to which the manufacturer and tractor dealer consider it is justly entitled.

A great deal has been said and written regarding the abuse of farm machinery, including tractors, through standing out of doors. The actual damage caused by such exposure, great as it is, is insignificant compared with that which is constantly occurring to farm machines, especially tractors, through lack of lubrication and general neglect at the hands of operators. Lack of oil and grease is responsible for more repair bills and total ruin of machines than any other one cause. Tractor lubrication is so important a subject that it will be treated separately in a later article. In this article we will deal with other features of general neglect to which many tractors are subjected.

Overheating Troubles

One very fruitful cause of engine trouble is overheating through lack of water in the cooling system. There would seem to be no excuse other than laziness or carelessness for allowing a tractor engine to operate without a plentiful supply of cooling water. While the mere fact that the water is boiling will not cause damage to the engine so long as it is not allowed to get too low, nevertheless when an engine is being operated with the water boiling, evaporation is rapid and there is constant danger of it getting so low that parts of the metal around the cylinder are not properly cooled and damage will result. The cooling system should be kept nearly full of water all the time the engine is working. Some means should be provided for carrying an ample supply to the field, so as to avoid the temptation to keep on operating the outfit after the water has become low, simply because no supply is convenient.

Another example of carelessness or laziness is the use in the cooling system of water containing a considerable quantity of dirt or trash which clogs the radiator or other small passages in the cooling system and so causes constant boiling of the water and consequent overheating of the engines.

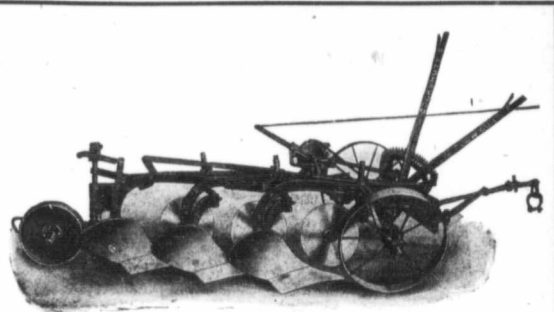
Still another very fruitful cause

of delays and repairs with tractors is that of allowing the water in the cooling system to freeze during cold weather. This obviously can be laid only to neglect at the hands of the person responsible for the care of the machine. Every winter there are hundreds of cases where this has been allowed to occur, with the result that the walls of the cylinder are cracked, the radiator burst, or other parts damaged.

Whenever a tractor is to stand idle in the winter the cooling system should be completely drained. The operator should assure himself that he knows the location of every petcock which is used to drain the system, as on some machines it may be necessary to open two or three petcocks to completely drain it.

Even though the engine is to stand only a few hours in cold weather it is necessary to take this precaution or else cover the radiator carefully with blankets or something similar in order to prevent the cold air coming in contact with the radiator pipes. Many people have been greatly surprised to find that a radiator will freeze within a short time after the engine has been in use and the water raised to a high temperature. The reason is plain.

A radiator is designed especially to cool the water which passes through it by having the water pass through small tubes or passages with very thin walls with which the air comes in contact. As soon as the engine is stopped, the water in these passages cools very rapidly and it is not at all uncommon in cold weather for this water to freeze while that which is in the water jacket of the engine itself may be still quite warm. What happens may be compared with setting a bucket of warm water out of doors on a cold day. If a little of the water is spilled this will cool and freeze long before the temperature of the larger body of water in the bucket has been reduced to anywhere near the freezing point. In the same manner the small threads of water in the radiator quickly cool and freeze while the larger amounts of water in the engine castings or circulating pipes cool much more slowly. This is particularly true on many engines where a pump is used to circulate the water, since as soon as the engine is stopped the pump tends to prevent the circulation which would continue to take place if the passages were free, as in a thermo-syphon cooling system where the water will continue circulating to some extent for quite a long time after the en-



Any Soil—Any Service

SUCCESSFULLY MET BY THE

Cockshutt Light Tractor Plow

THE Cockshutt Light Tractor Plow has been a great success in every part of the country. This success is due to the fact that it is made by a firm which has specialized for a lifetime in the manufacture of high-grade plows to suit Canadian farming conditions. Also because we have embodied in it scientific design and the highest quality materials and workmanship, which our close acquaintanceship with field conditions all over Canada, have shown are necessary for a plow for this work.

A cord within easy reach of the Tractor operator's hand works the automatic power lift, raising the bottoms high and level when you want them out of the ground and lowering them again when you wish. Easily operated levers are conveniently placed for varying the depth of work. The hitch can be adjusted

instantly to suit any make of Tractor.

These plows are built in 2 and 3-furrow sizes and fitted with either 12-in. or 14-in. Bottoms, Stubble or Breaker Styles. The 2-furrow size can be quickly turned into a 3-furrow by the addition of a few parts.

"Horseless Plowing the Cockshutt Way"

Is the name of an interesting booklet that you should read if you are interested in this very important subject. Write to our nearest branch to-day for a copy.

Cockshutt Plow Company, Limited

Winnipeg, Regina, Saskatoon, Calgary and Edmonton

Your Peace Garden

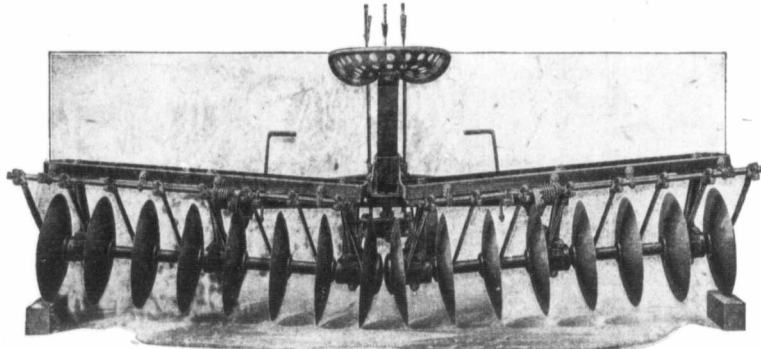
EVEN though the war is over, it is still very necessary to continue your Back-Yard Garden, as the whole world is short of food, and will be for some time to come.

Plant a Peace Garden with Bruce's Seeds, the best that grow. It will be a source of revenue to yourself, and will fulfil a duty to your country.

112-Page Catalogue now ready, describing Seeds, Plants, Bulbs, Poultry Supplies and Garden Implements, and quoting prices. It is free for the asking. Write now for it.

JOHN A. BRUCE & CO., Ltd.
Established 1850. HAMILTON, ONTARIO

The Deering—A Dependable Tillage Line



YOUR seed bed is the prophet of your profit. Build it right with tools built right and you have taken out bumper crop insurance.

A Deering disk harrow back of a tractor or a good team of horses leaves the seed bed in better shape to receive and nourish the seed. It will do good work under all sorts of field conditions for a long period of years. It is built for hard work. The one-piece angle steel frame, double angle steel stub tongue, heavy gangs and gang bearings, grey iron standards, built-in angle steel weight boxes—all these are features that make the Deering disk harrow a useful and valuable implement.

Then there is the soil pulverizer which does not replace any tillage tool you ordinarily use. It simply finishes what the other seed bed makers begin. It crushes lumps, fills air spaces, conserves moisture, creates a mulch and speeds germination.

Deering spring-tooth harrows, peg-tooth harrows and one-horse cultivators stand for the best that years of experience with farm machinery is able to give.

With every Deering tool goes service—alert and continuous. See the Deering local agent, or address the nearest branch house listed below.

International Harvester Company of Canada, Limited

BRANCH HOUSES:

WEST—Brandon, Man., Calgary, Alta., Edmonton, Alta., Estevan, Sask., Lethbridge, Alta., N. Battleford, Sask., Regina, Sask., Saskatoon, Sask., Winnipeg, Man., Yorkton, Sask.

EAST—Hamilton, Ont., London, Ont., Montreal, Que., Ottawa, Ont., Quebec, Que., St. John, N.B.

gine has been stopped. Obviously, the more efficient the radiator, the greater the danger in this respect.

Go Over the Machine Daily

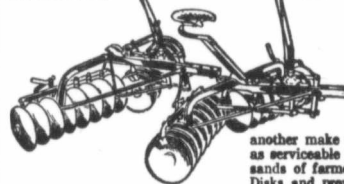
The vibration of a tractor in operation tends to loosen bolts, nuts, wiring connections, etc. Operating a machine when certain bolts are loose will frequently cause breakage or excessive wear, and wiring connections which may be jarred loose through vibration often causes serious delays until the trouble can be located. The machine should be gone over frequently (at least once a day) to see that all nuts and bolts are kept tight. It is a good plan to make a practice of wiping the dust and grease from the different parts of the machine while making such an inspection. It is not only more pleasant to work and care for a reasonably clean machine but is also a much easier matter to locate troubles where the various parts are kept free from dust and dirt.

Any competent operator who has handled a machine for a short time when it is working properly soon learns to know the sounds of each part and any unusual noises from any of the parts will be noticed at once. Nearly always unusual sounds about a tractor are a warning of trouble and they

should be located and remedied at once. This is particularly true of the engine bearings. These parts are working under enormous pressures and when they become sufficiently worn or loose through lack of lubrication, ordinary wear or loosening of nuts, etc., it is highly important that they should be put in proper shape immediately, since running the machine only a few hours while the bearings are loose may result in a breakage which will wreck the engine and cause expensive repairs.

It is impossible in an article of this kind to give detailed instructions for the proper care of each and every machine because of the considerable differences in construction. Nearly every tractor manufacturer, however, furnishes an instruction book which contains necessary information for the proper care of his product and the best advice that can be given is to carefully read every word of the literature furnished by the manufacturer and save it for reference. This literature should not simply be read through once and laid aside, it should be gone over several different times as the operator becomes more familiar with his machine, as in this way he will probably understand some parts of the instructions which

Sizes for Horses or Tractors



Use the Bissell Double Disk Harrow. They have great capacity for cultivating and have made a record for working the soil better than other Disks—in fact, you won't be able to find

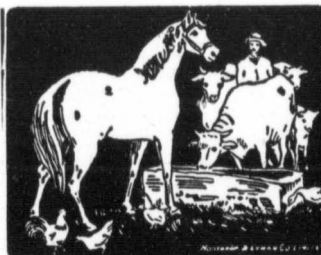
another make of Disk Harrow nearly as serviceable as the Bissell. Thousands of farmers have tested Bissell Disks and proved them to have the

"knack" for doing the best work. They are simple in design, durable and Built for Business. Write Dept. L for Booklet. Men'd exclusively by—

T. E. BISSELL COMPANY, Ltd., Elora, Ontario

SOLD BY ALL JOHN DEERE COMPANY DEALERS IN WESTERN CANADA

Don't Fail to Renew your subscription if it has run out. There are Great Things Coming!



Dr. Thomas' Eclectric Oil

Relieves all Pain in Man or Beast
25 Cent Bottles at all Dealers

will not be clear at the first reading.

One piece of advice which will apply to all tractors, however, is to avoid overloading. There is always a temptation on the part of an operator to load a tractor to its limit, especially at busy seasons of the year when the work is urgent. This practice is usually a case of "the more haste, the less speed," as overloading is almost sure in the long run to result in less work being accomplished and unnecessary delays and expenses through breakdowns. Overloading a tractor is even worse than overloading a horse, as the abnormal pressures and strains on the various parts of the machine are almost sure to result in excessive wear or breakage. A tractor when overloaded does not accomplish as much work in proportion to the size of the implement pulled as when working under its normal load, because when unloaded there is a great deal more slippage of the wheels which reduces the speed at which the machine travels and the speed of the engine itself will usually be reduced somewhat, which, of course, results in a slower speed of the outfit. Delays due to trouble with the machine, stoppages on grades, etc., are also more frequent. Where it is especially urgent that a given piece of work be expedited, it will usually pay best to work the tractor longer hours with its normal load than to add an extra plow, harrow, etc., to increase the amount of work done in a given time.

Use of the Clutch

One very common form of abuse of tractors, is through the improper use of the clutch. The purpose of the clutch on the tractor is to allow the engine to engage its load gradually in order to avoid excessive pressures on the gears, bearings and other parts. The clutch should, therefore, be kept in such condition that it will engage smoothly without jerking. Care should be exercised in operating the clutch to avoid engaging it too suddenly, as it is possible even when a clutch is in first-class condition, to let it in with a jerk, which may result in breaking some part of the transmission. The clutch should always be engaged slowly so as to cause a small amount of friction at first, just enough to start the tractor and its load. Then when it is under way it should be fully engaged, after which there should be no slipping whatever. The clutch is designed to withstand a certain amount of slipping, such as is necessary to start the tractor without damage. The transmission, however, is not built to withstand the terrific blows which can be inflicted upon it by allowing the clutch to en-

gage too suddenly, or by backing up the tractor to gain momentum in order to start the load. When either of these practices are regularly necessary to start, it is evidence that the load is more than the tractor should be required to pull. The subject of overloading will be treated in a later article. The care and adjustment which a clutch should receive vary with the different types, and instructions are usually furnished with each machine.

Whenever a tractor is to stand idle for some time, it should be stored in a dry place and the water drained from the cooling

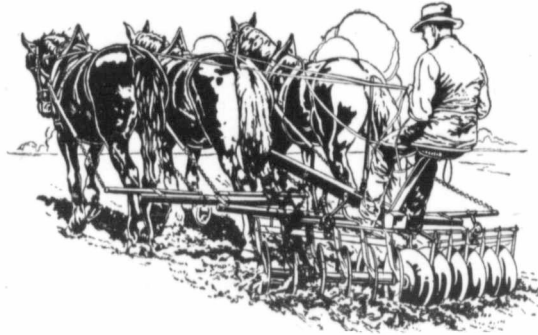
system. If it is impossible to place a tractor under proper shelter, it should at least be covered with a tarpaulin or some other waterproof cover.

In order to prevent rust forming on the polished working parts, all grease cups should be turned down, so as to have such parts covered with grease to exclude the air. If the machine is fitted with a mechanical oiler a plentiful supply of fresh oil should be pumped by means of the hand crank to all parts reached by the oiling system. The lubricator should be completely filled with oil to prevent

the polished mechanism of the oil pump from rusting.

It should be kept in mind at all times that the tractor is one of the most expensive and at the same time one of the most important farm machines, the proper care of which will pay handsomely in increased work and satisfaction, while neglect will inevitably result in increased expense for repairs, etc., as well as loss due to delaying farm operations. Treat the tractor right and it will make money for you; abuse it and it will make you pay for it.

Massey-Harris



The Harrow that Pulverizes

The Massey-Harris Disc Harrow thoroughly cultivates the soil, pulverizing it into those fine particles which make a seed bed like a garden. Being equipped with Pressure Springs, the Gangs are held to their work on rough and uneven ground, on ridge, and in furrows, so that the entire surface is cultivated. No other implement is as valuable in the preparation of the seed bed as the Massey-Harris Disc Harrow.

The Improved Spring Pressure Device not only ensures the Discs being kept at work in rough and uneven land, but also saves the driver and team from jolt and jar, and saves the machine from breakage when striking obstructions.

The Bearings are provided with Removable Bushings of Oil-Soaked Hard Maple and have Screw Compression Grease Cups.

Low Hitch takes all the weight from the horses' neck.

The Gangs are flexibly mounted on the ends of the Arch and readily conform to uneven surfaces of the ground. One end of either Gang may rise to pass an obstruction while the balance of the Harrow remains at work.

The Angle of the Gangs is readily controlled by a single, easily-operated Lever.

It is strongly built so as to stand the severest strain of discing, and give long service.

The No. 8 has Twelve, Fourteen or Sixteen 16-in. Discs, and the No. 9 has Twelve, Fourteen or Sixteen 18-in. Discs.

See one at the nearest Massey-Harris Agency

MASSEY-HARRIS CO., LIMITED

Head Offices—Toronto, Ont.

Branches at

Montreal, Moncton, Winnipeg, Regina, Saskatoon, Swift Current,
Yorkton, Calgary, Edmonton. Transfer Houses—Vancouver and Kamloops.

Agencies Everywhere

ARE LIGHTNING RODS ANY GOOD?

WITH the approach of spring, the question of protecting buildings and stock from lightning becomes a live question for the farmer. Over 90 per cent of all the damage done by lightning is done in the country. The city rarely suffers. Can this loss be avoided? The answer is emphatically "Yes," says Professor S. C. Lee, of the Physics Department of Manitoba Agricultural College. The protection afforded by lightning rods can be shown by most striking laboratory demonstrations, which leave no room for doubt in the minds of those who have witnessed the experiments. It is a case of life and death separated by a lightning rod.

Reliable statistics of damage done to rodded and unrodded buildings prove the same thing. Lightning rods of the right material when properly put on and kept in good repair make your house or barn the safest place by far during a lightning storm.

Read the Manitoba Agricultural College free bulletin on "Lightning Control" and be convinced that rodding your buildings is good business economy. Reduced rates of insurance on rodded buildings are common sense. Let the united farmers of the West demand it, and they will get it.

"THE CANADIAN SITUATION"

Extract from the February Monthly Letter of the Alexander Hamilton Institute, New York

DURING the war the manufacturing capacity of Canada has been many times increased. Shall she accept the idea of dismantling her factories and discharging her skilled mechanics? The agricultural population is clamoring for a reduction of the protective tariff. The manufacturers individually are generally too small to undertake the cultivation of world markets. We believe, however, that if Canadian manufacturers will combine for export trade, not only by themselves, but with British merchants and bankers and merchants throughout the British Empire, it will be possible to keep a considerable part of Canada's manufacturing capacity employed on orders for export trade.

Among the signs of business depression are the closing down of the Nova Scotia Steel Co., and the curtailment of operations at other plants. New construction work is at a low ebb owing to the condition of the bond market. Municipal borrowing during the

past two years has averaged only 36 million dollars, against 116 million dollars in 1913. The investment borrowing by miscellaneous companies in 1918 amounted to only one-fifth of the rate before the war.

Until the money markets in England and America are favorable to the resumption of economic development, Canada must depend mainly upon the abundance of the products of the soil and the war-tested resourcefulness of her financial and political leaders.

GIVES HIS REASON

During the last six years that I have used the old style and heavy tractor I have had fairly good success, but have realized that the big tractor would not fill the place of horses and that a smaller and lighter tractor could be used with more success, as they don't pack the ground so much and they will use less fuel, as the new style tractors weigh less than half as much per horse power as the old style tractor did.

In the fall of 1917 I bought a 10-20 h.p. kerosene tractor and it pulled a 10-foot double engine disc, doing splendid work on stubble ground and doing the work of ten horses. I also used the little tractor to pull home a granary 14 x 14 out of the field.

As to the future production of wheat in Canada I believe that if every man that spends most of the season driving four horses could successfully operate a tractor that pulls 10 or 12 horses and was given a chance to do so we should surely see a far bigger production than what we would see if we eliminated the small farm tractor.

—S. Jacobson, Loreburn, Sask.


I have done more work with my engine than has been done with any other (big or little) engine in this part of the country. I am highly pleased with the engine and I certainly feel that it fills a very important place in Canada's programme of production. It is one of the greatest things the Canadian farmer has.

I expect to have 200 acres broke and double disc'd by August 1st, and I know that it would be quite impossible if we had to do it with horses.

—R. D. Curr, Mirror, Alta.

The tractor as a farm implement seems to me a good investment, for it will take the place of an extra man and outfit of horses and by having this small outfit and separator, with the help of a few neighbors, one can commence threshing immediately after cutting. This gives one a chance to get back on the land for the fall work, before the big outfit could get around to do the threshing.

—C. N. Sinclair, Silton, Sask.

Practical - Economical - Powerful
 The Original Kerosene Tractor
 JOHN DEERE
 12-25 H.P. Kerosene Two-Speed

"Waterloo Boy"

Four years of successful service in the field and around the yard on both draw-bar and belt work is evidence of the satisfaction this kerosene-burning, three-plow tractor has to offer.

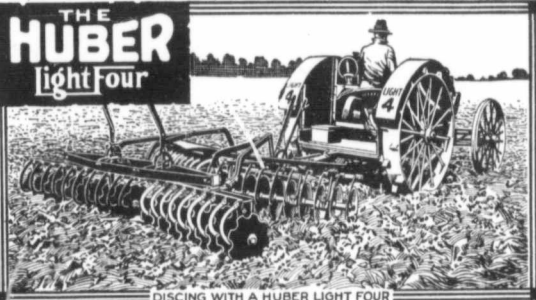
Consider These Points :

- Powerful, quick starting 12-25 H.P.; two speed motor—our own make.
- Motor runs without vibration—no racking of mechanism.
- Ample reserve power for three 14-inch bottoms—belt power for all farm needs, including threshing. Patented, inbuilt manifold makes the Waterloo Boy the leader in fuel economy.
- Steel cut, case hardened gears, Hyatt Roller Bearings, dust-proof gear construction, circulating splash and plunger pump lubrication—reduce friction, prevent wear, insure maximum power with minimum upkeep cost.
- Centrifugal fly-ball governor, gear driven, permits instant change of speed.
- All parts accessible—it's a tractor any farmer can operate.

Send for Catalog of Farm Supplies Covering all farm operations Mention this Paper

There is a Waterloo Boy folder which tells all about it. It's free—Ask for it

John Deere Plow Co. Limited
 Winnipeg Regina Saskatoon Calgary Edmonton Lethbridge

THE HUBER Light Four

 DISCING WITH A HUBER LIGHT FOUR

Powerful, Yet Light in Weight

THERE is a nice balance between weight and power in the Huber Light Four—great traction power with light tractor weight. It's powerful—pulls 3 plows and turns an acre an hour. It's light—works on packed ground without packing the soil.

Lightness means fuel economy. Less power consumed in moving the tractor gives more power to the draw-bar. The third plow permits 50% more work every hour you run. This means economy of time when minutes are dollars. It also gives you 50% more service every mile you travel. This means economy of upkeep and long life to the tractor.

After the field work is done, it pays for its keep by doing all your heavy belt work. It not only runs the feed mill and buzz saw but it has plenty of power for the ensilage cutter, the clover huller, the corn shredder or the small grain thresher. It sets new standards all along the line—Economy, Simplicity, Durability.

Ask for the name of the nearest dealer and Booklet "Doing the Impossible"

The Huber Manufacturing Company
 BRANDON, MANITOBA
 Manufacturers of the Huber Junior Thresher
 Dealers Wanted in Territories Still Open.

Weights about 5,000 pounds. 12 h.p. at draw-bar; 25 h.p. at belt. Four-cylinder Waukegan motor. Hyatt Roller Bearings. Perfect Radiators. Short turn. Self steering in the furrow. Center draft. Burns gasoline, kerosene or distillate. Road speed 2 1/2 and 4 miles per hour.

INVESTMENT IN SON

YOU have \$1000 in a Percheron colt and you are perfecting plans to get principal and interest out of him. You have \$500 in a Hereford calf, and you aim to make him a paying property. You have \$100 in a young Berkshire, and you give him generous care and proper feeds to secure returns from his breeding. But did you ever stop to cast up the investment you have made in that growing son of yours?

He has two hands that in the tables of accident insurance are each worth \$500. He has two arms and two legs that on the same basis of computation are worth \$1000 each. He has two eyes and two ears that, according to the rating of the courts are worth a couple of thousand each. He has tractable nerves, and perfect digestion and ability to sleep that put up among millionaires, would easily bring a hundred thousand. He has bounding spirits and fresh ambitions, and eager hopes and rosy beliefs in life and men that are beyond all price. He possesses hereditary traits—the sturdy perseverance of your mother that are ineradicable and immensely valuable.

What are you doing to get the best out of him? Chores, yes. The strap, maybe. A patch of garden. Anything more? What are you doing to brighten his inner world? What pictures are you hanging daily in the gallery of his memory? How are you fitting him to realize his ambitions, to make of his hopes something more than rainbow dreams and of his hereditary impulses something better than vague tastes and tendencies? He is a treasury of physical, mental and emotional values; how are you preparing him to put these into remunerative circulation? You are laying up money for him, but the best legacy parents can leave their children is the remembrance of an honest father and a devoutly hopeful mother.



GRAY TRACTOR

"with the wide drum drive"

There are four classes of farmers we would like to meet.

- 1—The farmer who has just started up and who is considering adding a tractor to his outfit.
- 2—The farmer who has a tractor, but who would like a larger one.
- 3—The farmer who is dissatisfied with his tractor, who has unusual soil conditions to contend with, who is spending too much on upkeep and repairs.
- 4—The farmer who is satisfied.

To each of these classes of farmers the Gray has an individual message. We would like to get in touch with you. The Gray is best recommended by its operators.

FEATURES
54-inch driving drum. 18 H.P. at drawbar. 36 H.P. at belt. All working parts enclosed and running in oil bath. Great traction surface. An illustrated booklet full of details. Write for it.

GRAY TRACTOR CO. OF CANADA, LIMITED
307-309 Electric Railway Chambers WINNIPEG, MAN.
Alberta Representative, M. D. PEEVER, 24 Mason & Risch Block, 8th Avenue West, CALGARY, ALTA.



FREE My Big New Book of Stump Pullers

Tells How to Clear Stump Land for Big Crops QUICKER-CHEAPER-EASIER!

Send the coupon below and I will mail my big, new Stump Puller Book FREE and POSTPAID. Describes the Kirstin ONE MAN Stump Pullers in detail. Tells why they weigh less—cost less—yet have greater speed, power, strength and last longer! ONE MAN alone pulls stubborn stumps—Quick, Cheap, Easy! Soon pay their cost in labor saved, BIGGER CROPS, increased land value—and go on making money for years. *Get the book today!*

Kirstin ONE MAN Stump Puller

Has wonderful, new leverage principle. A few pounds pull or push on handle exerts tone on stump! Pulls big, little, green, rotten, low-cut, tap-rooted stumps—trees, helges or brush. Pulls stubborn stumps in a few minutes at low cost. No axes or extra help needed! No digging, chopping or other expense! Several models. Low losses "cut-high rims" "em-out quick!" Talented quick cable "take up" in a time, cable and wire saver. Puller made throughout of high-grade, tough steel. Three-year guarantee against breakage—new or no law.

ONE MAN ALONE HANDLES BIGGEST STUMPS!

Try It 30 Days FREE SEND NO MONEY!
All I ask is the privilege of sending the Kirstin for you to TRY 30 DAYS FREE on your own stump. Give it EVERY test. See how easily one man, using handle, operates and clears it around the hole. **FREE!** All my money. If satisfied, keep after 30 days "trial-free" puller. If not pleased return it at my expense. You don't need a permit! Free only **WILL TO PAY.** The big BOOKS capable EVERYTHING.

Send Coupon Today

Book describes Kirstin One Man Clutch, Kirstin One Man Drum Model and Kirstin Horse Power Model. Also Special Agents' Proposition. Shipment from nearest distributing point saves time and freight. Write for the FREE Book today. Address.

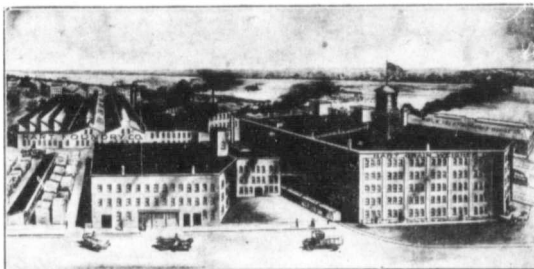
A. J. KIRSTIN CANADIAN CO.
1209 Dennis St., Sault Ste. Marie, Ont.

READ THIS LETTER
The different kinds of stumps I pulled with my Kirstin are Birch, Poplar, Cotton-wood, Spruce and Pine. The largest stump was 42 inches in diameter and lodged in clay loam and took ten minutes to pull. We pulled 1500 stumps and averaged about three minutes each. In two weeks I cleared five acres with the machine. *Arthur Mercer, Monteville, Ont.*

No Hired Help Needed One Man Does Everything
No longer need labor shortages prevent pulling costly stumps. The One Man Kirstin solves your problem. It is the best and cheapest remedy for stump-pulling problems you can get. Write for book!

A. J. KIRSTIN CANADIAN COMPANY
121 St. Dennis St., Sault Ste. Marie, Ont.
Gentlemen: Without obligation on my part, please send me your New Big Catalogue of Kirstin Stump Pullers. Also Special Agent's proposition.

Name: _____
P. O.: _____
Province: _____



THE HART GRAIN WEIGHER CO.

ABOVE is a reproduction of the manufacturing plant of the Hart Grain Weigher Co. at Peoria, Illinois. This company, who manufacture the well-

known Perfection, Peoria and Hart Junior lines of automatic registers and Langdon self-feeders are favorably known to most of our farmers and threshermen, as their attachments are standard equipment, being used

on the majority of the threshing machines.

Our threshing machine manufacturers have come to rely on the Hart Grain Weigher Co. to provide proper automatic registers and self-feeders to meet all conditions, and when the small thresher began coming into popular favor our friends from Peoria were not found wanting, but came forward with the Junior automatic registers and Langdon Junior feeders for the Junior type of separator. Their attachments are nicely proportioned, look well on the separator, and give the operator the assurance of first-class machines.

This company devotes practically all of their regular time, talent and energy in providing

safe, sane and accurate attachments. They relieve the manufacturer of this burden, and as each machine built is a labor-saver, saving the services of from two to four men, they are surely entitled to the unique position that they hold in the trade.

His Bugbear

"But you don't call this bunch of gashes and gullies, ruts and rocks, a farm, do you?" inquired the retired newspaperman, hoping by his criticism to beat down the price.

"Certainly!" exclaimed the enthusiastic real-estate agent. "What else would you call it?"

"A topographical error."



TIPS from the TRACTIONEER

POUNDIING ITSELF TO PIECES

THERE'S that old connecting rod pounding itself to pieces, Jim. We'll have to take it up at noon, says the engineer. And they must work all noon hour to fix it so there won't be any danger of a forcible shut-down. So it is botched up "until Sunday," and is never really fixed up, not even when theseason ends, for there is so much other work calling for all hands to do. And so it goes on, the job is never done satisfactorily, and along with the other "botched" jobs it pounds itself into depreciation, and consequent loss to the owner.

What happens to the bearing which has been pounding? Simply crystallizing the special metal shell, and causing premature breakup of an expensive part of the machinery, and worse than all, making the wrist-pin oval. You can also look for other troubles, all traceable to this pounding. Just take a look at your wrist-pins first time you have an hour. Harry, Jim, Sam, I can call fifty of you by name, because we have worked together, and I am as intimate with you and your job as any man can wish to be who loves the purr of an engine, and take a pair of calipers trying the circumference at all points. Ovality will be quite noticeable if your engine pounded much last fall, and what is more you are going to find it a pretty hard job to keep those bearings snug in the future, unless you do two things.

First, you are going to take that ovality out, and second you are going to keep it out. Quite easy; yes, when you fully appreciate the song that tune is calling. It's depreciate, depreciation, scrap. How is this easy thing done? If your engine is small, up to 20 bhp. take out the crankshaft, and give yourself lots of room to spread out, tighten one end in a vise at right angles to the bench, a notched stick under the other end, and you are ready to work.

Take two pieces of wood and a piece of leather and make the tool as sketched, have some emery-cloth on hand or emery powder, and with a little oil you can take out that ovality. Have a little patience also, for it takes time, and a mechanic takes a lot of pride in this particular kind of work. In this work ability counts,

because you are working to a thousandth part of an inch.

If you are to use cloth, cut a piece the width of the wrist-pin for each stick, tacking them into place, then putting them together on the pin, and making thumbtight, pour oil on to pin and revolve, until the high places are entirely removed. Finish this job by gently polishing by hand with strips of emery.

When this has been done to all the pins, it would be advisable to fit the bearings; you have everything to hand, and it makes a much better job when there's lots of room. The bearings will be a little larger now, so a little must be scraped out of the bottom to bring them to shape.

It is sometimes advisable to fit new sheels, but be quite sure the expense is necessary before you do this. Fitting the bearings is another job calling for some rare judgment at times, and we know the pleasure of a sweet-running job; one of those we like to talk about when engines are mentioned. However, this can be dealt with separately, and for the present keep in mind that song I mentioned about scrap.

Questions and Answers

Q. Why is it necessary to use water with the fuel in a kerosene engine?

Ans. Kerosene, along with other low-grade fuels, is much richer in heat properties than gasolene, therefore obtains more efficiency under certain conditions. These conditions are, first, that the heat generated is utilized for the complete vaporization of the fuel, and second, the heat is not allowed to attain such proportions as would seriously retard the reciprocating between piston and cylinder walls, or preigniting the charge; this is avoided by suction of water along with the fuel into the cylinder, the water strikes the cylinder wall at once turning into steam, the oxygen mixing with the explosive mixture makes a softer but more powerful charge, the effect being to keep the heat down to a minimum. Heat is power, but surplus heat is a deterrent.

Q. Water in fuel.

Ans. Your fuel being gravity fed would simply require preventive measures at the tank, and if not already provided with an efficient filter at that end, advise



The Mighty Thunder Cloud and the Fiery little Columbia are first cousins

THE mighty thunder cloud often generates and wastes 150 thousand horsepower, when it hurls its terrific bolt flashing and crashing through the sky.

The fiery little Columbia generates a fraction of this volume, but sends its power on a specific errand, through wires, under control, without waste.

It is electricity in both cases. But the mighty thunder cloud works at the command of Nature for an unknown purpose. The fiery little Columbia works at your command for a definite use.

THE DRY BATTERY

THE Columbia Dry Battery is the handyman of the world. It ignites stationary engines, autos, trucks, tractors, and motorboats; rings bells and buzzes buzzers; lights lanterns and makes telephones talk; runs toys for the youngsters.

Motorists the world over know the wisdom of carrying the extra set of vigorous Columbias—to be

connected in a jiffy when the regular ignition begins to loaf.

THE STORAGE BATTERY

THE Columbia Storage Battery is so hale and hearty it is guaranteed to do definite work for a definite time. Its health certificate even stimulates that another battery will be put to work for you without additional cost if the original should fail within the guarantee period.

Columbia Service Dealers or Service Stations anywhere will be glad to demonstrate why and how you—like legions of other automobile owners—will prosper with Columbia Quality and Service.

Columbia Storage Batteries and Dry Batteries

UNION BANK OF CANADA

NO FEAR OF LOSING YOUR MONEY

When travelling if you carry it in the form of

TRAVELLER'S CHEQUES

issued by the Union Bank of Canada. No one can cash them without your signature. Issued in denominations of \$10, \$20, \$50, \$100 and \$200, with value in foreign currencies plainly stated on the face. Accepted at full value at hotels, ticket offices and business places generally throughout the world.

BRANCHES IN ALBERTA

Airdrie, Alderson, Alix, Barons, Bashaw, Bassano, Bellevue, Blackie, Blairmore, Bowden, Bow Island, Brooks, Bruderheim, Calgary, Cardston, Carstairs, Carstairs, Cereal, Chinook, Clairmont, Clareholm, Cluny, Cochrane, Consort, Cowley, Didsbury, Edmonton, Elmore, Empress, Erickson, Foremost, Fort Saskatchewan, Grande Prairie, Grassy Lake, Hanna, High River, Hillcrest, Innisfail, Irvine, Jenner, Lacombe, Langdon, Lethbridge, Macleod, Medicine Hat, Okotoks, Pincher Creek, Spirit River, Standard, Strathmore, Swallow, Three Hills, Wainwright, Winnipeg.

Head Office: Winnipeg
Total Assets over
\$183,000,000
Deposits over \$110,000,000

installing simple arrangement as sketch, which will meet all requirements.

Q. Purchasing a tractor.

Ans. In buying a tractor considerations which govern price, size of farm and location must finally decide, and this magazine cannot act as agent in such matters. However, we are always willing to render such assistance as we command, and you may desire, and if you will place your considerations before us in the shape of legitimate inquiries, we will endeavor to give satisfactory answers.

Q. My engine is two cylinder, opposed, 40 hp., splash lub, fed by rotary pump in the sump to top of crankcase, one cylinder; overoils front cylinder, underoils. How shall I equalize the two cylinders, as I am constantly dismantling in order to clean and re-grind rear cylinder valves?

Ans. We are afraid nothing can be done with the present system, and would advise installing an efficient force feed to all working parts, and include oil-rings for the connecting rods. The oiling system being the life's blood of the I.C. engine, it is imperative it should reach its destination in just the proper quantity at all times.

Q. I have a selective gear on my tractor, the box situated immediately behind the engine, and when running on the road during very cold weather a loud hum develops and causes considerable anxiety. What is the cause and remedy?

Ans. It is simply the churning of the gears in the heavy grease, and entails severe strain on the

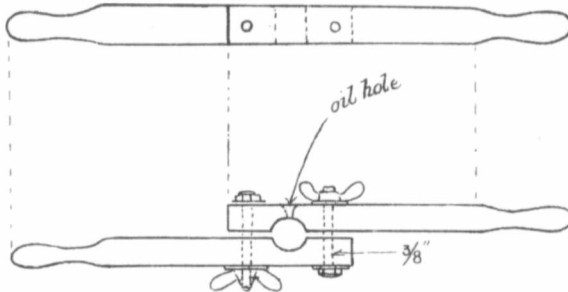
calls for all your initiative as a mechanic. First, bed in your crankshaft, and test wrist-pins, etc., for ovality, "lapping in" if found necessary. Second, see how your crankshaft lines up with the frame. Third, start remetalting operations with first motion shaft working back to the drive-wheel bearings, remove first motion shaft, inspect for bad wear, ridges, etc., lapping with emery-cloth, cut out old metal, placing shaft into position with gears in perfect mesh, taking care that the shaft centres are in perfect alignment with the crankshaft, vertically and longitudinally, then prepare for the new metal.

Remetalting

Don't be impatient, take your time and do it right first time. Coat your shaft with blacklead as this leaves a smooth finish on the metal. Have ready some thick cardboard, cut as sketch, some workable putty or clay (the best is any form of asbestos soaked and worked into putty-like appearance), thoroughly heat shaft and bearing with a blow-torch, place cardboard on shaft and close to end of bearing, pack around with putty, leaving a pouring hole at one end and air hole at the other. Again heat the bearing, examine all likely leaks, and then if fully satisfied, pour the whole bearing without stopping.

Dont's

Don't use old metal for new bearing; use the best.
Don't overheat your metal, and then skim the best metal away.
Don't skimp your ladle; have a little metal to spare.



entire transmission. We would suggest the use of a light gear oil, with sufficient body to keep down the heat from gear friction. Don't cover the gears entirely with oil, but sufficient to make distribution to all wheels and bearings sure.

Q. I am overhauling my tractor, and most of the Babbit bearings are badly worn, requiring remetalting, and, of course, the shafts relining. What is the procedure?

Ans. This is a job which requires much skilful handling, and

Don't run metal unless everything is piping hot.

Don't forget to plug the oil-hole with wood through to shaft. When this is done it would be advisable to remove the shaft and scrape the bearing, bedding in, cutting oil grooves, completing one shaft before going on to another, and so on right back to the last bearing. See that each shaft is lined up to the other, proving the alignment by the engine. Use your good mechanical sense, and there will be no trouble.

ALL PREVIOUS RECORDS BROKEN

SUMMARY OF 1918 ACHIEVEMENTS

NEW ASSURANCES			
Assurances Issued and Reinstated	-	\$19,135,750.00	
Increase over 1917	-	2,650,347.00	
BUSINESS IN FORCE			
Business in Force, December 31, 1918	-	108,572,703.00	
Increase over 1917	-	10,444,072.00	
INCOME			
Cash Income,—Premiums, Interest, etc.		5,831,190.74	
Increase over 1917	-	722,180.11	
ASSETS			
Assets at December 31st, 1918	-	26,748,392.95	
Increase over 1917	-	2,162,609.08	
PROFITS ALLOTTED TO POLICYHOLDERS			
Profits set aside for Policyholders, Payable in 1919	-	487,410.00	
Increase over 1918	-	129,927.00	
SURPLUS			
Total Surplus over all Liabilities and Capital, according to Company's Standard		2,502,293.50	
Surplus on Basis of Insurance Act	-	3,868,745.50	
Increase over 1917	-	198,155.96	
GROWTH DURING PERIOD OF THE WAR			
YEAR	BUSINESS IN FORCE	ASSETS	SURPLUS
1913	\$ 80,619,888.00	\$17,540,387.21	\$1,470,857.73
1918	108,572,703.00	26,748,392.95	2,502,293.50

The MANUFACTURERS LIFE

Insurance Company
HEAD OFFICE, - TORONTO CANADA



P.S.—Write for Copy of our booklet "FACTS."

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 60% or more.



THE PICKERING GOVERNOR CO.

PORTLAND

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TRADE SAWYER MARK
Registered

STITCHED CANVAS BELTING

PLEWES LIMITED (Distributors) WINNIPEG

On sale at your local hardware store.

IMPOSSIBLE TO ESTIMATE LABOR SAVING OF TRACTORS

IN discussing the modern farm tractor it is much easier to compute the saving in horse-power than the saving of man-power. One reason for this is that there is a certain finality about the disposal of the farm horse which does not attach to the farm hand. The farm horse, so to speak, "walks the plank"; but the farm hand remains. It is he that must run the farm tractor of the future, and the auxiliary machinery that is destined to be developed, as time rolls on.

In California they begin by stating this proposition: A 75-hp. farm tractor will do as much work as forty horses and six men. In other words the employment of the tractor cuts man-power from six to one. Five men may be taken from the operation and care of the horse teams, and put at some task that is more profitable.

Now, without stopping to speculate on the increased labor-power of the man who remains to run the tractor, let us speculate a bit as to the amount of labor-power to be developed by the five men who quit. How are they likely to be employed under the new conditions? Presumably on the land that is being plowed and brought into a higher state of cultivation through the use of the farm tractor.

The value of their labor in their new field will be predicated upon two conditions — the individual capacity of the farm hand, and his increased efficiency, brought about by the use of the tractor, and the machinery which will be hitched to it. Here is a vista of possibilities that may puzzle the wisest head. This by reason of the impossibility of outlining and estimating the efficiency of the farm machinery that is yet to be devised, manufactured and put into use, in connection with the farm tractor.

Invention is a very fecund and prolific mother. Machinery, you might say, begets more machinery, and what our farm operations will be ten years from now no man can say.

Two forces are at work to bring about this process of evolution; the natural inventive tendency of the age, and the necessity of producing larger supplies of food through the waste of war; also the draft upon the ranks of farm labor in consequence of war needs. Who is wise enough to approximate the saving of man-power that will be brought about by the general introduction of the farm tractor and its auxiliary appliances?

Another phase that is generally lost sight of is the saving of labor that is to accrue from the sus-

Getting the Most From Mother Earth

The Part Played by Correct Lubrication

With ever-widening markets for their crops, progressive farmers have realized that animal power long ago reached its limit of production.

So they turn to mechanical power, as have men in other industries. With mechanical power they plow deeper, work faster, and cultivate a much bigger acreage.

The tractor has become a standard agricultural implement. It shortens labor.

The great war demonstrated two big things:

- 1—That mechanical power multiplies crop results.
- 2—That mechanical power, operated and maintained at highest efficiency, gets the ultimate out of Mother Earth—at costs per acre far below any ever before recorded.

You know the difference in power results and economy, between tractor engines that operate at maximum efficiency and those which are constantly breaking down in service.

For years a constantly increasing number of engine users have turned to the correct grade of Gargoyle Mobiloils, because the correct grade keeps their engines delivering their best. Gargoyle Mobiloils engineers, after years of careful research have produced the authoritative Chart of Tractor Recommendations shown here. This Chart tells at a glance the correct grade of Gargoyle Mobiloils for practically every make or model of tractor for both summer and winter use.

Farmers who get the most out of their tractors, follow the Gargoyle Mobiloils Chart of Recommendations as the authoritative guide to correct tractor lubrication.



GARGOYLE MOBILOILS
A grade for each type of motor.

In buying Gargoyle Mobiloils from your dealer, it is safer to purchase in original packages. Look for the red Gargoyle on the container.

FOR PASSENGER CARS

The passenger car has entered the farmer's life as a business as well as a pleasure vehicle. Its correct lubrication is as important as the lubrication of your tractor.

Write for booklet "Correct Lubrication," containing complete Gargoyle Mobiloils Chart of Recommendations. There is also a complete discussion of automobile problems and troubles.

IMPERIAL OIL LIMITED

Manufacturers and Marketers of Polarine Motor Oils and Greases
Marketers of Gargoyle Mobiloils in Canada

BRANCHES THROUGHOUT CANADA

CORRECT TRACTOR LUBRICATION

Explanation—The four grades of Gargoyle Mobiloils for tractor lubrication, purified to remove free carbon, are: Gargoyle Mobiloil "A" Gargoyle Mobiloil "BB" Gargoyle Mobiloil "B" Gargoyle Mobiloil "Arctic". In the Chart below, the letter opposite the tractor indicates the grade of Gargoyle Mobiloil that should be used. For example "A" means Gargoyle Mobiloil "A," "Arctic" means Gargoyle Mobiloil "Arctic," etc.

TRACTORS	1916		1917		1918		1919	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Albion-Dover (Square Turn)	B	B	A	B	A	A	A	A
Allis-Chalmers	B	B	A	B	A	A	A	A
All Wars	B	B	A	B	A	A	A	A
Andrews	B	B	A	B	A	A	A	A
Appleton	B	B	A	B	A	A	A	A
Artisan-Taylor	B	B	A	B	A	A	A	A
Avery (18-36)	B	B	A	B	A	A	A	A
(5-10 HP)	B	B	A	B	A	A	A	A
(Lansdale)	B	B	A	B	A	A	A	A
Bates Steel Mule	B	B	A	B	A	A	A	A
Best Tractor Pull	B	B	A	B	A	A	A	A
Best (8-16)	B	B	A	B	A	A	A	A
Big Boy	B	B	A	B	A	A	A	A
Bower City	B	B	A	B	A	A	A	A
Buckeye (Indiana)	B	B	A	B	A	A	A	A
(Indiana) Giant Baby	B	B	A	B	A	A	A	A
(OHio)	B	B	A	B	A	A	A	A
Cass	B	B	A	B	A	A	A	A
(10-20)	B	B	A	B	A	A	A	A
(12-25)	B	B	A	B	A	A	A	A
(20-40)	B	B	A	B	A	A	A	A
Chas.	B	B	A	B	A	A	A	A
Chesapeake	B	B	A	B	A	A	A	A
Clemson Sense	B	B	A	B	A	A	A	A
C. O. D.	B	B	A	B	A	A	A	A
Corn Belt	B	B	A	B	A	A	A	A
Crescent City	B	B	A	B	A	A	A	A
Emerson-Brantingham (E.B.)	B	B	A	B	A	A	A	A
(10-15)	B	B	A	B	A	A	A	A
(15-20)	B	B	A	B	A	A	A	A
(Reeves)	B	B	A	B	A	A	A	A
Farm Home	B	B	A	B	A	A	A	A
Flour City (Heavy Duty)	B	B	A	B	A	A	A	A
Galloway	B	B	A	B	A	A	A	A
Gas Pull (Runley Co.)	B	B	A	B	A	A	A	A
Gran Belt	B	B	A	B	A	A	A	A
Gray	B	B	A	B	A	A	A	A
Happy Farmer	B	B	A	B	A	A	A	A
Hart Parr (Model B)	B	B	A	B	A	A	A	A
Header	B	B	A	B	A	A	A	A
Heat Casparian	B	B	A	B	A	A	A	A
(Model 45)	B	B	A	B	A	A	A	A
(Model 16)	B	B	A	B	A	A	A	A
Holer	B	B	A	B	A	A	A	A
Imperial Forty	B	B	A	B	A	A	A	A
Ingolia	B	B	A	B	A	A	A	A
Kanfield	B	B	A	B	A	A	A	A
N. C. Prairie Dog	B	B	A	B	A	A	A	A
Kirkland	B	B	A	B	A	A	A	A
Little Chief	B	B	A	B	A	A	A	A
Little Giant	B	B	A	B	A	A	A	A
Marytag	B	B	A	B	A	A	A	A
Minneapolis	B	B	A	B	A	A	A	A
Mogul (I. H. Co.)	B	B	A	B	A	A	A	A
(10-15 H. Co.)	B	B	A	B	A	A	A	A
Moline Universal	B	B	A	B	A	A	A	A
New Age	B	B	A	B	A	A	A	A
Nichols & Shepard	B	B	A	B	A	A	A	A
Nixon	B	B	A	B	A	A	A	A
Oil Pull (Runley Co.)	B	B	A	B	A	A	A	A
(10-20, 20-40)	B	B	A	B	A	A	A	A
(Runley Co.)	B	B	A	B	A	A	A	A
Parrett	B	B	A	B	A	A	A	A
Perma	B	B	A	B	A	A	A	A
Pioneer	B	B	A	B	A	A	A	A
Flow Boy	B	B	A	B	A	A	A	A
Flow Man	B	B	A	B	A	A	A	A
Portac	B	B	A	B	A	A	A	A
Ranley	B	B	A	B	A	A	A	A
(8-16)	B	B	A	B	A	A	A	A
Russell (Little Four)	B	B	A	B	A	A	A	A
Seaboard	B	B	A	B	A	A	A	A
Simplex	B	B	A	B	A	A	A	A
Standard	B	B	A	B	A	A	A	A
Spartan	B	B	A	B	A	A	A	A
Straut	B	B	A	B	A	A	A	A
Trust (I. H. Co.)	B	B	A	B	A	A	A	A
Tom Thumb (4 cyl.)	B	B	A	B	A	A	A	A
Two City	B	B	A	B	A	A	A	A
(Model 15)	B	B	A	B	A	A	A	A
(Model 16)	B	B	A	B	A	A	A	A
Walla Cub	B	B	A	B	A	A	A	A
Waterloo (Justis)	B	B	A	B	A	A	A	A
Waterloo Boy	B	B	A	B	A	A	A	A
Wisconsin	B	B	A	B	A	A	A	A
Yale	B	B	A	B	A	A	A	A

pension of the time-honored industry of horse breeding. Few have set themselves about a calculation of the amount of labor involved in the breeding, rearing and breaking of the average farm horse. It requires not only days, but years to breed and bring a draft horse up to a condition of maximum efficiency. Therefore the labor involved is spread out over such a lengthy period of time that its real cost in labor, care and anxiety is seldom computed. Yet any farmer who has raised his own work horses, and has finally come over to the farm tractor, after he has drawn a deep breath of relief, can easily realize the weight of the burden that has been lifted from his shoulders.

Nothing really succeeds which is not based on honesty; sham in a large sense is never successful. Pretension is nothing, power is everything. —Whipple.

OXY-ACETYLENE WELDING APPARATUS and SUPPLIES

We can supply a thoroughly practical outfit from \$100.00 up. There should be at least one plant in every district to repair breakages quickly and SAVE TIME and MONEY. Up-to-date farmers with Traction Engines are putting in welding outfits and doing their own and their neighbors' repairs. We give free instructions to purchasers. SEND YOUR BROKEN CASTINGS

Scored Cylinders or any kind of Repairs. We Re-bore Cylinders, True Up Crank Shafts, Re-tip Boiler Flues and are in a position to handle any repair job promptly.

Nothing too large or too small

GIEGER WELDING WORKS, SASKATOON

Tractor Owners

Bring your tractor up to date. Exchange that unreliable magneto for the latest K.W. high tension with impulse starter, which is now standard equipment on 83 models of tractors built by 40 manufacturers. No batteries required. Satisfaction guaranteed. Write for particulars.

ALL MAKES MAGNETOS AND COILS REPAIRED.
TRACTOR LIGHTING PLANTS

Acme Magneto Works, 276 FORT ST. WINNIPEG

Using the Belt to get the most out of the Tractor

By A. E. KULL

IN the days before the tractor arrived it was considered quite a performance to get two blades of grass to grow where but one grew before. But with the tractor, this conquest of the vegetable kingdom gives way before a much greater triumph in the animal world, whereby the two animals can be raised for the meat block where but one could before. This is because, for one reason, the tractor enables the farmer to increase farm yields and also because the tractor replaces horses.

Horses eat from twenty to twenty-five per cent. of the food produced on a farm. Every time a horse is replaced by a tractor, sufficient food is released for fattening an additional steer or perhaps two porkers. This is quite a consideration when it is realized that the human population of the Dominion has increased in far greater proportion in recent years than has the number of meat animals on Canadian farms and ranches.

It is not only in replacing horses and increasing crop production that the tractor is of value to the Canadian farmer. This is a time of conservation and the tractor is playing an important part in conserving the products of the soil.

Millions of bushels of grain rot in the shock each year while the owner is waiting for the big threshing outfits to arrive and other millions of bushels shell out and are lost for the same reason. This wastage can be very largely saved by use of tractors, for with tractors have come the small threshing machines made to fit every size of tractor or farm. In fact, there is at least one small machine on the market, made for individual use, and a crew of

three men can thresh in about the same time that the same crew would require to stack the grain. This method not only saves one handling of the grain, but a lot of grain as well.

Another very important function for the tractor and one that has been very much neglected, is the matter of grinding all the feed for all the stock. The grinding of feed, hay and fodder as well as the grain is out of the question unless the farmer is provided with a large power plant. The importance can hardly be overestimated, not only from the point of saving feed, but also from the point of increased production of meat.

When it comes to shelling corn the tractor again fits in fine, making it possible for each farmer to shell his corn when he is ready to market it, which is a very important item in the corn belt.

Filling the silo, sawing wood, as well as doing the other hundred and one odd jobs around the farm, should all be given due consideration when buying or selling a tractor.

With the world crying for bread and with the tractor offering a positive relief by increasing production by better and more timely plowing, by saving the grain after it has been produced and by making it possible to produce more meat by converting horse feed to hogs, cattle and sheep, it is time that the proper publicity be started to put these important facts fairly and squarely before the Canadian farmers. Tractor selling organizations should arm their salesmen with indisputable facts and figures. It is a patriotic duty to inform ourselves, not on how to sell tractors, but on how to present our

BEAVER

KEROSENE

TRACTOR



The Drive that Pulls

SEVEN SPEED FRICTION TRANSMISSION

"Perfectly Satisfactory"

Read the verdict of Beaver Owners

Fort Qu'Appelle, Sask., Nov. 19th, 1918
 "Would advise any person contemplating the purchase of a tractor to look up this make of a tractor, as my experience with this has been everything that it could be in the line of satisfactory work."
 (Sgd.) A. B. May.

Sedley, Sask., Nov. 24th, 1918
 "Just a line to let you know that I have been getting along all O.K. with the Beaver tractor. Have double disced 180 acres, and plowed about 20. I did not have anything but a five-furrow engine disc plow, and she pulled it fine. I was pleased to get the advice on friction drive because I have taken care of it, and it is as good as ever, and it is the greatest thing I ever saw."
 (Sgd.) J. W. Fugleley.

Ellisboro, Sask., Nov. 18th, 1918
 "In reply to your letter of the 12th inst. regarding your Beaver friction drive tractor, I might say it has given entire satisfaction to date. We have only plowed 20 acres of breaking, which was dry and stony, using a 2 1/2" breaker bottom, which she handled nicely at a total cost of \$1.75 an acre covering everything. The friction drive is certainly handy, having no gears to shift or strip."
 (Sgd.) Root, McLean.

Vantage, Sask., Dec. 8rd, 1918
 "As to breaking when there was not a sign of moisture in the ground or any other place—or in other words, bone dry—I did work second to none with the Beaver, and as to the friction drive I have had no trouble whatever with it, and I am thinking this should be less trouble than a lot of gears."
 (Sgd.) Gust Shenblom.

Moose Jaw, Sask., Dec. 9th, 1918
 "The Beaver tractor which I bought from you this summer has given entire satisfaction. I plowed 120 acres of land which was a subdivision, and had actually gone back to prairie grass. Part of this land had not been plowed for nine years. This tractor handled three disc plows seven inches deep, and I consider had power to spare."
 (Sgd.) Chas. White, Box 1878.

Meyronne, Nov. 20th, 1918
 "I think it is only fair that I should let you know that I am dead in love with my Beaver tractor, 12-24, which I purchased from you. No need of saying much about the Waukesha Motor, as there is no better. The friction drive on the Beaver is in fact what I like the most. It is so simple to operate, and with all the work I have done my fire seems in better shape than when I first started up."
 (Sgd.) A. J. McKee, 3



Write for free Illustrated Catalogue

Goold Shapley & Muir Co., Limited

Brantford Portage la Prairie Regina Calgary

Best ANTI-FRICTION BABBITTS

ON THE MARKET

With forty years' experience in manufacturing alloys for all classes of machinery, the HOYT METAL CO. has evolved two alloys which are unsurpassed by anything of the kind now in use.

HOYT'S NICKEL GENUINE Babbitt is especially designed for heavy duty gas tractors.

HOYT'S FROST KING Babbitt is especially designed for threshers, separators and stationary engines of all classes.

If your dealer does not carry these metals in stock, send your order direct to us. In order to insure prompt delivery send postal money order.

<p>Nickel Genuine</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Less than 20 lbs. \$1.25 per lb.</td> <td style="width: 50%;">Less than 30 lbs. 60 per lb.</td> </tr> <tr> <td>30 lb. box 1.10 per lb.</td> <td>30 lb. box 37 per lb.</td> </tr> <tr> <td>50 lb. box 90 per lb.</td> <td>50 lb. box 35 per lb.</td> </tr> </table>	Less than 20 lbs. \$1.25 per lb.	Less than 30 lbs. 60 per lb.	30 lb. box 1.10 per lb.	30 lb. box 37 per lb.	50 lb. box 90 per lb.	50 lb. box 35 per lb.	<p>Frost King</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Less than 20 lbs. \$1.25 per lb.</td> <td style="width: 50%;">Less than 30 lbs. 60 per lb.</td> </tr> <tr> <td>30 lb. box 1.10 per lb.</td> <td>30 lb. box 37 per lb.</td> </tr> <tr> <td>50 lb. box 90 per lb.</td> <td>50 lb. box 35 per lb.</td> </tr> </table>	Less than 20 lbs. \$1.25 per lb.	Less than 30 lbs. 60 per lb.	30 lb. box 1.10 per lb.	30 lb. box 37 per lb.	50 lb. box 90 per lb.	50 lb. box 35 per lb.
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50 lb. box 90 per lb.	50 lb. box 35 per lb.												

Delivered to your nearest express or post office station.

Hoyt Metal Co. EASTERN AVE. and LEWIS STREET Toronto

FACTORIES—London, Eng.; Toronto, New York and St. Louis.



LURKING POSSIBILITIES

Nervous Customer: "I see you've a system of fines for cutting here; I suppose it makes you very careful!"
 Boy: "Oo, no, sir, I only lather, George shaves, sir; but he's just won a good bet an' was saying 'as you come in 'e don't care a dime for nobody, to-day!'"

DO NOT SCRAP BROKEN CASTINGS

We make them equal to new at low price. Cylinders, Engine Bases, Gear Wheels, Steam Boilers, in fact any broken or cracked parts, welded and guaranteed by us. Scored or worn cylinders re-bored. Please write for our circular and estimates. We were the first to operate the OY-ACETYLENE WELDING PROCESS in the West. Established since 1911.

MANITOBA WELDING & MFG. CO.

56 and 58 Princess Street, WINNIPEG, Manitoba

wonderful proposition to the Canadian farmer so that he can realize the maximum returns from his investment.

**INDISPENSABLE FOR
PLOWING, BREAKING
AND BELT WORK**

Maple Creek, Sask.,
January 30th, 1918.

Dear Sir:—

We have a 12-25 H.P. Mogul engine. This was purchased the 1st of April, 1917. To date we have plowed 420 acres of stubble and 100 acres breaking. This is all the work we have done with our engine, except moving a few granaries.

Our soil is a light sandy loam and just a little rolling. We have a triple Oliver gang plow, and behind this we attached a John Deere 14-inch gang plow. This just makes a nice load plowing six to eight inches deep. At this rate we can plow 15 acres in 10 to 12 hours. This cuts expenses down to 50c. per acre or less. Kerosene 21c. per gallon, and lubricating oil 50c. per gallon.

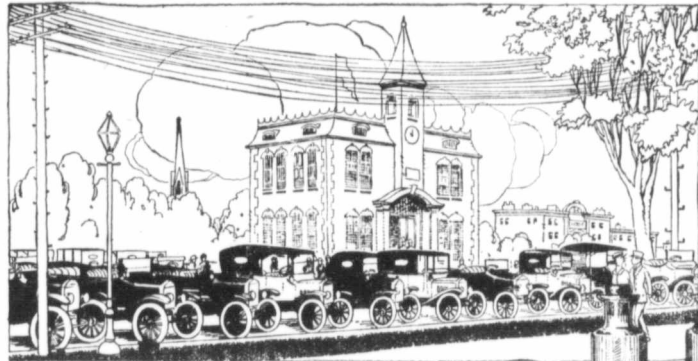
In breaking we pull but three plows, and plow 8 to 10 acres in 10 to 12 hours. This costs us 75c. per acre for coal oil and lubricating oils. This is cheap breaking.

We find that the engine is almost an absolute necessity on the farm. The size of engine should be in accordance with farm. A 300 acre farm should have a triple plow, a 400 acre farm a four plow, and 500 acre farm a five plow. Under no condition do I think it practical to use a larger engine or more plows. An 8-16 engine pulling two plows is too small in my estimation. We hope to get a separator next fall and do our own threshing.

We like the engine particularly well, as it is spring mounted, and it has the weight so as to pull a heavy load if necessary. By adjusting the plows behind the engine so that both the wheels run the furrow, you need no steering service and the engine will follow the furrow from one end of the field to the other without touching it.

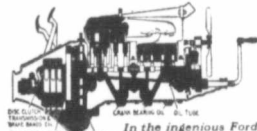
We would not consider the engine practical for anything else in the field, such as seeding, discing, harrowing or drawing a binder. By running your engine on plowed land it would pack too hard and pull too heavy. In drawing binders you need large fields, and then if you were not in perfect working order, or if the twine were bad, you would lose too much time, and would require too much labor. In our opinion plowing and breaking is the only field work for engines, and, of course, all belt work.

Yours truly,
G. H. Hoffman.



**New facts about lubrication
every Ford owner should know**

IN the cities, where some companies use great numbers of Ford cars and results of their use can be easily compared, it has been proved beyond any doubt that attention to lubrication is one factor of operation which will greatly reduce the cost of running a Ford.



In the ingenious Ford power plant, engine, transmission gears and clutch are enclosed in one case. One oil must meet the different lubrication requirements.

Scientific comparison of the costs of running various cars under similar conditions has proved that:

1. Mileage per gallon of gasoline can be increased.
2. Mileage per quart of oil can be increased.
3. Carbon deposits can be reduced to a minimum.
4. Repairs can be greatly reduced.
5. More power can be made constantly available.
6. Over-heating, loose bearings, engine knocks, can all be practically eliminated.

How are these surprising results obtained? By using an oil which resists heat.

Ordinary oil breaks down

Ordinary oil breaks down quickly under the intense heat of the engine—200° F. to 1000° F.—forming a large proportion of its bulk in black sedi-

ment, which has no lubricating value.

Sediment crowds out the good oil on the metal-to-metal surfaces and prevents the oil from efficiently lubricating the fast-moving parts. Loose bearings are almost always the result of using poor oil. Engine knocks, broken connecting rods, slapping pistons are an inevitable result.

After years of experimentation Veedol engineers evolved a new method of refining by which a lubricant is produced which resists heat. This, the famous Faulkner process, is used exclusively for the production of Veedol, the scientific lubricant.

How Veedol, the scientific lubricant, reduces the formation of sediment by 96% is shown by the two bottles illustrated above.

Buy Veedol today

Your dealer has Veedol or can get it for you. If he cannot supply you, write us for the name of the nearest Veedol dealer. Enclose 10c for copy of the 100-page Veedol book, which describes internal combustion engines and their lubrication. It will save you many dollars and help you to keep your car and tractor running at minimum cost.

TIDE WATER OIL COMPANY

Veedol Department
554 Bowling Green Building, New York
Branches or distributors in all principal cities in the United States and Canada.



Ordinary oil after use Veedol after use

Showing sediment formed after 500 miles of running



When writing Advertisers please mention The Canadian Thresherman and Farmer.



CANADIAN NATIONAL RAILWAYS
14,000 Miles of Railway
56,000 Miles Telegraph Line

Traversing every province in Canada's Dominion and directly serving the great ocean ports of
HALIFAX, ST. JOHN, QUEBEC, MONTREAL, VANCOUVER, VICTORIA
Passenger - Freight - Express - Telegraph

48 VESSELS

Now under Construction for the Atlantic, Pacific and Great Lakes Service

With these ships in commission and working in conjunction with the vast railway system, CANADA'S products of FIELD, FOREST, MINES and INDUSTRIES will find ready markets in the ports of the world.

CANADIAN NATIONAL RAILWAYS

Brake Horsepower

By PROFESSOR J. MACGREGOR SMITH, Saskatchewan University

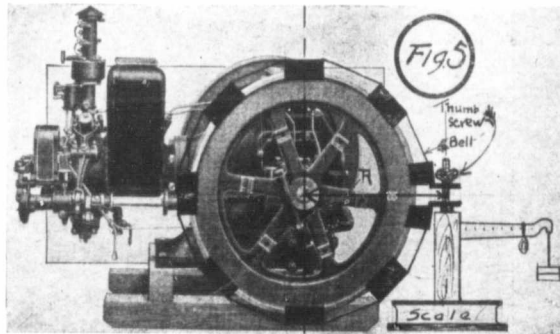
SOME prefer to call it belt horsepower. We want to know what horsepower the engine is capable of developing for use at the belt. For the smaller engines the Prony brake is used. This device is made of blocks of wood, with a piece cut out to fit the flywheel, and these blocks are bolted to a piece of belting by small stove bolts. The heads of the bolts are countersunk on the side next to the flywheel. By referring to the illustrations it will be easily seen how the brake is applied and the necessary amount of friction secured. We show in figure 1 a second method of applying this brake; in fig. 2 a second method is shown. In the latter case you will notice that we have taken a cut from a manufacturer's catalogue and applied the brake with which we are going to measure the number of foot pounds of work per minute delivered to the bolt. By referring to the other ar-

revolution how much will this be? The circumference equals
 $2 \times 22 \times 7$

$$\frac{2 \times 22 \times 7}{1 \times 7 \times 2} = 22 \text{ feet}$$

If the net pull on the scale is 10 pounds, then for every revolution we have 10 pounds \times 22 = 220 foot pounds of work per revolution, therefore when we multiply by 400, the revolutions per minute of the engine, we get the total number of foot pounds of work per minute, and dividing by 33,000 we get the horsepower as shown - 2.66.

In figure 5 we use a platform scale. The reading on the scale will be the gross load, and, as you can readily see, there will be a reading on the scale when the engine is at rest (this applies to both cases), for which it cannot be given any credit. Therefore before the brake is applied obtain the tare by balancing the portion that goes over the flywheel on a straight edge at the point that



ticles of this series you will see what is meant by the foot pound. The formula is:

$$\text{Brake Horsepower} = \frac{2 \times T \times R \times L \times X \times N}{33,000}$$

ZTR = the circumference of a circle, the radius of which is equal to the length of the brake arm, that is, R L equals the net load registered on the scale, and N equals the number of revolutions per minute.

Let us suppose that the engine is set on the edge of a table and the brake applied. What would happen? The brake would swing around with every turn of the flywheel. In figure 1 this would mean that the point where the scale is attached would travel through a circle which had a radius equal to $3\frac{1}{2}$ feet, or the length of the brake arm. However, to prevent this a spring balance is attached, and the pull in pounds is registered. For every

revolution how much will this be? The circumference equals 22 feet. If the net pull on the scale is 10 pounds, then for every revolution we have 10 pounds \times 22 = 220 foot pounds of work per revolution, therefore when we multiply by 400, the revolutions per minute of the engine, we get the total number of foot pounds of work per minute, and dividing by 33,000 we get the horsepower as shown - 2.66. In figure 5 we use a platform scale. The reading on the scale will be the gross load, and, as you can readily see, there will be a reading on the scale when the engine is at rest (this applies to both cases), for which it cannot be given any credit. Therefore before the brake is applied obtain the tare by balancing the portion that goes over the flywheel on a straight edge at the point that

the wheel when the brake is applied. Let us suppose that this was 2 pounds, that the total reading was 12 pounds, then our net load would be 10 pounds. The thumb screws are turned down until the engine will carry the load without reducing the rated speed. What is the use of this test, you ask? You can make sure with very little trouble what horsepower your engine can develop. You can adjust the timing to get the most power and find the position at which the carburetor gives the best results. If you are doubtful about the engine being all you were told it was, then you can try it out, and if it fails in the test you have facts to prove your case, otherwise you are only "thinking" it has not the power instead of "knowing". For testing tractors special equipment is needed.



Proven By 10 Years' Actual Field Work

7 Speeds Forward or Reverse With One Lever

Move this lever forward to go ahead—back to reverse—neutral to stop. Could any control be more simple? This is one of the many advantages in the Heider Special friction transmission. "I didn't know any more than a six year old boy about an engine when I bought my Heider," says one owner. "Yet I plowed and double discd 200 acres, cut 70 acres of wheat, sowed 110 acres, and had no trouble that I could not locate myself." The

Heider

The Real All-Purpose Tractor

Burns Kerosene or Gasoline

is the unusual tractor. And it gets unusual results. Its friction transmission is one of the biggest successes ever put in a farm tractor. You cannot strip the gears—nor lose power turning needless parts. You get your engine's best all the time without strain, and without wasting fuel. No sudden jerks in starting the load behind the drawbar or the machinery on the belt. Burn Kerosene or Gasoline. Especially designed manifold. Switch from one fuel to the other without carburetor changes. The Heider is the thoroughbred among tractors—backed by its own experience of 10 successful years and 63 years of building Rock Island Farm implements. Write for catalogue and booklet of letters from owners.



Heider Model C, 12-20 H. P.



Heider Model D, 9-16 H. P.

Sold with or without plow attached. One foot lever controls automatic power lift of plows. Gets into fence corners and plows ALL the field.



Rock Island Tractor Plow

No one has been able to beat the plowing made possible with the Rock Island "Front Furrow Wheel Lift" Tractor Plow with "CX" Bottoms. It's ready for any soil—and the pull of any tractor. Extra high clearance. "CX" Bottoms turn the furrow clean clear over and prevent air spaces from stopping moisture. This means increased crops.

2, 3 or 4 Bottoms

WATERLOO MFG. CO., LIMITED

Regina, Saskatchewan, Portage La Prairie

A. T. DAVIDSON, 328 William Ave., WINNIPEG

SAYS THE HEIDER IS SECOND TO NONE
 In reference to the 12-20 Heider Gas Tractor I purchased from you last fall, I must say that I am more than satisfied with it.

I find it to be very economical on fuel, plowing seven acres on ten (10) gallons of White Lily kerosene. The friction drive being in my estimation one of the strong points of the machine.

As a one-man outfit, I think it is second to none.
 William Edwards,
 Roblin, Man.

Canada's Opportunity On the Highway of Success—What has that to do with GATES? Everything!

PEERLESS LONG SPAN GATES

The gate pictured below is a comparison to the Peerless Purification Farm fencing, strong, durable, with heavy tubular frame, which allows it like a steel plate. It lasts the time and holds us out four times by a square section. Lateral and upright wires are securely clasped at all intersections and stretched upon a strong rigid frame of tubular steel electrically welded into one solid piece.

For Looks, Wear and Service In appearance a Peerless Gate says: "I am a quality item of heavy open heart steel wire, galvanized and can't rust at any point. For service (it is put together in best of kind and is the cheapest best gate made. You will be interested in our Catalogue, Write Today for literature describing all our many styles of gates, all kinds of Fences and Fencing for farms, open, residential, park, etc. It will pay you well to get acquainted with Peerless Purification standard of construction. Write straight office today. No return."

THE BANWELL-HOXIE WIRE FENCE CO., Limited
 Hamilton, Ont.
 Winnipeg, Man.

"Marquis" is Hard to Thresh!

On all points and for practically every condition in Western Canada, "Marquis" wheat is top notch to-day. "But it is hard to thresh," says Professor Saunders. That it does not shell easily is a great point in its favor while exposed to the prairie winds. If your thresher is a machine designed and built to do continuously hard work, we can supply you with belting that will stand the heaviest continuous strain that any threshing outfit will ever encounter from "Marquis," or any manner of cereal crop that can be grown—the



LION BRAND
Rubber Belt
 and the
YELLOW FELLOW
ENDLESS THRESHER BELT



They are unbeaten in the field of grain production.

and are sold by all thresher companies doing business in Canada. They may cost a trifle more than some fabrics that are always a big risk but that is forgotten in the added years of service, and we guarantee our goods against all disappointment from slippage or breaking. It is not possible to make better belting by any scientific method known at this day

Gutta Percha and Rubber Limited

WINNIPEG FORT WILLIAM REGINA SASKATOON CALGARY LETHBRIDGE EDMONTON

ly, because the only way in which this can be ascertained is by means of an instrument called the Indicator. Outside of a technical institution or the experimental department of a factory one is seldom seen.

A Great Economist

I am so thoroughly satisfied with my small tractor that I am convinced that it is a boon to the farmer, especially in times like these. It is a time saver, also very

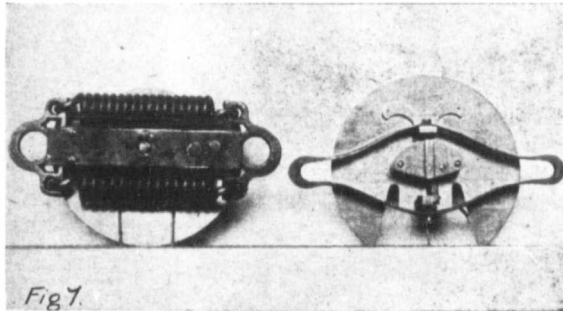


Fig. 7.
 Back view of 2 types of small dynamometers. On the other side is a dial on which the pull is registered.

We have endeavored to point out why it is important for every farmer to understand what is meant by horsepower in so far as it effects his power problems, and we hope those who had not given the subject much thought will follow it up. You must know.

"Some men," sighed the tired, overworked wife of the village loafer, "associate with fishin' worms till they get the same kind of backbones."

economical in cost of running for the amount of work done, and it is cheaper than feeding horses for twelve months for three months' work. Then it is so handy to do all the odd jobs, both by belt and draw-bar, and a pleasure to do it.

I am sure the tractor is a very important and useful farm implement, making it possible for us to produce more food stuff with less man power than we possibly could without it.

—Oliver C. Harvey, Rivers, Man.

Raise More Live Stock AND Increase Your Prosperity

This is the opportunity of the farmers of Canada. The depleted herds of Europe insure a profitable market for years to come. The lower the cost of production, the greater your profits. Because of the low cost of the land there is a splendid opportunity in the Prairie Provinces to raise all kinds of live stock most economically.

THE CANADIAN PACIFIC RAILWAY

has thousands of acres of fertile land, suitable for mixed farming and live stock raising, for sale at low prices and on easy terms.

Land that will grow grain, and fodder crops of various kinds may be had at from \$11 to \$30 an acre. Only one-tenth down and twenty years to pay the balance.

IRRIGABLE FARM LANDS

capable of producing large crops of wheat and other grains, alfalfa and all kinds of fodders, beets, potatoes, tomatoes, vegetables, every season and supporting maximum number of live stock per acre, for sale at \$50 an acre, including water rights. One-tenth cash and twenty years to pay balance. Loan of \$2,000 for buildings, fencing, etc., on these lands.

Write now for free booklets containing full information to

READ WHAT H. B. RAMER SAYS:

"As I had no experience in irrigation I felt somewhat blue (in the spring of 1915), as it looked as if I were not going to have anything, and the land not prepared for irrigation. I went to work and got the water on as far as I could, and when I threshed my crop I had 1500 bushels of wheat, 700 bushels of oats and 550 bushels of potatoes. At present prices would amount to \$4500, which paid my indebtedness and helped me on to another crop.

"We can raise nearly all kinds of garden truck including water melons, cantaloupes, tomatoes and sweet corn. Alfalfa can be grown to perfection under irrigation."

Mr. Ramer came to Alberta from Pennsylvania in 1917, settling on a quarter section near Duchesne, purchased from the C.P.R.

ALLAN CAMERON
 General Superintendent of Lands, C. P. R.

912 1st St. East
CALGARY

Two Famous Combinations

A Case Steam Tractor and a Case Thresher

FOR years—nearly eight decades—men have looked upon this rig as the leader of them all. And today, although kerosene tractors have come into favor, many men still prefer steam, in some localities.

For this reason, the J. I. Case Threshing Machine Company has not neglected to keep up the high standards set in building its famous steam tractors. This department is intact. We are making better steam tractors than ever before. Our long experience points the way.

Case Steam Tractors are made in eight sizes: 30, 40, 50, 60, 65, 75, 80 and 110 horsepower.

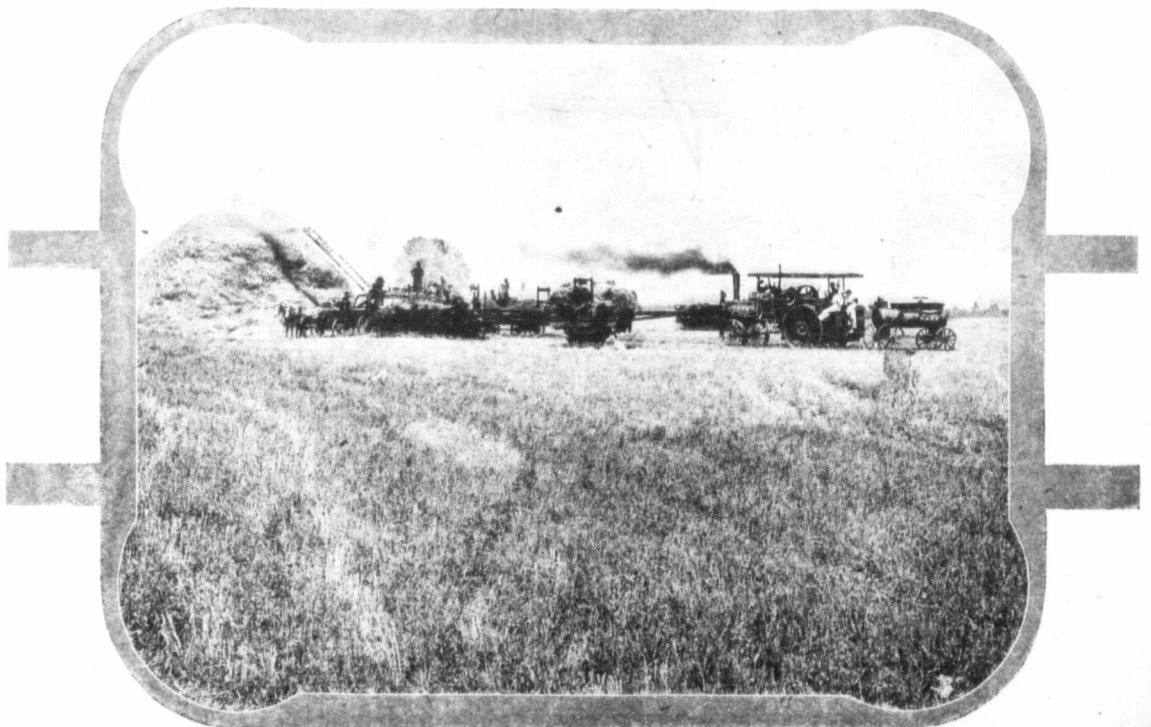
The other unit of this famous combination is a Case Steel Thresher. In this branch of the power-farming machinery business, we have been engaged for 77 years.

Case Threshers are world famous for their splendid work, their durability, their economy. No better threshers have ever been built. That is why men who know always award Case Threshers first place.

Case Steam Tractors and Case Threshers are fully described in our illustrated booklets, copies of which will be gladly sent upon request.

Write today and we will gladly send you complete information.

J. I. Case Threshing Machine Company, Inc., (Founded 1842) 1682 Erie Street, Racine, Wis., U. S. A.



A Steam or Kerosene Tractor

Built by Case Means Satisfaction

CASE Kerosene Tractors, in many localities, are furnishing power for all kinds of belt work just as they are doing field work on many farms formerly operated entirely with animal power.

Whether you prefer a steam or a kerosene tractor, Case builds the kind and size you need. There are eight sizes of Case Steam Tractors and four sizes of Case Kerosene Tractors.

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If you will kindly let us know in which you are interested, we will be glad to send you complete information, including illustrations and specifications.





Some Farm Management Problems

Address delivered by A. H. BENTON, Professor of Farm Management and Rural Economics (M.A.C.), to the Convention of Agricultural Societies, Winnipeg.

THE fundamental basis of agriculture is production, and in the past all efforts have been centred in getting more bushels per acre, and more acres under cultivation. Undiminished productivity of the farm and continuous profits were taken for granted. Decreased production was thought of only as a possibility of the dim future, if thought of at all. But the dim future has to-day become the immediate present. The continuous growing of grain crops is making satisfactory yields less and less certain in the older sections of Manitoba.

Farm management has been defined as the science that deals with the organization and operation of a farm, for the purpose of procuring the greatest continuous profits. Continuous profits should be the watchword in the consideration of our present agricultural problems. Continuous profits are the basis of all success in farming, but to-day if many of the older farming districts profits are by no means certain. Continuous returns from farming must be made more certain, and this certainly will depend upon the proper solution of the following:

1. The soil problem.
2. The crop problem.
3. The live-stock problem.
4. The labor problem.

5. The capital problem.
6. The marketing problem.

These problems can be successfully met only through good farm management methods. The present day soil problem is a result of the one crop farming system; the necessary system in early days when the prairie country was being subdued, when an abundance of fertility was present, and when transportation facilities were inadequate and meagre. The grain crop lent itself to the existing conditions, for it was an imperishable product easily shipped. Changes, however, have come, and by force of necessity farming conditions must result.

The old farming conditions was approaching a crisis before the war, but the high prices put off the evil day. The problem is not, however, solved.

Where one system of farming has been continuously followed, some condition has always arisen that has made it ultimately unprofitable and forced some change. In the beginning this forced change seemed a calamity; in the end it proved a boon. A goodly illustration of this is the cotton belt in the southern portion of the United States, where for year after year the land has been growing cotton with but little rest. As in Manitoba, the soil has been depleted, not only



A BIG SPRING DRIVE

A. E. Powell, of Caron, Sask., being without a man in the spring of 1918, he had his problem of time and power. By hitching eight horses to 12 sections as seen in the picture, he was able to harrow about 90 acres a day.

The Working Cow



is a "worker" who has no off days or vacations. She asks for no "forty-hours-a-week." With the working bee she is an incessant toiler, but she beats the bee in the sense that she is a producer of the finest food product known all the year round. Give her a square deal in food, fresh air and comfortable quarters and she'll "give" in abundance. Then give her product a square deal in the handling of it with the square geared

"MAGNET"

Cream Separator—

the greatest labor-saving and food-conserving machine ever introduced into Dairy Farming and they will give it you.

DAIRY WOMEN know that the "MAGNET" bowl and one-piece skimmer is easily washed sweet and clean in less than five minutes—a saving of from 10 to 15 days' labor each year over the time required to properly wash the disc kind.

MAGNET ALWAYS SKIMS CLEAN

After nearly 18 years' constant use on Canadian farms the "Magnet" has established beyond the shadow of a doubt that its square gear drive and ball-bearing adjustments is unequalled as an effective piece of dairy mechanics and has nothing in front of it in lasting quality.

because its bowl is supported at both ends, cannot wobble and therefore will do perfect skimming for a life-time. Dairy men and women can avoid all "misery" by buying the up-to-date "Magnet" Cream Separator.

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in fertility, but also in vegetable fibres, and crop yields were decreasing. Added to this there came the Mexican Boll Weevil, which seemed to spell the doom of cotton growing. In the end these conditions resulted in prosperity for the south, because it has changed them from a one crop farming district to a diversified type, and with it has come a stability of agriculture that never existed before.

While the war has postponed temporarily some of the serious results of grain growing, and made farming profitable, it has also led to conditions which may finally make them more severely felt. The farmer's standard of living has been raised, and he will no longer be satisfied with the low returns and uncertainty that existed under the one crop farming system. In making a change the soil problem is of primary importance.

This problem is that of making and keeping the soil in the state most favorable for the production of crops, and it depends on a number of factors:

1. The supply of plant food. N. K. and P.
2. The absence of substances poisonous to plants, such as acids and alkalis.
3. The absence of competing plants, namely, weeds.
4. The proper mechanical condition of the soil, conducive to favorable plant growth, namely, the soil being sufficiently open to admit air and water, and sufficiently heavy to retain plant foods. Also an abundance of vegetable matter to act as carrier of plant food, and bind and prevent the drifting of soil.

As to the first-named factor: Investigations into the presence of N. K. and P. in the heavier soils indicate that at present there are sufficient of these for favorable crop production. The Red River Valley soil contains many thousands of pounds of potash per acre and also thousands of pounds of phosphoric acid, sufficient for hundreds of crops. The amount of nitrogen varies considerably because it leaches out more rapidly than the other two elements. It is also required in large quantities by the growing crops, and since in grain growing the grain is shipped away and the straw burned there is little return. In spite of this the heavier soils still have an abundance, although the lighter, sandy soils in some instances definitely show their lack of it.

As a general thing the presence of white alkali is not a serious menace in Manitoba, though there are small spots even in large areas where farming is affected by it.

There is little acid so far reported, but when we come to the

presence of weeds and the physical conditions of the soil most favorable for plant growth, we find the real soil problem, and immediately we must consider measures:

1. Control the growth of perennial weeds.
2. Prevent the drifting of soil.
3. Conserve the moisture.

It can be readily seen that to accomplish these things two things are necessary:

1. The proper management of the soil, which varies with the type of soil.
2. The use of such crops in such an order that weeds will be controlled, and that soil drifting will be prevented. In other words, this means diversified farming and a proper rotation.

There is no one proper rotation for all districts, as it must depend on:

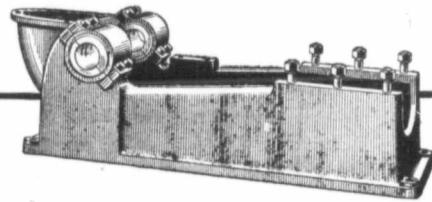
1. The soil.
2. The climate.
3. The size of the farm.
4. The labor available.
5. The capital available.
6. The likes and dislikes of the farmer.

One year in the rotation must, however, provide for the tilling of the land, for in no other way can weeds be controlled. A tilled crop is desirable rather than a summer-fallow if there is sufficient moisture. It should also contain a forage crop, either a grass or legume, or a combination of the two. This forage crop is primarily for the purpose of adding fibre to the soil, through the large root system. A tilled crop is better than summer-fallow because:

1. There is no loss of the use of the land.
2. There is less destruction of vegetable fibre, as the growing crop does something, whereas the summer-fallow does nothing but destroy the weeds.

3. Succeeding crops give a better yield, according to the experiments available. Tilled crops require more labor, more forage produced requires more live stock if profitable use is to be made of it, and more live stock requires more capital. Satisfactory and dependable grass and forage crops are the need of Western Canada at the present time. Forage crops for Western Canada such as Sudan Grass, now proving so satisfactory in the western parts of the United States, are what are needed here. The importation and adaptation of Sudan Grass, Milo Maize, Kafir Corn and Sorghums have practically transformed the dry section of the western parts of the United States from an arid and desolate region to a prosperous and diversified farming country.

A legume rather than a non-legume is better, since it will aid in conserving the nitrogen condi-



ALPHA GAS ENGINE has angle bearings

This is the bed of the Alpha Gas Engine, showing how the main bearings are angled.

You can leave the caps off and still run the Alpha—because the thrust of the piston is on the frame itself, not on the caps or the bolts. The bearings don't need to be over-tight, and as they are made of highest grade babbitt they will last for years.

Every other detail is worked out with the same care to make the Alpha reliable, easy to start and hard to get out of order.

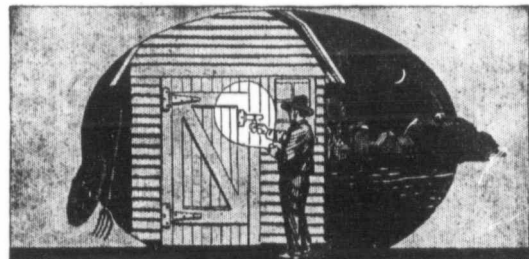
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You can direct the brilliant rays of the Reliable Searchlight with bulls-eye accuracy. You release a flood of bright light as quickly as pulling a gun trigger. No danger of explosion—no possibility of extinguishing by wind or rain. There are a thousand uses for Reliable Searchlights inside the house and out—in barn, garage and other outbuildings—any place.

Reliable Tubular Searchlights are made of metal enameled in red, brown, blue and green—also fibre and metal flashlights in all standard sizes and styles.

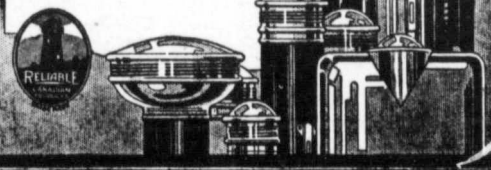
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War to Peace



Building a New Canada

Canada's farmers can look with pride on their share in the nation's war-effort.

But there is still important work for every farmer to do. Canada must be brought forward to a peace basis with all speed. Here are ways in which the farmer can help----

Canada's first need to-day is to create more wealth. The farmer should therefore, in the nation's interests no less than in his own, continue to bend every effort to increase production.

To-day the farmer will quickly secure the help he needs for getting out bigger crops. The Public Employment Offices now being established in cities of 10,000 population will put him in touch with just the help he needs.

Every farmer can try to give employment to a returned man, or perhaps in addition give him practical training and knowledge of farming, so that he will be able to take advantage of the Government's Land Settlement and Loan provisions.

To-day is the time when every farmer can do great public service by creating work---clearing land, building new barns and outhouses, and doing what is necessary in greater production.

The Farmers' Clubs should make a point of giving a royal welcome to every soldier returning to their community.

Farmers' Co-operative Organizations, too, should do their utmost to employ returned soldiers---especially those who have had experience in handling commodities in the Army Service Corps.

A new Canada is being built up---a Canada that must be still bigger in spirit, still more enterprising. This thriving, prosperous Canada can only arise through the vigorous help and intelligent co-operation of every citizen.



The Repatriation Committee

OTTAWA

tions. There are great possibilities in alfalfa, and at the present time the chief difficulty in the way of its further use is the expense of seed. Experiments now being carried on at the Manitoba Agricultural College give promise that a hardy plant with prolific seeding properties may be secured some time in the future.

Crops to meet the soil problem bring the crop problem. In turn the crop problem brings the live-stock problem, even if the soil problem did not directly demand it through the need of manure.

The live-stock problem brings forth such questions as: What kind of live stock should be kept; how it should be handled; and

how it should be marketed? The growing of forage crops as an aid to the solution of the crop problem immediately makes live stock necessary, and if live stock are kept it makes necessary the continuous growing of forage crops.

(To be concluded in April Issue.)

Youth Will Ask Questions

Ethel---(From the country)---
"Mr. Jimson, I think you should scold that old bossy cow of yours---the one at the end, down there."

Mr. Jimson---"Why, little girl?"

Ethel---"Cause why, she has an awful habit of chewin' her ton'-gue."

Agricultural Representatives in Manitoba

We are glad to call the attention of our readers to the voluminous and eminently satisfactory report of the Director of Agricultural Extension Service, from which, for the present, we have selected the following details with regard to Agricultural Representatives:

AGRICULTURAL representative work was not established until after the war broke out, and, very naturally, was not of a very permanent nature, as most of the men employed were of military age and unmarried. Naturally, it was not possible for the men to take work to cover a very long period of time, as they felt that sooner or later they would sign up with the army, as most of them eventually did. A considerable number of the men are now returning and will resume their old work. In launching this work a second time an entirely new plan will be followed.

Before a representative will be placed in any district there must be a request from the people in that district for the services of such a man with a guarantee that certain financial assistance will be forthcoming, ranging from \$400 to \$1000. When this assurance is given, the Agricultural Representative supervisor will spend several days in the district organizing what will be known as a Board of Agriculture, in order that the representative may have the actual co-operation, advice and assistance of the farmers themselves.

The Board of Agriculture will consist of:

1. A committee in each community, consisting of a chairman and a three or four representative farmers in this community. Wherever there are Grain Growers' Associations, or other organized farm bodies, their officers would act instead of the above mentioned committee.

2. A district agricultural council, consisting of the chairman or secretary of each community

committee, Grain Growers' organization, agricultural society, municipal council, trustee association, the school inspector, board of trade, home economics society, etc. This council will meet once or twice a year for a general discussion of the needs of the district, and to discuss the recommendations made by the various community committees, and to recommend to the executive committee a general programme of work which, in their opinion, should be carried out.

3. An executive committee of nine members so situated that they are evenly scattered over the district, yet are so located that they can meet frequently without undue loss of time. Each member should be chosen because of his special fitness to direct some important part of the community work.

The Board of Agriculture will take care of:

1. Finances.
2. Authorize the expenditure of money raised by the community either in the shape of annual grants from municipal councils or by membership fees.

3. Determine the agricultural needs of the district requiring most attention.

4. Co-operate with the Department of Agriculture in securing a man who, by experience and training, is most likely to meet these needs.

5. Discuss programmes and projects recommended by the agricultural representative and approve of those that, in their opinion, will be desirable.

The Agricultural Representative

In the United States this official is known as a county agent. For a number of years he was known throughout Canada as the district representative, but about a year ago there was a general agreement among the provinces that he would be known as "The Agricultural Representative," since his office will in reality be a branch office of the Department of Agriculture, and



MALTESE CROSS TIRES

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The New 1919 Non-Skid Tread

Observe the tread on Maltese Cross Non-Skid Tires. The area of road contact is a continuous belt of thick, tough rubber. It is a means of reinforcement, giving extra strength, long life and endurance.

Like the keystone of an arch, this girth supports every segment of the tire. Its resistance is sufficient to reduce "flexing" to a minimum; it saves the internal fabrics from the wear of undue friction.

The new 1919 "continuous tread" on the Maltese Cross Non-Skid Tire is such a real big improvement that we want every motorist who is keen on long mileage and freedom from tire trouble to give this new pattern tread tire a trial.

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The Gopher Terror

need be nothing more than a phantom terror—a crop nightmare. Quick, sure death to this destructive animal is within your reach. You can kill them at the rate of six for a cent—with scarcely any trouble, if you use Gophercide.

Gophercide

dissolves readily in warm water—being eighty times as soluble as ordinary strychnine—and calls for neither vinegar nor acids. Dissolve a package of "Gophercide" in half a gallon of warm water and in this, soak a gallon of wheat, and you have enough to kill about 400 gophers. It gets them every time. There is no bitter taste or outside deposit to rouse the gopher's suspicion. They eat it with relish. And the poison stays in the grain for a long time, in spite of all weathers. Now is the time to get after the gophers—when they are hungry and before they begin to breed.

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although recognized as a member of the Agricultural Extension Service, is free to co-operate with the Agricultural College, the Dairy or Live Stock Branch of the Department of Agriculture, or any other department of the government.

To be a success, an agricultural representative must have a wide, practical experience, preferable in Manitoba, as well as good technical training. He must be either a graduate of an agricultural college, or have exceptional training along some other line very closely related to agriculture, and have at least six years successful practical experience on a farm.

Duties of a Representative

Representing, as he does, the Department of Agriculture, his duties are nearly as wide as that department. Some of his immediate problems are:

1. The organization and management of Boys' and Girls' Clubs.
2. Securing and distributing high quality seed, well-bred live stock, poultry, etc.
3. Securing a market for the production of the district.
4. Making a careful survey of the unsolved farming problems in the district, and helping to solve them.
5. Co-operating with existing organizations in planning and carrying out an agricultural improvement programme.
6. Helping to reveal to the people of the district the agricultural possibilities of the district, and how they may be best realized.

Finances

As it will require good salaries to retain the services of men having the experience and training necessary to make a success of agricultural representative work, the Department of Agriculture will give liberal support to the movement. His salary will be paid up to \$1800. His automobile expenses will also be paid for up to nine cents a mile, or approximately another \$500. Considerable equipment will also be required.

The Board of Agriculture will be expected to:

1. Provide for salary over \$1800, probably up to \$2500.
2. Auto mileage over nine cents a mile.
3. It is very desirable also that an office be provided for the use of the Board of Agriculture and the Agricultural Representative, for he will not likely be found in it except on Saturday when he will be there to consult with farmers coming into town on that day, and on Monday to answer his correspondence. It is just possible that an office can be provided in conjunction with the municipal clerk, the school inspector or the rest room, so that

bulletins and other literature



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J. I. Case Tractor Plows have cut costly "drag" from plowing. They have made the tractor a better paying investment.

J. I. Case Tractor Plow rides on 3 easy lubricated, long distance wheels, like a wheeled vehicle. They do not drag like a stone boat.

Sturdy, simple power lift enables you to raise or lower plow bottoms easily and quickly from the tractor seat. These modern plows enter or leave the ground like a walking plow—point first.

See your local J. I. Case dealer to-day. If you don't know him, write us for his name and address.

J. I. CASE PLOW WORKS, 425 West Sixth St., RACINE, WISCONSIN, U.S.A.

NOTICE—The Supreme Court of Wisconsin has decided that our plows are the "ORIGINAL CASE PLOW" and that we are entitled to the exclusive use of the word CASE on all plows and tillage implements, and in all catalogues and advertisements of same.

Any notice by another concern regarding CASE plows is given because of this Supreme Court order that our rights and the rights of the public may be protected.

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could be obtained in the Agricultural Representative's absence, or messages left there in reference to problems requiring attention, for generally, he will be home each evening.

Departmental Co-operation

One member of the Extension Service will devote all his attention to this work, and will thus be able to help the district representatives to keep in close touch with each other and with the department. He will also have a splendid opportunity of discovering the needs of the farmers, and of planning means whereby the needs can be met.

Exhibits

As the Extension Service is intimately associated with the agricultural fairs, it was only natural that we should co-operate

with the college, and the other branches of the Department of Agriculture in designing, preparing and placing a number of provincial exhibits. Exhibits naturally fall under three heads, namely:

- Educational.
- Advertising and Publicity.
- Competitive.

These three are fairly well represented by the exhibits placed at Brandon, Kansas City, and the one now on in the Board of Trade Building.

In preparing the Brandon exhibit, the fact was kept in mind that exhibition visitors are, to a great extent, on a holiday, and will not stop to examine very closely, and this exhibit was made attractive and interesting as well as instructive. Members of the college staff were on hand

throughout the week for the purpose of discussing with the farmer problems met with in his work. A general color scheme was adopted for the whole exhibit, scenic views related to the subjects presented although they could not be said to be altogether educational they gave pleasure to the visitor and served to bring him to the exhibit more than once.

The Kansas City exhibit, while to a certain extent educational, was designed mainly with the idea of featuring the natural resources and soil products of the province. As was generally known, twelve hours after this exhibit was placed, the influenza epidemic made it necessary to cancel the exhibition. However, the awards were placed, and Manitoba was well up in the num-

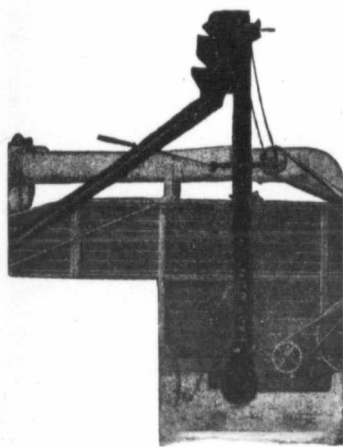
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Hart Machines backed by thirty years of satisfactory service, embrace all the latest and best improvements in Automatic Registers and Self-Feeders and are recognized as standard by the discriminating and far-sighted manufacturers and users of threshing machinery.

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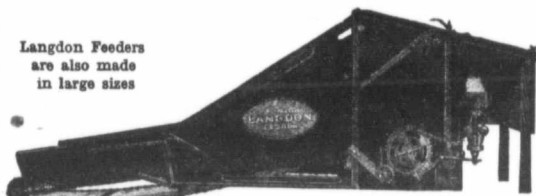
While the Junior Registers and Self-Feeders are recommended for Junior Threshers, the big Hart Line embraces dozens of styles and sizes of Registers and Feeders for the larger separators.



HART JUNIOR AUTOMATIC REGISTER
With 14-ft. Elevator
Also furnished as a low-down machine with conveyor, for Eastern trade.

AN AUTOMATIC REGISTER AND SELF-FEEDER FOR EVERY SIZE SEPARATOR, LARGE OR SMALL

Langdon Feeders are also made in large sizes



LANGDON JUNIOR SELF-FEEDER

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Makers of Hart, Peoria, Hart Belt and Bucket, Simplex, Perfection and Hart Junior Automatic Registers; Loaders and Baggers; Langdon Ideal and Langdon Junior Self-Feeders; Hart Wing Feeders and Hart-Brown Wing Carriers.

ber of prizes won, in comparison with other provinces and states. We knew previous to this that we produced the finest live stock, wheat, oats, barley, flax and rye, but we did not know that we had the finest honey, and the best vegetables in the world.

An exhibit such as that shown at Kansas City, and now on exhibition at the Board of Trade Building, cannot be placed under \$3500. The freight to and from Kansas City alone amounted to over \$1000. While sitting in the rotunda of the Baltimore Hotel where no one knew he, I happened to hear the President of the Board of Trade state that he was sure the Manitoba exhibit must have cost \$10,000. Hence I take it that we must have got fairly good value for our money. Personally I think the province got \$10,000 worth of value from an advertising standpoint. However, it is the grain and vegetables which you men are growing that we are using to advertise our province, and I am sure the Department of Agriculture will be glad to receive an expression of your opinion on this method of advertising. The valor of our Canadian boys has advertised Canada in Europe, and for that matter the world over, and, we believe, it is up to us to show to the world that the soil products of Mani-

toba are on a par with the manhood of the province.

The exhibit at the Board of Trade building is a competitive one, and while we have tried to retain the attractive features as far as possible, it was not possible, at this season of the year, to do justice to the vegetables produced, and the volume of grain sent in and the necessity of keeping certain classes close together detracts a little from the general artistic effect.

S. T. Newton.

Professional Discourtesy

Fred Lennox, the actor, had a room in a hotel overlooking a railroad yard. At the end of the second day he paid his bill.

"Did the locomotives bother you at night?" asked the proprietor.

"No—not at all," said Lennox. "Actors and locomotives both have to work at night, and I can stand for that; but what I object to is having a couple of engines come under my window every morning and rehearse until noon!"

"Papa, where is Atoms!"

"Atoms? I don't know son; probably you mean Athens."

"No, I mean Atoms. The place where things are blown to."

Farmer's Account Book

This book is as complete as we can make it. There is a place in it for everything you plant, raise, buy, sell, have on hand; with a summary of the year's business.

It puts your farm on a business basis. It is free to Farmers.

Write or call for a copy at any Branch of the Bank or a post card request addressed to the

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MERCHANTS BANK OF CANADA, Winnipeg or Montreal.

will bring you a copy of the book by first mail.



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Ready for the task of reconstruction. Built solid and tough for man-sized jobs. They just naturally fit the man and his work. Let the Northern "rough it" with you.

The Northern Shirt Co. Limited
WINNIPEG

REDUCTION IN THE PRICE OF SCREENINGS

A REDUCTION of 30 per cent has been made in the price of Re-cleaned Elevator Screenings (known also as Standard Stock Food), and the price is now \$25.00 per ton f.o.b. Fort William in bulk. Until a few days ago the price was \$36.00 per tn. These screenings are not crushed.

The complete elevator screenings at the terminal elevators of Canada are under Dominion Government supervision. These screenings are separable into different classes, as follows: Scalpings, Succotash flax, Blackseeds, Re-cleaned Screenings.

The Re-cleaned Screenings (or Standard Stock Food) represents about 10 to 35 percent of the whole screenings. The Dominion Government describes this class of feed thus:

"This product, now available in large quantities for Canadian stockmen, may vary somewhat in character, but is fairly uniform, and wherever used is providing an excellent feed. The average composition of many samples is as follows:

Broken and shrunken	
wheat	46.1%
Wild Buckwheat	37.1%
Wild Oats	8.6%
Oats	1.0%
Flax	0.1%
Chaff	5.65%
Mustard Seeds	0.70%
Other Seeds	0.65%

"The actual percentage contained of wheat and buckwheat varies more than in the case of the other constituents. Each, however, are of high food value.

"A fair chemical analysis of re-cleaned screenings may show as follows:

Protein	14%
Fat	5%
Fibre	8%

"It will be seen that re-cleaned screenings show a higher analysis in both protein and fat than either wheat or domesticated buckwheat. The fibre content is reasonably low."

As to danger from weed seeds, the Dominion Government again says:

"Re-cleaned screenings, from which the greater part of the small seeds have been removed, may be safely used after being subject to fine chopping or grinding. That this feature of fine pulverizing is highly important will be appreciated by owners of clean farms."

After experimenting with this class of feed by feeding it to animals, this statement is made:

"1. Is an excellent feed for swine, except in the case of very young or weaned pigs.

"2. Is a high-class feed for dairy cattle.



Holding War-Time Markets for the Canadian Farmer

Canada is called upon to help to feed Europe during the period of Reconstruction.

This is good business for the Canadian farmer as it means he may be assured the same markets as he had while the fighting was on BUT— these prospective customers are little better prepared to pay cash for their purchases than they were during the War. To hold these markets for you, and make it possible for you to get the cash, the Dominion of Canada must extend credits.

Must Supply Credits

How is Canada to supply the necessary credits and finance this international trade? From the invested savings of her people.

The plan has been most carefully worked out. If the Canadian people co-operate to the utmost of their ability, the markets are assured, the people profit by their investment, their money is available when needed, and since Canada will, in due course, receive back the money advanced to the buying nations, not a dollar is added to the permanent indebtedness of the country.

\$5.00 for \$4.02

The Dominion of Canada is raising the necessary money by the sale of War-Savings Stamps.

In your own interest, buy War-Savings Stamps. Get every man, woman and child you can talk to, to buy War-Savings Stamps. The price this month is \$4.02.

Each stamp will be redeemed on Jan. 1st, 1924, by the Dominion of Canada, for \$5.00.

As an aid to the purchase of a War-Savings Stamp, you can buy Thrift Stamps at 25 cents each. Sixteen Thrift Stamps on a Thrift Card represent \$4.00 on the purchase of a W.S.S.

W-S.S. and Thrift Stamps may be purchased at Money-Order Post Offices, Banks, and other places displaying the sign at the top of this announcement.

50

"3. Has given very satisfactory results with fattening steers fed with or without other meals and grains.

"4. For fattening lambs has proven fully valuable as for fattening hogs."

Approximately four thousand tons of this feed are on hand at the terminals.

The arrangement existing is that farmers and other feeders wishing to order this class of feed shall apply to the Provincial Department of Agriculture which, after being satisfied as to the validity of the orders, forwards it to the terminal elevators.

The shipments are consigned with drafts attached to bills of lading; in other words, they must be paid for by cash on receipt.

A small representative sample of the screenings can be sent on request by the Provincial Department of Agriculture, Winnipeg.



F. W. PAGE AGENCY LTD.
WINNIPEG General Agents

Yorkshire Fire Insurance Co. of England
LIVE STOCK DEPARTMENT
SPECIAL FARMERS' ACCIDENT POLICY
FIRE INSURANCE
AGENTS WANTED

WE COVER FROM THE ATLANTIC TO PACIFIC

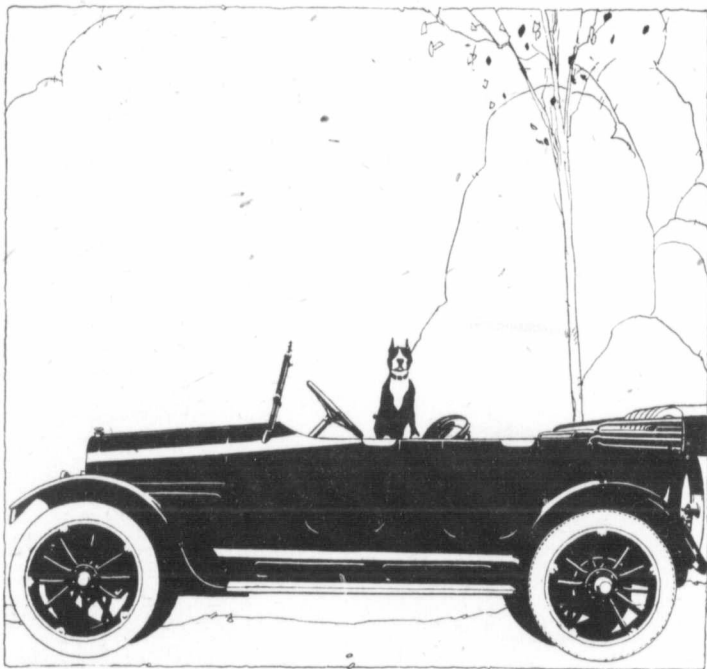
M. SILBERMAN FUR CO.

Buyers and Exporters of
Raw Furs, Seneca Root, Hides and Wool

Head Office: 288 Logan Avenue, Winnipeg, Canada

HONEST DEALINGS BEST GRADING PROMPT RETURNS

Overland
TRADE MARK REG.



"Let's Go"

Under all weather and road conditions, the Overland Model 90 has won its present high reputation as a car that is easy to start, easy to run, and economical to maintain. This reputation is founded on ten years of constant effort to merit the appreciation of the public. The Overland car to-day is more deserving than ever of that prestige which has grown from the enthusiasm of thousands of owners.

WILLYS-OVERLAND LIMITED
Willys-Knight and Overland Motor Cars and Light Commercial Wagons
Head Office and Works, West Toronto, Ontario
Branches: Montreal, Winnipeg and Regina

Model 90 Touring, \$1500; Model 85-4 Touring, \$1495; Model 88-4 Touring, \$2575; Willys-Six, \$2495; f.o.b. West Toronto

The Cost of Keeping Stumps

WHAT a tidy little sum in millions might be piled up in increased revenue to the Dominion were the millions of acres of worthless timber, and still less productive stumps, cleared from the soil and replaced with the cereals that mean so much — especially to Western agriculture.

The greater part of Canada's logged-over land is rich in agricultural possibilities. What does it mean in outlay of labor and cash to convert these into "the best yet" in crop fertility? One is so accustomed to those old familiar stumps and to notice that the neighbors have about as many, that one has not bothered to figure out what it costs per year to keep those stumps. Perhaps the very thought of the tre-

the stumps removed, would be worth \$50.00. In other words, it would show an increased profit of \$10.00.

Every dollar of that \$10.00 would be clear profit, too, because there is no additional expense connected with planting or cultivating the land occupied by stumps. If your old profit per acre with the stumps was \$10.00, and you increased this profit by \$10.00 by clearing the stumps, then your profit shows a total increase of 100 per cent.

As a practical illustration, let us quote an Ontario farmer on this subject. He writes as follows: "I cleared twelve acres, 40 to 50 stumps to the acre, birch and oak, average size, 12 to 24 inches, from clay soil. The cost was ten cents per stump, or about



A simple little outfit that can do marvels

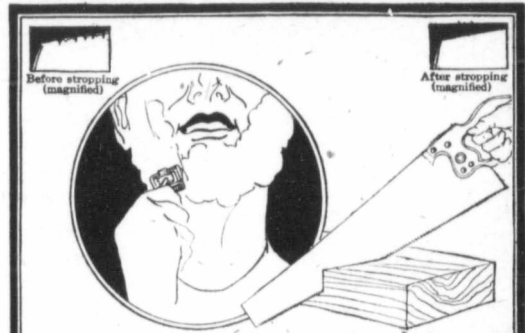
mendous amount of labor necessary to get rid of them has scared the farmer from tackling the job; nevertheless, he will continue to pay interest on those stumps just as long as he allows them to eat their way into the profits from the crops he could grow on the land they now make useless for other than pasture purposes.

It has been estimated that the ground covered by an average stump and its roots will cause a loss of about 100 square feet. Multiply this by the many billions of stumps which now occupy the uncleared land of this country, and it will be seen what a large amount of land is being practically wasted.

Now, let us figure out approximately just what one is losing by letting those stumps exist. Suppose you have thirty stumps to the acre. That means that those stumps are stealing nearly one-fifth of that acre of land. Now, if the crop from four-fifths of that acre is worth \$40.00, the crop from the entire acre, with

five dollars per acre. By clearing off the stumps, I increased the value of my land fifty per cent, besides the profit from the big crops this land will produce."

Another landowner in giving his experience says he cleared three acres at a cost of \$15.00 per acre, there being about two hundred stumps to an acre, measuring from 8 to 15 inches in diameter in clay soil. The land valued at \$35.00 before clearing is now worth \$75.00 when cleared, and the net profit for the first year will be \$150.00, besides the \$120.00 covering the increased value of the land. This is sufficient evidence that you are losing money every day by not getting after those stumps. It might also be interesting to know how this land was cleared which brought such satisfactory results. The work was all done with the One Man Stump Puller, which is "Made in Canada," and can be secured at reasonable prices and terms direct from the manufacturers.



Do you shave with a saw?

THAT question may sound funny, but you know how it is with tools; unless you hone or sharpen them regularly they get dull and lose their cutting edge.

After all, a razor is a tool. A very refined sort of tool, it is true, but still a tool. And the point we're driving at is unless a razor blade is stropped regularly it develops an edge very like a saw, as the illustration shows, and causes that pulling and after-smarting sensation of which you complain.

Not so with the AutoStrop Razor. For the self-stropping feature, you see, reforms the saw-like edge that results from shaving, it keeps the blade free from rust, and it provides you with a keen-edged blade for every shave. The beauty of it is you don't have to remove the blade from the holder to sharpen it, nor do you have to take the AutoStrop Razor apart to clean it. From first to last—stropping, shaving and cleaning—the blade remains in the razor.

Razor, strop and 12 blades complete, with money-back guarantee, \$5.

AUTOSTROP SAFETY RAZOR CO., LIMITED
AutoStrop Building, Toronto, Canada



AutoStrop Safety Razor

DON'T SCRAP YOUR BREAKAGES

Send us all your broken or cracked Cylinders, Crank Cases, Gear Wheels, Gear Housings or Machine Parts. We will deliver perfect results and save you money.

HUB WELDING COMPANY

253 SHERBROOKE STREET, WINNIPEG

Lowest Prices consistent with Best Workmanship.

This fine implement is made by the A. J. Kirstin Company, of Sault Ste. Marie—a name which has been before the Canadian public now for many years. We have seen results of its work, and can speak of its effectiveness in the highest terms.

A Manitoba farmer (W. F. Koughnet, of Deloraine), writes: "I have done a large amount of work with stump puller as well as my neighbors using it. I have had several chances to sell it. There has been as many as three men after it at once, but I would not do without it at any price, for I use it for so many jobs besides stumping. I had a farmer come to me last spring. He said he had some big poplar stumps he could not pull. He had tried his old horse-power machine, but he was breaking his cable, and having lots of trouble with it, so I out and pulled 80 big stumps for him in seven hours, and he didn't want to let me take my machine home, but wanted to buy it right there."

Again from Alberta—E. B. George, of Camrose writes: "After trying out my outfit I find that it can handle anything that grows around these parts. The cluster cable is a great convenience. Take the outfit on the whole, I have nothing on the farm that gives me better satisfaction. We have pulled poplar and red willow, averaging about seven inches in diameter, and the hardest pull that we had took about ten minutes.

"The Kirstin is the most complete little rig, and develops the most power of anything I have ever seen. It is strong and powerful like dynamite, but safer to have around. Some of my neighbors thought at first it was too light to be any good, and while they have seen it is strong



KEEPS POWER SEALED IN THE CYLINDERS

Use Polarine for lubricating your tractor and you get every bit of power that the fuel creates. Polarine spreads a continuous, unbreakable oil film between piston rings and cylinder walls. Intense engine heat won't cause Polarine to break up, run thin, and waste the explosive gases out of the combustion chamber, as oils of poor quality do.

Polarine turns the full volume of gas into power, whether in tractor, truck or passenger car. Protects valves, bearings, gears and cylinders with a frictionless oil cushion that reduces wear.

Consumes with hardly a trace of carbon. Suitable for summer and winter lubrication.

Supplied in two grades—**Polarine** and **Polarine Heavy**—for different types of engines, service conditions and fuel. Sold in one-half, one and four gallon sealed cans. Larger quantities in steel barrels and half barrels.

If any lubrication problem puzzles you, ask the Imperial man at our nearest Imperial Oil Station.

Polarine for sale by good dealers everywhere.



IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication
Branches in all Cities



Bringing down a big fellow as if he were a sapling

enough, they can hardly understand it. The cable is of the finest material, so fit and pliable, and the cluster cable is a great affair for handling the smaller stuff."

Let 1919 become as conspicuous for clearing out decayed impedimenta in Western Canada as 1918 was for the clean sweep it made of the forces of tyranny in Central Europe.

THE NORTHWESTERN LIFE

THE Northwestern Life of Winnipeg has just passed through another successful year. This concern was organized just prior to the outbreak of the war, in fact, its organization was continued in the early stages of the war, and it would be expected, therefore, that it would have a very trying experience; but so skilfully have the affairs of the company been conducted that it has come through the war, and the more anxious period of the influenza epidemic with greatly increased assets and enormously increased prestige.

The business in force now stands at about a million and a quarter, with a premium income of over sixty-five thousand dollars. This is another remarkable feature of the company's report. The average premium on life policies, in most companies, runs

from \$30.00 to \$35.00, while the Northwestern has an average premium of over \$60.00, and this fact alone would put the company in an exceptionally strong position if it had not any other point of advantage.

The company's investments are in a particularly liquid share, over 77 per cent of the assets being composed of Victory Bonds, and these are carried into the assets at their purchase price, while the company would have been quite justified in taking them in at their market value, which would make a considerable increase in assets.

Increases of from 109 per cent to 121 per cent were made last year on investments, assets, premium income and business in force. The company now shows a surplus to policyholders of \$125,748.90, and has resources for the protection of policyholders of \$775,371.48.

Warning Against Poor Seed

SOME farmers in districts with seed oat shortage may be inclined to purchase ordinary commercial grades for their seed supply without first having representative samples tested for purity and germination. The use of oats for seed, that are foul with wild oats and other noxious weed seeds, is a very serious matter on new and clean lands. Many apparently good-looking samples of Western oats germinate less than 60 per cent this season. Commercial grades containing oats that are frozen or otherwise unsound should be guarded against to prevent crop failure through poor germination.

Test Samples Before Buying Seed
Farmers choosing commercial grain for seed, may safeguard themselves by sending a three or four-ounce sample for purity and germination tests to a Dominion Seed Laboratory. Manitoba and Saskatchewan samples are tested at Winnipeg; Alberta and British Columbia samples at Calgary. Samples require postage, but will be tested free of charge up to twenty-five in number for one person or firm.

Tested seed grain for sale,
Seed Purchasing Commission,
Regina, Sask.

Alberta Oats, distribution in Alberta, bulk car lots, f.o.b., Calgary: No. 1 Seed, \$1.06 per bus.; No. 2 Seed, \$1.00 per bus.

Ontario Oats, bulk car lots: No. 1 Seed, \$1.12 per bus., delivered at points West to Moose Jaw and Saskatoon. Seed grain freight rates will be charged extra on shipments farther West. \$1.10 per bus., delivered, Manitoba points.

Canada Western Oats, bulk car lots: No. 2 Seed, \$1.04 per bus.,

f.o.b. Moose Jaw and Saskatoon. Prince Edward Island (a few cars available): No. 1 Seed, Pure Banner, \$1.34 per bus., including sacks, f.o.b. Regina and Moose Jaw. Shipping transfer from the Island made sacking necessary.

No. 1 Seed Wheat and barley prices on application.

Orders for seed grain in less than car lot shipments will be filled at higher prices, to include costs of sacks and sacking from bulk lots, and higher freight rates on L.C.L. shipments.

Quality of Seed Offered

The Dominion Seed Inspection staff inspects all grain that is purchased for seed. Only grain is accepted which can be cleaned to the Seed Grades No. 1 and 2, as defined by Order-in-Council under the Seed Control Act.

No. 1 Seed Oats are white oats, sound, strong vitality, clean and practically free from other grain, free from wild oats or other noxious weed seeds, and weigh not less than 34 pounds to the measured bushel.

No. 2 Seed Oats are the same quality as No. 1, but may contain up to ten wild oats to the pound.

The seed grain is inspected again after being cleansed, and ten representatives samples from every carload shipped out, are examined for purity by the seed inspectors at the elevators and tested for germination at a Dominion Seed Laboratory. An official seed certificate is issued on each carload of seed grain sold by the Commission. If purchasing seed grades of grain through another party, protect yourself by asking to see the seed certificate.

The average germination of our No. 1 and No. 2 Canada Western Seed Oats is ninety per cent, and



GOOD FINANCIAL STANDING

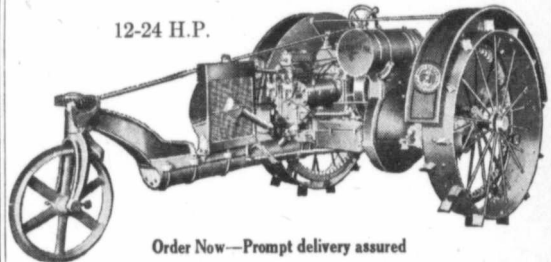
"Why, Maggie, isn't Sandy growing a fine pair of legs in his old age?"
"I thoct see mysel', sir, 'till I fand out it's where he keeps his War Bonds!"

Happy Farmer Tractor

Guaranteed Drawbar Pull 2000 lbs.

Pulls 3 Plows

12-24 H.P.



Order Now—Prompt delivery assured

Winnipeg Boy Kerosene and Gasoline Engines. The satisfactory line.

Beeman Garden Tractor cuts a day's work into hours.

Get facts and prices on these.

RUN it single-handed—it is the real one-man tractor. Self-guiding in the furrow—makes a 9-foot turn—every working part of the engine reached from the driver's seat. A perfect kerosene burner—built to give full power from every drop of fuel.

Don't take a chance on several weeks' delay in the spring.

Write us NOW for full information and prices.

Gasoline Engine and Tractor Company, Ltd.
WINNIPEG, MAN.

"Ford CAR 20 MINUTES" Ford-U-Tractor



Makes your Ford a tractor. Plows five to six acres a day with two 14-inch plows. Also does seeding, cultivating, harvesting, hauling, etc., at good speed and saves four horses and many hours for other work. Every gear is enclosed and running in oil. Change from car to tractor in less time than it takes to round up and hitch the horses.

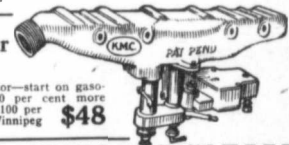
W.D.C. Cooling System

Positively prevents overheating under all tractor conditions.

K.M.C. Transformer

Runs Your Ford on Kerosene

Easy to attach. Two-bowl carburetor—start on gasoline—switch to kerosene—gives 20 per cent more power—50 per cent more mileage—100 per cent saving in fuel cost. F.O.B. Winnipeg \$48



Ask us for particulars and prices. Agents wanted in some districts.

J. D. ADSHEAD COMPANY
WINNIPEG, MAN.

Alberta Agent:
J. H. BULMAN

11030 82nd STREET, EDMONTON.

COUPON
J. D. ADSHEAD COMPANY,
WINNIPEG, MAN.

Send me particulars and prices of.....

NAME.....
ADDRESS.....

Goes Like Sixty

We Want to Demonstrate on Your Farm



We will send a Gilson Engine, any size, without charge to any responsible farmer in Canada to try out on his own farm, at his own work.

Write for further particulars of free trial offer, catalogue and special introductory prices.

Gilson Mfg. Co., Ltd.
Dept. E. Winnipeg, Man.

the weight per measured bushel 45 lbs.

Eastern Canada Oats

No. 1 Seed Oats had to be brought from Ontario and Prince Edward Island for the districts with seed shortage in Manitoba and Saskatchewan. The seed inspectors stationed at Saskatoon, Moose Jaw and Winnipeg were unable to collect any quantity of No. 1 Seed Oats because of the prevalence of wild oats and frost injury to germination in the oat districts of these provinces. Eastern Canada oats gave good results in the West when introduced for the seed shortage ten years ago. Our Eastern shipments are free from wild oats, germinate over 97 per cent, and weigh over 40 pounds per measured bushel.

All Seed Sold at Cost

The prices asked by the Commission represent the average cost of the seed grain, including the premiums paid for the superior stocks which could be cleaned to the seed grades, also charges for storage, cleaning, shrinkage in cleaning, sacks and sacking where required. The services of the Commission and the Seed Inspection staff are provided free of charge by the Dominion Government.

Order Seed Immediately

Municipalities, farmers' organizations, groups of farmers and individuals who are depending on the Commission for seed oats should send their orders at the earliest possible date, so that the necessary quantities may be obtained from Eastern Canada. The Commissioner of Indian Affairs has purchased ten carloads of Island Banner Oats for the newly-broken lands on the Indian Reserves, and the Saskatchewan Government has purchased 40,000 bushels of our No. 1 Seed Oats from Ontario for distribution in the unorganized areas of the Province.

Sales on Cash Basis

The Commission is permitted to make sales on cash basis only. Bank draft is attached to bill of lading for orders to open stations. Send cash with orders for shipments to closed stations.

Didn't Need Them

While a traveler was waiting for an opportunity to show his samples to a merchant, a customer came in and bought a couple of nightshirts. Afterward a long, lank laborer, with his trousers tied below the knees, said to the merchant:

"What was them things that chap bought?"

"Nights'irts. Can I sell you one or two?"

"No. I should think not. I don't sit about much o' nights."



JOHN DEERE
HE BUILT THE WORLD THE STEEL PLOW

"John Deere Construction" means "Built Right Throughout"

The John Deere Pony Tractor Plow works well with any standard tractor. It is the plow behind that does the actual cutting, turning and pulverizing of the soil. All John Deere mold board plows are equipped with **John Deere quick detachable shares**—the result of over eighty years close study of soil conditions.

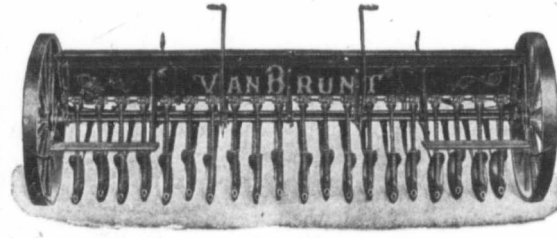
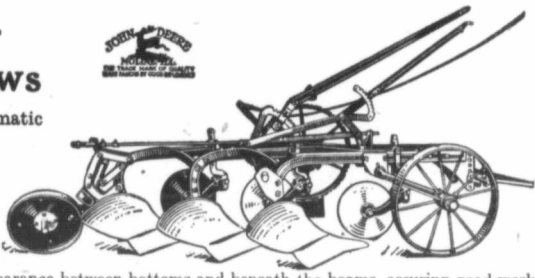
Light Tractor
2 Bottom
3 " Plows
4 "

With High and Level Automatic Lift

No Gears or Chains

Good plowing means furrows of even depth—no digging into the ground or clogging with trash when turning at end of furrow. John Deere Light

Tractor Plows have unusual clearance between bottoms and beneath the beams, assuring good work with less trouble. Whether pulling, turning or backing, the man on the tractor has perfect control of the plow. The John Deere tractor plow is a real "One-Man" outfit.



Van Brunt Grain Drill

Sizes 12, 14, 16, 18, 22 and 24

Single or Double Discs or Shoes

The Van Brunt adjustable gate force feed is an important feature of this drill. It sows wheat, oats, barley, corn, peas, beans, rye, flax, millet or alfalfa with perfect uniformity and even depth—thoroughly covering. Van Brunt drills have full length axle—gear drive—no chain trouble—feeds continuously. Disc bearings guaranteed for life of drill.

There are John Deere folders covering the lines mentioned here, and also all other farm implements. Tell us what you require. We are glad to send them free.

John Deere Plow Co. Limited

Winnipeg Man. Regina Sask. Saskatoon Sask. Calgary Alta. Edmonton Alta. Lethbridge Alta.

MORE WORK FROM YOUR HORSES

Heavy spring work takes the surplus flesh from the horse. His collar no longer fits. His neck and shoulders chafe and gall. He can't do his full share of work and you lose money. Prevent these evils by using TAPATCO Pads.

A NEW AND BETTER HOOK ATTACHMENT

Consisting of wire staple, reinforced with felt washer (note where arrows point). This gives the hook a better hold and prevents pulling off. The weakest point is made strong and life of pad greatly lengthened.

Look For The Felt Washer.

SOLD BY DEALERS EVERYWHERE

The American Pad & Textile Company

Chatham, Ontario, Canada



Pat. No. 1,300,111, Feb. 1, 1914. Pat. No. 1,300,112, Apr. 6, 1915.

Pure Bred Barred Rocks

Splendid Winter Layers \$2.00 Per setting

Mrs. DUMBRILL Charleswood, Man.

WANTED

Girl for general housework in small family in City of Winnipeg. No washing. Responsibility and character of family guaranteed by this magazine.

Address G c/o E. H. Heath Co., Winnipeg.

FOR SALE—One 32 H.P. Cross Compound Reeves Engine and one 44x66 Reeves Separator. Both in good shape. An up-to-date outfit for threshing and plowing. Apply Young Bros., Wainwright, Alta.

FOR SALE—4-cyl. 60 H.P. gasoline engine, \$1,500, and complete 26 H.P. steam engine, 26x60 separator in good condition, \$1,500, half cash, balance to suit. William Drews, Botha, Alta.



Guarantee

Every Garment bearing the G.W.G. Label is guaranteed to give full satisfaction to the wearer in fit, workmanship, and quality, and to obtain this satisfaction, should the garment prove defective, simply satisfy the merchant from whom purchased; he is authorized by us to replace it.

Overalls

*"They wear longer
because they're
made stronger"*

The Great Western Garment Co. Ltd.
Edmonton, Alta.

8

"Got the Horses Beat in Every Shape

I have an 8-16 tractor and I have worked it on pulling stumps and breaking brush land and discing same, with an out and in throw 2-16 disk. I have also summer-fallowed 50 acres with two plows 14-inch and one set of harrows at the same time, and also did our fall plowing of 100 acres and all our threshing and all the neighbors threshing, in all about 800 acres.

In regard to tractor as a farm implement, I have had eight horses on the same kind of work, but

I find that the tractor comes much cheaper than horses. For instance I have lost seven work horses in the winter of 1916, and I was short of farm draft. When I came to buy eight horses in the spring they would cost me anything up to \$1600, so I made up my mind to try a tractor which cost me \$1100 complete.

As to the cost of horses, hay, oats and other expenses I found that the tractor was the cheaper, for only what oats I would have to feed the horses I have hauled to town and that bought all my oil such as gasoline, coal oil and lubricating oil and transmission

oil. It takes eight bushels of oats to feed eight good work horses in a day if the work is hard, and if they don't work you got to feed them any way, and not only that but you have to get up two hours earlier every day and work two hours later at night, and you lose at least one hour at noon.

Now with the tractor you can get started before you harness one team, and if the weather is bad you don't have to get out and take care of the tractor as you would the horses, and this year with the price of oats, you can save each day you run the tractor one man's wages, and that don't

include the extra hours you put in.

To my knowledge I think the tractor has got the horses beat in every shape and form for farm labor.

—Ben Hronek, Halkirk, Alta.

* * * *

"Cheaper Than With Harness"

I may say that I threshed 2000 bushels of oats in ten hours. I can say that if a farmer has a tractor he can do his work cheaper than with harness at the present prices of grain. As for myself I wouldn't be without a tractor.

—A. Lando, Success, Sask.

Providing a Fireproof Structure for Housing Tractor and Farm Machinery

By H. COLIN CAMPBELL

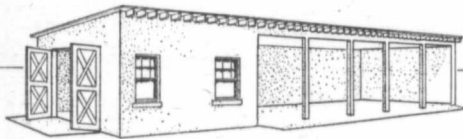
WITH the demand for more cultivated acres, the tractor has come into its own, but because of the shortage of steel for war purposes, the output has been limited just as has the output of a great many other industries. This means that what we have must be well cared for and made to last as long as possible.

Outdoor storage is not good for any farm implement. The tractor, particularly, is a valuable machine with considerable mechanism that can easily suffer damage through misuse and exposure to the elements. As a matter of fact, abuse even though in the form of neglect is much more damaging than normal careful use. Every tractor should be given proper shelter, and since there are a number of things to be considered in providing this

season and wonder why, when the need for its use arises the following spring, it is impossible to limber the machine up or perhaps to operate it at all. Costly repairs and equally costly delays are necessary for replacement of parts or overhauling, all of which might have been prevented had the machine been properly put away when its last use had terminated.

Protect all Machinery

Farmers now have automobiles and motor trucks. Both are convenient from the business aspect of the farm. They rank in a class with the tractor. They are costly machines and need protection in several ways — protection from water, fire and careless handling or neglect that will fall to their lot unless suitable arrangements are provided for housing them



shelter, it is well to study the ways and means by which it may be secured

Reducing Depreciation

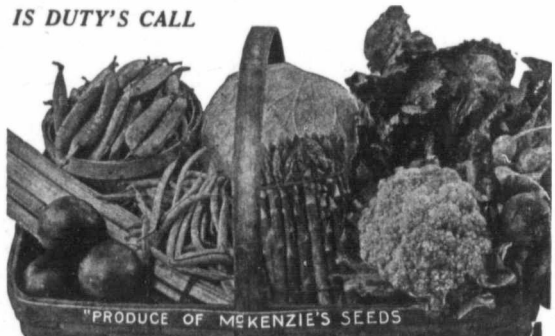
The farmer uses his tractor not only for plowing, planting, mowing and harvesting, but for sawing wood, threshing and other minor power needs on the farm, therefore the tractory should be built close to other farm buildings so that the farmer can belt the tractor to various machines without necessity for moving it any more than necessary, from the structure in which it is housed. At very little extra cost, a tractory can be built large enough to hold also a motor car or truck or another tractor.

Various manufacturers of farming implements and machinery are in common accord that 75 per cent of the depreciation suffered by farm equipment is due to abuse and not to use. Machines rust out, rot out or warp out of shape, due to improper care, long before normal use would cause them to wear out. Some farmers have realized this and are happily giving greater protection to costly farm implements; but there are too many who leave the binder, mower, grain drill or other necessary farm machines at the end of the last row cultivated during the

against the elements, which cause the greatest and most rapid depreciation. Every farmer needs a workshop where simple repairs can be made to the farm implements without the necessity for spending time to go to the nearest town for a mechanic whose services would not be needed if the farmer were equipped to do what a mechanic is usually called in for. A workshop of this kind should be an adjunct to another building primarily intended as a machine shed to house implements, the use of which is more or less seasonal. When one is through with them they should be run in the shed where protected against sun and rain, which are far more destructive to machines than normal use.

According to the figures that 75 per cent machinery and equipment depreciation is due to neglect, it can readily be seen how profitable an investment is that will prevent this great loss. If the life of a machine would be prolonged threefold by proper housing and care, a relatively expensive building, provided that building is built for permanence, would be a very good investment to take care of the tractor and the several thousand dollars' worth of equipment which we find to-

Productive Gardens IS DUTY'S CALL



"PRODUCE OF MCKENZIE'S SEEDS"

GET READY TO GARDEN. The country needs the products of your labor. Convert the backyard or the nearby vacant lot into a food producer for your country and yourself.

NOT A FEW ENLISTED AS "Soldiers of the Soil"

last Spring. Their efforts brought about an increase in food production in Canada that stands without precedent in its history. Yet with all that was done the demand for food and still more food is insistent.

McKenzie Seeds

are the greatest factor to produce bountiful gardens and are freely acknowledged to be the best obtainable.

Our 1919 Catalog

full of suggestions for Spring Sowing will be mailed free on request. Everything we sell is described in it — from packets of vegetable and flower seeds to cartloads of seed grains. It is a truer garden book than many so-called. Under existing conditions this catalog will be found a particularly dependable guide to the most suitable varieties to plant in your garden and farm for 1919 crop. SEND A POSTCARD TO-DAY. IT IS FREE.

We Have The Finest Stocks In The Country of Seed Oats (General Crop and Improved Stocks). Wheat. Flax. Barley. Speltz. Field Peas. Fodder Corn. Millet. Sudan Grass. Western Rye. Timothy. Alfalfa. Clover. Also all the leading varieties of Vegetable and Flower Seeds (including Sweet Peas). Everything in seeds for the garden and farm. Planet Jr., Garden Tools and Poultry Supplies.

Try These Specials

SWEET CLOVER (White Blossom) — A grand forage crop and now an established factor in Western Agriculture. The greatest soil builder known. Excellent for hay. Grows abundant pasturage. Price: Brandon, \$35.00; Calgary, \$38.00 per 100 lbs. Bags 50c extra.

SUCCESS BARLEY (Beardless) — Very early variety, short straw, especially good for cutting green and feeding to stock. Excellent as a cleaning crop for land polluted with wild oats. Price: Brandon, \$3.00; Calgary, \$2.50 per bushel. Bags 50c extra.

RYE — The production of Rye is rapidly increasing. Every progressive farmer will eventually grow it. Why not this year? Brandon Calgary \$2.50 \$2.50 Spring, Per bushel. 2.50 2.75 Winter, Per bushel.

BROME — The leading pasture grass. Very valuable for seeding light soil subject to blowing. Brandon Calgary \$30.00 \$31.00 Per 100 lbs.

Simplicity Incubators

HAVE NO COLD CORNERS

Embodiment of all the vital essentials modernized, eliminating all complicated mechanisms, simplifying the operation and comes nearer duplicating the "Mother Hen" principle, supplying the necessary Heat, Ventilation and Moisture (which are the three vital essentials), each in its relative exactness. Full descriptive catalog on application free.

A. E. McKenzie Co., Ltd.
BRANDON, MAN. CALGARY, ALTA.

The Best Seeds for Farm and Garden

MUSKRATS 100,000 WANTED

We are now paying the following prices:-

	Ex. Lge.	Lge.	Med.	Small
SPRING MUSKRATS	\$2.00	\$1.50	\$1.00	\$0.50
WINTER MUSKRATS	\$1.50	\$1.00	\$0.60	\$0.35
FALL MUSKRATS	\$1.00	\$0.75	\$0.40	\$0.25

British Raw Fur Co. 185 King St. E. TORONTO, Can.

Increase Your Production! By Using Patmore's RELIABLE SEEDS AND HARDY HOME GROWN FRUIT TREES

IT IS AN URGENT NECESSITY AT THE PRESENT TIME TO GROW your own Vegetables for Summer use.

GROW your own Vegetables for Winter canning.

GROW especially lots of FRAS, BEANS and EARLY POTATOES. They are ready in June or July, and can be used all the year round.

VEGETABLE growing offers every opportunity to reduce the high cost of living.

SEED CORN, FODDER and GRASSES

North-West Dent. Per bushel	\$4.50
Red Cob, Fodder. Per bushel	5.50
Per 100 lbs.	\$12.00
Sorghum	7.00
Millets	18.00
Rape Seed	28.00
Permanent Pasture Grass	8.00
Field Peas	15.00
Timothy	

PATMORE'S Manitoba SEED POTATOES
We have all standard varieties: Wee McGregor, Early Boves, Carman, American Wonder, Ohio, Mortgage Lifter, Etc. Per bushel (bag included) \$2.25
10 bushels or more, per bushel 2.00
50 bushels and over, per bushel 1.50

- PATMORE'S MAIL ORDER COLLECTIONS**
- COLLECTION No. 1
23 packages of All Varieties Vegetable Seed: Cauliflower, Corn, Peas, Beans, etc. \$1.35 postpaid
 - COLLECTION No. 2
15 pkts. containing 15 Varieties of best Flower Seeds. 45c postpaid
 - COLLECTION No. 3
20 pkts. Popular Old Fashioned Garden Flower Seeds. 86c postpaid
 - COLLECTION No. 4
1/4 bus. Corn, 5 lbs. Rape, 15 lbs. Field Peas, 1 lb. Mangold, 1 lb. Swede. \$5.00
 - COLLECTION No. 5
15 pkts. Vegetable, 7 pkts. Flower Seeds. \$1.90 postpaid
 - COLLECTION No. 6
15 pkts. Best Assorted Sweet Pea Seed. \$1.50 postpaid

We are special agents for Messrs. Sutton & Sons, of Reading, England. We list in our Catalogue the hardiest varieties of their World Famed Seeds in sealed packages.

Write To-day for Our 1919 Catalogue
in which we list all the hardiest and best varieties of Vegetables and Flower Seeds, Fruits, Trees and Shrubs, Grasses, Fodders and Seed Potatoes.
Profusely Illustrated and Cultural Directions.

MAKE A BIGGER AND BETTER GARDEN THIS YEAR
Procure seeds of known quality. We test our seeds in our greenhouses before packing. Our thirty-five years' testing and growing seeds here in the West has given us an unequalled experience that is behind everything we sell.

TO GET GOOD CROPS YOU MUST HAVE GOOD SEED
Our Garden Seeds are all tested in our greenhouses during the winter season, so that they may be depended upon as being of good germination and vitality. We grow many of the seeds we offer, which enable us to make our prices so moderate compared to many other catalogues.

NEW EVERBEARING STRAWBERRY

The Greatest Acquisition Yet Introduced into the West to Provide Fresh Fruit Constantly



Photo taken in our Nursery

Note the vigorous growth, the berries in all sizes (some ripe) and flowers still showing for more fruit: This plot was planted first week in May. We picked ripe strawberries from it 24th of June, and continued picking ripe strawberries every day until the hard frosts came in the middle of September.

The Patmore Nursery Co.

BRANDON, Man. Est'd 1883 SASKATOON, Sask.

**ANY OF THE FOLLOWING BY MAIL,
Postpaid \$1.00 Postpaid \$1.00**

These are all young plants raised in our nurseries and greenhouses, packed right out of pots in moss and air-proof wrapping.

PLEASE NOTE CONDITION: Choice of varieties must be left to us, the purchaser simply mentioning the number of collections wanted.

- Set No. 10-8 Rooted Plants, assorted varieties.
 - Set No. 12-6 Rose Plants for house or garden.
 - Set No. 14-4 Rose Plants and 4 Geraniums.
 - Set No. 21-8 House Plants, foliage and flowering.
 - Set No. 23-3 dozen Outdoor or Bedding Plants, our selection.
 - Set No. 24-2 Ferns and 6 Flowering Plants.
 - Set No. 25-8 Gladiolus, 2 Dahlias, 2 Cannas, 1 Lily Bulb.
 - Set No. 26-2 Dahlias, 12 Gladiolus.
 - Set No. 31-12 assorted Hardy Herbaceous and Biennial Plants, 1 year old, all old-fashioned favorites.
 - Set No. 33-6 Ornamental Shrubs, separate varieties.
 - Set No. 34-12 Rhubarb Plants, 1 year old.
 - Set No. 35-12 Everbearing Strawberry Plants
 - Set No. 36-12 Lilac Shrubs of good varieties, 1 foot.
 - Set No. 39-20 Young Trees, Russian Willow and Poplar, 1 foot.
 - Set No. 40-100 Caragana Seedlings, 6 inches.
 - Set No. 41-100 Cottonwood, 6 to 9-inch Seedlings.
 - Set No. 42-100 Maples, 6 to 9-inch Seedlings.
 - Set No. 43-100 Ash, 6 to 9-inch Seedlings.
 - Set No. 44-100 Elm, 6 to 9-inch Seedlings.
- (The above will be sent as early as moderate weather will permit.)

**WHY HAVE WIND-SWEET CROPS?
PLANT TREES.
FOR ORNAMENTAL HEDGES**

Per 100	
100,000 Caragana, 2-3 feet high, at	\$5.00
50,000 Lilac, 2-3 feet high, at	5.00
Russian Willow Cuttings	5.00

FOR SHADE OR SHELTER

Straight Young Trees

50,000 Maple, 5-6 feet high, at	\$10.00
50,000 Russian Willow, 5-6 feet high, at	10.00

Half a million thrifty, hardy young trees and shrubs of Native Ontario, Soft or Japanese Maples, Ash, Elm, Russian and other Poplars, Laurel, Golden and Red Willows.

Thousands of Crab Apples and Plum Trees, Currant Bushes, Raspberry, Strawberry and other fruits, etc.

Trees will increase the value of property. Windbreaks will reduce the fuel bills. Shade trees make life a joy and pleasure. Hedges are cheaper than fences.

day on the average up-to-date farm.

Nothing can destroy property more rapidly than fire, and this fact should be kept foremost in mind. Too frequently the ill-advised practice of erecting a structure usually cheaper in itself than one of the implements it is supposed to protect, is displayed. Even the cheapest piece of mechanical equipment on the farm represents considerable investment, and protection should be afforded both from within and from without. The tractor, the farm passenger car and the farm motor truck, if there is one, must be safeguarded, not only from fire that may originate without, but from fire that may originate from within the structure. The fuels and oil necessary to maintain and operate these machines are highly inflammable. Without provisions that will help to insure very careful handling, the fire risk on the farm is wonderfully multiplied.

Making Building Fireproof
Construction of the machine shed and its connecting workshop

may be rendered fireproof by being built of concrete, and to secure full protection against fire concrete can be used in any one of three ways, namely: Monolithic concrete, concrete block, or cement plaster on steel frame and metal lath. In laying out a structure of this kind, it should be remembered that depth must be made sufficient so that the implements can be protected from rain, and from the greater slant of winter sun rays. The size of such a structure will depend entirely upon the number of implements to be housed. After the depth has been decided, the length can be altered by adding additional units so that any capacity needed will be provided.

Perhaps for the average farm, monolithic concrete or block construction will come in for first choice. The farmer who has had reasonable experience in home concreting will not find it difficult with his farm laborers to build a machine shed that will meet his needs, using either block or monolithic construction. The steel frame and cement plaster method,

usually referred to as stucco, requires a little more than average skill which will prevent its adoption unless it is desired to call in outside workmen to carry on the construction.

Careful Work is Required
These two designs are merely two of many possible suggestions. Form construction for plain, straight monolithic concrete work requires only average carpenter skill. It is necessary, however, that forms be set up true and well-braced so that they will remain in proper alignment while concrete is being placed, thus insuring that reinforcing will be in the correct relative position and that the finished structure when forms are removed will have a straight-line appearance.

Convenience usually suggests that the front of the machine shed proper be closed with canvas curtains mounted on rollers somewhat after the fashion of the usual drop awning. These when let down keep out sun and driving rain and afford all the protection necessary. The open side or

front should face south or east to afford protection against winter storms, which generally come from the north or west. Fourteen feet may by some be considered an unnecessary depth for a structure of this kind, but in many cases it might be better were the depth sixteen feet.

The average machinery shed or machinery house as usually constructed does not permit running implements far enough back into the shed to protect the front wheels of wagons and other parts of vehicles from the sun, and every farmer knows sun tears woodwork to pieces. Nothing is more important than the foundation on which any building rests. It is necessary that the trench excavated for the foundation wall and footings, if footings are needed, should be deep enough so that footings and bottom of the wall can start below a line where frost may penetrate during extreme cold weather.

The mixtures used for several portions of the shed should be: 1:3:5 for foundations and footings; 1:2:4 for columns, beams

and walls, and 1:2:3 for roof and floors.

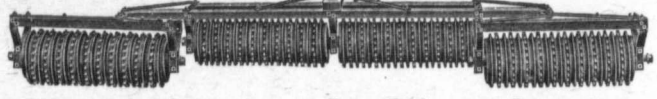
As to a floor, most persons might think it is a sheer waste of money to have a concrete floor in a structure of this kind. It is not necessary perhaps in the entire shed. Wagon tires are less likely to become loosened if the wagons rest on the soil, but the soil should be well drained so that it cannot become alternatively a mudhole and a dust heap.

Where the tractor is kept there should be a concrete floor. The area on which this is laid should be well compacted and drained, and in no case should the floor be less than 5 inches thick. It should be of what is known as one-course construction, using the same 1:2:3 mixture laid at one operation for the entire thickness of the floor. If this is finished with a wood float to an even surface, it will not be slippery and in every way will be much more desirable than a two-course floor.

Workshop Also is Needed

Because of the need of frequent repairs to or overhauling of farm machines, an implement or machine shed is not complete without its adjoining workshop. Nearly every person will have some individual ideas as to what appointments such a shop should have. There should be enough window opening on one side facing the work bench so that there will be plenty of light to do any necessary repairing. There should be a gasoline engine or other suitable power to operate any machine tools that are needed which the tractor pulley could not be made to operate, a small forge for ordinary common blacksmithing, and for convenience in making repairs to the tractor, motor truck or automobile, which will be run in the shop when repairs are needed, there should be a pit 2 or 3 feet deep so that the worker can work underneath with more comfort. Somewhere adjacent to the machine shop or workshop and entirely outside of both there should be buried in the ground a steel gasoline storage tank in which the necessary supply of fuel can be kept, safe against exposure to fire. Because of the rapid corrosion of steel in the ground, the gasoline tank should be completely encased in 6 inches of concrete. A gasoline pump should be connected so that fuel required can readily be drawn from the tank. Pipe and pump connections should lead into the shed or workshop, although the inlet for filling the tank should be out of doors. A little thought will suggest a number of convenient facilities in addition to those mentioned.

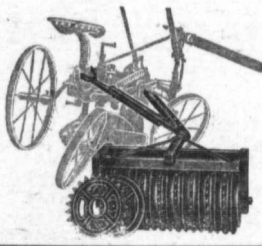
Christiansen PULVERIZER PACKER and MULCHER



The illustration below shows our plow attached pulverizer, packer and mulcher. It is a marvel in the field and does the work of three machines in one operation. Immediate packing after plowing is the most effective way of conserving the moisture.

Grow Bigger and Better Crops
Invest your money in an implement that will directly increase the yield per acre. This is the only implement of its kind sold in Western Canada and no implement does the same work either in a growing crop or in preparing a seed bed. It breaks up the hard lumps of earth into powdered form—turns up the rich sub-soil—rolls it down evenly and packs it all in one operation. No farm implement equals this machine for retaining moisture in standing grain, or preventing soil blowing, or for conserving the moisture in summer fallow. The one implement that will save your crop in the dry season. Built in sections from a sulky to a 16 ft. tractor.

This machine should be used with every tractor. It will pay for itself twice over the first season. Write for Catalogue.



Christiansen Plow Harrows

Plow and harrow at the same time. By the Christiansen patented hitch, draft is reduced; in fact, the extra weight behind the plow is hardly noticeable. There is no side pull. Hitches are adjustable and will give perfect satisfaction with any make of plow. Get full particulars to-day.



HOW ABOUT THAT FANNING MILL?

I can run it for you cheaper than you can run it by hand. I can also pump your water, run your Churn, drive your Washing Machine, Emery Grinder, turn your Cream Separator daily, and do a multitude of other chores around the Farm during your busy Season. This will let you spend another hour or two in the fields.



I will do two hours work a day at an expense of five or six cents per hour. I will last for ten years at least, hence I am indispensable. My repair bill is light and anything I am in need of can be gotten at once at my home.
(Signed) The Little "PEERLESS" 1 1/2 h.p. FOUR-SPEED MANITOBA Engine equipped with WEBSTER self-starting Magneto.

Dealers in position to quote you located throughout the West. If unable to get in touch with one, write us.

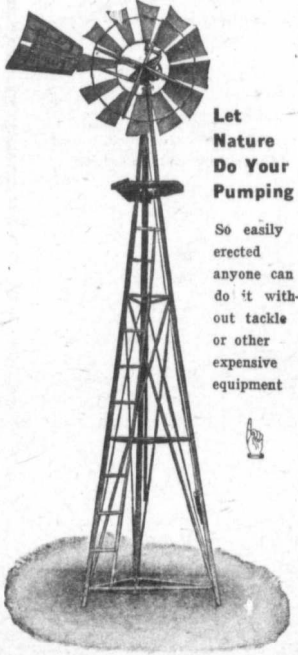
MANITOBA ENGINES LIMITED
Brandon : Manitoba

Manitoba Peerless Windmills

Last season we introduced a 5-ft. back-geared steel windmill with 3-post 5 1/2-ft. girted side ladder tower; two heights, 20 ft. and 31 ft. Especially adapted for pastures and shallow wells.

Note what this dealer reports. He installed several last year:

"I am sending you by mail to-day a roll of films showing several views of your 5-ft. windmill! This mill was sold to Mr. J. L. Cohen, Carievale district, and is giving perfect satisfaction."
"T. H. McGEOR, Carievale, Sask."



Let Nature Do Your Pumping

So easily erected anyone can do it without tackle or other expensive equipment

Hides Wool Fur

If you want quickest returns and most money for your

FURS, HIDES, WOOL, Etc.

Ship them to

FRANK MASSIN

BRANDON : MANITOBA

Write for Prices and Shipping Tags

Don't Send Us One Penny

For this Best Solid Leather Farm Work Shoe on Earth

No sir! Don't send us a penny until you have seen, examined and tried on this shoe. Then, if you are satisfied, pay the express agent \$5.85 and the shoes are yours. If not satisfied, tell him so and he will return the shoes to us at no expense to you.
You will be satisfied because this is a better shoe than you have ever worn. Solid leather soles and heels; double toe, and self leather backstrap; heavy, yet soft and pliable, and absolutely guaranteed. In ordering be sure and give your nearest express office as we cannot send shoes by parcel post.
Men's Size, 8 to 12; express charges paid... \$5.85
Boys' Size, 4 to 6; express charges paid... 4.50
Youth's Size, 11 to 15 1/2; express charges paid 4.00
If you send money with order we send by parcel post prepaid. This delivers shoes to your door and saves time.
The Shoe Mart, 816 Lindsay, Winnipeg



C.O.D. \$5.85 PREPAID

Best Solid Leather Shoe

Triple Life Solid Leather Sole
Kaiser Sewn with Heavy Wax Thread

TESTED SEED GRAIN FOR SALE

Seed Purchasing Commission, Regina, Sask.

Canada Western Seed Grain Bulk Car Lots, F.O.B. Calgary Per bus.

No. 1 Seed Wheat, Marquis	\$2.28
No. 1 Seed Barley, Six-rowed	1.25
No. 1 Seed Oats, Alberta orders	1.06
No. 2 Seed Oats, Alberta orders	1.00

Car Lots, One or More Kinds of Grain, Sacks Included, F.O.B. Calgary Per bus.

No. 1 Seed Wheat (2 bus. per sack)	\$2.43
No. 1 Seed Barley (2½ bus. per sack)	1.37
No. 1 Seed Oats (3 bus. per sack)	1.15
No. 2 Seed Oats	1.09

Less-than-car-lot (L.C.L.) shipments carry extra charges per bushel: Wheat, 5 cents; barley and oats, 3 cents, to cover cartage from elevators to stations. Freight rates are also higher.

Bulk Car Lots, F.O.B. Moose Jaw and Saskatoon Per bus.

No. 1 Seed Wheat	\$2.30
No. 1 Seed Barley	1.25
No. 2 Seed Oats	1.04

Car Lots, Sacks Included F.O.B. Moose Jaw and Saskatoon Per bus.

No. 1 Seed Wheat	\$2.45
No. 1 Seed Barley	1.37
No. 1 Seed Oats	1.19
No. 2 Seed Oats	1.13

ONTARIO OATS, No. 1 Seed Bulk Car Lots, Delivered Per bus.

Sask. and Alta. points, freight prepaid	\$1.12
All Manitoba points, freight prepaid	1.10

PRINCE EDWARD ISLAND OATS

Sacks Included F.O.B. Regina and Moose Jaw Per bus.

No. 1 Seed, Pure Banner	\$1.34
-------------------------------	--------

Approximate Freight Charges

Bulk Car Lots			
Dis. from Elevator Miles	Wheat per bu. c	Barley per bu. c	Oats per bu. c
100	4½	3½	3
200	6	4¾	3½
300	7½	6	4½

L.C.L. Shipments

Dis. from Elevator Miles	Wheat per bu. c	Barley per bu. c	Oats per bu. c
100	9	7¼	5½
200	13	10½	7½
300	16½	13¼	9½

Seed Sold at Cost

The prices asked by the Commission represent the average cost of the seed grain, including the premiums paid for the superior stocks, which could be cleaned to the seed grades, also charges for storage, cleaning, shrinkage in cleaning, sacks and sacking where

"MASTER MECHANIC"



OVERALLS

Excel the Ordinary Kind as a Registered Horse Excels a "Scrub"



MASTER MECHANICS are pedigree stock, sturdy, well shaped and possessing every fine point known to working clothes. Each piece is plainly branded and guaranteed; if it doesn't give you reasonable satisfaction you receive a new garment or your money back.

They are made of good, heavy cloth, blue and white striped, black and light and dark blue. They are tailored to retain their form, and are reinforced where extra strain comes. All seams are double stitched; fly and side openings are faced to prevent tearing; button holes are whip-stitched.

They have many exclusive features: Seven large, handy pockets in overalls and six in coat; two of these are combination watch and pencil pockets; cinderproof collar; detachable brass buttons on coat; four-piece sliding web suspender, with no-slip brass snap fastener; high back, high bib and extra roomy seat.

Our Guarantee

is one of the most liberal ever devised. It says: "If after purchasing any brand of overalls bearing our Registered Label you find any defects in material or workmanship, or have any other reason for dissatisfaction, return the garment to your dealer who will gladly replace it without charge."

With such an assurance in your hip pocket you are justified in feeling that you have bought the best overalls it is possible to buy in the West.



Look for this Label on all our goods



Western King Manufacturing Company, Limited WINNIPEG

required. The service of the Commission and the Seed Inspection Staff are provided free of charge by the Dominion Government.

Sales on Cash Basis

The Commission is permitted to make sales on cash basis only. Bank draft is attached to bill of lading for orders to open stations. Send cash with orders for shipments to closed stations.

Send Orders Promptly

Municipalities, farmers' organizations, groups of farmers and individuals who are depending on the Commission for seed grain should forward orders at the earliest possible date so that shipments may be made to arrive in good time for seeding.

Quality of Seed Offered

Our No. 1 Seed Wheat is No. 1 Hard or No. 1 Northern, selected

cars of Marquis, clean and free from all weed seeds, and very superior quality.

The Seed Barley is Six-rowed, of strong vitality, practically free from other grain, and cleaned to Seed Grade for purity.

No. 1 Seed Oats are white oats, free from wild oats and other noxious weed seeds, and practically free from other grain.

No. 2 Seed Oats are the same quality as No. 1, but may contain up to ten wild oats per pound.

The average germination of our No. 1 and No. 2 Canada Western Seed Oats is 90 per cent, and the weight per measured bushel, 45 pounds.

Our Eastern shipments germinate 98 per cent, and weigh 40 pounds per measured bushel.

Dominion Seed Inspectors in-

spect all cars and issue a Seed Certificate on each.

Every car or smaller shipment is tested for germination at a Dominion Seed Laboratory.

FROM FACTORY TO FARM

We have pleasure in directing the attention of readers to the announcement on another page of the new catalogue of farm supplies now being issued by the T. Connolly Co., Ltd., of Toronto and Winnipeg. This is a mail order house of first class standing, who specialize in harness-horse furniture and stable equipment. They also carry a big line of trunks, work gloves, "Royal Oak" non-skid tires, auto accessories, washing machines, etc.



Carhartt's Overalls
for downright service

Carhartt's are neat fitting and well tailored. They hang right; they feel right.

All seams are double stitched; all buttons are rivetted, while the points where the strain is hardest are reinforced to prevent tearing or ripping. You'll like the angular rule pocket and the swinging tool pocket, both of which are commonsense aids to comfort. You'll be surprised, too, at the way your Carhartt's will wear and wear and wear. You'll say when the time comes to discard them—and you may depend upon it that won't be for a good while—"Well, those Carhartt's certainly don't owe me anything." Ask your dealer for Carhartt Overalls, Allovers and Gloves by the brand name. They are readily identified by the car-heart button.

We also make Carhartt Allovers for men, women and children.

Hamilton Carhartt Cotton Mills Limited
Toronto Unit
TORONTO MONTREAL
VANCOUVER LIVERPOOL
(Eng.)

LARCOMBE IS MANITOBA'S WHEAT KING

LIKE his famous if more shadowy countryman, John Gilpin, Samuel Larcombe long ago became

"A well-known citizen
Of credit and renown"—
A prince of Manitoba,
Whose hub is Birtle town.
The last two lines are our own, but they mean all that they express.

Once again—at the Soil Products Exposition, held in Winnipeg, and open to all the world, he comes out to-day with a wad of money, a fine gramophone cabinet and music of his own selection worth about \$150.00, as well as an enhanced repute that is



Samuel Larcombe

worth ten times the money and the music.

As you can see by his face, he is an Englishman, a "Man of Devon," and that circumstance alone commands him a hearing with the dead certainty that he will get a footing anywhere on earth. He is now 68 years of age, went to work on a farm at 9 years of age and apparently will still be toiling on his farm when he is 109.

He put in a lot of hard work in market gardening in England for over ten years before coming to Canada in 1889. He heard that land was better and cheaper and that there was more of it around Birtle than in the neighborhood of Croydon (Surrey). So, after putting in a year as hired man with a local farmer, just to get the lay of things, as it were, he finally settled down to his own hot-bed.

Quoting from the appreciation of a contemporary:

"At a time when everyone was talking wheat, and wheat and more wheat, he made his first exhibits not of grains but of vegetables. The first time, he got three prizes. In ten years his list of entries numbered 40 and he had 37 prizes from the Birtle Society and 94 prizes from four other

SARNIA POULTRY FENCE



Make More Money!

Buy a Real Poultry Fence

THERE is a growing demand for a lighter weight fence suitable for poultry yards, orchards, gardens and other farm purposes. There is also a demand for a heavier weight poultry fence than the so-called poultry netting. You may have had some experience with the light weight netting, and, if so, you know that it is a waste of time and money to put it up, besides it always has a loose, shiftless appearance. The Sarnia Fence overcomes these objectionable features. The extra strength of our fence enables us to stretch it to any desired tension. Stay wires and lateral wires in this fence are fastened securely by the famous Sarnia Knot, providing ample rigidity in the body of the fence and making it adjustable and suitable for various purposes about the farm. The Sarnia Fence is close enough to turn small fow, yet strong enough to turn a large bull, thus affording perfect protection to your yards and grounds.

SARNIA POULTRY FENCE

is easily constructed, requires less posts. You don't need a top or bottom board to keep it in place. Lasts many times longer than netting because its wires are larger, stronger, and the fence itself is attractive and durable. There is no buckling of wires. It is easily constructed over uneven ground; no sagging or bagging as in the case of the flimsy netting, and when it is once properly constructed it is there to stay. It gives you real fence satisfaction. Poultry farmers all over Canada testify to its value. It is the "Farmer's Friend" kind. Poultry in Canada has gone a long way toward keeping the home table supplied while the boys were "over there." Build the poultry business for permanency as a business. Sarnia Fence will do its part. Will you do yours? In your new drive for business, don't forget that poultry is a business, and that Sarnia Poultry Fence is necessary to your success.

Sold and shipped direct from factory to farm, freight prepaid. Send for our descriptive literature about farm fencing, gates, lawn fencing and supplies. Prepaid freight prices are quoted in Old Ontario, New Ontario, Quebec, Maritime Provinces, four cents per rod extra. Our office at Winnipeg takes care of all Western Canada business. Shipments made F. O. B. Winnipeg, order now. Have your fencing in hand early, and when you need it. Let's tell you what the Sarnia Poultry Fence will cost laid down at your railroad station in whatever quantity you may desire.

SARNIA FENCE COMPANY, Limited
Winnipeg, Manitoba Sarnia, Ontario



LITTLE BROWN HEN INCUBATOR AND BROODER 995



A Wonderful Hatcher
EASY TO RUN
A SUCCESS

Great Value
Holds 50 Eggs—is self-regulating—18 inches high—weighs 20 lbs.
No. 50, Price..... 995

350
Each



FLOW SHARES
FOR ALL MAKES OF PLOWS—Give Number on Back of Old Share When Ordering.

12-inch	14-inch	16-inch	18-inch
3.50	3.85	4.00	4.50

Order Direct and Send for our Catalog

MACLEOD'S LIMITED WINNIPEG

SHIP YOUR
FURS AND HIDES
TO
McMILLAN FUR & WOOL CO.
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WINNIPEG - MANITOBA
WHOLESALE AND RETAIL
DRESSERS TO THE TRADE WHO SHIP TO U.S.

Harness and Leather Goods

that are dependable first and all the time, reasonable in price, and built for Western service.

WRITE FOR OUR CATALOG

No. 1 Grade Harness Leather in Sides, 80c per lb.

FARM SUPPLIES FROM FACTORY TO FARM

T. Connolly Co. Ltd. Winnipeg, Man.

local shows at which he exhibited. All these years he was growing grain, and feeling his way as to varieties and strains, but confined his exhibiting to vegetables and roots almost entirely.

"In the years from 1905 to 1908 inclusive, he grew roots and vegetables and grain for the C.P.R. for exhibition purposes in Eastern Canada, and personally superintended these displays at the exhibitions in Ottawa, Toronto and London, Ont., and Sherbrooke, Quebec.

"In 1908 he grew vegetables and such vine products as citrons, cucumbers, pumpkins, squash and marrows for the Dominion government and shipped about three tons to London, Eng., for display in the Emigration offices. In 1913 he won the gold medal at the Winnipeg Land and Apple Show for the best general exhibit of farm produce grains. In 1917 he took a big exhibit to Peoria, Ill., to the World Soil Products Exhibition and captured no less than 13 prizes, among them the coveted grand sweepstakes for wheat, a competition open to the world.

"In 1918 he again showed at the World Soil Products Exhibition and Kansas, and won the sweepstakes for the best individual farmer's exhibit, and sweepstakes for wheat in the Dry Farming section."

As the guest of D. C. Coleman, vice-president of the C.P.R. and representing the company on this occasion, Mr. Larcombe, following his success at the Soil Products Show, was tendered a banquet at the Royal Alexandra, Winnipeg. Among those present were Grant Hall, Sir Augustus Nanton, J. Dougall, E. H. Macklin, Knox Magee, F. O. Fowler, Vere Brown, E. T. Winslow, Robert Campbell, G. C. Wainwright, J. H. Evans (deputy minister of agriculture), D. Horn, Walter Moss, Major W. Kirkpatrick, W. R. Bawlf, W. J. Tupper, W. H. Carter, E. A. Mott, A. L. Crossin, W. J. Bulman, Mayor C. F. Gray, S. Larcombe, C. Murphy, D. C. Coleman, Premier T. C. Norris, Sir James Aikins, Roderick McKenzie, W. L. Parrish, Hon. Val. Winkler, Dr. R. Magill.

Warm tributes were paid by D. C. Coleman to Mr. Larcombe's great success in growing wheat of world-beating quality.

He characterized him as one of, if not the most useful citizen of Manitoba, and stated that had Mr. Larcombe devoted to the mere making of money the time, thought and energy he had given to experimental work he would, no doubt, have been a wealthy man; he had, however, chosen the part that was of greater value to the country and all commercial and railway interests, as well as

William Penn MOTOR OIL



A body for every make and type of motor car and tractor—

Extra Heavy, Heavy, Medium, Light, Cold Test

made of Pennsylvania stocks—admittedly the best in the world—to specifications determined by years of experience catering to Western Canadian needs.

Write our nearest office for chart showing which one of these oils you should use.

Continental Oil Company LIMITED

WINNIPEG
BRANDON
ST. BONIFACE

REGINA
SASKATOON
SWIFT CURRENT

CALGARY
CAMROSE
LETHBRIDGE

Pays for Itself in Three Years

AND THE PROFITS GO ON FOR A LIFETIME

This statement is based on the experience of hundreds of farmers who have found it much more profitable to work in harmony with Nature's laws.

The Townsley System

provides an abundance of fresh air without cooling the stables.

With this improved condition the stock make larger gains and pay dividends on the investment from the day the system is installed. The buildings are preserved from rot—the harness and equipment are saved from ruin by dampness.

If you are not getting the returns from your stock that you should, write us and send a plan of your barn, or ask for our special plan sheets and let us help to solve your problem. We will give you an estimate and full information without any obligation on your part.

Protect your Buildings with Townsley Lightning Arresters

Canadian Lightning Arrester and Electrical Co. Ltd.

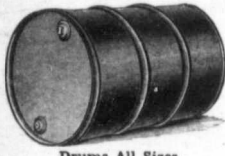
BRANDON MAN.



Made in Canada



Over One Hundred Thousand



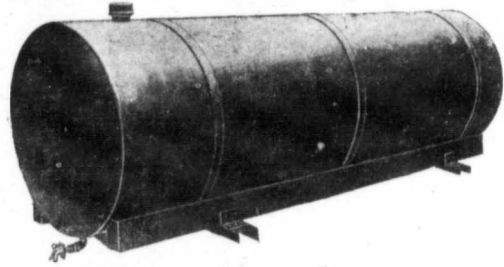
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OIL CONTAINERS

Made and Sold By Us

For Western Canadian Farmers



Wagon Tanks—350 and 450 Imperial Gallons—
(Single or Double Compartments)

THE REASON—IT'S

MAX

THE MARK OF QUALITY
SHEET METAL GOODS

MADE IN WESTERN CANADA BY THE

Winnipeg Ceiling & Roofing Co. Winnipeg

IF NOT OBTAINABLE FROM YOUR DEALER—WRITE FOR PRICES TO BOX 3006 "C.T." WINNIPEG

the country at large, owed him a great debt.

To all of which we say: "Amen!"

MANITOBA MAKES ENGINES FOR EASTERN CANADA

It might seem a far cry from gun-fodder to gas engines, and yet it was only the other day that on a friendly visit to the works of the "Manitoba Engines, Limited," of Brandon, the place looked like a number two size Woolwich Arsenal. Then a few lads were tinkering away at such things as "plow-shares and pruning hooks" and a big army of muscular men were sweating like overheated demons to rush Number One shells for the boys on the fighting line.

To-day things are entirely reversed. Armistice Day had not blown cold when the entire plant of this wonderful factory was turned over like a pancake. Now there's little if anything to remind one that ammunition was ever on the programme, and a greatly reinforced army of mechanics, engineers, moulders, pattern-makers, etc., are engaged on things that entirely belong to the arts of peace.

The stationary gas engine is the leading line handled by this enterprising house. It is made throughout in the Brandon factory by expert men of life-long experience in some of the greatest British engineering workshops. Every part is moulded and tooled on the premises, and anyone interested in such a thing is cordially welcomed to an inspection of the whole process.

The moulding shop is alone an impressive spectacle. Here any-

thing can be cast from the molten metal, from a small working detail of two or three ounces to as many tons in weight. If you can't make your "pattern" yourself, bring in the idea in the roughest drawing, or simply in your head, and they'll have it materialized in their pattern room at one fill of your pipe.

Windmills, pumps, etc., are also extensive lines, and a personality, quality and finish has been put into these which has won them a first place in the esteem of Western farmers for all that they hope for in efficiency.

It must give every Manitoban a proud feeling to see as we did a few days ago a carload of these Manitoba-made engines billed to points in Quebec and Ontario. There were exactly eleven engines in this particular shipment and they are not the first engines which this firm has shipped East.

Nor will they be the last. To all appearance it is the strong advance guard of a great invasion. They are made in all sizes from 1½ h.p. up — the farmer or the manufacturer has only to state his requirements in power and there is the outfit ready to order in a very few days.

Three engines of eight, ten and twelve horse-power were on the way to Terrebonne, Que., to Moody & Sons of that city, while 8, consisting of 2 sixes, 4 eights and 2 tens are consigned to the R. A. Lister Co., of Toronto. Last year the Lister Co. purchased 28 of these engines. So anxious are the Lister people for them that on February 24th the Manitoba Engines, Limited, shipped them an eight horse-power engine by express at a cost for shipment of \$68. It was to be used in con-

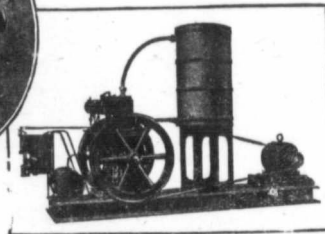
The British Sappers Fought by Lister Light

On the British fronts during the war the Lister Lighting Plants were part of the standardized equipment. They will give the same satisfactory service on your farm that they gave on the field. Write to-day for information.

R. A. LISTER & CO. (Canada) Limited
WINNIPEG, MAN.



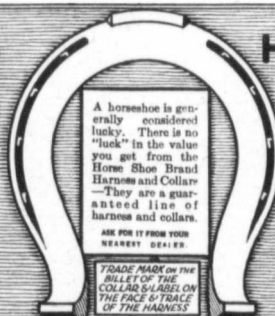
Simple to Operate



Easy to Install

Horse Shoe Brand

Harness and Collars



A horseshoe is generally considered lucky. There is no "luck" in the value you get from the Horse Shoe Brand Harness and Collars—They are a guaranteed line of harness and collars.

ASK FOR IT FROM YOUR NEAREST DEALER

TRADE MARK ON THE BULLET OF THE COLLAR & LABEL ON THE FACE & TRACE OF THE HARNESS

nection with a demonstration of the goods sold by that firm to their travellers.

With all the West, we congratulate Manager Paul Ames on his enterprising and energetic

work — one of the very finest things a man or any body of men can do to "bring the East into line" or to weld East and West together in the real "unity of the spirit in the bonds of peace."

OUR WOMEN FOLK

CONDUCTED BY
PEARL RICHMOND HAMILTON

OUR WOMAN FOLKS IN ANNUAL COUNCIL

WE have had a kind farewell to our old title of Home Economics dames. Like every lass who marries, we've changed our name, and while we are the same women, only more so, we are henceforth to become known as all that is meant in the title of Manitoba Women's Institute.

We had a splendid week of it, perfect unanimity of spirit, while we never hesitated to air our small intellectual differences. We met under the very happiest auspices, for since we last met had not "wild war's deadly blast" blown itself out? Oh, it was great to sit and listen or talk to each other with the comfortable feeling that no longer were our boys in danger of gunfire or compelled to suffer the horrors of trench life.

The great thing on the tapis was Federation, and Mr. G. A. Putnam, of Ontario, accompanied by several representative ladies from the east, came to state the case for it. It had been urged at one time that representation in the federated body of Canadian women should have as its basis the individual members in each province, but it had been finally agreed that the province should be the unit.

We have not space in which to reproduce all the fine things that were said in discussing this great matter of unification. Before this March issue reaches the readers, the details of those meetings will have become generally known to all the members of the local societies through the delegates attending, and through the full reports of the daily and weekly press.

"For Home and Country" is the slogan from Atlantic to Pacific, and in her fine motherly address of welcome to her guests Lady Aikins struck the right key in her apt quotation from an eminent Englishman: "The driving power in reconstruction is a great love."

Mrs. H. W. Dayton, it need hardly be said, fully sustained the high note struck by Lady Aikins—particularly in speaking of child welfare. She gave some striking details of the splendid work of the Public Health Nurses of Manitoba, and explained to her audience how their services might be secured.

Other outstanding speakers were Rev. Hugh Dobson, Social Service secretary; Dr. Thornton, Minister of Education; Miss Playfair, of Hartney; Principal Reynolds; Professor R. M. Washburn, of the University of Minnesota; Miss E. L. Jones, of Hargrave College, Winnipeg; and Miss Kelso, of the M.A.C.

Mrs. Dayton Retires

In the nomination for new board of directors, Mrs. Dayton kindly but firmly insisted in response to what was evidently the unanimous desire of the women to continue as their head that her name should not go forward for re-election. It would be altogether superfluous to say how greatly Mrs. Dayton is esteemed in Manitoba, where she is so well known, and what they say of her in other communities which have enjoyed the privilege of coming in touch with her charming personality, can fairly well be guessed by the readers of this magazine.

While Mrs. Dayton steps down from her position as provincial president of the H.E.S. (a position she has filled on all sides in a way that is beyond all praise) her invaluable services in kindly advice and energetic work in her own democratic way "with the crowd" will not be lost in the future of Manitoba

in the new federation. In fact, her weight will be still more evident as a representative of the province on the new federal board.

We join most heartily in the paean of thanks which her associates have accorded her for all that she has given of herself in the past, and express the hope that many years will not see her usefulness impaired. It cannot be, for "Love never fades: it never knows decay."

HOME ECONOMIC SOCIETIES, 1918

(The following very encouraging report was read to the H.E.S. Convention by Miss Helen MacDougall, supervisor, Home Economics work.)

THE reports received from the societies for the year 1918, show that they have been devoting the greater part of their time and efforts to patriotic work. As the need for food conservation and substitution arose, the societies made a special point

devoted their full time to this work for four months. In May and June, lectures and demonstrations were given in substituting of other foods for those foods which were needed for export. In July and August, instruction was given in the canning of vegetables, so that the immense amount of garden produce which had been raised through patriotic effort, might be conserved for use during the winter months. Routes were planned in a circuit, so as to save time and expense. All arrangements were made by the Department, and advertising matter forwarded. As a rule, the demonstrator spent one day in each place, giving one or two lectures. The Department provided instructors, paid travelling and living expenses, but local expenses including supplies were looked after by the community in which the demonstration was held.

Demonstrations in substituting and canning were given continuously for five days at the Brandon Fair in July, and canning demonstrations were given for

the speakers, the attendance varying from a few in number to several hundred, depending upon the size of the place. In all 185 meetings were held with a total attendance of 5,120.

The majority of the Home Economics Societies have been very actively engaged in Red Cross work. Through their efforts \$25,006.01 have been raised during 1918 as compared with \$21,000 in 1917. These figures do not show the total amount raised by the societies as a very great deal of the money they raise is forwarded direct to the Red Cross organization, and not reported to the Department. Also a very great deal of money and effort has been expended in buying material to manufacture Red Cross articles and hospital supplies. An enormous amount of work has been accomplished, and forwarded through the Red Cross. Many of the societies sent in supplies to the military hospitals, such as fresh eggs, vegetables, canned food, hospital supplies as well as money donations.

Other worthy causes which received assistance from the societies were: Halifax Relief Fund, Prisoners of War, Serbian Relief, Agricultural Relief for the Allies, St. Dunstan's Home for the Blind, Social Service League, Children's Aid. Total expenditure for 1918 amounting to well over \$30,000.

Eighteen societies maintain or render their assistance in maintaining a rest room in their community. A practical interest is taken by most of the societies in plans which work for the betterment of their community, such as better schools, the establishing of a district nurse, establishing of a library. Many societies make a point of sending tokens of sympathy to those in their district who are in sorrow or trouble. Several of the societies have adopted war orphans, and some have taken as their special charge, the widows and families of soldiers who have fallen during the war.

One of the greatest benefits of the Home Economics Society is that it promotes friendliness between the town and country women.

The number of societies is 112 as compared with 97 in 1917. They have a membership of 4124 as compared with 3819 in 1917.

The Government grant for 1919 is \$1,496 as compared with \$1,356 in 1918. The total receipts amounted to \$37,493.51 with expenditures \$37,796.66. The societies all have a balance on hand, the total balance for 1918 being \$5,260.22.

Most of the societies held regular monthly meetings, in addition to their Red Cross work. Papers and addresses on various subjects were prepared by their members. Conservation of food and clothing, and canning of vegetables were two subjects of general appeal. Other subjects discussed were, mothercraft and child welfare, civic improvement, community co-operation, laws relating to women and children, school sanitation.

All active work has been very seriously hampered since the first of October, on account of the health conditions prevailing throughout the province, consequently the report as given shows the work for nine months rather than a full year's work.

With reference to the Government grant, last year it was suggested that instead of distributing the grant as in former years, that the amounts be pooled, and the money be used to pay the railway expenses of the delegates to the convention. The number of delegates who would receive the benefit of this plan to be determined by the membership of the societies. This was suggested, as it was felt that some of the societies which



DO YOU KNOW THEM?
Young Manitobans in training, with their Teacher

of studying these subjects, so as to render the greatest possible assistance to their country.

The Department co-operated with the societies in putting on short courses in cookery, home nursing, dressmaking and millinery. Eight specialists were engaged in this work, and during busy seasons other instructors were employed. As a general rule, the demonstrator spent one week in each place. Two sessions of two and a half to three hours were held each day, and the average attendance at each class was between twenty and thirty.

Where there was a Home Economics Society it made all the local arrangements, and paid local expenses such as hall rent, heating, etc. The Department provided instructors, paid their living and travelling expenses, and forwarded advertising matter for local use.

The lectures and attendance were as follows:

Sessions	Attendance
Millinery demonstration	370 7,387
Dressmaking	890 17,577
Home Nursing	99 3,004
Cookery	80 3,142
Total	1,439 31,110

During the spring and summer months a special effort was made to aid the conservation of food. Five demonstrators, in addition to the others mentioned,

seven days at the Winnipeg Garden Show in September. Canning demonstrations were given at the following agricultural society fairs: Dauphin, St. Vital, Elmwood, Kildonan, Melita, Crystal City and Manitoba.

The total number of demonstrations were as follows:

Cookery, 89 demonstrations	3032
Canning, 111 demonstrations	5179

Total..... 8211

A request came from Brandon that some assistance be given them in their efforts to conserve the large amount of vegetables that would otherwise go to waste. A canning centre was established in one of the domestic science schools there, and an instructor provided by the Department. This was in operation for ten days during the height of the canning season. Instructions and practical assistance in the canning of vegetables were given daily.

During the last week of June and the first week of July a series of institute meetings were held. Twelve speakers addressed these meetings. The subjects discussed were: "Community Organization," "Co-operation," "War Problems," "Women's Responsibilities," "The Food Situation," "Conservation of Health," "Advantages of a Home Economics Society to a Community."

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PURITY FLOUR

PURITY'S BEST
BY OVEN TEST

need the stimulus of the convention would be benefitted thereby.

This matter was placed before the societies, but very few have expressed an opinion on the matter. The subject was discussed at the meeting of the Advisory Board in August, when it was decided that this matter be brought before this convention for discussion.

Mother's Corner

Motherly Womanhood

The hearts of men and women crave for a human Saviour, and they crave for motherhood in their religion.

Theodore Parker set the fashion of calling God our Mother as well as our Father. While this is an unscriptural term, there is a true idea behind it.

The Psalmist sees in God's love a refuge that will outlast all human parental affection, exclaiming: "For when my father and mother forsake me then the

Lord will take me up. If we really understand God to us then shall He be revealed to us in Christ, and satisfy us with all the tenderness and compassion for which starved souls have turned to the comforting motherhood of Mary. While we may not all be physical mothers we may be moral mothers. The suffering starving world to-day is cared for and loved and helped more by motherly womanhood than physical mothers, for as a rule the physical mother confines her interests mostly to her own children.

With Other.

Do you in the presence of a good person feel like being better? This is the value of the woman living in the presence of Christ.

I read a letter this last week in which a man writing to a woman said: "From that Sunday I thought if your Christ and your religion were so inferior and second class I never wanted to become a Christian."

Women, men are judging the great religion from the way you and I are living.

Do you know that now either the germ of domestic tragedy or domestic happiness is being created by us? During the past month I have become acquainted with three domestic tragedies. One man said:

"I am weary and tired. Life has lost almost all sweetness and beauty, and sometimes in my grief and loneliness I want to die. As a result I have lost faith in women." He further states: "It takes two to make a home, and love and truth must go hand in hand or desolation will mark the end of the both that started with orange blossoms."

A man whose wife corresponded with another man secretly found two of her letters and took them down on blue paper. Truth is always secure, deception's forces always spring leaks at most unexpected times.

A girl who denied being in a certain place one time with a young man gave all kinds of proof of her not being there. I held in my possession her glove which she dropped in the place. She did not know it. God never protects deception. He always guards truth.

Her Child's Interpreter

The truest mother of children is her children's truest friend. Who judging a deed, considers the motive and not the end.

She gains, in this thoughtful study, To her child's heart clear insight: An aid in her tireless guidance To a life of worth and right.

BABY CONTEST

We remind the mothers who were not prize-winners, or who did not take part in the recent baby contest, that the new one is now in full swing. Send in your letters as soon as possible with the best snap photo you can obtain of your little ones. Prizes are \$25.00, \$10.00 and \$5.00 for first, second and third respectively.

BLUE RIBBON TEA DROPS IN PRICE

The high cost of living received another jolt when Blue Ribbon Tea dropped five cents a pound. This announcement has just been made by the Blue Ribbon Tea Company in a circular to the trade.

THE GOSPEL OF CHILD WELFARE

Habit of Happiness.—Is happiness being cultivated as a fixed habit in the home? "Happy children seldom err."

Leisure Hours.—The leisure hours of our children need as much study and thought as their school hours, their occupied hours. Many a wayward boy has been rescued by making use of his hobby for his leisure hours. A work bench in the basement or barn may incite him to want to make use of his wits instead of his fists. A paper route has reclaimed many a boy's lost self-respect. Sharing the home responsibility,—sweeping, cooking, sewing, etc. has saved many a girl from insidious temptation and fitted her for a better wifehood and motherhood.

Timidity vs. Bravery.—The sorrow, bloodshed, suffering and atrocity stories of this war are telling severely upon sensitive, timid children. These children should be told, over and over again, stories of bravery and heroism. Children "afraid of the dark" may be entirely cured of fear thoughts by the repetition of stories replete with the positive suggestion of bravery and heroism. The child with a tendency toward untruthfulness should be told stories of honor, truth, loyalty and right.

Pertinent Points for Parents
Are we keeping "the home fires burning," by means of a library table as carefully set as our dining room table? "The house that has a library in it has a soul in it."

Do our homes have good music, sociability, and plenty of games for parents and children to play together?

Do we go as a family to entertainments, church and social gatherings?

Do our children have the right and privilege of inviting in at a seasonable hour, their playmates and comrades? Is there a decay of "parental authority"?

Do the children "give the orders" or do the parents?

When our children fail in school have we made a thorough investigation as to whether they are handicapped by weak eyes, adenoids, enlarged tonsils and other drains upon the mental as well as physical?

Are we discouraging "slack thinking"? Do we give our children the things "they cry for"?

Are we as parents as courteous to our children as we expect them to be to us?

Are we telling our sons and our daughters how virtue and honor are lost, and finer than that, are we telling them how virtue and honor are retained?

It is a study with us how to gain and retain the confidence of our children?

Are we teaching them honesty in every form?

Do we impel rather than compel? Do we realize that every child stands a chance for bigger usefulness if his father and mother are big?

Do we mothers have the real joy of craftsmanship or is motherhood a common everyday affair?

Are we molly-coddling mothers? Do we realize that it is every child's right to cry out to his mother that he be made strong in every fiber of his muscle; that he be trained in habits of chastity of thought; that he be equipped with a twenty-four-carat character?

Facing the child disaster of the warring world are we daily mindful of the disastrous effect upon young and plastic minds of the hate engendered by this war?

Do we mothers realize that because of this hate all women must live a little finer; be a little more spiritual; hold ideals a little higher; and preach a finer brand of patriotism than the world has ever known?

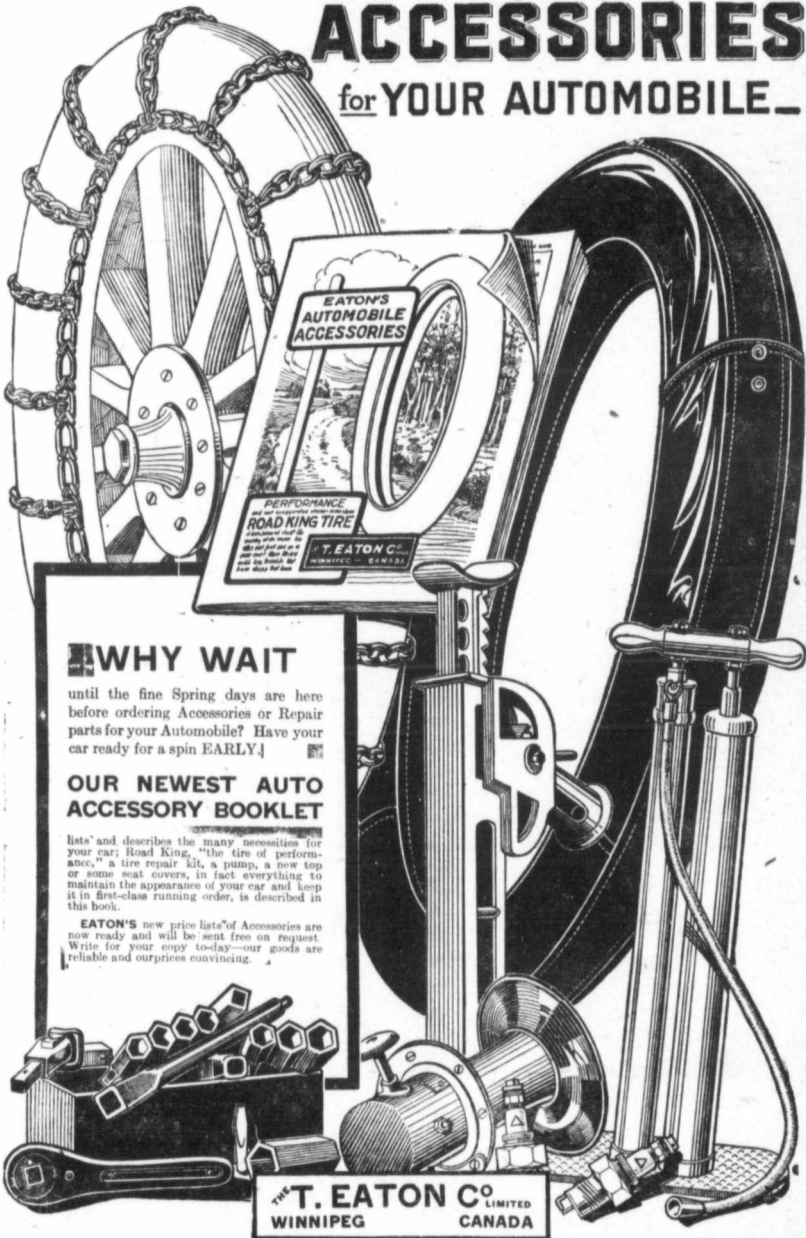
Do we realize that "the brotherhood of man is based upon the fatherhood of God"?

The "Woman Citizen" has this to say of Dr. Gurabai Kamarekar, a woman of Bombay, India:

"Dr. Kamarekar is a member of the National Board of the Y.W.C.A. in India and has just been in this country for an international War Work Council. She is a graduate physician and is going back to

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lists and describes the many necessities for your car: Road King, "the tire of performance," a tire repair kit, a pump, a new top or some seat covers, in fact everything to maintain the appearance of your car and keep it in first-class running order, is described in this book.

EATON'S new price lists of Accessories are now ready and will be sent free on request. Write for your copy to-day—our goods are reliable and our prices convincing.

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WINNIPEG CANADA

do medical work among the women of her native country.

"It may not be generally known that women of India have been called upon to give much time to war work just as have other women in the allied cause. Since the war began India has sent 1,100,000 of her sons, according to Dr. Kamarekar.

"My country has also contributed gold by the ton, spices and grain," she informed a reporter. "We have even sent fire wood and charcoal to Mesopotamia, where they had only palm leaves for fuel. Princes have given their personal ornaments and many of the rajahs have gone to the war. Within the first four months the women had organized Red Cross classes throughout the country and were

making great quantities of the garments needed. As their men began to embark for foreign countries a feeling of international friendship was engendered among them for the women of other countries whose men were also at the front.

"In India we are very anxious for home rule," she continued, "but when England declared war, the chief spokesman in Congress urged his countrymen to put aside all differences for the moment and to unite in helping Great Britain. And at the various war fronts are Brahman, Indian Christian, Marhata, Sikh and Gursha regiments."

"But while the women of East India are doing their part in war work, yet they are not taking the places in industry

left vacant by the men, as is the case in other countries.

"There are a number of them employed in mills, but none in shops, on cars, or occupying other public positions. A few of the women enter professions."

Women doctors are in such demand for civilian work in England now that they are being advertised for by municipalities everywhere, according to press despatches. Manchester wants a woman health officer, at \$2,000 a year, while Denbigh and Derby are seeking women doctors for municipal welfare work at a similar salary. The government is trying to get women doctors for posts in Natal and Egypt, at \$2,500 to \$3,000 a year.

There is both COMFORT and STYLE in a "NORTHLAND"

Slip-on Sweater



Made from famous English "Beehive" worsted Yarns in such pleasing shades as Tulip, Maise, Delph, Old Rose, Burnt Orange, Torquoise, Paddy, etc.

SPRING IS HERE. You had better get one to-day and be both comfortable and up-to-date.

Sold at all good stores throughout Canada. If you cannot get one to suit you at your dealers, write us direct.

BE SURE THE **NORTHLAND** LABEL IS IN EACH GARMENT



Northland Knitting Company, Limited, Winnipeg

Manufacturers of

MEN'S, WOMEN'S AND CHILDREN'S SWEATERS, MITTS AND GLOVES AND MOCCASINS

POULTRY NOTES IN SEASON

By Mrs. Dumbrell, Charleswood

THE breeding pens should have been mated up before this. However, it is not too late yet. In selecting your breeding stock, see that the male shows signs of vigor and vitality which may be seen in a well proportioned and well set body. Bright eyes, good carriage, bright comb and well shaped head and wide distance between good-sized legs, are a sign of vigor and vitality.



Almost a hundred per cent hatch

A male of this type will produce good healthy chicks, whether raised by hens or incubator.

The hens must be healthy. Have bright eye and comb, neat body, wide pelvic regions and long keel. Year-old hens give best results, and should not be forced for winter laying if wanted for breeders.

Generally one male is sufficient for ten hens, providing all of the birds are vigorous. Only perfectly healthy birds should go into the breeding pen.

Birds that have ever been sick should be discarded. The breeders should have plenty of exercise and green food. Our fowls have plenty of roots and cabbage. But still they are ravenous for sprouted oats, which I get started by starting the flats in the incubator when not in use. When a few inches high they are brought to the light and they soon turn green.

The hens will fly up on one's shoulders for it when they see one coming in with a flat. They will eat every scrap.

Hatch Early

The successful poultry woman will breed only from the early hatched birds, which will be well developed when full grown.

In order to get well grown pullets for winter laying it is necessary to hatch early.

The young cockerels can be milk fed and sold at a good price as broilers when they weigh 3½ to 4 lbs. per pair.

The up-to-date poultry woman would not be without an incubator. The idea is that as a general proposition the best breeding stock and egg producers come from early hatched birds.

We cannot have them very early if we have to depend upon Biddy. For my part I prefer the incubator and my foot warmer to raise chickens. I raised 400 last year, and it was a sight to make any woman feel proud of. They were all one brood and well grown. I could not meet the demand for broilers fast enough, and I had so many pullets that I could cull very close.

Besides this the early hatched birds have a start before the very warm weather comes. We all know that hot weather retards the growth of chicks, and the early chicks are not so liable to be troubled with lice.

Such heavy birds as Barred Rocks need about six months in which to mature and begin laying before cold weather has a chance to put them back. While the egg prices are good the early birds mean larger profits.

The incubators should be thoroughly disinfected before setting again. The trays should be well brushed or scrubbed, and everything spotlessly clean.

Do not set dirty or soiled eggs for best results. While collecting enough eggs for the incubator see that they are gathered often, for they chill easily on cold days. Turn the eggs once each day until ready to set.

Keep the temperature at 102-103. I

have had the temperature go as high as 108, and still have a good hatch. But I would not advise anyone to let it get that high very often.

Of course, the temperature will go higher than 103 when the eggs start to chip, but should not go any higher than 104 or 105. If this should happen, more moisture may be added inside the zinc trays. Watch very carefully. Turn the eggs twice a day.



A Sturdy Family of Chickens and some visitors

See that there is plenty of moisture to allow for evaporation of the eggs.

Test the eggs on the seventh and fourteenth days for dead germs and clear eggs.

These can be used for the chicks later on. The chicks should not be removed from the incubator until all the hatch is over.

If they seem too warm the door may be opened just a wee bit to give them fresh air. But if the lamp is turned down very low they will not take any harm.

Mrs. Dumbrell will be happy to answer

any questions by mail providing return postage is included with inquiry.

Cream Sauce

1 pint boiling milk, 3 tablespoonfuls oil, 2 tablespoonfuls flour, 1 teaspoonful salt. And oil and salt to the flour, pour the boiling milk over the mixture and stir until smooth. Cook for five minutes over a slow fire.

Orange and Grapefruit Marmalade

1 large grapefruit, 1 large orange, 1 large lemon, 12 cupfuls of granulated sugar, 10 cupfuls of cold water. Cut the fruit into quarters, and remove the fiber and seeds from the centres; then cut up the pulp and rinds into very small pieces. There should be 4 cupfuls of fruit. Put into a bowl, and add 10 cupfuls of cold water. Stand away for 24 hours, then add the 12 cupfuls of sugar. Boil slowly for three hours, or until the consistency of jelly. Pour into jelly glasses, or small jars, and cover with paraffin. Keep in a cool place.

A Moral Issue

(By John D. Wells)
THE idea was Mirandy's: she allowed we'd orter go

An' pack our duds an' go t' town
 t' see the chicken show;
 An' so we went an' tuk it in, but bein'
 that we're just
 O' fashioned folks who still believe o'
 fashioned ways are best,
 I s'pose that we was prejudiced an'
 amebbe sot ag'in
 New-fangled ways that smarter folks see
 lots o' virtue in—
 Perhaps that's it—but, anyway, we both
 rise up t' state
 There's been too much shinnanagin' on
 Nature's plans of late!

We wandered 'mongst the fancy coops of
 chickens—there was some
 So proud an' highfalutin' that we dassen't
 speak t' em.

Whilet others looked so foreign-like an'
 had such foreign gait

'Twas plain they couldn't understand nor
 talk United States.

There's Andalusians, Cochins, too, an'
 them Rhode Island Reds,

An' other freaks, 'til mother says, "I
 swan, I'd like t' see

A plain ol' fashioned chicken, 'cause I'm
 homesick," she-says-ah.

But nary a good ol' fashioned hen or
 rooster could be found—

Jest ultra-hens with pedygreos, that
 strutted all around

With head helt up an' cacklin' 'till they
 party nigh was hoarse,

Like women home from Reno, with a
 new fresh-laid brood—

There wa'n't a sign of henyard life nor
 chicken motherhood;

Mirandy up an' told the man—the boss of
 all the pens—

That we was "strangers in the place;
 where was the settin' lens?"

I thought I saw the feller smile, but he-
 says-he, "Come on."

An' led us 'round amongst the coops an'
 pens until blame-don

He found a durned contraption—we could
 hear the chickens 'tweet,'

An' lots of folks was standin' 'round
 discussin' Farenheat;

I thought the feller smiled ag'in an' about
 the time he did,

He reached across the railin' there an'
 lifted up the lid—

An' drat my pelt if ever I expected such
 a sight—

Their's hatchin' chickens right an' left by
 durned electric light!

Mirandy sort o' squared herself, her
 motherhood upset;

"My law!" says she, "have all the hens
 on airth turned Suffragette?"

An' ain't there no more motherin' like
 Nature meant for?—Come

Away from this immoral place—the place
 for us is home!"

An' home we went, where Virtue rules
 an' never goes nor haves—

Where all the chickens on the place
 knows all their pas and mas,

Where moral law is uppermost, an' mother
 she inten's

A special prize of extry corn for all her
 settin' hens

Parents—A Composition by a Very Small Boy

(From "Success Magazine")

Parents is our Mamas and Papas.
 They is mighty nice things to have only
 when little boys and girls have been bad
 and then they is not so nice.

Parents is them folks what makes us
 say our prayers and go to Sunday-school
 and bring in wood and things.

A Papa is a parent that buys the bread
 and meat and a Mama is a parent what
 cooks it and washes the dishes and ties up
 sore toes and makes us wash our neck
 and ears and teeth and everything. Also
 a Mama is a parent what a boy has to
 beg to go in swimmin' and then has to
 slip off from if he gets to go.

There is two kinds of parents—the kind
 what stays at home and the kind what
 goes to clubs and lodges. I like the kind
 what stays at home best. Gee! I hate
 to come home from school and find Ma
 gone and the cookies too.

All little girls and boys ought to have
 two parents, but some have only one.
 Some of them is dead and livin' with God

and some of them is not dead but is livin' somewhere else.

They is nice tho' about some other things such as givin' us nickels and cookies and baseball bats. Boys don't get to choose they parents but I don't care cause I got a dandy set anyhow.

When I gets to be a parent I will not whip my little boys or make 'em take a bath in winter time or play with silly girls or go to school.

I guess that is all I know about parents.

"A woman's life should be cumulative so that it would take up into itself all of her experiences, all of her acts. Everything that has happened to her ought to be pyramided into one whole glorious character."

Men seem to have accepted women in Spain when once the initial step was taken with a better grace than in some other countries. An extraordinary young woman graduate from Mrs. Gulick's institute wrote for the leading papers in Seville a series of articles on the women



LOVE AT HOME

of America, England, Germany and China. The articles were well written and attracted much attention. The last one was signed with her name, and when it appeared the writer was immediately invited by the Liberal Club of Seville—the largest club of men in the city—to give them an address on Spanish women. When she appeared on the platform there was such prolonged applause that it was several minutes before she could speak.

It did not take the war to establish women's preeminence in finger-print work, though the work of Miss Dahm and others now finger-printing the army has received most comment in the press. Ten years before the war Henry P. de Forest of the New York Civil Service Commission, tells us that a woman was instructor to navy and army officials. This is Mrs. M. E. Holland, who studied her subject at Scotland Yard.

Another woman in New York, says Mr. de Forest, a Miss Sullender, about five years ago began the study of finger prints. She became extremely proficient and stood first in two competitive examinations held for finger-print experts by the Civil Service Commission of that city. A Mrs. Tittle stood second. Both these women passed a better examination than the best man in the city at that time. Miss Sullender is in the Finger-Print Bureau



A Typical Example of "EATON Made" Value

Silk Finished Poplin Dress—17-D270. The material used in this smart "Lady Grenville" frock is a fine grade Silk finished Poplin, of splendid appearance and wears especially well. The bodice of long waisted appearance is very graceful and is prettily adorned with Silk cord braiding. The skirt falls shortly from a yoke effect about the hips, and the broad belt defining the normal waistline is trimmed to match the bodice: a row of two tone buttons appears down centre front, matching those used on the sleeves, which is further trimmed with a double row of embroidery braiding. A pretty collar of Paillette Silk adds a desirable touch to a garment which is a value of special merit. **Skirt has a 3-inch basted hem.** Color, Black, Navy, Sand, Pearl Grey or Brown. **Bust Sizes: 34, 36, 38, 40, 42, 44, 46 inches** **Skirt Lengths: 33, 35, 37, 38, 39 inches**

Price Prepaid **13.75** **THE T. EATON CO LIMITED** Price Prepaid **13.75**
 WINNIPEG CANADA

of the Department of Charities. She has been teaching the subject for the past three years, with great success, and three of her women pupils, Miss Dahm, Miss Burns and Miss Nolan, are now in the Finger-Print Bureau of the United States Navy.

Rhubarb and Raisin Jam

2 quarts of cut rhubarb, 2 cups of seeded raisins, 2 cups of granulated sugar, 1 cupful of orange juice. Cut the rhubarb into small pieces but do not remove the skin, and put it into a porcelain-lined kettle. Add the sugar, mix well, and let stand for from three to four

hours. Bring to a boil quickly and add the raisins, which have been washed, dried and put through a food chopper. Simmer slowly for one hour, and j-d the orange juice. Fill sterilized j-jly glasses, or jars, and cover with paraffin.

Corn Dodgers

2 tablespoonfuls lard, 1/2 cupful sugar, 1 1/2 cupfuls cornmeal, 1 cupful milk, 2 teaspoonfuls baking powder, 1 cupful flour. Mix thoroughly the ingredients given and fry in a hot skillet until brown. Apples sliced thin and added give a good flavor; the cakes should be cooked a little longer if this is done.

Mother's Corner

Baby Contest

Dear Mrs. Hamilton:—

BRUCE FRASER, age 2 years 2 weeks, weight 30 lbs., height 34 inches, measurement of chest 23½ inches, head 20 inches.

I am not sending in a description and picture of my baby as a model, or with any hope of a prize, but because, like, I am rather proud of him, and because my experience may be rather helpful to mothers who find it difficult to "raise" their babies during their early months.

He was born apparently a healthy baby, 8 pounds in weight, but soon began to show lack of ability to assimilate his food properly. First, I had to stop nursing him when about three weeks old, as the natura method did not agree with him. I cannot say whether it was his delicate stomach, or my physical condition, as my oldest baby was nursed up to eight months, and seemed to have perfect digestive organs. I first tried cow's milk prepared exactly according to a physician's directions. This proved so constipating (as he seldom had a natural movement), I was obliged to fall back on artificial foods. I think I tried malted milk which had much the same effect, and he didn't like it. I then tried Allenbury's, which proved more satisfactory, and he used the three grades up to one year of age. I also varied this with an evening meal of Robinson's barley gruel about every other day, beginning at about four months. I had to prepare it exactly according to directions or it would not agree with him. I also washed and scalded bottles after each time they were used. When he was about six months old we got a Jersey and I began introducing milk diet very gradually at first, top milk with half hot water and one ounce of lime water to a bottle, but he used Allenbury's till one year old. Then all milk with one feed of Roman meal gruel, which I found excellent for constipation; sometimes I gave him a feed of crusts, browned, crushed and scalded with milk and sugar, but he would tire of it.

Strange to say my children are "conservative" babies, as they do not care for white bread, and I do not think that bread is a good diet for children in spite of the old slogan to a child: "Eat your bread." Cereals with lots of good milk, vegetables, eggs lightly cooked, milk puddings and a judicious use of fruit, form a healthy diet up to at least four years if not much longer.

In addition to stomach trouble my baby contracted a bad cold when he was between two and three months old through la grippe getting into the family. It left him with a cough for three months, and I had to keep him in the same temperature and even same place night and day. I slept on the lounge beside his carriage, and got up every night to regulate the heat, and to give him a few drops of Russian oil when he coughed. This is a lubricant of either throat or digestive organs, and I attribute his present good health a good deal to the use of it. By March I was pretty well run down, and my baby had gained very little. However, he had held his own and as soon as he could be taken out every day in the warmer weather he began to gain rapidly. He has not had a cold since, any appearance of which does not last more than two days. He is fat and healthy with firm smooth flesh, a perfect complexion, and happy contented ways. If his breath is not as sweet as violets I give him a teaspoon of Russian oil at night, also for a treat, instead of sweets he gets a raw prune or apple pared and cut up into "candy." He has had a few bilious spells from getting too much milk at supper time or from a treat of peanuts (given unbeknown to his ma). To correct this I take milk diet away for a day or two, give him a few drops of castor oil every three or four hours, and lots of pure water to drink with burnt toast water for nourishment. If he has diarrhoea severely I give white of egg once or twice a day. One or two days of this treatment restores him to his usual health.

A Good Beginning Spells Success



A GOOD BEGINNING

Red Fife—Registered

First and Second Generation

Grow for big yield, and get the product registered and obtain the higher prices. Price per bag of 2 bushels, \$8.60, bag included.

Brome and Western Rye Grass

Both True Perennials of Hardest Nature

BROME—There is nothing like Brome to put fibre in the land and prevent soil blowing. Land ruined by drifting has been renewed by Brome, and is producing grain to-day equal to the best districts. A splendid Hay and Pasture Plant.

Lot A—"Lion" Brand, 20 lbs., \$6.40; 100 lbs., \$31.00. Lot B—Extra Choice Selected, 20 lbs., \$5.40; 100 lbs., \$26.00.

Large Sacks extra at 75 cents each.

WESTERN RYE—The famous bunch-grass of the bunch-grass ranges of the Canadian West. None of the cultivated grasses excel it for growing under dry conditions.

Lot A—"Lion" Brand, 20 lbs., \$5.40; 100 lbs., \$26.00. Lot B—Extra Choice Selected, 20 lbs., \$4.80; 100 lbs., \$23.00.

Large Sacks extra at 75 cents each.

Sweet Clover

The Wonder Pasture Plant. Will grow anywhere.

WHITE BLOSSOM
10 lbs., \$3.40; 25 lbs., \$8.25; 100 lbs., \$32.00.

YELLOW BLOSSOM
10 lbs., \$3.60; 25 lbs., \$8.75; 100 lbs., \$34.00.

Cotton Bags 65c each

Fodder Corn

Our northerly grown stocks are the best for this country. Germination 90 per cent. and over in 6 days.

NORTHWESTERN DENT

Per bushel, \$4.00; 5 bushels, \$19.50.

MINNESOTA 13 DENT

Per bushel, \$4.00; 5 bushels, \$19.50.

A Great Wheat

Dr. Saunders' Early Red Fife

Grows a good length of straw and usually gives a higher yield and better sample than "Marquis" on fall-plowed, spring-plowed and stubble cultivated land. It should also be tried on the drier and lighter lands, and in districts where the rainfall is light.

Our Stock is the genuine, original strain, from Dr. Saunders'. The berry is the largest and finest known. **SAMPLE FREE ON REQUEST.**

Lot A—Finest sample, pure and clean. Two bushels, \$8.00; 10 bushels, \$39.00.

Lot B—Pure, clean and high germination, but sample not as fine as "Lot A." Two bushels, \$7.00; 10 bushels, \$34.00.

Finest Cotton Bags additional at 65 cents.

Kitchener Wheat

The World's Record Yielder for Hard Spring Wheat

Kitchener Wheat is suitable for growing in all sections where Marquis has succeeded well, and has a great advantage in the southern portion of the Prairie Provinces owing to its robust, vigorous, good stooling habit, with length of straw and ability to stand drought; also, its large, plump grain is a consideration in droughty districts. Order early—stock limited.

Lot A—Fine sample—grown from seed obtained originally direct from Seager Wheeler, and handled with utmost care. Pure and free from all noxious weeds—2 bushels, \$9.00; 10 bushels, \$43.00.

Lot B—Good sample—re-cleaned over our own mill—strong germination and free from weeds—contains an odd kernel of Marquis. Good and sure for general crop and large yield—2 bushels, \$7.00; 10 bushels, \$34.00.

Finest Cotton Bags at 65 cents each.

Marquis Wheat—Registered

First and Second Generation

The product from our stocks may be registered, whether grown by a member or non-member of the Association, providing inspection is made and quality satisfactory. Sow this seed and obtain better yield and sell product for registered high prices. Price per bag of 2 bushels, \$8.00, bag included.

(We do not offer Third Generation Registered Seed—the product of same cannot be registered.)

Oats

The wise farmer wants seed of strong vitality—he wants a test of 90 per cent. or over in six days. Our stocks are all of this class. They start quick and grow even and strong. Worth more than the difference in cost.

IMPROVED AMERICAN BANNER

Lot A—American Banner Registered, first and second generation. Per bag of 100 lbs., \$8.25, bag included. Lot B—American Banner, grown from Registered Seed. Per bushel, \$1.80; 24 bushels, \$42.00; 100 bushels at \$1.70 per bushel, bags included.

Timothy

"MARTEN" BRAND, VERY SELECT

Analysed by the Seed Branch of the Department of Agriculture and certified "Free from Noxious Weeds." Strong germination and an all round superior lot, sure and safe for the cleanest land. Price, 100 lbs., \$20.00, 20 lbs., \$4.25.

Grimm Alfalfa

Our lot of Grimm Alfalfa is the genuine true stock. We personally investigated the crop, which was grown on a Government Pedigreed Field and copy of registration papers from the County Court are in our hands, with sworn statements as to the purity and genuineness of our lot of Grimm Alfalfa. Coupled with genuineness as to variety, our lot of Grimm Alfalfa is a splendid sample in itself, grading by Government Analysis, "No. 1." Price, 100 lbs., \$68.00; 25 lbs., \$14.75; 10 lbs., \$6.00.

Spring Rye

Always Sure for Pasture or Hay

Price per bushel, \$2.30—Bags extra at 60c each.

True English Dwarf Essex Rape

Price, 10 lbs., \$2.30; 25 lbs., \$5.25; 100 lbs., \$20.00. Bags included.

Send in your name for a copy of our 1919 Seed Catalogue

STEELE, BRIGGS SEED CO. Limited

WINNIPEG, MAN.

I must say a little about regularity of all his habits—eating, sleeping and movement of bowels. He has never missed his afternoon sleep perhaps more than three times since he was born. I often think of breaking him of it, as it would leave him freer in the evening, and I could take him places in the afternoon, but I have concluded to sacrifice a little freedom rather than sacrifice his rosiness and healthy, happy condition.

I will not say they (my two boys, aged two and four) are no trouble. I believe they add 100 per cent. to the care and work of home-making. Neither will I say they are always perfectly good, but I would rather be bothered with activity and initiative and originality, and even a little mischief and temper, if it can be managed and trained into something like character, something that will be helpful and forceful in the world, something that will not be mean nor selfish (some job I'll admit). Thus we will await with expectancy the next series of letters regarding the problems of child training.

Yours very sincerely,
Mrs. D. E. Fraser,
Kenton, Man.

We published Bruce Fraser's picture on page 58 of our February issue, but regret that at the "last call" in going to press we had to omit this splendid letter from his mother.

THE MORAL SIDE OF CHILD WELFARE AND PERTINENT POINTS FOR PARENTS

(Quoted from Child-Welfare Magazine)

SMOKING.—A tidal wave of cigarette smoking is sweeping over the world. Thousands of young boys are acquiring the yellow badge upon their fingers which is the prophesy of coming ill-health and weakened moral powers. It is an indisputable fact that steady nerves, strong hearts, good lungs and quick moral decision do not go with smoking.

Underslept Children.—Educators are practically agreed that 90 per cent of the ordinary cases of school discipline is caused by underslept children. The relation between the physiological and moral is obvious.

Juvenile Crime.—Juvenile crime has increased by leaps and bounds in the warring countries. Its insidious growth is already visible upon our shores. The least increase of juvenile crime in my neighborhood increases the danger to my child. With the growing necessity for many mothers to become wage earners children are left long hours after school without maternal supervision and juvenile delinquency takes a great stride forward.

Financial Responsibility.—The increased high cost of living means that children must be trained in financial responsibility. A weekly allowance with a required account of all money received and how expended means self-respect to

a child; means business method and later financial judgment. "Earning while learning" is often a moral stimulus. Every child should be taught that he who does not pay his debts, who is a so-called "dead-beat," is a person with an undeveloped conscience, and one devoid of a high moral standard.

Health Habits.—It is every child's right to have firmly established health habits. He should know that every violated health law means ill health in some form and handicap to success. A "sour stomach" does not often presage "sweet success" nor do flabby muscles and weakened vital regions make the athlete nor the person of quick, sound, moral decision. To be "manly in mind, muscle, and morals" means success.

Dual Moral Standard.—Thinking parents teach their children that the day of the dual standard of morals is past. To-day what is wrong for a girl is also wrong for a boy. A just people no longer penalize the woman and free the man.

Children's Punishments.—Do we give a command and then not insist upon its obedience? Do we punish to-day for an offence and to-morrow if busy pass it unseeing by? Or is wrong always wrong? Which is the greater offence in our home, the telling of a lie or the breaking of a vase? Zona Gale says: "Punishment may not be the treatment for a child's acts any more than it is for the measles or whooping cough. Like the average courts the average home merely punishes."

Crime and the Child.—Scientific authorities are agreed that only from 1 to 2 per cent of criminals are "born criminals." That means that 98 per cent of criminals were sweet innocent babies, and that somewhere along the line, most likely in early childhood, some one else beside the child was to blame.

Teen Age and Christianity.—Only five per cent of people embrace Christianity after the "teen age." If we desire to implant and impress the "faith of our fathers" the opportune time is early childhood.

Patriotism and Civic Pride.—Our children are being taught in the home or school or both, to love, honor and revere our flag and the country it stands for. This is a wonderful opportunity to teach civic pride. A patriotic child will keep his hands, his clothing a little cleaner. He will see to it that his yard is a little cleaner, that papers, trash, etc., are not thrown upon the streets. The child who is unmindful of the rights of others, who lies or steals, is a slacker and a deserter from America's honor standard and can in no way claim a patriotism acceptable to his country.

Temptation.—The psychologist and the pathologist are agreed that the physically tired boy or girl is a much easier target for temptation. The boy or girl who has danced to excess, who is physically all worn out is a far easier prey to temptation than when rested and physically normal.



TWO BIRDS WITH ONE STONE

"If you really intend to leave us in the lurch Jane, let me give you a good reference to Mrs. Bounderby Briggs!"
"Thank you, mum."
"Don't mention it—I hate her!"

Government of the Province of Manitoba

COMBINED BALANCE SHEET

As at 30th November, 1918

ASSETS		
CASH ON HAND—		\$ 2,750,388.60
Available for:—		
Public Works and Undertakings.....	\$ 1,103,707.91	
Drainage Districts Capital Outlay.....	33,866.67	
Current Expenditure.....	258,007.30	
Extinguishment of Bonded Indebtedness and Held in Trust.....	690,350.40*	
Patriotic Purposes—Unexpended portion of Treasury Bill.....	663,856.32	
	<u>\$2,750,388.60</u>	
INVESTMENTS—		2,791,625.13
Capital Monies.....	\$ 1,006,670.75	
Sinking, Replacement and Trust Funds.....	1,784,954.38*	
	<u>\$ 2,791,625.13</u>	
SECURED ON OTHER ACCOUNTS—		8,535,119.38
Secured Accounts—Capital Monies.....	\$ 457,569.86	
Other Accounts—Revenue Monies.....	675,124.34	
Outstanding Revenue.....	786,019.23	
	<u>\$ 1,918,713.43</u>	
Added:		
Land Agreements, Judgments and Succession Duties (see Deferred Balance Sheet).....	\$ 6,616,405.95	
	<u>\$ 8,535,119.38</u>	
DOMINION OF CANADA.....		\$12,110,534.56
PUBLIC WORKS AND UNDERTAKINGS (Book Values).....		27,828,277.89
DRAINAGE AND JUDICIAL DISTRICTS: CAPITAL EXPENDITURE (Net).....		6,143,095.65
UNSOLD LANDS—See Deferred Balance Sheet.....		13,263,566.95
		<u>\$73,422,608.16</u>
LIABILITIES		
TREASURY BILLS AND ACCOUNTS PAYABLE—		\$2,900,974.21
Payable out of Revenue:—		
Treasury Bills.....	\$ 2,425,000.00	
Accounts Payable.....	46,914.09	
Interest and School Grants Accrued.....	429,060.12	
	<u>\$ 2,900,974.21</u>	
SINKING FUNDS, REPLACEMENT RESERVES AND TRUST FUNDS—		2,475,304.78
Acquired by Levy.....	\$ 861,572.95	
Appropriated from Revenue.....	1,038,178.41	
Obtained from Trust Deposits.....	575,553.42	
	<u>\$ 2,475,304.78*</u>	
STOCKS AND BONDS—		33,890,870.34
Revenue Bearing.....	\$19,347,317.02	
Non-Revenue Bearing.....	14,543,553.32	
	<u>\$33,890,870.34</u>	
PROFIT ON BOND CONVERSION—		449,403.30
SURPLUS:		34,238,688.15
Being excess of Assets over Liabilities:		
Capital Surplus.....	\$14,415,992.67	
Revenue Surplus.....	238,929.53	
Deferred Surplus.....	19,583,765.95	
	<u>\$34,238,688.15</u>	
Deduct:		
Appropriation of Revenue for Extinguishment of Bonded Debt exclusive of Telephone Appropriation.....	532,632.62	
	<u>\$73,422,608.16</u>	

NOTE:

A—In addition to the above Liabilities the Province has guaranteed the Principal and Interest on Securities, as follows:
Canadian Northern Railway Securities..... \$25,665,553.38
Municipal Debentures, etc..... 1,685,329.55
Manitoba Farm Loans Association Securities..... 1,773,806.46
\$29,122,689.39

B—The Province has also guaranteed the Interest only on Municipal Debentures of a total par value of \$99,500,000, and has guaranteed the rentals payable to the Northern Pacific Railway Company in respect of certain Railways in Manitoba leased.

J. G. STEELE, Comptroller-General.

Our Young Folks

NEVER SAY DIE

Two gay young frogs, from inland bogs,
Had spent the night in drinking;
While yet their eyes were blinking,
A farmer's pail came to the swale,
And caught them quick as winking,
Ere they could gather scattered senses,
Or breathe a prayer for past offences,
The granger grave—that guileless man—
Had dumped them in the milkman's can,
The can filled up, the cover down,
They soon are started off for town.
The luckless frogs began to quake,
And sobber up on cold milk shake,
They quickly find their breath will stop
Unless they swim upon the top.
They swim for life and kick and swim,
Until their weary eyes grow dim;
Their muscles ache, their breath grows
short,
And, gasping, speaks one weary sport:
"Say, my dear boy, it's pretty tough
To die so young, but I've enough
Of kicks for life. No more I'll try it;
I was not raised on a milk diet."
"Tut, tut, my lad," the other cries,
"A frog's not dead until he dies,
Let's keep on kicking, that's my plan—
We yet may see outside the can."
"No use, no use," faint heart replied—
Turned up his toes and gently died.
The braver frog, undaunted still,
Kept kicking with a right good will,
Until, with joy too great to utter,
He found he'd churned a lump of butter;
And elmbing on that chunk of grease,
He floated round with greatest ease.
The moral:—
When times are hard—no trade in town,
Don't get discouraged and go down,
But struggle still—no murmur utter—
A few more kicks may bring the butter
—Exchange.

Dear Boys and Girls:—
You perhaps noticed our department crowded out most of the Women's Department in January. That was because they crowded us out for two or three months. We hope there will be no more crowding out.
A prize of two dollars is given each month to the boy who writes the best letter and two dollars is also given each month to the girl who writes the best letter. Let us hear from all our boy and girl readers, I wish we had more letters from those splendid Boy Scouts. Sincerely,
Cousin Doris.

GIRL'S PRIZE LETTER

Oyen, Alberta, October 1, 1918.
Dear Cousin Doris:—Is there room for another interested reader in your delightful corner? As the price of admission is an interesting letter I will endeavor to write one, though I'll not guarantee successful results.
I am going to tell you how I disposed of my summer holidays.
Aunt Gwenivere invited me to spend it with her on the farm and of course I

accepted. I love the country with its comfortable cottages, its beautiful gardens, its old red barns and windmills, and its affectionate domestic animals, and Aunt Gwen's place is exceptionally enticing, and so, for that matter, is Aunt Gwen. Besides I had an exaggerated notion of becoming a farmerette, and my family was if my suspicions were correct secretly overjoyed at the prospect of a month without my presence, not without reason either, I assure you! Consequently I arrived at Aunt's country residence a few days later and found it even more charming than I had anticipated. Aunt Gwen is ridiculously lovely and fluffy, but remarkably competent when it comes to managing a farm. Uncle Hugh is an aviator over in France, and Aunt Gwen's only assistant is one of her college chums.

The first thing I did was to cultivate the acquaintance of the animals on the farm. They were all very amiable except a decidedly objectionable turkey who apparently took a violent dislike for me the moment he perceived my presence in the barnyard. With a terrific "gobble-gobble," he charged straight toward me, his face as purple as if he had had an attack of apoplexy. Caution is the better part of valor, so under the circumstances I considered it wisest to withdraw, which I did as gracefully as my haste would permit me. Aunt Gwen laughingly offered to introduce me to the horrid creature, but I politely refused to take any part in the peace negotiations. When I passed him afterwards I assumed an attitude of cold and arrogant indifference to danger, which so amazed him that he forbore to attack such an audacious enemy.

On nice days I hoed the garden, and learned to harness horses and milk cows. I had a wonderful time and besides I was being useful.

Once when on a hayrack, I accidentally took a step into space, and because of certain laws of gravitation, I descended to the ground in a very painful and precipitous manner. My holidays came to an end aggravatingly abruptly, but when I returned home I had the satisfaction of having patriotically acquired a considerable amount of knowledge concerning farm activities and a more considerable amount of freckles.

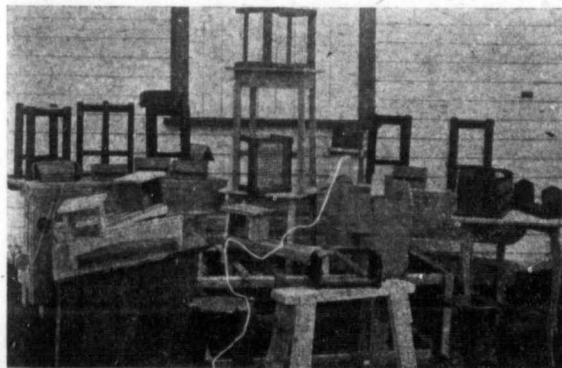
My letter is unforgivably long and my chances of getting a prize are slight, but may I come again, Doris, dear? Yours affectionately,

Ruth Olson, Grade IX, age 13.

By all means come again, Ruth:

Camrose, Alta., December 18, 1918.

Dear Cousin Doris:—I thought I would drop you a few lines to let you know I have not forgotten you yet. I saw my last letter in print and I thought I would try my luck again. I enjoy reading the letters in the young folks club very much. There has been no school for about a month on account of the flu. I



Collection of the Handwork of our Clever Manitoba Boys

Grain Growers

Have you a Rural Credit Society in your locality? If not you should have one. Read what the directors of the Arden Grain Growers' Association of Arden, Manitoba, say about a Rural Credit Society.

Here is a resolution recently passed and forwarded to the office of Rural Credits Societies, Winnipeg:

WHEREAS a Rural Credit Society was organized under the Rural Credits Act of Manitoba, at Arden, in June, 1918, which Society granted \$17,700 of credits to its farmer members for last season, the larger part of which was actually used, and whereas these loans have enabled the borrowers to break more land, purchase more live stock, cheapen the cost of machinery and also production, and strengthen the community spirit in the Arden district, we, the Board of Directors of the Arden Grain Growers' Association, hereby express our appreciation of the services rendered the community by this society and our approval of the manner in which the business of the Arden Rural Credit Society has been conducted. We were responsible for having the society started at Arden and we would highly commend the scheme to farmers and other Grain Growers' Association locals needing short-term credits.

(Signed)
WM. STOCKDALE, President.
LEW. G. THOMSON, Secretary.

What a Rural Credit Society did for Arden Grain Growers it can do for you. For further information write to-day to:

RURAL CREDITS SOCIETIES LEGISLATIVE BUILDINGS, WINNIPEG

One Dollar-and-a-Half spent on the "Canadian Thresherman and Farmer" will give you the best education on power-farming you can buy at any price.

Your Nose on the Grindstone?

Does it keep you humping to make ends meet while gophers get a fine fat living from you?



Kill 'Em Quick!

Burst the Granaries

Fill them to over-flowing with an extra yield. You can. Get the big increases that thousands of Canadian farmers enjoyed last year thru the use of

THE TIME-TESTED GUARANTEED **Kill-Em-Quick** GOPHER POISON

Even in the districts where drouth cut down the crops, farmers who used Kill-Em-Quick harvested more grain than farmers who did not.

Kill-Em-Quick is much the best gopher poison you can buy. It is so strong that even the tiniest particle taken into the mouth will kill any gopher practically instantly. The government analysis shows Kill-Em-Quick to be the strongest gopher poison sold. It's the cheapest per gopher killed, easy to use and backed by a Money-Back guarantee.



You know the Manitoba Agricultural College would never recommend it as "the most effective gopher poison" unless their tests had so proven it to be.

40 acre size, 60c; 100 acre size, \$1.20. Get it from your dealer, or if he cannot supply you, from us postpaid.

Kill-Em-Quick Co., Ltd.

Dept. C Regina Canada



Every farmer who occasionally poisons Gophers Spring, Summer and Fall serves his country well for he increases crops.

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crocheted two corset cover yokes and two caps while at home from school. Our school will start after Christmas. I am fourteen years old. I am in grade seven. I will be glad when school starts again as it is quite lonesome when there isn't any. The flu is quite bad around here. It started over again as they quit using masks too soon. I have not had the flu yet, and I hope I won't either.

We vaccinated fourteen of our young cattle a couple of days ago. We lost two nice yearling calves from blackleg. We only milk three cows at present, I and my sisters do the chores and milking. My father and brother were out threshing this fall and I and my sisters and mother were home alone. Last week they were away sawing wood. To-day they have been butchering a cow.

There is a skating rink by Ohaton which is about four miles south of here. I think it is a lot of fun to go down there and skate. There is not very much snow here yet and it's only a week left until Christmas. It has not been very cold here either.

The crops were not very good around here this year. We got two thousand two hundred bushels of oats; and two sacks of wheat out of eighteen acres. We were lucky enough to get seed oats. Most of the farmers have to buy seed oats. We have about twenty-five bushels of potatoes this year.

I will close, hoping the club every success. I hope you all will have a Merry Xmas.

Edith Nyback.

Groton P.P., Alberta, Sept. 28, 1918.
Dear Cousin Doris:—I am very much interested in the letters that are being written to the Canadian Thresherman and Farmer by the children in Western Canada.

I would like to try for a prize, but I am afraid I will not be lucky enough the first time. I live on a farm 27 miles from a railway but we have a car and it does not take long to go in and out. I am learning to drive the car and I think I shall not be long learning.

I shall try and tell you a few things that happened when we first came in here which is over eight years ago. We drove in from Warner about 50 miles with horses and wagon. We are only three miles from the Milk River where we used to catch fish in the summer. There used to be quite a number of Antelope which are very pretty little deer. They used to run across our farm quite often but there are very few now.

I must tell you about the horses—running away with my brother and me. The first summer we were here we were only five and seven years old. My brother Jim was holding the lines and the horses started off on the run and they ran up and down the coulee until they were so tired that Jim was able to stop them by pulling on the lines.

The next time I write I shall tell you about some of the trips we have taken in the car. Hoping to see my letter in print. Yours sincerely,
Pearl Anderson, age 13.

Rock Dell, Sask., Oct. 15, 1918.
Dear Cousin Doris:—This is my first letter to your interesting club. I thought that I would like to write because I like it company for me. I live in a Ruthenian District, and am the only English speaking child attending school. I attended the Yorkton fair last week. I entered some work and got two first prizes and one third.

My little sister and I have pieced a quilt for the Red Cross. I am in Grade V. now and hope to reach Grade VI. this winter. I must close now my letter is getting long. Yours sincerely,
Agnes Schottenbauer, age 11.

Winter, Sask., Nov. 5, 1918.
Dear Cousin Doris:—I saw many letters to you in the Canadian Thresherman and Farmer and I thought I would write too. I am twelve years old and live on the farm. We are poor people and have to work very hard for a living, there is seven of us in the family and our uncle lives with us, too. Papa has been sick all summer and mamma had to

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TORONTO, CANADA
WINNIPEG MONTREAL

Amber Pudding
3 cupfuls cold boiled rice, 1 cupful dried apricots, 1 tablespoonful sugar, 2 cupfuls milk, 2 well beaten eggs, pinch of salt, butter. Place the rice in a greased baking-dish, spreading over it

all the apricots, and finishing with the balance of the rice. Brush butter sparingly over the rice, sprinkle with sugar, and pour over it the milk and eggs, beaten together. Add salt and bake for 30 to 40 minutes in a slow oven.

Continued Success Marks the Progress of the Northwestern Life

	End of 1916	1917	1918	Increase since Dec. 31, 1917
Total Assets of all kinds	\$ 56,026.78	\$216,124.95	\$ 399,946.02	118%
Total Cash Assets	41,896.13	109,317.16	354,026.23	109%
Total Investments	32,947.12	124,068.99	297,325.27	121%
Paid Up Capital	32,772.00	44,202.65	44,202.65	34%
Premium Income	2,932.28	30,282.04	65,187.71	118%
Business in Force	104,000.00	328,300.00	1,212,300.00	126%

Total Revenue for 1918	\$23,545.68
Total Expenditure for 1918 (including death claims)	36,527.99
Excess of Revenue over Expenditure	\$44,017.99

Death claims amounted to only \$6,500 despite the war and influenza epidemic.
Surplus to Policyholders \$129,749.90
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We prepay all shipping charges, and ship your order within 15 working hours

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work out all summer for to make a living.

We have twelve horses and twenty-eight cows. Mother and uncle has to make enough hay for all of them.

We get up at 4 o'clock in the morning, and work hard all day. I have one cow of my own she is only a year and a half. We live seven miles from the store and two and a half from school, we have to walk to school.

My birthday is on February 26th, my youngest sister is four years old, there are two older than myself. My oldest brother is sixteen, he has a four-year old colt and certainly is a dandy for a saddle horse, I have about sixteen hens. Last year I milked two cows all winter and sometimes three. I have two sisters and two brothers and I am in grade five at school. I do not go to school only some time I have to stay at home and work. We did not get much grain this year. I wish I could be lucky as some and get a prize but I can't write good enough. Well I think I will close now. Good-bye, Cousin Doris.

Agnes R. Bush.

Arcola, Sask.

Dear Cousin Doris:—I have just been reading the interesting letters in our Young Folks Page, so I thought I would write to your club too.

We are very much interested in war work in our home. My mother is vice-president of quite a large homemakers' club. She has cut out nearly 100 soldier's shirts, besides making several, and knits about a pair of socks every week. My sister, who is 14, also knits socks.

I have three sisters and we each have a Victory War Bond. We all wanted to give our money to help the war cause and by giving it it made us feel that we were doing our bit.

My little sister, 3 years old, does not like to eat the crusts of bread, and the other day when she left some on her plate I said, "Oh, Lois, you are feeding the Kaiser," and she said, "It is not for the Kaiser, it is for my Kitty."

Hoping to see my letter in print. I am, your loving friend,
Jessie McNeil, age 11.

Neudorf, Sask., Oct. 1st, 1918.

Dear Cousin Doris:—Well, here I am. Last night when I was looking at the newspapers I came across the "Canadian Thresherman and Farmer." I at once turned to the young folks page, for I was anxious to see to whom the prize for that month had been given. I am going to school now. There are 24 going to our school. The name of the school is Pheasant Hills. I am in the fifth reader, and live six miles from a little town called Neudorf. I like all my studies, excepting geography and history and these two I cannot get interested in, no matter how hard I try. But I like drawing best of all. I like to draw maps. I certainly enjoy reading the letters on the young folks page. They are all so interesting. I have three sisters and four brothers. I set some sweet peas. They were nearly in bloom when they got frozen. My brothers have all their grain cut, and are going to get it threshed in a week or so. All the leaves of the trees are turning yellow and red. The flowers are dead, and the birds have gone to a warm country, where they can build their nests again. In winter there are a few birds around. I sometimes throw out wheat to them. The little birds go in the stable to get warm. One day I found a little bird outside cold. I brought it into the house and warmed it and gave it some bread-crumbs to eat, but it would not eat. So I took it into the stable and it flew away with the other birds. I help my mother to take care of the chickens. We set 14 hens and got 64 chickens. I like to do the chores at home. I carry in all the wood and water. I milk three cows night and morning. I take care of the calves. I give them water and milk to drink and turnips to eat. One day they got out of the fence and went out on a field of oats and ate until I found them. I took them and put them in the fence.

Well I must stop, for my letter is getting so long. Please forgive me,

Neudorf, Sask., Sept. 1, 1918.
Dear Cousin Doris:—I certainly was surprised when I saw that my letter had won the prize. I really did not expect it, as my letter looked so poor beside some of the letters in the paper before. Thank you very much for judging my letter as the best. But I am very sorry to say that it is a month since we got the paper with my letter, and I have not received my prize yet. Please Cousin Doris do not think I am getting impatient, but I just wondered if it had gotten lost on the way, as it has been such a long time. We got a paper since then about a week ago. I read the boy's prize letter. It was very interesting. Well, I think I will close for this time thanking you for your kindness, and wishing all the other boys and girls of the Young Folks Page good luck with their letters. I am, your loving friend,
Grace Lathrop.

Well I must stop, for my letter is getting so long. Please forgive me,

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AN hour of quiet enjoyment—your favorite book, a fragrant smoke, and a delightful bottle of Maltum Stout.

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Order from your grocer, druggist, or confectioner, or direct from
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Cousin Doris, for writing so much. But when I start writing I nearly forget to stop. Your loving friend,
Rosaline Sedgwick, age 13.

Farmingdale, Sask., Sept. 1, 1918.
Dear Cousin Doris:—I certainly was surprised when I saw that my letter had won the prize. I really did not expect it, as my letter looked so poor beside some of the letters in the paper before. Thank you very much for judging my letter as the best. But I am very sorry to say that it is a month since we got the paper with my letter, and I have not received my prize yet. Please Cousin Doris do not think I am getting impatient, but I just wondered if it had gotten lost on the way, as it has been such a long time. We got a paper since then about a week ago. I read the boy's prize letter. It was very interesting. Well, I think I will close for this time thanking you for your kindness, and wishing all the other boys and girls of the Young Folks Page good luck with their letters. I am, your loving friend,
Grace Lathrop.

Over There—
Over Here

STAG Chewing Tobacco is appreciated by both of Canada's war units—those who fought in Flanders and those who served at home.

It is also enjoyed by civilians of all classes throughout Canada and is recognized as being



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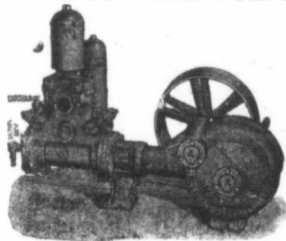
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Dept. B Winnipeg, Man.

Fortune, Sask., Sept. 26, 1918.

Dear Cousin Doris:—Yesterday was the first time for me to see your valuable magazine called "The Canadian Thresherman and Farmer." At first glance I did not think it of much consequence, and then upon noticing the name I knew I had not yet seen that kind of a magazine, so I picked it up and commenced to read. And just imagine my joy when turning over the 79th page, I saw a heading, "Our Young Folks." Somehow that took my fancy, so I at once made myself comfortable, and read every line of each splendid letter. Also I noticed you were giving a prize of \$2.00 to each sex who wrote the best letter, so I am so venturesome as to try my luck. By your letter, dear Cousin, I take it that you won't mind a letter of mixed subjects.

Have you any relatives in this present war? If you have, then you will know what I feel, and will be able to sympathize with me, as I have two brothers, one brother-in-law, two cousins, and one uncle in it. My one brother has been "over there" since 1914, the other two since 1916. My one brother has been wounded three different times, and is expecting to return to the trenches again soon. My other brother, once wounded, is now missing. My brother-in-law is badly wounded all down his left side, and will not be able to return to the front again. So I guess we have done our share in that line to help win the war. So you may imagine what the terrible anxiety must be like on us all. If once this terrible war is over won't it seem great to have perfect peace again, like we had hitherto in the war? But those who have lost their dear ones will have endless years of mourning to endure.

Just think of the many, many children over in France and Belgium left without parents. I wish I could take them all. But that is impossible to do, so the quickest way to relieve the worst of their sufferings to get this war over with and old Kaiser Bill lassoed. Believe me it will be done, and with the aid of God before long.

Well dear Cousin, as my letter is rapidly lengthening and getting dangerously near the W.P.B. I will close, with love from

Cousin Viola Daly.

Macoun, Sask., Sept. 23, 1918.

Dear Cousin Doris:—I have just been reading the interesting letters of our Young Folks Page. I have never written before. The girl who got the first prize last month wrote a very interesting letter. I passed the grade VIII examination. My brother is helping win the war by raising potatoes. The town of Macoun is not very big, but does quite a bit of business. They had a celebration in the town where I went to school this spring, and cleared over five hundred dollars, which they gave to the Red Cross.

I herd the cows out every day and milk and feed pigs, as both my brothers are away threshing. I own one of the pigs. We had 50 pigs one year. I am 12 years old.

Well I don't think I will get the prize, but I thought I would write.

Gladys Farras

BOY'S PRIZE LETTER

Gull Lake, Sask., Nov. 10, 1918.
Dear Cousin Doris:—I have often read the Canadian Thresherman and Farmer. Seeing the handsome prize to be awarded, I thought I would try my luck.

I am a farmer's son. I like farm life very much. There is nothing like the pure fresh air in the country. We have a half section of land of our own, and three-quarter section rented. Our crop was very poor this year, for it was so dry. We have all our fall work done.

My brother and I done all the field work this fall. We could not get no men, so I had to stay out of school. I was driving five horses on a gang. When I quit work at night I got three cows and milked them. We have fourteen horses. We sold all our cattle but five. We had thirty-five full blooded dogs, but sold them all but two.

The Spanish influenza has been

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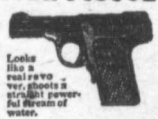
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Boys send us your name and address to-day and you can get a Real Dandy Water Pistol and our Best Front Champion Bicycle in return for a little easy pleasant work. This is the dandy bicycle you buy could give. It has a 21 inch frame, excellent brakes, top-shod tires, roller chain, and all the great up-to-date improvements—just the dandiest, lightest bicycle you've ever seen. And the Dandy Water Pistol beats all. Just what you've always wanted. It looks like a real automatic revolver, but shoots a straight, powerful stream of water that will chase cogs or cats, & provide a barrel of fun.



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No money to pay down.—Just send your name and address to-day and get a free sample package of "Dandies", our dandiest new Whiggol-crown candy could brighten them that we send everybody in the land to try. With the free sample we send you just 30 handsome packages that we send you by handsome among your friends at only 10c a package. The sample package will make it easy for you. Just send it and ask your friends to try a couple of "Dandies". They will like them so much that everyone will buy a package or two at once. A package of little "Dandies" will purify the mouth and perfume the breath. Everybody just loves them. No trouble at all to get.
Return one \$2.00 when the breathers are sold out of we will promptly send you a charge prepaid, the dandy Dandy Water Pistol, and the grand bicycle you can also get without paying any more cash, by just showing your fine prize to your friends and getting out of it to sell our goods and earn our 50c premiums as you did. Write to-day boys and you can soon own these two rewards. I'd

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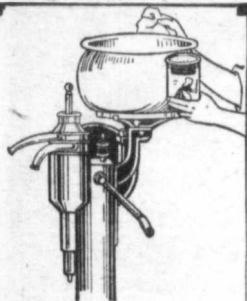
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Got Gophers?

Kill-Em Quick
For Information See
KILL-EM-QUICK
Ad. on Page 61 of this Issue.



For Dairy Utensils use

Old Dutch Cleanser

It cleans quickly and thoroughly. It is better and more economical than soap or any other cleansing material. Use Old Dutch for cleaning everything throughout the house—it tightens labor.

raging terribly around here. There has been many deaths. My father and mother has had it, but got over it all right. I have not had it yet.

We have a car. We are going to get a tractor in the spring, for horse feed is so scarce and high.

Last spring I got 440 gopher tails, but hope to get more next spring. I am going to start to school as soon as it is opened. It is closed on account of the epidemic. I never had a good chance to go to school when I was young. We came from the United States in the spring of 1910. We lived five miles from the nearest school when we first came here. My brother and I walked to school two years, and then we were able to handle a horse. Then a school was built two years ago a mile and three-quarters from our place. Its name is Golden Sheaf.

Well I must close, wishing the best of success to the club. Sincerely yours, Dick Schoonmaker, age 14.

Druid, Sask., October 24, 1918.

Dear Cousin Doris:—I would like to become a member of your interesting corner. I am a member of several clubs, Loma Scouts, whose motto is "Do a useful thing each day," Pathfinders, whose motto is "Agokay" an Indian word meaning "I stick to it"; also the Maple Leaf Club.

I have caught 500 gophers this year, and I got 2c. for each tail I showed.

How many members collect stamps? I am only a small collector with about 300 stamps from about 25 different countries. Other nice "hobbies" are stone, wood, coin and newspaper collectors.

Anybody like gardening, especially raising flowers? Do I! Well I guess, yes. Nothing like it when I have time.

Well, I'll stop now, but remember "Agokay" if I don't get the prize, so I close. Wishing the club success. I remain,

Frank E. Sheppard, age 13.

Quill Plain P.O., Sask., Nov. 13, 1918.

Dear Cousin Doris:—I am a boy 9 years old, and live on a farm. I read the boy's prize letter this month, and decided to write the very best letter I can.

I would like to win the prize, as we boys in the country don't get a chance to earn money as the boys in town do. We had our school fair on Monday, September 23, in Foam Lake. Our school is called Fishing Lake. We sent in sewing, weaving, fancy work, vegetables, school fair books, etc. Then we all sang "Britannia, the pride of the ocean" at the concert in the evening.

I am in Grade IV., and like going to school. I have a pony to ride to school. We had a nice school garden this year, but it got frozen. Last year we got the diploma.

I used to live in Toronto and Guelph, Ont., and then we moved out West. I have visited Stratford, Chicago, St. Paul, Winnipeg, Saskatoon, and have travelled over 10,000 miles on the train. I have two uncles in the war. Both were wounded and are home again.

I have a little sister, 2 years old. Her name is Grace. We have 23 head of cattle, 8 horses, 3 pigs, and 72 hens. We had about 80 acres of crop, but most of it got frozen.

I would like to be an engineer when I grow big.

I think my letter is getting long enough now. With best wishes to Cousin Doris.

James Cowie.

Pilot Butte, Sask., Oct. 26, 1918.

Dear Cousin Doris:—I live on a large farm three miles east and one south of Pilot Butte. I am 12 years old. When I have time I like to go to school very much. I am in Grade VIII. There are about 40 scholars attending this school (Pilot Butte). There are two teachers, one for the senior and one for the junior grades.

As labor was very scarce this year, and my father having died four years ago, it was necessary for me to help with the field work. This spring I harrowed, plowed and disced to put in the seed, while my older brother did the seeding. When school holidays

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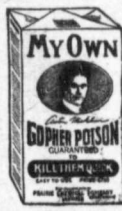
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came I helped with the summer fallow and this fall I stooked about eight days and also did a little binding. My brother owns a threshing outfit, so we have been threshed quite a while ago.

This summer I caught over seven hundred gophers, getting two cents for most of the tails. I made quite a little money.

I got a bicycle this summer, which I like very much. I use it to get the mail, go after the horses and cows, and for many other purposes that I would have to walk.

I will close, wishing the club every success. Yours respectfully,
Herman Zinkham.

Keeler, Sask., Oct. 9, 1918.
Dear Cousin Doris:—I read your interesting letters for the first time to-night. I have a garden with a lot of potatoes in it.

We have a farm of six hundred and forty acres and about thirty hens, six pigs, twelve horses, four colts, I worked a little on the farm when threshing but we always live in town as we have a store.

But I am going to work on the land next year. I passed in the sixth grade at school this midsummer. There are a lot of men taken from Keeler for the war, my father was in the Boer war.

On the first of July there was a celebration and there was all kinds of races and sports.

A lot of the farmers' wheat got frozen in July, and I suppose it is pretty hard on them. My little brother, Grant is very fond of chickens and so one of the neighbors gave him an old hen and four little chickens, but two died and the others are getting on fine.

He is a great lover of animals as he has two small dogs, two cats and is very friendly to everything that comes around the yard. Well if I don't quit nobody will have room for their letters, well, good-bye,

Willie Fowle, age 10.
Fabyan, Alberta, Sept. 25, 1918.

Dear Cousin Doris:—I am sending a letter to your interesting club.

I have been out of school for a year and a half now, as I passed the Entrance at twelve, and cannot go to a public school any longer. I cannot go to town school, as we live twenty miles away.

But since leaving school I have been working on the farm, and helping hay and harvesting. I did not have much stooking to do this year, as our crop was frozen.

We live by the Buffalo park, near Wainwright, Alberta. Our place is fenced in on two sides by it. In the park are about fifteen hundred buffalo, also deer, elk, moose, antelope, cattalo (which are a cross of domestic cattle and buffalo), and hundreds of coyotes. It is a very interesting sight to see seven or eight hundred buffaloes in one herd, which we often see.

My brother and I have been busy nearly all year chasing cattle off our crops, as there are about two hundred ranging around here.

We had a garden this year, but it was frozen. We had trouble chasing cattle and pigs off it all year. But it was a poor garden, as there was no rain this year.

My brother and I have been shooting ducks lately, and have got quite a few. We have also been shooting gophers and chipmunks all year.

We have about 30 head of cattle and 7 head of horses. We milk 11 head of cattle, and I milk 3 of them morning and night. We have put up about 80 tons of hay for them, and it has taken us a long while.

I read a lot in my spare time, as we take the Canadian Thresherman and Farmer, the Saturday Evening Post, the Boy's World, and many other papers.

Well, I will close now, as my letter is getting long. Wishing the club every success. Yours sincerely,
George J. Armstrong.

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Policeman: "Come on noo, Sandy. Rin along home!"
Mac: "Dinna be rideee'us, Cons'able. Man! it's takin' me a' my time tae stay whaur I am!"

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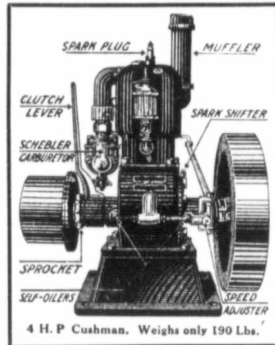
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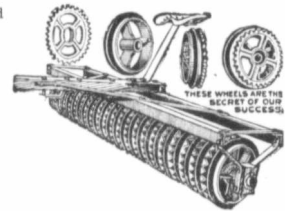
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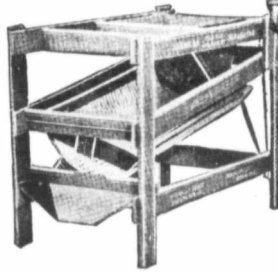


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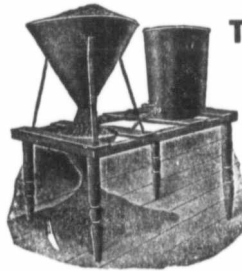
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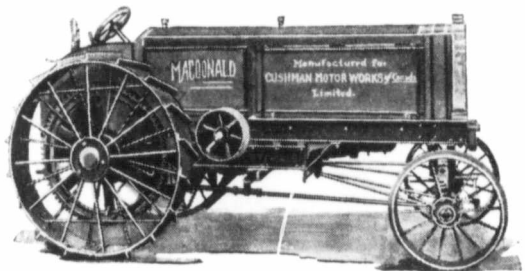
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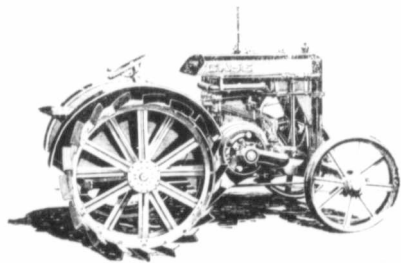
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KEROSENE TRACTORS



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KEROSENE TRACTOR